

# 12<sup>th</sup> EUROPEAN CONGRESS OF SPORT PSYCHOLOGY

Sport & Exercise Psychology: Bridges between disciplines & cultures

4-9 September 2007 • Halkidiki, Greece

## BOOK OF ABSTRACTS

**Edited by:**

Yannis Theodorakis

Marios Goudas & Athanasios Papaioannou



FEPSAC

European Federation of Sport Psychology

**Hosted by: University of Thessaly and the Greek Society of Sport Psychology  
under the auspices of the European Federation of Sport Psychology**

European Federation of Sport Psychology:  
Book of Abstracts  
12th European Congress of Sport Psychology / 4-9 September 2007, Halkidiki-Greece.

Edited by: Yannis Theodorakis, Marios Goudas & Athanasios Papaioannou

Cover: Dimitris Milosis

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**Acknowledgements:**

I would like to express my warmest and deepest appreciation and thanks to my promising PhD student, Mr. Nikos Zourbanos for his commitment and contribution and my numerous colleagues in the Laboratory of Exercise Psychology and Quality of Life of University of Thessaly who worked really hard and efficiently over many months for the successful organization of FEPSAC 2007. The least that I can give them in return along with my thanks and my gratitude is to name them: Anni Chroni, Nikos Diggelidis, Mary Hasandra, Antonis Hatzigeorgiadis, Vaso Zissi, Evdoxia Kosmidou, Georgia Kofou and Asterios Patsiaouras. Finally, my special thanks to Symvoli- Conference & Event Organisers for its professional and continuous support throughout all years that we have been working for this Congress.

*Yannis Theodorakis*  
*Professor*  
*Congress Director*

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# Committees

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## Congress Secretariat

Symvoli L.t.d - Conference & Event Organisers

## Language

The official language of the congress is English

## Official web-site of the Congress

<http://www.fepsac2007.gr>

## **Welcome address of the FEPSAC President**

On behalf of the European Federation of Sport Psychology FEPSAC it is my great pleasure to address the participants in the XII<sup>th</sup> European Congress of Sport Psychology in Halkidiki. The congress is organised by the University of Thessaly and the Hellenic Society of Sport Psychology under the auspices of FEPSAC.

The congress theme “Sport and Exercise Psychology – Bridges Between Disciplines and Cultures” has attracted over 600 scientific contributions from all areas of sport psychology. Five attractive keynote lectures, 4 poster sessions, 41 symposia and 15 workshops will give participants an impression of the diversity and richness of the field. The attractive congress location on the beautiful peninsula of Halkidiki, close to the famous Mt. Athos in northern Greece, will offer scenery for intensive academic and professional exchange with colleagues and hopefully be a starting point for more international co-operation in research, education and also application across the continent, languages and scientific traditions.

Last but not least, while experiencing Greek hospitality and the Mediterranean atmosphere, the social programme of the conference will give ample opportunities for new personal contacts and maybe friendships. This will contribute to a better mutual understanding across boundaries, languages and disciplines and make participation in the XII<sup>th</sup> European Congress of Sport Psychology an experience to remember.

Have a safe journey to Greece! I look forward to meeting you there.

Roland Seiler  
President of FEPSAC

## Welcome address of the Congress Director

The ancient Greek culture has always shed light on humanity. Poetry and philosophy were the most cultivated of its aspects. It has been argued that the development of all sciences that followed have its roots at this period, a period characterized by wisdom and simplicity. Sports were omnipresent. The gods of Olympus were good athletes that took part in athletic games. Hercules, who struggled for his heroic achievements, is the founder of the Olympic Games. The heroes in Homer's epics during ceasefire or during tragic events like the death of a great warrior organized games in his honor. Homer taught us the constant struggle, the bravery and the self-confidence of his heroes. The ancient Greek tragedy introduced the value of catharsis.

Philosophy appears to have strong links with psychology and fundamental ideas and theories of psychology, we greatly use today, were born in the Classical period. Socrates, Plato, Aristotle and others, pioneered on various ideas like virtue, ethics, reasoning (logic), maieutic (known as the Socratic Method), counseling, and positive thinking. Philosophy derives from self awareness, and self-awareness is nowadays an objective of psychology. "Know thyself" is a goal of psychology and of sport psychology as well. A psychologically skilled athlete has to know him or herself. Coping skills techniques are based on the Socratic "didactic presentation and guided self-discovery." Cognitive restructuring is based on Epictetus' famous statement: "Man is disturbed not by things but by the views he takes of them". The theory of goal setting is based on what Aristotle called final causality, that is, action caused by a purpose.

In classical Greek sports, the winning trophy was a coronet of olive tree leaves; as the athletes sought but the glory and the pleasure of success. These, made them so content and proud to withstand the hardships of their lives. They participated in Olympic Games in order to be strong and healthy and for the glory of themselves and their cities; so that they would possess a better spirit and obey to higher values. Another axiom "Kaloi kai agathoi" meaning beautiful and good, signifies the physical and moral excellence.

In modern Greece there is no place for ethnocentrism. Greek sport psychologists are proud for all those things our ancestors provided for humanity, but are also studious and enjoy learning from all scientific achievements and progress of our times. They also like research. In truth, research on sport psychology in our country is on high levels and our colleagues have a distinct presence in many universities worldwide.

This congress is directed at an interaction between countries, cultures, and scientific areas, as emphasized in its title "Bridges between Disciplines and Cultures". A representation of as many countries as possible was sought, even outside the boundaries of Europe, aspiring an intercultural interaction and in order to stimulate the potential of countries with so far little scientific presence. The results appear to be encouraging. We have participants from all five continents representing more than 50 countries. Finally, the hospitality of our country is well known to most of you. We are pleased to have you here in Halkidiki in September 2007, and would like to thank you dearly for your contribution and your presence. We hope that this congress will be inspiring and creative for everyone and that it will make a contribution to the progress of sport psychology.

Yannis Theodorakis  
Congress Director

## SYMPOSIA

Symposia will be allocated a total of eighty minutes. Each presentation should last no longer than 15 minutes, depending on the number of papers. At the end of the symposium, time should be allowed, for the discussant to introduce and lead a general discussion. All presenting authors must contact the technical secretariat a day prior to their presentation.

## WORKSHOPS

Workshops will provide training in the area of research, methods, counselling and interventional programmes. The length of the workshops will range between 3 and 10 hours.

## ORAL PRESENTATIONS

Oral presentations will be allocated in a total of eighty minutes sessions. All presenting authors must contact the technical secretariat a day prior to their presentation. Each presentation is scheduled for a maximum of 15 minutes and audience discussion will follow at the end of the Sessions.

## HALLS

Symposia, Workshops and oral presentations are scheduled according to thematic area and will be held both in Athos Palace (*Halls: Theodora, Athenaida & Meeting Room*) and Pallini Beach Hotel (*Halls: Telemachus I & Telemachus II, Alexandros*).

## POSTER PRESENTATIONS

Posters will be presented on a sufficient number of panels available in Athos Palace Building. Please check the congress scientific programme for your paper ID and hang your poster on the corresponding poster display board. Posters will be on display, for one day. Posters must be placed on the panels bearing the corresponding abstract ID, the previous day of the presentation between 20.00- 20.30 and must be removed after the end of the session.

Poster viewing opportunities: during morning and afternoon breaks and during special Poster Viewing Sessions:  
**Wednesday, 5th: 18.45-20.00 • Thursday, 6th: 18.45-20.00 • Friday, 7th: 14.00-15.30 • Saturday, 8th: 18.45-20.00**

## CONGRESS BADGES

All delegates will receive the congress printed material, relevant information and conference badges upon registration at the Congress Secretariat, Symvoli- Conference & Event Organisers. Delegates and their guests are requested to retain their badges at all times in order to be able to enter the congress venue and areas of social events.

## REGISTRATION DESK – CONGRESS SECRETARIAT



The Congress secretariat will be located outside the main hall, tel.: ++30 23740 23606.  
Opening hours: **Tuesday 4<sup>th</sup>, 16.00-20.00 • Wednesday 5<sup>th</sup> – Saturday 8<sup>th</sup>, 08.00- 18.30**

## SOCIAL EVENTS

The Scientific Programme of FEPSAC 2007 will be enriched by various social events in order for delegates to get acquainted with the host country and for the meeting to be an enjoyable and a memorable event for everyone.

• **WELCOME RECEPTION** - *Tuesday September 4th / 20.00*

The Welcome Reception will mark the official beginning of the FEPSAC 2007 meeting. The event will take place by the pool of Athos Palace Hotel and it will give the opportunity to meet colleagues and get acquainted with their families since many attendants will arrive with their families.

• **GALA DINNER** - *Saturday, September 8th / 21.00*

On Saturday evening delegates and guests will have a chance to meet and mingle, enjoy and dance in a summer party that will take place at the beach tavern of Pallini hotel.

• **EXCURSION - MOUNT ATHOS CRUISE** - *Friday, September 7<sup>th</sup> / 15.30*

Mount Athos (the Holy Mountain) is a theocratic state often referred to as the “Garden of the Blessed Virgin Mary”, the Virgin Mary being the only woman ever to have set foot on this piece of holy land. The peninsula is home to some 20 monasteries dating back to 993 AD. The monasteries are built on an imposing rocky landscape of insurmountable beauty and are inhabited by 1.700 monks, forming a religious community isolated from the contemporary way of life. Mount Athos can be admired by taking a boat trip around the peninsula. Buses will depart at 15.30 from Athos Palace for the port of Ormos Panagias. Please register at the secretariat.

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TIME	SUNDAY 2/9	MONDAY 3/9	TUESDAY 4/9	WEDNESDAY 5/9
08.30	-	FEPSAC MC / ISSP Meeting	FAST PROFESSIONAL WORKSHOP / SPECTRUM TEACHING STYLES WORKSHOP	<b>Session</b> (Orals 8,9 & Symposia 1,2)
10.00				<b>KEYNOTE LECTURE*</b> <b>Philippe Sarrazin</b>
11.00 - 11.30	<b>Coffee Break</b>			
11.30	-	FEPSAC MC / ISSP Meeting	FAST PROFESSIONAL WORKSHOP/ SPECTRUM TEACHING STYLES WORKSHOP	<b>Session</b> (Orals 10,11 & Symposia 3,4,5) WORKSHOP 3
13.00 - 14.00	<b>Break</b>			
14.00	FEPSAC MC / ISSP Meeting	FEPSAC MC / ISSP Meeting / FAST Meeting	FAST PROFESSIONAL WORKSHOP / SPECTRUM TEACHING STYLES WORKSHOP/ Orals 1,2,3	<b>Session</b> (Orals 12,13,14,15 & Symposia 6,7) WORKSHOP 3
15.30			FAST PROFESSIONAL WORKSHOP / SPECTRUM TEACHING STYLES WORKSHOP/ Orals 4,5,6,7	<b>Session</b> (Orals 16,17,18 & Symposia 8,9) WORKSHOP 4 WORKSHOP 5
17.00			FAST PROFESSIONAL WORKSHOP / SPECTRUM TEACHING STYLES WORKSHOP	<b>Session</b> (Orals 19,20,21 & Symposia 10,11) WORKSHOP 4 WORKSHOP 5
18.30 - 18.45	<b>Coffee Break</b>			
18.45	FEPSAC MC / ISSP Meeting	-	<b>KEYNOTE LECTURE*</b> <b>Wolf-Dietrich Brettschneider</b>	<b>Session</b> (Posters: Physical Education 1-37 & Sport Psychology 38-66)
			<b>OPENING CEREMONY</b>	<b>YOUNG INVESTIGATOR AWARD</b> (Posters: 1 - 14)
20.00			<b>WELCOME RECEPTION</b>	<b>EYNSSP Meeting</b>
21.00				



TIME	THURSDAY 6/9	FRIDAY 7/9	SATURDAY 8/9	SUNDAY 9/9
08.30	<b>Session</b> (Orals 22,23, & Symposia 12,13,14)	<b>Session</b> (Orals 35 & Symposia 25,26) WORKSHOP 9 WORKSHOP 10	<b>Session</b> (Orals 39,40,41,42, 43)	<b>Departure</b>
10.00	<b>KEYNOTE LECTURE*</b> <b>Natalia Stambulova</b>	<b>KEYNOTE LECTURE*</b> <b>Michele Crossley</b>	<b>KEYNOTE LECTURE*</b> <b>Nikos Ntoumanis</b>	
11.00 - 11.30	<b>Coffee Break</b>			
11.30	<b>Session</b> (Orals 24,25,26,27, & Symposia 15,16) WORKSHOP 6	<b>Session</b> (Orals 36 & Symposia 27,28,29) WORKSHOP 9 WORKSHOP 10	<b>Session</b> (Orals 44,45 & Symposia 33,34) WORKSHOP 11 WORKSHOP 12	
13.00 - 14.00	<b>Break</b>	Psychology of Sport & Exercise Editorial Board Meeting	<b>Break</b>	
14.00	<b>Session</b> (Orals 28, 29,30, & Symposia 17,18,19) WORKSHOP 6	<b>Session</b> (Orals 37,38 & Posters: Exercise Psychology 1-52, Sport Psychology 53-67 & Symposia 30,31,32) WORKSHOP 10	<b>Session</b> (Orals 46, 47 & Symposia 35,36) WORKSHOP 11 WORKSHOP 12	
15.30	<b>Session</b> (Orals 31,32,33 & Symposia 20,21) WORKSHOP 7 WORKSHOP 8	<b>Mount Athos Tour</b>	<b>Session</b> (Orals, 48, 49 & Symposia 37,38,39) WORKSHOP 13 WORKSHOP 14	
17.00	<b>Session</b> (Orals 34 & Symposia 22,23,24) WORKSHOP 7 WORKSHOP 8		<b>Session</b> (Orals, 50,51 & Symposia 40,41) WORKSHOP 13 WORKSHOP 14	
18.30 - 18.45	<b>Coffee Break</b>			
18.45	<b>Session</b> (Posters: Sport Psychology 1-70)	<b>Mount Athos Tour</b>	<b>Session</b> (Posters: Motivation in Sport 1-26, Sport Psychology 27-63)	
20.00	<b>FEPSAC GENERAL ASSEMBLY</b>		<b>CLOSING CEREMONY</b>	
21.00				

# KEYNOTE LECTURES

## HALL: THEODORA

**Tuesday, 4 September 2007: 18:45-19:30**

**Young people's lifestyles and sedentariness – an interdisciplinary and European perspective**

Wolf-Dietrich Brettschneider

*University of Paderborn, Germany*

**Wednesday, 5 September 2007: 10:00-11:00**

**Self-fulfilling prophecy in physical education classes. Impact on motivation and achievement.**

Philippe Sarrazin

*University of Grenoble, France*

**Thursday, 6 September 2007: 10:00-11:00**

**Athletic Career Transitions in the Cultural and Historical Context Related to Russian Sport Psychology.**

Natalia B. Stambulova

*Halmstad University, Sweden*

**Friday, 7 September 2007: 10:00-11:00**

**New approaches in exercise and health.**

Michele Crossley

*Centre for Public Health, Liverpool John Moore's University*

**Saturday, 8 September 2007: 10:00-11:00**

**Promoting self-determined motivation in physical activity.**

Nikos Ntoumanis

*University of Birmingham, UK*

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# **WORKSHOPS PROGRAMME**



**Pre-congress Workshop 1 - ATHENAIDA Hall**

*10 hour Workshop: Tuesday, 4 September 2007: 08:30-18:30*

**FORUM OF APPLIED SPORT PSYCHOLOGISTS IN TOPSPORT: PROFESSIONAL WORKSHOP****Pre-congress Workshop 2**

*10 hour Workshop: Tuesday, 4 September 2007: 08:30-18:30*

**SPECTRUM TEACHING STYLES WORKSHOP****Workshop 3 - ATHENAIDA Hall**

*3 hour Workshop: Wednesday, 5 September 2007: 11:30-15:30*

**COACHING- AN EXPERIENCE-BASED AND NARRATIVE ORIENTED CONVERSATION STYLE**

Reinhard Stelter

*University of Copenhagen, Department of Exercises and Sport Sciences*

**Workshop 4 - ATHENAIDA Hall**

*3 hour Workshop: Wednesday, 5 September 2007: 15:30-18:30*

**APPLICATION OF THE DISCONNECTED VALUES MODEL FOR SPORT AND EXERCISE PSYCHOLOGY CONSULTANT: A NOVEL APPROACH TO HIGH PERFORMANCE TRAINING**

Mark Anshel

*Middle Tennessee State University, Department of Health and Human Performance*

**Workshop 5 - Meeting Room**

*3 hour Workshop: Wednesday, 5 September 2007: 15:30-18:30*

**PEER CONSULTATION (BY PROTOCOL) – A VALUABLE TOOL FOR PROFESSIONAL DEVELOPMENT IN SPORT PSYCHOLOGY CONSULTANCY**

Frank van den Berg (M.Sc.) & Hardy Menkehorst (M.Sc.)

*Calgary Alberta, Groningen*

**Workshop 6 - Meeting Room**

*3 hour Workshop: Thursday, 6 September 2007: 11:30-15:30*

**PSYCHOLOGY OF THE PENALTY SHOOTOUT**

Geir Jordet

*University of Groningen, Center for Human Movement Sciences*

**Discussant:** Mark Anshel

**Workshop 7 - Meeting Room**

*3 hour Workshop: Thursday, 6 September 2007: 15:30-18:30*

**CONGRUENCE IN THE CURRICULA OF SPORT PSYCHOLOGY FOR COACHES IN EUROPE**

Klaudia Zuskova

*Presov University, Faculty of Sport*

**Workshop 8 - ATHENAIDA Hall**

*3 hour Workshop: Thursday, 6 September 2007: 15:30-18:30*

**PHYSICAL ACTIVITY AND MENTAL HEALTH: TRANSLATING THEORY AND RESEARCH EVIDENCE TO PRACTICE**

Adrian Taylor, Ken Fox, & Emma Everson

*University of Exeter, School of Sport & Health Sciences*

*University of Bristol, Department of Exercise, Nutrition, and Health Sciences*

**Workshop 9 - Meeting Room**

*3 hour Workshop: Friday, 7 September 2007: 08:30-10:00 & 11:30-12:50*

**THE DIFFERENTIAL EVOLUTION OF THE DECISION MAKING PROCESS ACCORDING TO THE AGE, THE DEGREE OF PHYSICAL ACTIVITY AND THE COMPLEXITY OF TASK**

Souha Khadher, Sioud Rim, & Jean Bertsch

*University of Paris*

**Workshop 10 - ATHENAIDA Hall**

*6 hour Workshop: Friday, 7 September 2007: 08:30-15:30*

**UEFA WORKSHOP - THE PSYCHOLOGY OF FOOTBALL REFEREEING: PRACTICAL EXPERIENCES FROM DIFFERENT EUROPEAN PERSPECTIVES**

Piffaretti Mattia

*AC&T Sport Consulting, Lausanne*

**Workshop 11 - ATHENAIDA Hall**

*3 hour Workshop: Saturday, 8 September 2007: 11:30-15:30*

**POETICS OF THE EVENT- A SOMATIC EXPERIMENTAL APPROACH TO PERSONAL AND CULTURAL CHANGE**

Lis Engel

*University of Copenhagen, Institute of Exercise and Sport Sciences*

**Workshop 12 - Meeting Room**

*3 hour Workshop: Saturday, 8 September 2007: 11:30-15:30*

**USING THE ART OF TRANSFORMATIONAL COACHING IN PREPARATION OF SPORTSMEN TO COMPETITIONS**

Nataliya Hayevska

*Ukraine*

**Workshop 13 - Meeting Room**

*3 hour Workshop: Saturday, 8 September 2007: 15:30-18:30*

**FIT 4 ME**

Indira Mandzuka

*Bosnia & Herzegovina*

**Workshop 14 - ATHENAIDA Hall**

*3 hour Workshop: Saturday, 8 September 2007: 15:30-18:30*

**APPLICATIONS OF MULTILEVEL MODELS IN THE SOCIAL AND BEHAVIORAL SCIENCES**

John B. Nezlek,

*Professor of Psychology, College of William & Mary*



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# **SYMPOSIA PROGRAMME**



**Wednesday 5/9/2007****8:30-9:50****HALL: THEODORA****SYMPOSIUM 1****Psychological aspects of youth sport**Organizer/Chair: **Sasa Cecic Erpic**, *Faculty of Sport, University of Ljubljana*Discussant: **Dorothee Alfermann**, *Faculty of Sport Science, University of Leipzig, Germany***Paper 1. Commitment and dropout of adolescents in club sports****Antje Hoffmann***Faculty of Sport Science, University of Leipzig, Germany***Paper 2. Physical self-perception and participation motives of Turkish youth athletes: An examination of Harter's Competence Motivation Theory in Turkey****F. Hülya Aşçı<sup>1</sup>, Emine Çağlar<sup>2</sup> & Gökhan Deliceoğlu<sup>2</sup>**<sup>1</sup> *Sport Sciences Department, Başkent University Ankara, Turkey*<sup>2</sup> *School of Physical Education and Sport, Kırıkkale University, Turkey***Paper 3. Stability and change of physical self-perceptions during early adolescence****Lennart Raudsepp***Institute of Sport Pedagogy and Coaching Science, University of Tartu, Estonia***Paper 4. Does coach's perception of young athlete's personality influence his/her motivational behaviour toward the athlete?****Sasa Cecic Erpic***Faculty of Sport, University of Ljubljana, Slovenia***HALL: ATHENAIDA****SYMPOSIUM 2****Effects of a four-month preschool PE intervention on Socioemotional Skills:****The "Early Steps" project in four European countries\***Organizer/ Chair: **Evriddiki Zachopoulou**, *ATEI Thessaloniki, Department of Early Childhood Care & Education, Greece*Discussant: **Jarmo Liukkonen**, *University of Jyväskylä, Finland***Paper 1. Social skills in preschool aged children & how PE could affect them****Niki Tsangaridou<sup>1</sup>, Evridiki Zachopoulou<sup>2</sup>, Ian Pickup<sup>3</sup> & Jarmo Liukkonen<sup>4</sup>**<sup>1</sup> *University of Cyprus, Department of Education, Cyprus*<sup>2</sup> *Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece*<sup>3</sup> *Roehampton University, United Kingdom*<sup>4</sup> *University of Jyväskylä, Department of Sport Sciences, Finland***Paper 2. Early Steps" PE curriculum evaluation. Preliminary validation results for the Social Behavior Instrument.****Vasilis Grammatikopoulos<sup>1</sup>, Efthimios Trevlas<sup>2</sup>, Evridiki Zachopoulou<sup>2</sup>**<sup>1</sup> *University of Thessaly, Department of Physical Education & Sport Science, Greece*<sup>2</sup> *Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece***Paper 3. How realistically do parents evaluate their preschool children's socioemotional skills?****Jarmo Liukkonen<sup>1</sup>, Evridiki Zachopoulou<sup>2</sup> & Niki Tsangaridou<sup>3</sup>**<sup>1</sup> *University of Jyväskylä, Department of Sport Sciences, Finland*



<sup>2</sup>Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece

<sup>3</sup>University of Cyprus, Department of Education, Cyprus

**Paper 4. "Early Steps" PE curriculum implementation: Effects of the four-month intervention on Socioemotional Skills**

**Evridiki Zachopoulou<sup>1</sup>, Niki Tsangaridou<sup>2</sup>, Jarmo Liukkonen<sup>3</sup>, & Elisavet Konstantinidou<sup>1</sup>**

<sup>1</sup>Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece

<sup>2</sup>University of Cyprus, Department of Education, Cyprus

<sup>3</sup>University of Jyväskylä, Department of Sport Sciences, Finland

**Paper 5. Development of an observational category system for analyzing socioemotional skills in 4 to 5 year-old Finnish preschool children**

**Marja Kokkonen & Jarmo Liukkonen**

University of Jyväskylä, Department of Sport Sciences, Finland

**Wednesday 5/9/2007**

**11:30-12:50**

**HALL: THEODORA I**

**SYMPOSIUM 3**

**Morality in sport: The good, the bad, and the ugly**

Organizer/ Chair: **Maria Kavussanu**, University of Birmingham

Discussant: **Glyn C. Roberts**, Norwegian School of Sport Sciences

**Paper 1. Moral behaviour in sport: Dimensions, frequency, and differences across genders and sports**

**Maria Kavussanu & Ian D. Boardley**

University of Birmingham

**Paper 2. Development and validation of the Moral Disengagement in Sport Scale**

**Ian D. Boardley & Maria Kavussanu**

University of Birmingham, UK

**Paper 3. An exploration of temporal stability and reciprocal relationships between goal orientations, motivational climate and moral behaviour in youth football**

**Luke D. Sage & Maria Kavussanu**

University of Birmingham, UK

**Paper 4. Perceived motivational climate and moral functioning in youth football: A longitudinal study**

**Blake W. Miller<sup>1</sup> & Glyn C. Roberts<sup>2</sup>**

<sup>1</sup>Hedmark University College

<sup>2</sup>Norwegian School of Sport Sciences

**Paper 5. Variation and relations of fair play behaviour, fair play atmosphere and daily life morality of physical education students**

**Mary Hassandra, Marios Goudas, & Yannis Theodorakis**

University of Thessaly, Greece

**HALL: THEODORA II****SYMPOSIUM 4****Researching Self: Perils, Pitfalls and Therapeutic Encounters When Doing Autoethnography and Ethnodrama in Sport Psychology**Organizer/ Chair: **David Gilbourne & Mark B. Andersen**, *Victoria University*Discussant: **Brett Smith**, *Exeter University***Paper 1. Ethical Issues in Autoethnography: The Researcher at Risk****Mark B. Andersen***Centre for Ageing, Rehabilitation, Exercise and Sport, Victoria University***Paper 2. Telling Your Story through Performance: Navigating the Challenges of Auto-ethnodrama.****David Gilbourne, Ros Merkin, & Carmel Triggs***Research Institute for Sport and Exercise Sciences, Liverpool John Moores University***Paper 3. Personal Experiences in Auto-ethnographic Research****Jim McGuinness***Research Institute for Sport and Exercise Sciences, Liverpool John Moores University***Paper 4. I Love You Best When You Are Sick or Injured: A Triathlete's Autoethnography****Lior Zach-Maor***Victoria University***HALL: TELEMACHUS I****SYMPOSIUM 5****Life skills and Sport: Teaching At- Risk Youth How to Succeed in Life**Organizer/ Chair- Discussant: **Steven J. Danish**, *Virginia Commonwealth University, USA***Paper 1. Promoting positive development for at-risk youth through sports.****Steven J. Danish***Virginia Commonwealth University, USA***Paper 2. Promoting positive development for at-risk Aboriginal youth through an active after- school program.****Amanda D. Stewart Stanec<sup>1</sup> & Steven J. Danish<sup>2</sup>**<sup>1</sup>*St. Francis Xavier University, CANADA*<sup>2</sup>*Virginia Commonwealth University***Paper 3. The Hokowhitu Program: Designing a sporting intervention for adolescent Maori****Justin Ihirangi Heke<sup>1</sup> & Steven J. Danish<sup>2</sup>**<sup>1</sup>*Otago University, New Zealand*<sup>2</sup>*Virginia Commonwealth University*

**Wednesday 5/9/2007****14:00-15:20****HALL: THEODORA I****SYMPOSIUM 6****Current issues in team sports**Organizer/ Chair: **Erwin Apitzsch and Taru Lintunen**, *Dept of Psychology, Lund University, Sweden*Discussant: **Erwin Apitzsch**, *Dept of Psychology Lund University***Paper 1. Collectivice collapse in team sports****Erwin Apitzsch***Dept of Psychology Lund University, Sweden***Paper 2. Collectice collapse in basketball****Simon Granér***Lund University, Sweden***Paper 3. The relationship between starter and bench players****Irina Simonenkova***Lund University, Sweden***Paper 4. A case study of using sociometry to describe and understand group dynamics in an ice-hockey team****E. Rovio<sup>1</sup>, O. Salmi<sup>2</sup>, T. Kaarto<sup>3</sup>, J. Kinnunen<sup>3</sup>, & T. Lintunen<sup>3</sup>**<sup>1</sup>*Finnish Society of Sport Sciences, Helsinki, Finland*<sup>2</sup>*Likes -Research Center, Jyväskylä, Finland*<sup>3</sup>*Department of Sport Sciences, University of Jyväskylä, Jyväskylä, Finland***Paper 5. A case study of using sociometric questionnaire as a tool to measure social cohesion during one ice-hockey season****E. Rovio<sup>1</sup>, O. Salmi<sup>2</sup>, A. Nikander<sup>3</sup>, & T. Lintunen<sup>3</sup>**<sup>1</sup>*Finnish Society of Sport Sciences, Helsinki, Finland*<sup>2</sup>*Likes -Research Center, Jyväskylä, Finland*<sup>3</sup>*Department of Sport Sciences, University of Jyväskylä, Jyväskylä, Finland***HALL: THEODORA II****SYMPOSIUM 7****Research and application in career development and career transitions in competitive sport (1)**Organizer/ Chair: **Paul Wylleman & Natalia Stambulova**, *Vrije Universiteit Brussel, Faculty of PE and Physiotherapy*Discussant: **Natalia Stambulova**, *Halmstad University, Centre for Sport & Health Research***Paper 1. Players and coaches' perceptions of transitional changes after selection for an elite sports tennis school.****Paul Wylleman, Nathan Kahan, & Anke Reints***Vrije Universiteit Brussel, Faculty of PE and Physiotherapy***Paper 2. A dynamic model of transition out of elite sport****Yannick Stephan & Virginie Demulier***Paris XI University***Paper 3. Qualitative study of an early retirement from competitive sport: Preliminary results****Sasa Cecic Erpic***University of Ljubljana, Faculty of Sport*

**Paper 4. Perceived leadership behaviour, motivational climate and group cohesion as correlates of skill development and satisfaction in female soccer players****Ines Pfeffer***University of Leipzig, Faculty of Sport Science***Paper 5. The transition from junior to senior sports: A summary of six Swedish studies.****Natalia Stambulova***Halmstad University, Centre for Sport & Health Research***Wednesday 5/9/2007****15:30-16:50****HALL: THEODORA I****SYMPOSIUM 8****Getting published in sport and exercise psychology: meet the journal editors**Organizer/ Chair: **Adrian Taylor**, *University of Exeter***HALL: THEODORA II****SYMPOSIUM 9****Past, present and future of the European Network of Young Specialists in Sport Psychology (ENYSSP)**Organizer/Chair: **ENYSSP Managing Council / Xavier Sanchez**, *Edge Hill University*Discussant: **A member of the ENYSSP Managing Council**, *Edge Hill University***Paper 1. The origins of ENYSSP****Duarte Araújo<sup>1</sup>, Magnus Lindwall<sup>2</sup>, & Xavier Sanchez<sup>3</sup>**<sup>1</sup>*Technical University of Lisbon (Portugal)*<sup>2</sup>*Högskolan i Halmstad (Sweden)*<sup>3</sup>*Edge Hill University (UK)***Paper 2. ENYSSP today: Objectives, structure, membership and services.****Xavier Sanchez<sup>1</sup> & Rita de Oliveira<sup>2</sup>**<sup>1</sup>*Edge Hill University (UK)*<sup>2</sup>*Vrije Universiteit Amsterdam (Netherlands)***Paper 3. The yearly workshops of ENYSSP****Esther Nederhof<sup>1</sup>, Rita de Oliveira<sup>2</sup>, & Xavier Sanchez<sup>3</sup>**<sup>1</sup>*Universiteit Groningen (Netherlands)*<sup>2</sup>*Vrije Universiteit Amsterdam (Netherlands)*<sup>3</sup>*Edge Hill University (UK)***Paper 4. The years ahead of ENYSSP.****Rita de Oliveira<sup>1</sup>, Els Snauwaert<sup>2</sup>, Esther Nederhof<sup>3</sup>, & Xavier Sanchez<sup>4</sup>**<sup>1</sup>*Vrije Universiteit Amsterdam (Netherlands)*<sup>2</sup>*Sport Support (Bel)*<sup>3</sup>*Universiteit Groningen (Netherlands)*<sup>4</sup>*Edge Hill University (UK)*

**Wednesday 5/9/2007****17:00-18:20****HALL: THEODORA I****SYMPOSIUM 10****Life skills teaching in sport and physical education**Organizer/ Chair: **Marios Goudas**, *University of Thessaly, Greece*Discussant: **Steven J. Danish**, *Virginia Commonwealth University, USA***Paper 1. Teaching Life Skills Through Sports: A "How to Do It" Primer****Steven J. Danish***Virginia Commonwealth University, USA***Paper 2. Incorporating life skills teaching in practice sessions: An abbreviated form of SUPER****Marios Goudas***University of Thessaly, Greece***Paper 3. Implementation of a life skills development program in physical education and sports****Vassilios Papacharisis***Aristotle University of Thessaloniki, Greece***Paper 4. The effectiveness of teaching a life-skills program in a physical education setting****Georgios Giannoudis & Marios Goudas***University of Thessaly, Greece***HALL: THEODORA II****SYMPOSIUM 11****Research and application in career development and career transitions in competitive sport (2)**Organizer/ Chair: **Natalia Stambulova & Paul Wylleman**, *Halmstad University, Centre for Sport & Health Research*Discussant: **Paul Wylleman**, *Vrije Universiteit Brussel, Faculty of PE and Physiotherapy***Paper 1. Career planning strategy: How to balance the past, the present and the future?****Natalia Stambulova***Halmstad University, Centre for Sport & Health Research***Paper 2. On the multidimensionality of transition out of elite sport: A study of multiple sources of influences on retired French elite athletes' global self-esteem****Yannick Stephan & Virginie Demulier***Paris XI University***Paper 3. Sport career counseling: Is step back in the career always a bad decision?****Sasa Cecic Erpic***University of Ljubljana, Faculty of Sport***Paper 4. Evaluation of a programme to combine elite sport and university education****Torregrosa, M., Mateos, M., Sanchez, X., & Cruz, J.***Universitat Autònoma de Barcelona - Edge Hill University***Paper 5. An in-depth evaluation of the Australian Athlete Career Education (ACE) program****Redmond, J., Gordon, S., & Chambers, T.***University of Western Australia*

**Thursday 6/9/2007****08:30-09:50****HALL: THEODORA****SYMPOSIUM 12****Attention and memory in motor and sport performance**Organizer/Chair: **Gershon Tenenbaum**, *Florida State University*Discussant: **Ronnie Lidor**, *The Zinman College of Physical Education and Sport Sciences***Paper 1. Building Blocks of Motor Performance in Memory and Brain****Thomas Schack***Bielefeld University, Israel***Paper 2. Facilitation of automaticity: Sport relevant vs. non-relevant secondary task****William Land & Gershon Tenenbaum***Florida State University***Paper 3. The effectiveness of attentional strategies on learning closed-motor skills among learners with ADHD and without ADHD****Ronnie Lidor & Hilla Solomon***University of Haifa, Israel***ROOM: TELEMACHUS I****SYMPOSIUM 13****Interpersonal and social dynamics in sport settings**Organizer/Chair: **Sophia Jowett**<sup>1</sup> & **Alan L. Smith**<sup>2</sup>, <sup>1</sup>*Loughborough University*, <sup>2</sup>*Purdue University*Discussant: **Alan L. Smith**,<sup>2</sup> *Purdue University***Paper 1. A Sampling Environment to Promote Diverse Relationships and Continued Involvement in Sport****Jean Côté & Scott Wilkes***Queen's University at Kingston, Canada***Paper 2. Efficacy beliefs in athlete-coach dyads: A qualitative investigation into antecedents and consequences****Ben Jackson**<sup>1</sup> & **Mark R. Beaucham**<sup>2</sup><sup>1</sup>*Canada University of Leeds, UK*<sup>2</sup>*University of British Columbia***Paper 3. The preference/perception discrepancy of leadership behaviour as a function of athletes' and coaches' gender****Harold Riemer***University of Regina***Paper 4. The role of personal relationships in athletes' sporting career****Sophia Jowett & Duncan Cramer***Loughborough University, UK***HALL: ATHENAIDA****SYMPOSIUM 14****Self-talk: State of the art and perspectives in sport psychology research**Organizer/ Chair: **Yannis Theodorakis**, *University of Thessaly, Greece*Discussant: **Judy L. Van Raalte**, *Springfield College, Massachusetts, USA*

**Paper 1. Self-talk: It works, but how? Research and implications on the functions of self-talk.****Antonis Hatzigeorgiadis, Yannis Theodorakis, Stiliani Chroni, & Nikolaos Zourbanos***University of Thessaly, Trikala, Greece***Paper 2. Development and preliminary validation of the Positive and Negative Self-Talk Scale (PANSTS).****James Hardy & Emily Oliver***University of Wales, Bangor, UK***Paper 3. Evidence on the validity of the Automatic Self-Talk Questionnaire for Sport – ASTQS.****Nikolaos Zourbanos, Antonis Hatzigeorgiadis, Yannis Theodorakis, & Stiliani Chroni***University of Thessaly, Trikala, Greece***Paper 4. The effect of instructional and motivational self-talk on performance and the kinematics of the vertical jump.****David Tod, Rhys Thatcher, Michael McGuigan, & Joanne Thatcher***University of Wales, Aberystwyth, UK***Thursday 6/9/2007****11:30-12:50****HALL: THEODORA I****SYMPOSIUM 15****The Home Advantage in Association Football (Soccer): International Perspectives**Organizer/Chair: **Sandy Wolfson**, *Northumbria University*Discussant: **Richard Pollard**, *California Polytechnic State University***Paper 1. Performance, rule, and player factors underlying the home advantage effect in international club soccer matches****Damian Poulter***University of Reading***Paper 2. Hormones and the home advantage in English football****Sandy Wolfson, Nick Neave, & Melissa Anderson***Northumbria University***Paper 3. Why is home advantage in south-east Europe the highest in the world?****Richard Pollard<sup>1</sup> & Aylin Seklin<sup>2</sup>**<sup>1</sup> *California Polytechnic State University, San Luis Obispo* & <sup>2</sup> *Istanbul Bilgi University, Istanbul***Paper 4. Perceptions of contributions to the home advantage by English and Greek football fans****Matthew Lewis & Vicki Goltsi***Northumbria University***HALL: THEODORA II****SYMPOSIUM 16****Research and practice in imagery and observation in sport: an integrative approach**Organizer/Chair- Discussant: **Paul Holmes**, *Manchester Metropolitan University***Paper 1. Integrating imagery, observation and neuropsychology****Holmes, P.S.***Manchester Metropolitan University*

**Paper 2. Methodological issues in imagery research****Smith, D.<sup>1</sup> & Cummings, J.<sup>2</sup>**<sup>1</sup>*University of Chester, UK*<sup>2</sup>*Birmingham University, UK***Paper 3. Neuroscience of Action Observation and Imagery****Edwards, M.G.<sup>1</sup>, Cumming, J.<sup>1</sup>, Holmes, P.S.<sup>2</sup> & Williams, A.M.<sup>3</sup>**<sup>1</sup>*Birmingham University*<sup>2</sup>*Manchester Metropolitan University*<sup>3</sup>*Liverpool John Moores University***Paper 4. Observation and learning****Cumming, J.<sup>1</sup> & Williams, A.M.<sup>2</sup>**<sup>1</sup>*Birmingham University*<sup>2</sup>*Liverpool John Moores University***Paper 5. New imagery perspectives: questions, challenges and solutions.****Callow, N.<sup>1</sup> & Holmes, P.S.<sup>2</sup>**<sup>1</sup>*University of Wales, UK*<sup>2</sup>*Manchester Metropolitan University***Thursday 6/9/2007****14:00-15:20****HALL: ATHENAIDA****SYMPOSIUM 17****Judgment and Decision Making in Sport and Exercise**Organizer/Chair- Discussant: **Markus Raab<sup>1</sup> & Michael Bar-Eli<sup>2</sup>**<sup>1</sup>*University of Flensburg, Germany,*<sup>2</sup>*Ben-Gurion University of the Negev, Israel***Paper 1. Decision-making as multiple transitions in a course of (inter)action in ball sports: a model****Araújo, Duarte<sup>1</sup>, Diniz, Ana<sup>1</sup>, Passos, Pedro<sup>1,2</sup>, Davids, Keith<sup>3</sup>, & Hristovski, Robert<sup>4</sup>**<sup>1</sup>*Faculty of Human Kinetics/Technical University of Lisbon, Portugal*<sup>2</sup>*Lusófona University of Humanities and Technologies, Portugal,*<sup>3</sup>*Queensland University of Technology, Australia,*<sup>4</sup>*Faculty of Physical Culture – University StCyril and Methodius, FYROM***Paper 2. A computational, information-processing approach to athlete decision making****Joseph G. Johnson***Miami University***Paper 3. Development of a decision training for expert soccer referees****Ralf Brand<sup>1</sup>, Geoffrey Schweizer<sup>1</sup>, & Henning Plessner<sup>2</sup>**<sup>1</sup>*University of Stuttgart*<sup>2</sup>*University of Heidelberg***Paper 4. The Quiet Eye As A Factor In Athlete Decision Making****Joan N.Vickers***University of Calgary***Paper 5. Decision in the Form of Attention: The Speed-Accuracy Trade-off and the Cost-Benefit Paradigm****Gershon Tenenbaum***Florida State University*



## HALL: THEODORA I

### SYMPOSIUM 18

#### Psychology interventions with football (soccer) teams

Organizer/ Chair: **Joaquín Dosil**, *University of Vigo*

Discussant: **Santiago Rivera**, *Sevilla F.C.*

#### Paper 1. The psychological peculiarities of football

**Joaquín Dosil**

*University of Vigo and Pontevedra C.F. Spain*

#### Paper 2. Psychological training with elite young football players

**Aurelio Olmedilla<sup>1</sup>, M<sup>a</sup> Dolores Andréu<sup>2</sup>, & Francisco J. Ortín<sup>3</sup>**

<sup>1</sup>*Universidad Católica de San Antonio of Murcia, Spain*

<sup>2</sup>*Sociedad Murciana de Psicología de la Actividad Física y el Deporte. Spain.*

<sup>3</sup>*University of Murcia, Spain*

#### Paper 3. Psychological needs in grass-roots football elite

**Joaquín Dosil<sup>1</sup> & Santiago Rivera<sup>2</sup>**

<sup>1</sup>*University of Vigo, Spain*

<sup>2</sup>*Sevilla Fútbol Club's Psychologists Technical Team*

#### Paper 4. The process of evaluation of the tactical understanding in soccer: pedagogical applications

**Ricardo de la Vega<sup>1</sup>, Sagrario del Valle<sup>2</sup>, Onofre Contreras<sup>2</sup> & Luis Miguel García<sup>2</sup>**

<sup>1</sup>*University Autónoma of Madrid, Spain*

<sup>2</sup>*University of Castilla la Mancha, Spain*

#### Paper 5. Psychology intervention with elite football teams: three experiences in the spanish professional football league

**Dosil, J.<sup>1</sup>, García-Mas, A.<sup>2</sup>, & De la Vega, R.<sup>3</sup>**

<sup>1</sup>*University of Vigo, Spain*

<sup>2</sup>*University of Illes Balears, Spain*

<sup>3</sup>*University Complutense of Madrid, Spain*

## HALL: THEODORA II

### SYMPOSIUM 19

#### Case-studies in applied sport psychology

Organizer/ Chair: **Paul Wylleman & Maria Psychountaki**, *Vrije Universiteit Brussel – Faculty of PE and Physiotherapy, Brussel*

Discussant: **Maria Psychountaki**, *Department of Physical Education & Sport Science, University of Athens*

#### Paper 1. Sailing athletes' psychological preparation: Aims and content of their mental imagery use

**Maria Psychountaki**

*Department of Physical Education & Sport Science, University of Athens, Greece*

#### Paper 2. Coaching Program for Coach: A Case Study

**Alberto Cei**

*University of Tor Vergata, Roma*

#### Paper 3. Psychological consultancy and interventions in a semi-professional female basketball team during qualification and play-off

**Tomas Gursky**

*Top-Fit, Bratislava*

**Paper 4. Personal growth through crisis: The case study of an overtrained athlete****Daniel Birrer***Swiss Federal Institute of Sport Magglingen***Paper 5. Two case studies of sport psychology support service delivery to Olympic athletes****Paul Wylleman***Vrije Universiteit Brussel – Faculty of PE and Physiotherapy, Brussel, Belgium***Thursday 6/9/2007****15:30-16:50****HALL: THEODORA I****SYMPOSIUM 20****Cross-cultural Assessments and Interventions of Mental Skills in Sport**Organizer/Chair: **John H. Salmela**, *Federal University of Minas Gerais*Discussant: **Natalie Durand-Bush**, *School of Human Kinetics, University of Ottawa***Paper 1: A Valid Assessment of Mental Skills in Sport****Natalie Durand-Bush<sup>1</sup> & John H. Salmela<sup>2</sup>**<sup>1</sup>*School of Human Kinetics, University of Ottawa*<sup>2</sup>*Federal University of Minas Gerais.***Paper 2. Discriminating Mental Skill Variables between Selected and Non-selected Athletes for the Asian Games.****Shamsi S. Monfared<sup>1</sup>, Fatolla Mosayebi<sup>1</sup>, & John H. Salmela<sup>2</sup>**<sup>1</sup>*NOC of the Islamic Republic of Iran*<sup>2</sup>*Federal University of Minas Gerais***Paper 3. Mental Skill Evaluations of Elite French Athletes****Marjorie Bernier & Jean Fournier***Institut National du Sport et de l'Education Physique, Département des Sciences du Sport***Paper 4. Needs Assessment and Interventions of the Spanish Team at the Football World Cup****Leonard Zaichkowsky***Boston University***Paper 5. Iranian Athletes' and Coaches' Perceptions of the Effectiveness of Mental Training Interventions at the Asian Games****John H. Salmela<sup>1</sup>, Fatolla Mosayebi<sup>2</sup>, & Shamsi S. Monfared<sup>2</sup>**<sup>1</sup>*Federal University of Minas Gerais*<sup>2</sup>*NOC of the Islamic Republic of Iran***HALL: THEODORA II****SYMPOSIUM 21****Complex systems approach to situated action in sport**Organizer/ Chair: **Duarte Araújo**, *Technical University of Lisbon, Faculty of Human Kinetics, Portugal*Discussant: **Robert Hristovski**, *University StCyril and Methodius, Faculty of Physical Culture; FYROM*

**Paper 1. Ventral and dorsal contributions in the visual regulation of ball catching****Geert Savelsbergh<sup>1,2</sup> & John van der Kamp<sup>1,3</sup>**<sup>1</sup>*Research Institute for Fundamental and Clinical Human Movement Sciences  
Vrije Universiteit Amsterdam, The Netherlands*<sup>2</sup>*Institute for Biophysical and Clinical Research into Human Movement  
Manchester Metropolitan University, UK*<sup>3</sup>*Institute of Human Performance, University of Hong Kong, Hong Kong***Paper 2. Interpersonal pattern dynamics and decision-making in rugby****Passos Pedro<sup>1,2</sup>, Araújo Duarte<sup>1</sup>, Davids Keith<sup>4</sup>, Diniz Ana<sup>1</sup>, Gouveia Luis<sup>3</sup>, & Sidónio Serpa<sup>1</sup>**<sup>1</sup>*Faculty of Human Kinetics/Technical University of Lisbon*<sup>2</sup>*Lusófona University of Humanities and Technologies*<sup>3</sup>*Faculty of Pharmacy/University of Lisbon*<sup>4</sup>*Queensland University of Technology***Paper 3. Emergent tactical solutions in an attack – defence hand-striking game****Hristovski Robert<sup>1</sup>, Davids Keith<sup>2</sup> & Araújo Duarte<sup>3</sup>**<sup>1</sup>*Faculty of Physical Culture – University StCyril and Methodius, FYROM*<sup>2</sup>*Queensland University of Technology, Australia*<sup>3</sup>*Faculty of Human Kinetics/Technical University of Lisbon, Portugal***Paper 4. Amplifying noise enhances acquisition and learning of complex sport movements****Schöllhorn, W.I., Welminski, D., & Michelbrink, M.***University of Münster, Germany***Paper 5. Layers of complexity in performance****Beatrix Vereijken***Human Movement Science Programme, Norwegian University of Science and Technology, Trondheim, Norway***Thursday 6/9/2007****17:00-18:20****HALL: THEODORA I****SYMPOSIUM 22****Early years in sport: Talent detection, continued participation, and transitions**Organizer/Chair: **Dieter Hackfort**, *ASPIRE Academy for Sports Excellence*Discussant: **Jean Côté**, *Queen's University at Kingston, Ontario***Paper 1: To Test or not to Test? – The Use of Physical and Skill Tests in Talent Detection and Early Phases of Talent Development****Ronnie Lidor**, *The Zinman College of Physical Education and Sport Sciences, , University of Haifa***Jean Côté**, *Queen's University at Kingston, Ontario, Canada***Dieter Hackfort**, *ASPIRE Academy for Sports Excellence, Doha, Qatar***Paper 2: To Sample or to Specialize? Five Postulates about Childhood Sport Activities that Lead to Continued Participation and Elite Performance****Jean Côté**, *Queen's University at Kingston, Ontario, Canada***Ronnie Lidor**, *The Zinman College of Physical Education and Sport Sciences, University of Haifa, Israel***Dieter Hackfort**, *ASPIRE Academy for Sports Excellence, Doha, Qatar***Paper 3: Career Development and Transitions of Athletes****Natalia Stambulova<sup>1</sup>, Dorothee Alfermann<sup>2</sup>, Jean Côté<sup>3</sup>, & Traci Statler<sup>4</sup>**<sup>1</sup>*Halmstad University, Sweden*<sup>2</sup>*Leipzig University, Germany*<sup>3</sup>*Queen's University at Kingston, Ontario, Canada*<sup>4</sup>*California State University at San Bernardino, USA*

**HALL: THEODORA II****SYMPOSIUM 23****On becoming skilled: implications for visual-motor practice**

Organizer/Chair: **Nicola J. Hodges**, *University of British Columbia*

Discussant: **A. Mark Williams**, *Research Institute for Sport & Exercise Sciences, Liverpool John Moores University*

**Paper 1. Especial motor skills: Implications for motor performance and practice conditions**

**Katherine M. Keetch<sup>1</sup>, Timothy D. Lee<sup>1</sup>, & Richard A. Schmidt<sup>2</sup>**

<sup>1</sup>*Dept of Kinesiology, McMaster University, Canada*

<sup>2</sup>*Human Performance Research, LA. Psychology Dept., UCLA, USA*

**Paper 2. The role of ball flight information in skilled kicking**

**Paul Ford<sup>1</sup>, Nicola J. Hodges<sup>2</sup>, & A. Mark Williams<sup>1</sup>**

<sup>1</sup>*Research Institute for Sport & Exercise Sciences, Liverpool John Moores University, UK*

<sup>2</sup>*School of Human Kinetics, University of British Columbia, Canada*

**Paper 3. A perception-action perspective on learning and practice: The stopping of a penalty kick**

**Geert, J.P. Savelsbergh**

*Institute for Fundamental and Clinical Human Movement Sciences, Vrije Universiteit Amsterdam, The Netherlands & The Institute for Biophysical and Clinical Research into Human Movement, Manchester Metropolitan University, UK & Academy for Physical Education, University of Professional Education, Amsterdam, The Netherlands*

**Paper 4. Isolating information in cricket bowling to facilitate observational learning**

**Gavin Breslin<sup>1</sup>, Nicola J. Hodges<sup>2</sup>, & A. Mark Williams<sup>3</sup>**

<sup>1</sup>*School of Sports Studies, University of Ulster Jordanstown, Northern Ireland*

<sup>2</sup>*School of Human Kinetics, University of British Columbia, Canada*

<sup>3</sup>*Research Institute for Sport & Exercise Sciences, Liverpool John Moores University, UK*

**Paper 5. Reducing the conflict between program- and parameter-based information sources in learning through demonstration with visual knowledge of results**

**Robert R. Horn<sup>1</sup>, A. Mark Williams<sup>2</sup>, Nicola J. Hodges<sup>3</sup>, & Spencer J. Hayes<sup>2</sup>**

<sup>1</sup>*Department of Exercise Science & Physical Education, Montclair State University, USA*

<sup>2</sup>*Research Institute for Sport & Exercise Sciences, Liverpool John Moores University, UK*

<sup>3</sup>*School of Human Kinetics, University of British Columbia, Canada*

**HALL: TELEMACHUS I****SYMPOSIUM 24****The roles of implicit and explicit cognitions in sport: Attention, perception, pressure, and performance**

Organizer/ Discussant: **Jon Maxwell**, *Institute of Human Performance, University of Hong Kong*

Chair: **Rich Masters**, *Institute of Human Performance, University of Hong Kong*

**Paper 1. Distribution of attentional resources as a function of learning technique: Evidence from probe reaction times**

**Jamie Poolton, Jon Maxwell, Gilbert Lam, & Rich Masters**

*Institute of Human Performance, University of Hong Kong, Hong Kong*

**Paper 2. Getting used to the pressure: Training with mild levels of anxiety may prevent choking in perceptual-motor tasks**

**Raoul R. D. Oudejans & J. R. (Rob) Pijpers**

*Institute for Fundamental and Clinical Human Movement Sciences, VU University Amsterdam, The Netherlands*

**Paper 3. The effect of Müller-Lyer illusions on far aiming tasks**

**John van der Kamp<sup>1,2</sup> & Richard S.W. Masters<sup>2</sup>**

<sup>1</sup>*Faculty of Human Movement Sciences, VU Amsterdam, The Netherlands*

<sup>2</sup>*Institute of Human Performance, University of Hong Kong, Hong Kong*

**Paper 4. Rule formation and table tennis performance following explicit and analogy learning over 10,000 repetitions**

**Johan M. Koedijker, Raoul R. D. Oudejans, & Peter, J. Beek**

*Research Institute MOVE, Faculty of Human Movement Science, VU University Amsterdam, The Netherlands*

**Paper 5. Getting a bit on the side - penalty kick direction is influenced implicitly by the position of the goalkeeper**

**Rich Masters,<sup>1</sup> John van der Kamp,<sup>1,2</sup> & Rob Jackson<sup>1</sup>**

<sup>1</sup>*Institute of Human Performance, The University of Hong Kong, Hong Kong Special Administrative Region, China*

<sup>2</sup>*Faculty of Human Movement Sciences, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands*

**Friday 7/9/2007****08:30-09:50****HALL: THEODORA****SYMPOSIUM 25****Injury rehabilitation**Organizer/Chair: **Urban Johnson**, *Halmstad University, Centre for Sport & Health Research*Discussant: **Mark Andersen**, *Centre for Rehabilitation, Exercise, and Sport Science, Victoria University***Paper 1. Development and preliminary evaluation of a behavioral multimedia CD-ROM for ACL surgery and rehabilitation.****Britton W. Brewer, Judy L. Van Raalte, & Allen E. Cornelius***Springfield College***Paper 2. Injury Prevention in Sweden: Helping Ice hockey Players at Risk****Ulrika Tranaeus & Urban Johnson***Halmstad University, Centre for Sport and Health Research***Paper 3. Development and Validation of Sport Self-Confident Questionnaire of Injured Athletes****Anna Christakou, Nektarios A. Stavrou, Maria Psychountaki, & Yannis Zervas***University of Athens, Department of Physical Education and Sport Science***Paper 4. Injury Recovery Research Issues: Questions about Anxiety, Imagery, and Mental Toughness in Rehabilitation****Mark B. Andersen, Qusai H. Mubaidin, Stephanie Tibbert, & Tony Morris***Victoria University***Paper 5. Disabled bodies and memories of pain: A narrative analysis****Brett Smith***University of Exeter***HALL: TELEMACHUS I****SYMPOSIUM 26****The Psychophysical Effects of Music in Sport and Exercise**Organizer/Chair: **Costas Karageorghis**, *Brunel University, UK*Discussant: **Nikos Ntoumanis**, *University of Birmingham, UK***Paper 1. Effects of Music Tempi on Intrinsic Motivation, Flow, and Music Preference during Long-duration Exercise****Costas I. Karageorghis, Leighton Jones, & Daniel P. Stuart***Brunel University***Paper 2. Effects of Video, Priming and Music on Emotions and Motivation****Georgios Loizou & Costas I. Karageorghis***Brunel University***Paper 3. Neurophysiological Correlates of Tennis Players' Emotional Responses to Pre-Performance Music****Daniel T. Bishop, Michael J. Wright, & Costas I. Karageorghis***Brunel University***Paper 4. Use of Music Interventions with Elite Athletes****Peter C. Terry<sup>1</sup> & Costas I. Karageorghis<sup>2</sup>**<sup>1</sup>*University of Southern Queensland, Australia*<sup>2</sup>*Brunel University*

**Friday 7/9/2007****11:30-12:50****HALL: THEODORA I****SYMPOSIUM 27****Why do people engage in high-risk sports? Beyond sensation seeking**Organizer/ Chair: **Tim Woodman**, *University of Wales Bangor, UK*Discussant: **Low Hardy or Tim Woodman**, *University of Wales Bangor, UK***Paper 1. Why do people engage in high-risk activities? An emotional control model****Tim Woodman<sup>1</sup> & Christine Le Scannff<sup>2</sup>**<sup>1</sup>*University of Wales, Bangor, UK*<sup>2</sup>*University of Paris-Sud, Orsay, France***Paper 2. Personality and emotional self-regulation in high-risk sports: Studies of bungee jumpers and base jumpers****Grégory Michel<sup>1</sup>, Diane Purper-Ouakil<sup>2</sup>, Cindy Delpouve<sup>3</sup>, Marie-Chistine Mouren<sup>2</sup>, & Joel Swendsen<sup>4</sup>**<sup>1</sup>*PT Université de Bordeaux 2, France & INSERM U669 Paris, France*<sup>2</sup>*Hôpital Robert Debré Paris et INSERM U669 Paris, France*<sup>3</sup>*Université Bordeaux 2, France*<sup>4</sup>*CNRS UMR 5231, Bordeaux, France***Paper 3. Psychological difficulties and accidents in mountaineers****Christine Le Scannff<sup>1</sup>, Carole Castanier<sup>1</sup>, & Tim Woodman<sup>2</sup>**<sup>1</sup>*University of Paris-Sud, Orsay, France*<sup>2</sup>*University of Wales, Bangor, UK***Paper 4. Skydiving: The rise and fall of alexithymic women's anxiety and self-esteem****Nicolas Cazenave<sup>1</sup>, Tim Woodman<sup>2</sup>, & Christine Le Scannff<sup>1</sup>**<sup>1</sup> *Université de Paris XI-Orsay, France*<sup>2</sup> *University of Wales Bangor, UK***Paper 5. "Because it's there"? A re-examination of the motives for participation in serious mountaineering****Barlow, M., Hardy, L., & Woodman, T.***University of Wales, Bangor, UK***HALL: THEODORA II****SYMPOSIUM 28****Translating Evidence to Practice: Real World Evaluation of Walking Programmes based in the Community**Organizer/ Chair: **Afroditi Stathi**, *London Sport Institute, Middlesex University*Discussant: **Kenneth R. Fox**, *Department of Exercise, Nutrition, and Health Sciences University of Bristol***Paper 1. Encouraging Walking Among Community Dwelling Older Adults****Stathi, A.<sup>1</sup>, Theodorakis Y.<sup>2</sup>, & Digelidis, N.<sup>2</sup>**<sup>1</sup>*London Sport Institute, Middlesex University, UK*<sup>2</sup> *Dept of Physical Education and Sport Science, University of Thessaly, Greece*

**Paper 2. Evaluation of the 'Schools on the Move' project: Interpretative Accounts on Procedures, Practices and Success****Dagkas, S.<sup>1</sup> Stathi, A.<sup>2</sup>, Nordin, S.<sup>2</sup>, & Riddoch, C.<sup>3</sup>**<sup>1</sup>*School of Education, University of Birmingham, UK*<sup>2</sup>*London Sport Institute, Middlesex University, UK*<sup>3</sup>*The School for Health, Bath University, UK***Paper 3. Physical Activity Levels and Number of Steps of Adult Women****Michalopoulou M.<sup>1</sup>, Exarchopoulou S.<sup>1</sup>, Ageloussis N.<sup>1</sup>, Zisi V.<sup>2</sup>, & Argiropoulou E. Ch.<sup>1</sup>**<sup>1</sup>*Dept of Physical Education and Sport Science, Democritus University of Thrace, Greece*<sup>2</sup>*Dept of Physical Education and Sport Science, University of Thessaly, Greece***Paper 4. Effectiveness of the Walking the way to Health Initiative in Improvement of Social Exclusion and Health.****Davis, M.G.<sup>1</sup> & McKenna, J.<sup>2</sup>**<sup>1</sup>*Department of Exercise, Nutrition, and Health Sciences, University of Bristol*<sup>2</sup>*Carnegie Faculty of Sport and Education, Leeds Metropolitan University***Paper 5. Physical Activity Patterns in Greek Elderly People: Questionnaire versus Pedometer Assessment****Zisi, V., Skondras, G., Hasandra, M., Akritidou, A., & Theodorakis, Y.***Department of Physical Education and Sport Science, University of Thessaly, Greece***HALL: TELEMACHUS I****SYMPOSIUM 29****The motivational climate in the physical domain: New findings and new directions for future research**Organizer/ Chair: **Jaume Cruz**, *Universitat Autònoma de Barcelona***Joan L. Duda**, *University of Birmingham*Discussant: **Joan L. Duda**, *University of Birmingham***Paper 1. The effect of sport context in sport commitment.****Cruz, J.<sup>1</sup>, Torregrosa, M.<sup>1</sup>, Sousa, C.<sup>1</sup>, Viladrich, C.<sup>1</sup>, Villamarin, F.<sup>1</sup> & Garcia-Mas, A.<sup>2</sup>**<sup>1</sup>*Universitat Autònoma de Barcelona*<sup>2</sup>*Universitat de les Illes Balears, Spain***Paper 2. Motivational climate, psychological mechanisms and well-being in young athletes****Isabel Balaguer<sup>1</sup>, Joan Duda<sup>2</sup>, Isabel Castillo<sup>1</sup>, & Marisol Alvarez<sup>1</sup>**<sup>1</sup>*University of Valencia, Department of Social Psychology, Valencia, Spain*<sup>2</sup>*University of Birmingham, School of Sport and Exercise Sciences, Birmingham, UK***Paper 3. Effects of motivational climate in youth sport on achievement goals and behaviors in school****Athanasios G. Papaioannou<sup>1</sup>, George Ampatzoglou<sup>2</sup>, Periklis Kalogiannis<sup>2</sup>, & Alexandros Sagovits<sup>2</sup>**<sup>1</sup>*University of Thessaly, Greece*<sup>2</sup>*Democritus University of Thrace, Greece***Paper 4. Is the motivational climate a shared or an individual variable?: The level of analysis question in climate research****Philippe Sarrazin, David Trouilloud, & Jean-Philippe Heuzé***Laboratoire Sport et Environnement Social, Université Grenoble 1, France***Paper 5. Motivational climate and coaching behaviours: Lessons learned from Norwegian studies****Glyn C. Roberts & Yngvar Ommundsen***Norwegian University of Sport Science, Oslo, Norway*



**Friday 7/9/2007****14:00-15:20****HALL: THEODORA I****SYMPOSIUM 30****Narrative and its potential contribution to sport and health psychology**Organizer/Chair: **Brett Smith**, *University of Exeter*Discussant: **Michele Crossley**, *Liverpool John Moores University***Paper 1. Meeting narrative: Exploring theory and method****Brett Smith***University of Exeter***Paper 2. Narrative practice within a sporting subculture: The construction of flow narratives in university rugby****Sarah Partington***Northumbria University***Paper 3. Women's narratives of retirement from professional sport****Kitrina Douglas & David Carless***University of Bristol & Leeds Metropolitan University***Paper 4. Narrative in sports injury: The stories of university athletes' chronic and acute injuries****Elizabeth Partington***Northumbria University***Paper 5. Self-narrative: Illustrations of different genre and explorations of the underlying rationale for writing****David Gilbourne***Liverpool John Moores University***HALL: THEODORA II****SYMPOSIUM 31****European perspectives on behaviour change in exercise and health:****A Self-determination Theory approach**Organizer/ Chair: **Emmanouil M. Georgiadis**, *Greek Police Officers School*Discussant: **Symeon Vlachopoulos**, *Aristotle University of Thessaloniki***Paper 1. Effects of an intervention based on self determination theory on physical activity participation****Nikos, L. D. Chatzisarantis<sup>1</sup>, & Martin, S. Hagger<sup>2</sup>**<sup>1</sup>*University of Plymouth*<sup>2</sup>*University of Nottingham***Paper 2. Predicting weight and negative affect among overweight and obese individuals referred to an exercise on prescription scheme: A Self-Determination Theory perspective****Jemma K. Edmunds<sup>1</sup>, Nikos Ntoumanis<sup>2</sup>, & Joan L. Duda<sup>2</sup>**<sup>1</sup>*Coventry University*<sup>2</sup>*University of Birmingham***Paper 3. Effects of walking on urges to smoke during a smoking cue, and *ad libitum* smoking****Magdalena Katomeri***University of Plymouth*

**Paper 4. The role of autonomy in psychological change: An applied perspective****Emmanouil M. Georgiadis***Greek Police Officers School***HALL: TELEMACHUS I****SYMPOSIUM 32****Learning to regulate feel to maximize performance and well-being**Organizer/ Chair: **Natalie Durand-Bush**, *University of Ottawa*Discussant: **Kelly Doell**, *University of Ottawa***Paper 1. The feel of food and fitness: A resonance-based intervention beyond performance****Kelly Doell & Natalie Durand-Bush***University of Ottawa***Paper 2. Medical students as performers: Exploring their process through feel****Christopher Simon & Natalie Durand-Bush***University of Ottawa***Paper 3. What do you want to feel as a head coach?****Göran Kenttä & Carolina Lundqvist***The Swedish School of Sport and Health Sciences***Paper 4. Using feel to enhance a volleyball team's performance: A coach's learning process****Bettina Callary & Natalie Durand-Bush***University of Ottawa*

**Saturday 8/9/2007****11:30-12:50****HALL: THEODORA I****SYMPOSIUM 33****Social relationships and well-being in youth sport and physical activity**

Organizer/ Chair: **Alan L. Smith**, *Purdue University*  
**Sophia Jowett**, *Loughborough University*  
 Discussant: **Sophia Jowett**, *Loughborough University*

**Paper 1. Social relationships and the physical self in sport and exercise: Intersections with culture**  
**Peter R.E. Crocker & Subha Ramanathan**  
*University of British Columbia, Canada*

**Paper 2. Motivational outcomes in sport: The relationship of achievement goals on peer relationships, empowerment, affect, loneliness, and bullying**  
**Glyn C. Roberts, Marit Sorensen, Yngvar Ommundsen, Blake Miller, Mari-Kristin Sisjord, & Kari Fasting**  
*Norwegian University of Sport Science, Norway*

**Paper 3. Motivational climate, peer relations, motivation and dropout from sport: A prospective analysis**  
**Yngvar Ommundsen, Glyn C Roberts, Blake W Miller, Mari Kristin Sisjord, & Marit Sørensen,**  
*Norwegian University of Sport Science, Norway*

**Paper 4. A review and synthesis of research on peers and youth physical activity behaviour**  
**Alan L. Smith, Meghan H. McDonough, Stacey A. Wisdom, & Sarah Ullrich-French**  
*Purdue University, USA*

**HALL: THEODORA II****SYMPOSIUM 34****WomenSport International Symposium on Sexual harassment and abuse in sport: new data and explanations**

Organizer/ Chair: **Kari Fasting**, *Norwegian School of Sport Sciences*  
 Discussant: **Guyllaine Demers**, *Université Laval*

**Paper 1. The experiences of male sexual harassment among female sport students in the Czech Republic, Greece and Norway**  
**Kari Fasting<sup>1</sup>, Stilian Chroni<sup>2</sup>, & Nada Knorre<sup>3</sup>**  
<sup>1</sup>*Norwegian School of Sport Sciences*  
<sup>2</sup>*University of Thessaly, Greece*  
<sup>3</sup>*Czech Olympic Committee*

**Paper 2. Forms of sexual harassment experienced by female sport students in the Czech Republic, Greece, and Norway**  
**Stilian Chroni<sup>1</sup>, Kari Fasting<sup>2</sup>, & Nada Knorre<sup>3</sup>**  
<sup>1</sup>*University of Thessaly, Greece*  
<sup>2</sup>*Norwegian School of Sport Sciences*  
<sup>3</sup>*Czech Olympic Committee*

**Paper 3. Autocratic coaching behavior and experiences of sexual harassment among sports students in three different European countries****Trond Svella Sand<sup>1</sup>, Kari Fasting<sup>1</sup>, Stilian Chroni<sup>2</sup>, & Nada Knorre<sup>3</sup>**<sup>1</sup>*Norwegian School of Sport Sciences*<sup>2</sup>*University of Thessaly, Greece*<sup>3</sup>*Czech Olympic Committee***Paper 4. Playing Away: Exploring the Behavioural Characteristics of Sexual Abusers in Sport****Daz Bishopp<sup>1</sup>, Celia Brackenridge<sup>2</sup>, & James Tapp<sup>3</sup>**<sup>1</sup>*Broadmoor Hospital*<sup>2</sup>*Brunel University*<sup>3</sup>*West London Mental Health Trust***Saturday 8/9/2007****14:00-15:20****HALL: THEODORA I****SYMPOSIUM 35****What is the influence of knowledge on player's behaviour?**Organizer/ Chair- Discussant: **Hubert Ripoll**, *Université de la Méditerranée, Marseille, France*  
**Duarte Araújo**, *Technical University of Lisbon, Faculty of Human Kinetics, Portugal***Paper 1. Some Constraints on Pattern Recognition Skill in Soccer****North, J.S & Williams, A.M.***Liverpool John Moores University, UK***Paper 2. Knowledge as heuristics in sport behavior – Explaining the influence of knowledge on athletes' behavior from a bounded rationality perspective****Markus Raab, Nele Tielemann, Andre Arnold, Hilke Zastrow, Klaus Gärtner, Christian Lempertz, & Jörn Köppen***University of Flensburg, Germany***Paper 3. On the primacy of the dynamics of perception and action****Peter J. Beek***Faculty of Human Movement Sciences, Vrije Universiteit, Amsterdam***Paper 4. The influence of verbal and non-verbal informational constraints on knowledge manifestations in sport****Araújo Duarte<sup>1</sup>, Cordovil de Matos Rita<sup>1,2</sup>, & Davids Keith<sup>3</sup>**<sup>1</sup>*Faculty of Human Kinetics/Technical University of Lisbon*<sup>2</sup>*Lusófona University of Humanities and Technologies*<sup>3</sup>*Queensland University of Technology***Paper 5. Do categories stored in memory of expert collective game players modulate visual information processing?****Hubert Ripoll<sup>1</sup> & Eric Laurent<sup>2</sup>**<sup>1</sup>*Université de la Méditerranée, Marseille, France*<sup>2</sup>*Cabinet «Ergos Performance Humaine», La Garde, France*

**HALL: THEODORA II****SYMPOSIUM 36****Passion in Sport: Theory and Research**

Organizer/Chair: **Robert J. Vallerand**, *Université du Québec à Montréal*  
*Laboratoire de Recherche sur le Comportement Social*  
 Discussant: **Joan L. Duda**, *University of Birmingham*

**Paper 1. Passion in Sport: A Look at Athletes and Coaches**

**Robert J. Vallerand & Éric Donahue**,  
*Laboratoire de Recherche sur le Comportement Social, Université du Québec à Montréal*

**Paper 2. Passion and the motivational patterns of youth football players**

**Lemyre, P-N & Roberts, G. C., Ommundsen, Y., & Abrahamsen F.**  
*Norwegian University of Sport and Physical Education*

**Paper 3. On the Relative role of Harmonious and Obsessive Passion in Referees' Psychological Well-being**

**Philippe Brunel & Joéline Andrianarisoa**  
*Université de Limoges*

**Paper 4. You'll never walk alone: Passion in Soccer Fans**

**Ntoumanis, N.<sup>1</sup>, Vallerand, R. J.<sup>2</sup>, & Philippe, F.<sup>2</sup>**

<sup>1</sup>*University of Birmingham*

<sup>2</sup>*Université du Québec à Montréal*

**Paper 5. Passion in Sport: A Discussion**

**Joan L. Duda**  
*University of Birmingham*

**Saturday 8/9/2007****15:30-16:50****HALL: THEODORA I****SYMPOSIUM 37****Motivational climate interventions: What have we learned till now?**

Organizer/ Chair: **Nikolaos Digelidis**, *University of Thessaly, Greece*  
 Discussant: **John R. Todorovich**, *University of West Florida, Division of Health, Leisure, and Exercise Science*

**Paper 1. Motivational climate interventions - A short review of used teaching methods**

**Timo Jaakkola**  
*University of Jyväskylä, Finland*

**Paper 2. Effects of a mastery Intervention programme in Sport and PE**

**Kevin Morgan & Kieran Kingston**  
*WIC, UK*

**Paper 3. Motivational Climate as Antecedent of Enjoyment in School PE**

**Markus Soini, Jarmo Liukkonen & Timo Jaakkola**  
*University of Jyväskylä, Finland*

**Paper 4. Influence of Manipulated Motivational Climates on Early Adolescent Skill Learning in Physical Education**

**John R. Todorovich**  
*University of West Florida, USA*

**Paper 5. Motivational climate, intrinsic-extrinsic motivation and teaching styles: the reciprocal and the self-check style****Dimitrios Mizios & Nikolaos Digelidis***University of Thessaly, Greece***HALL: THEODORA II****SYMPOSIUM 38****Research Quality in Sport & Exercise Psychology**Organizer/Chair: **Mike Weed**, *Canterbury Christ Church University, UK*Discussant: **Adrian Taylor**, *Exeter University, UK***Paper 1. Research Quality and Judgment Criteria in Qualitative Research: Exploring Problems and Possibilities****Smith, B.M.***Qualitative Research Unit, School of Sport & Health Sciences, Exeter University, UK***Paper 2. Linking Research Quality at the Micro- and Macro-Levels: Meta Analysis****Chatzisarantis, N.L.D.***School of Psychology, University of Plymouth, UK***Paper 3. Macro-Level Research Quality Issues in the Application of Grounded Theory in Sport & Exercise Psychology****Weed, M.E.***Department of Sport Science, Tourism & Leisure, Canterbury Christ Church University, UK***Paper 4. Assumptions in sport and exercise psychology: Impact upon research quality at the macro-level****Hagger, M.S.***Risk Analysis, Social Processes, and Health Group, School of Psychology, University of Nottingham, University Park, Nottingham***HALL: TELEMACHUS I****SYMPOSIUM 39****Interpersonal relationship in sport**Organizer/Chair- Discussant: **Roberta Antonini Philippe**, *Swiss Federal Institute of Sports Magglingen***Paper 1. Father coach and son athlete – what kind of relationship does this add up to?****Roberta Antonini Philippe***Swiss Federal Institute of Sports Magglingen, Switzerland***Paper 2. Talents in sport and parental influence****Sidónio Serpa, André Barreiros, Esmeralda Gouveia, Filipa Cavalleri-Serpa & Miguel Santos***Technical University of Lisbon, Faculty of Human Kinetics, Portugal***Paper 3. Analysis of transference in the coach-athlete relationship in tennis****Sophie Huguet***University of Bedfordshire, UK***Paper 4. Coaches' Behaviour toward Chinese and German Adolescent Soccer Players****Xinsheng Wang, Dorothee Alfermann***Faculty of Sport Science, University of Leipzig, Germany*

**Saturday 8/9/2007****17:00-18:20****HALL: THEODORA I****SYMPOSIUM 40****Recent Developments in Stress and Anxiety Research in Sport**Organizer/ Chair: **David Fletcher**, *University of Essex*Discussant: **Tim Woodman**, *University of Wales, Bangor***Paper 1. Recent Developments in the Anxiety-Performance Relationship****Paul Davis & Tim Woodman***University of Wales, Bangor***Paper 2. Recent Developments in Anxiety Direction Research****Stephen D. Mellalieu<sup>1</sup>, David Fletcher<sup>2</sup> & Owen Thomas<sup>3</sup>**<sup>1</sup>*Swansea University*<sup>2</sup>*University of Essex*<sup>3</sup>*University of Wales Institute, Cardiff***Paper 3. Recent Developments in Anxiety Frequency Research****Owen Thomas<sup>1</sup>, Stephen D. Mellalieu<sup>2</sup> & David Fletcher<sup>3</sup>**<sup>1</sup>*University of Wales Institute, Cardiff*<sup>2</sup>*Swansea University*<sup>3</sup>*University of Essex***Paper 4. Recent Developments in Organizational Stress Research****David Fletcher<sup>1</sup>, Owen Thomas<sup>2</sup> & Stephen D. Mellalieu<sup>3</sup>**<sup>1</sup>*University of Essex*<sup>2</sup>*University of Wales Institute, Cardiff*<sup>3</sup>*Swansea University***HALL: THEODORA II****SYMPOSIUM 41****Team and group development – a relational perspective**Organizer/ Chair: **Taru Lintunen & Reinhard Stelter**, *Department of Physical Education, University of Jyväskylä*Discussant: **Reinhard Stelter**, *Department of Exercise and Sport Sciences, University of Copenhagen***Paper 1. A relational perspective toward teams and groups – a theoretical outline****Reinhard Stelter***Department of Exercise and Sport Sciences, University of Copenhagen***Paper 2. A case study of taking responsibility in an ice hockey team****Olli Salmi<sup>1,2</sup>, Esa Rovio<sup>3</sup>, & Taru Lintunen<sup>1</sup>**<sup>1</sup>*University of Jyväskylä, Faculty of Sport and Health Sciences, Jyväskylä, Finland* <sup>2</sup>*LIKES Research Center, Jyväskylä, Finland*<sup>3</sup>*Finnish Society of Sport Sciences*

**Paper 3. Talent development environment in sport: An explorative case study based on the system's theory framework**

**Kristoffer Henriksen<sup>1</sup>, Kirsten Kaya Roessler<sup>2</sup>, & Natalia Stambulova<sup>3</sup>**

<sup>1</sup>*University of Southern Denmark*

<sup>2</sup>*University of Southern Denmark*

<sup>3</sup>*Halmstad University, Sweden*

**Paper 4. How do they do it – the building of team in sport and elsewhere? Results from a research**

**Anders Halling**

*Department of Sports and Biomechanics, University of Southern Denmark*



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# **ORAL PRESENTATIONS PROGRAMME**



**Tuesday 4/9/2007****14:00-15:20****HALL: TELEMACHUS I****SESSION 1. Issues in sport psychology I**

Chair: Marit Sørensen

**Paper 1. "Three System Approach" - the relationship of diagnostic instruments measurements on different levels**

Thomas Finkenzerler &amp; Günter Amesberger

*University of Salzburg, Department of Sport Science, Sport Psychology***Paper 2. What contributes to empowerment for boys and girls within the sport context?**

Marit Sørensen, Glyn C. Roberts, Kari Fasting, Blake W. Miller, Yngvar Ommundsen, &amp; Mari Kristin Sisjord

*The Norwegian School of Sport Sciences, Norway***Paper 3. The Role of psychological dimensions on athletic performance**

Sophia Kalamara &amp; Ioannis Tsaousis

*University of Aegean, Rhodes, Crece***Paper 4. Cognitive appraisal and characteristics of elite athletes for intensive training**

Yan Feng

*Physical Education College of Zheng-zhou University, Zheng-zhou city, China***HALL: TELEMACHUS II****SESSION 2. Exercise Psychology**

Chair: Symeon P. Vlachopoulos

**Paper 1. Change of strategy in random number generation induced by an acute bout of aerobic exercise**

Audiffren, M\*, Tomporowski, P., &amp; Zagrodnik, J.

*\*Sport Sciences Faculty, University of Poitiers, France***Paper 2. The effects of moderate and vigorous intensity exercise on desire to smoke, withdrawal symptoms and mood in abstaining young adult smokers**

Emma S. Everson\*, Amanda J. Daley, &amp; Michael Ussher

*\*University of Exeter, UK***Paper 3. Factor structure and external validity of the translated exercise identity scale among Greek individuals**

Symeon P. Vlachopoulos\*, Maria Kaperoni, Frederiki Moustaka, &amp; Dean Anderson

*\*Aristotle University Of Thessaloniki, Department Of Physical Education And Sport Science At Serres, Greece***Paper 4. "Effect of the disconnected values model on wellness program outcomes: The role of applied exercise psychology"**

Mark H. Anshel

*Middle Tennessee State University, Tennessee, USA***Paper 5. Motivational preferences in recreational skiing among the young and the elderly**

Małgorzata Walczak

*University School of Physical Education, Psychology Department, Poland***HALL: ALEXANDROS****SESSION 3. Measuring and predicting physical activity and related outcomes**

Chair: Maria Hasandra

**Paper 1. Validation of a training diary for measuring youth physical activity**

Jenny Isberg

*Department of Health Sciences, Örebro University, Sweden*

**Paper 2. Exercise motivation and subjective well-being: A study with the self-determination theory**

Palmeira A.\*, Teixeira P., Silva M., Martins S., Nunes P., Pinto C., Pombo R., &amp; Krug P.

*\*Universidade Lusófona de Humanidades e Tecnologias, Lisboa, Portugal***Paper 3. What motivates adults to participate in leisure physical activity?**

Sami Kalaja\* &amp; Jarmo Liukkonen

*\*Department of Sport Sciences, University of Jyväskylä, Finland***Paper 4. A study of development and associations of health, physical activity and positive emotional and behavioural factors in a rural Mid-Norwegian adolescent population in 1996, 2001, and 2006; Findings in the 2006 data collection**

Geir Arild Espnes\*, Unni Karin Moksnes, &amp; Jan Erik Ingebrigtsen

*\*Psychosomatic research group from the Norwegian University of Science and Technology, Department of Social Work and health Science & The Sør-Trøndelag University College, Department of Nursing, Norway***Paper 5. Who is more sedentary in East Europe?**

Istvan Soos\*, Stuart Biddle, Pal Hamar, Iosif Sandor, Jaromir Simonek, &amp; Istvan Karsai

*\*University of Sunderland, UK***Tuesday 4/9/2007****15:30-16:50****HALL: TELEMACHUS I****SESSION 4. Performance Enhancement**

Chair: Antonis Hatzigeorgiadis

**Paper 1. The effects of a PST program on performance of Iranian female shooters**

Shamsi Sanati Monfared

*Iranian Research Institute for P.E and Sport Science, Tehran- Iran***Paper 2. Effectiveness of a self-talk intervention program on free-throwing performance in wheelchair basketball players**

Thomas Harmpalis, Antonis Hatzigeorgiadis, &amp; Yannis Theodorakis

*University of Thessaly, Greece***Paper 3. The road to Fuji: Reflections of a 'novice' sport psychologist**

Menelaos G. Sifakas

*Bell College, Scotland***Paper 4. Five steps of interactive teaching**

Indira Mandzuka

*Faculty of Sports and Physical Education, University of Sarajevo***HALL: TELEMACHUS II****SESSION 5. Health – related correlates of physical activity**

Chair: Michele Crossley

**Paper 1. The connection between stress and physical activity in an adolescent population in Norway**

Unni Karin Moksnes\*, &amp; Geir Arild Espnes

*\*Sør Trøndelag University College, School of Nursing, Norway***Paper 2. Correlates of physical activity and health benefits in young Norwegian children**

Ingunn Fjørtoft\* &amp; Kari Aasen Gundersen

*\*Telemark University College, Faculty of Arts, Folk Culture and Teacher Education, Norway*

**Paper 3. The relationship between physical activity and social anxiety: Cross-sectional results of a school-based activity program ("Kinder-Sportstudie KISS")**

Tim Hartmann\*, Lukas Zahner, Susi Kriemler, &amp; Uwe Pühse

*\*Institute of Exercise and Health Sciences, University of Basel, Switzerland***Paper 4. Effects of psycho-training and movement therapy by people with overweight**

Milada Krejci

*University of South Bohemia, Faculty of Education, Czech Republic***HALL: ALEXANDROS****SESSION 6. Examining adults physical activity**

Chair: Maria Michalopoulou

**Paper 1. Amotivation, reasons for not exercising and conditions for change in a sample of older Greek adults**

Cecilie Thøgersen-Ntoumani\*, Nikos Ntoumanis, &amp; Nikitas Nikitaras

*\*University of Birmingham, UK***Paper 2. Sedentary lifestyle as a mediator in the relationship between wellbeing and BMI in adolescents**

Jeroen Meganck\*, An Victoir, Els Dezeure, &amp; Jan Vinck

*\*Hasselt University, Belgium***Paper 3. Physical activity of levels and number of steps of adult women**

Michalopoulou M., Ageloussis N., Zisi V., &amp; Argiropoulou E.Ch.

*Dept of Physical Education and Sport Science Democritus University of Thrace, Greece***HALL: THEODORA****SESSION 7. Anxiety and stress in sport and exercise**

Chair: Vasilios Kakkos

**Paper 1. Perceived chronic stress in children's competitive sports**

Karen Hoffmann\* &amp; Alfred Richartz

*\*University of Leipzig, Faculty of Sport Science, Germany***Paper 2. Acute anxiety responses to qigong exercise of varying durations**

Mattias Johansson\* &amp; Peter Hassmén

*\*Department of Health Sciences, Orebro University, Sweden***Paper 3. The differences between anxiety and self-confidence in relation to individual and team sports college athletes**

Liga Geme

*University of Latvia***Paper 4. Psychometric study of the Spanish version of the Precompetitive Anxiety Questionnaire CSAI-2R**

Graciela Lois, Elena M. Andrade, &amp; Constantino Arce

*University of Santiago de Compostela, Spain***Paper 5. The Management of Directional Trait Anxiety in Competitive Sport with Rational Emotive Behaviour Therapy**

Chris Larner, Tony Morris, &amp; Daryl Marchant

*Victoria University of Technology, Australia*

**Wednesday 5/9/2007****08:30- 09:50****HALL: TELEMACHUS I****SESSION 8. Provision of psychological services**

Chair: Maria Psychountaki

**Paper 1. Integrated mental training (IMT) for sport and life**

Lars-Eric Uneståhl

*Örebro University, Sweden***Paper 2. Systematic sport psychological consulting for young elite athletes**

Franziska Wenhold\* &amp; Anne-Marie Elbe

*\*University of Potsdam, Germany***Paper 3. Evaluation of an inter-disciplinary sports science intervention (SSI) to the Great Britain under 16 korfbal team preparing for the Youth World Cup (YWC)**

Beale, J.T.\*, Johnstone, J., &amp; Williamson, A

*\*University of East London***Paper 4. Risk of Harm in Sport Psychology - Can We Engage in Difficult Conversations?**

Anne Muscat\* &amp; Louise Roberts

*\*University of British Columbia***Paper 5. Testing sport specific motivation and volition**

Anne-Marie Elbe\*, Franziska Wenhold, Jürgen Beckmann, &amp; Felix Ehrlenspiel

*\*University of Copenhagen, Denmark***HALL: TELEMACHUS II****SESSION 9. Performance Enhancement**

Chair: Taru Lintunen

**Paper 1. The effect of mental cognition and intervening of elite athletes for the intensive training's appraisal**

Yan Feng

*Physical Education College of Zheng-zhou University, Zheng-zhou city, China***Paper 2. A season long case study of self-regulation skills and success in elite sport competitions**

Harald Barkhoff\*, Elaine M. Heiby, &amp; Ian S. Pagano

*\*University of Hawaii at Hilo, Hilo, USA***Paper 3. Anxiety induction and precision of the kick in soccer penalties**

Tiziano Agostini\*, Alessandra Galmonte, Giovanni Righi, Alberto Pin, Bruno Bianchi, Alice Gherzil

*\*Department of psychology, University of Trieste, Mind in Sport Lab, Italy***Paper 4. Arousal-performance coupling; A new explanation for the relationship of arousal and performance**

Ahmadreza Movahedi\*, Mahmood Sheikh, Fazlollah Bagherzadeh, &amp; Rasool Hemayattalab

*\*University of Isfahan, Iran*

**Wednesday 5/9/2007****11:30-12:50****HALL: TELEMACHUS II****SESSION 10. Teaching in physical education**

Chair: Jaume Cruz

**Paper 1. Physical educators' task goals construct**

Triadafilos Christodoulidis\* &amp; Athanasios Papaioannou

*\*Democritus University of Thrace, Greece***Paper 2. A study on construct of teaching practice scale of health and physical education learning field for the elementary school teachers in Taiwan**

Pan, Yi-Hsiang

*Natioanl Sun Yat-Sen University,***Paper 3. Evaluation of physical education pre-service teachers' performance**

Konstantinos Tzavidas, Andreas Avgerinos, &amp; Efthimios Kioumourtzoglou

*Department of Physical Education & Sports Science, Democritus University of Thrace, Greece***Paper 4. The course as important structural unit in the system of teaching practiced in the rhythmical gymnastics**

Tsopani, D., Dallas, G., &amp; Tasika, N.

*National & Kapodistrian University of Athens, Department of Physical Education and Sport Science, Greece***Paper 5. When Students Learn Better: Physical Education Teachers and Their Students Perceptions Employing the Cognitive Learning Instructional Model**

Marina I. Salvara\*, József Bognár, &amp; Balázs Fügedi

*\*Faculty of Primary Education, University of Athens, Greece***HALL: ALEXANDROS****SESSION 11. Exercise and Mental Illnesses**

Chair: George Doganis

**Paper 1. Movement Therapy in Schizophrenia Treatment**

Špůrková Alena\*, Hátlová Běla, &amp; Adámková Milena

*\*Charles University in Prague, Faculty of Physical Education and Sports, Department of Education, Psychology and Didactics, Czech Republic***Paper 2. Narrative, identity, and recovery from serious mental illness: A life history of a runner with schizophrenia**

David Carless\* &amp; Kitrina Douglas

*\*Leeds Metropolitan University, UK***Paper 3. Exercise obsession: The influence of perceived effects and intensity of exercise on depression and self-confidence of exercise participants**

Parastatidou Irene &amp; Doganis Georgios

*Aristotle University of Thessaloniki, Greece***Paper 4. The relationship between exercise stage of change and depression levels in people with Coronary Heart Disease (CHD): A follow-up study**

Michelle C. Rogerson\* &amp; Tony Morris

*\*Victoria University, Victoria, Australia*

**Wednesday 5/9/2007****14:00-15:20****HALL: ATHENAIDA****SESSION 12. Interventions in physical education**

Chair: Nikolaos Diggelidis

**Paper 1. A physical activity and health related education intervention and its effects on the self-perception and intrinsic motivation levels of 8-12 year old girls**

Máire Ryan\* &amp; Ciara Losty

*\*Waterford Institute of Technology, Waterford, Ireland***Paper 2. A longitudinal intervention using the stages of change in Greek Lyceum students before and after graduation**

Nikolaos Tzormpatzakis\* &amp; Mike Sleep

*\*University of Hull***Paper 3. Fair-play in physical education classes: A preliminary investigation on the role of demographic and motivational variables**

Mary Hassandra, Antonis Hatzigeorgiadis, Yannis Theodorakis, &amp; Marios Goudas

*University of Thessaly, Greece***Paper 4. The effects of ten weeks physical fitness program on basic motor skill development of fifth grade elementary school boy students**

Hossein Sepasi

*College of Education, Shahid Chamran University, Iran***Paper 5. Analysing the effect of directed stimulation in a compulsory school by measuring physical activity in short and long term**

Hedén, A.\* &amp; Isberg, L.

*\*Dept of Physical Education and Health Örebro University, Sweden***HALL: TELEMACHUS I****SESSION 13. Health Benefits of exercise for clinical patients**

Chair: Haralambos Tzorbatzoudis

**Paper 1. Movement Therapy in Alzheimer's Disease**

Hátlová Běla\* &amp; Suchá Jitka

*\*Charles University in Prague, Faculty of Physical Education and Sports, Department of Education, Psychology and Didactics, Czech Republic***Paper 2. A qualitative study of the facilitators and barriers to physical activity for people with depression and coronary heart disease**

Michelle C. Rogerson &amp; Tony Morris

*Victoria University, Australia***Paper 3. Revalidation after cancer: A new start? Results of a longitudinal and multidimensional rehabilitation program for cancer survivors, a pilot study**

Charlier, C.\*, Mebis, J., Claes, G., Van Hoof, E., &amp; Wijmans, M

*\*University of Hasselt, Belgium***Paper 4. The role of exercise and physical activity in buffering stress-induced health complaints in adolescence**

Markus Gerber

*Institute of Exercise and Health Sciences, University of Basel, Switzerland*

**HALL: TELEMACHUS II****SESSION 14. Achievement Goals research in sport and physical education**

Chair: Alan Smith

**Paper 1. Multiple achievement goals as predictors of achievement-related processes associated with a sport competition**

Chiao-Lin Nien &amp; Joan L. Duda

*School of Sport and Exercise Sciences, The University of Birmingham, UK***Paper 2. Task and ego-orientation in young sporters: A Five-Factor Model perspective**

Filip De Fruyt\* &amp; Jeroen Meganck

*\*Ghent University, Belgium***Paper 3. Approach and avoidance achievement goals, appraisals of sport competition and the psychological welfare of junior elite soccer players: A longitudinal analysis**

James W Adie, Joan L Duda, &amp; Nikos Ntoumanis

*University of Birmingham, UK***Paper 4. Moral competence and atmosphere in different types of sports: Relationships among moral, personal and motivational variables**

Katerina Mouratidou, Athina Mouratidou, Athina Arampatzi, &amp; Dimitrios Chatzopoulos

*Department of Physical Education and Sport Sciences at Serres, Aristotle University of Thessaloniki,, Greece***HALL: ALEXANDROS****SESSION 15. Examining emotions in sport and exercise I**

Chair: Maria Kavusanou

**Paper 1. Effects of cognitive and perceived teacher-related factors on student emotions in physical education**

Georgia Stephanou

*University of Western Macedonia, Florina, Greece***Paper 2. Emotional and cognitive processes during trapshooting performance**

Luis Calmeiro\* &amp; Gershon Tenenbaum

*\*University of Abertay Dundee, Scotland***Paper 3. Using musically-elicited emotions to manipulate marathon pacing**

Daniel T. Bishop

*Brunel University, West London, UK***Paper 4. Top results in sports – rationality or intuition and emotions**

Kjell-Åge Gotvassli

*Nord – Trøndelag University College, Norway*



**Wednesday 5/9/2007****15.30-16.50****HALL: TELEMACHUS I****SESSION 16. Self – perceptions**

Chair: Ken Fox

**Paper 1. Perceived learning environment in physical education as a predictor of physical self-perception**

F. Hülya Aşçı, Bengü Güven, &amp; Emine Çağlar

*Başkent University Sport Sciences Department, Ankara, Turkey***Paper 2. Are self-perceptions and social physique anxiety associated with physical activity and a range of unhealthy behaviours in Greek adolescents?**

Cecilie Thøgersen-Ntoumani\* &amp; Vassilis Barkoukis

*\*University of Birmingham, United Kingdom***Paper 3. Introducing the Physical Self-Perception Profile – Revised: Psychometric examination in three samples from Great Britain, Sweden and Turkey**

Magnus Lindwall\*, Martin Hagger, &amp; Hulya Ascı

*\*Centre of Sport and Health Research, School of Social and Health Sciences, Halmstad University, Sweden***Paper 4. Maturation differences in physical self-perceptions and the relationship with physical activity in early adolescent girls**

Ann-Marie Knowles\*, Ailsa Niven, Samantha Fawcner, Claire Stephenson, &amp; Joan Henretty

*\*Teenactive Research Group, Heriot Watt University, Edinburgh, Scotland, UK***Paper 5. A comparison of self-presentation between competitive and uncompetitive man bodybuilders and its relationship with their body dissatisfaction**

Parivash Nourbakhsh

*Shahid Chamran University, Iran***HALL: TELEMACHUS II****SESSION 17. Examining students' physical activity, performance and attitudes in physical education**

Chair: Athanasios Papaioannou

**Paper 1. The impact of Values-Expectancy model on the prediction of physical education performance for new-immigrants students**

Abderrazzak Boukraa\*, Marei Salama-Younes, &amp; Charles Roncin

*\*University Rennes 2, France***Paper 2. Physical activity levels of Greek primary school children: Gender differences, rural versus urban areas and the effect of television watching**

Dimitrios Rousis\* &amp; Georgios Loizou

*\*Brunel University, UK.***Paper 3. Predicting physical activity behaviors in school-aged children**

Prapavessis, H.\*, Foley, L. S., Burke, S. M., McGowan, E., Maddison, R., &amp; Gillanders, L.

*\*The University of Western Ontario, Canada***Paper 4. A social and emotional intelligence measure of physical education class in Greece**

Vasilis Siskos &amp; Athanasios Papaioannou

*University of Thessaly, Greece*

**HALL: ALEXANDROS****SESSION 18. Examining emotions in sport and exercise II**

Chair: Stuart Biddle

**Paper 1. Height-induced manipulation of emotions impairs the performance of an acrobatic element on the balance beam**

Cottyn Jorge\*, De Clercq Dirk, Crombez Geert, &amp; Lenoir Matthieu

*\*Ghent University, Department of Movement and Sport Sciences, Belgium***Paper 2. Effect of emotions on working memory and game involvement in basketball players**

Mark A. Uphill\*, Ryan Groom, &amp; Marc V. Jones

*\*Canterbury Christ Church University, Kent, England***Paper 3. The exercise-affect relationship: A measurement and methodological analysis**

Susan Backhouse\*, Panteleimon Ekkekakis, Stuart Biddle, &amp; Clyde Williams

*\*Carnegie Research Institute***Paper 4. Elite athletes' perceptions of the impact of emotions on performance: A qualitative study**

Mark A. Uphill\* &amp; Marc V. Jones

*\*Canterbury Christ Church University, Kent, England***Wednesday 5/9/2007****17:00-18:20****HALL: TELEMACHUS I****SESSION 19. Exercise and health – related issues in various contexts**

Chair: Evangelos Bebetos

**Paper 1. Psychological profile of obese children and adolescents attending a sport-based treatment program**

Goldzweig G.\*, Nemet D., Elyakim A., Tsung A., &amp; Lahak O.

*\*The academic college of Tel-aviv Jaffa, Israel***Paper 2. Prediction of exercise behavior in addictive persons: An application of the Theory of Planned Behavior**

Joanna Savidis\* &amp; Haralambos Tsorbatzoudis

*\*Department of Physical Education and Sport Science- Aristotle University of Thessaloniki, Greece***Paper 3. Exercise therapy as a treatment for psychopathology in obese and morbidly obese adolescents: Randomised controlled trial**

Amanda J. Daley\*, Robert J. Copeland, Neil P. Wright, Andrea Roalfe, &amp; Jerry KH Wales

*\*University of Birmingham, UK***Paper 4. Do violent and non-violent adolescents have the same sport background?**

Moesch, K.\*, Birrer, D., Schmid, J., &amp; Seiler, R.

*\*Federal Institute of Sport Magglingen, Switzerland***Paper 5. The association between pedometer measured walking levels and the constructs of the Transtheoretical Model of Behaviour Change, mood, and quality of life**

Graham Baker\*, Ruth Lowry, Claire Fitzsimons, Myra Nimmo, Annemarie Wright, Rebecca Shaw, &amp; Nanette Mutrie

*\*University of Strathclyde, Glasgow*

**HALL: TELEMACHUS II****SESSION 20. Gender issues in sport psychology**

Chair: Stilian Chroni

**Paper 1. The impact of a sport-related context on the gender-related self knowledge**

Maïke Tietjens\* &amp; Norbert Hagemann

*\*Department of Sport psychology, University of Muenster, Germany***Paper 2. Gender differences in stress and coping in soccer: Validity of the 'situational hypothesis'**

Mariana Kaiseler\*, Remco Polman, &amp; Adam Nicholls

*\*The University of Hull, Department of Sport, Health & Exercise Science***Paper 3. Gender differences in stress and coping in sport**

Adam Nicholls\*, Remco Polman, Andy Levy, Jaimy Taylor &amp; Mariana Kaiseler

*\*Leeds Metropolitan University***Paper 4. Gender and grade differences in self-reported aggression of high school students**

Haralambos Tsorbatzoudis

*Department of Physical Education and Sport Science, Aristotle University of Thessaloniki***HALL: ALEXANDROS****SESSION 21. Imagery for performance enhancement I**

Chair: Paul Holmes

**Paper 1. Temporal equivalence of imagined and physical movement patterns: The influence of task complexity**

Jon Finn\*, Helen Alfano, &amp; Paul Holmes

*\*Carnegie Research Institute, Leeds Metropolitan University, UK***Paper 2. The effect of contextual interference in imagery on performance and learning of the selected soccer skills**

Nemat A. Nemati\* &amp; Masoumeh Shojaei

*\*Islamic Azad University Damghan Branch of Iran***Paper 3. The experience of imagery, self-efficacy and performance**

Francesca Vitali\* &amp; Stefano Del Veneziano

*\*University of Genoa, Faculty of Medicine, Course of Bachelor in Sport Sciences, Italy***Paper 4. A descriptive study of awareness and usage of imagery among elite track and field female athletes**

Mehdi Kasbparast Jui Ray, Masoumeh Shojaei, &amp; Foruzan Abdolali

*Faculty of Physical Education and Sport Sciences, Islamic Azad University, Karaj branch***Paper 5. Imagery experiences in tennis: A comparison of professional and promising players**

Fredrik Weibull

*Centre for Sport and Health Research, University of Halmstad, Sweden*

**Thursday 6/9/2007****08:30- 09:50****HALL: TELEMACHUS II****SESSION 22. Imagery for performance enhancement II**

Chair: George Grouios

**Paper 1. Interactive effects of different visual imagery perspectives and narcissism on motor performance**

Ross Roberts\*, Nichola Callow, Lew Hardy, &amp; Tim Woodman

*\*School of Sport, Health and Exercise Sciences, University of Wales, Bangor, UK***Paper 2. Investigating the relationship between exercise imagery, leisure-time exercise behaviour, and self-efficacy**

Jennifer Cumming

*University of Birmingham, UK***Paper 3. Visual, kinesthetic and temporal mental imagery: Efficiency for retention and transfer of an open motor skill by future military officers**

Khaled Taktek\*, Bob St-John, Nathaniel Zinsser, George Corbari, Dan Smith, &amp; Sandi Miller

*\*Laurentian University School of Education, Canada***Paper 4. The relationship between imagery ability and imagery use among athletes**

Melanie Gregg\*, Craig Hall, Erin McGowan, &amp; Nathan Hall

*\*University of East London***Paper 5. Mental imagery use by children and its influence on motor skills learning and performance enhancement**

Khaled Taktek

*Laurentian University School of Education, Canada***HALL: ALEXANDROS****SESSION 23. Soccer related psychological research I**

Chair: John H. Salmela

**Paper 1. Supporters' perception of home atmosphere: A study of committed football fans in the English premier league**

Stephanie Charleston

*University of Sunderland, UK***Paper 2. Self-reported self-efficacy and behavioral observations in Italian football officers**

Caterina Grano\* &amp; Fabio Lucidi

*\*Department of Psychology University of Rome "La Sapienza", Italy***Paper 3. When superstars fail: The paradoxical effects of skill in football penalty shootouts**

Geir Jordet

*University of Groningen, Netherlands***Paper 4. Elite football players in Norway: Common characteristics or not?**

Unni Segberg\* &amp; Rune Høigaard

*\*Agder University College, Norway***Paper 5. Penalty kick: The best action time**

Alessandra Galmonte\*, Bruno Bianchi, Alice Gherzil, Alberto Pin, Giovanni Righi, &amp; Tiziano Agostini

*\*Department of Psychology, University of Trieste, Mind in Sport Lab, Italy*

**Thursday 6/9/2007****11:30-12:50****HALL: TELEMACHUS I****SESSION 24. Achievement motivation in sport and physical education**

Chair: Glyn Roberts

**Paper 1. Effects of trichotomous achievement goals on intrinsic motivation and performance**

Rebecca L. Morris\* &amp; Maria Kavussanu

*\*University of Derby, UK***Paper 2. The comparison of the motivational traits of Iranian elite soccer players in different ages and playing positions**

Masoumeh Shojaei

*School of Physical Education, Al-Zahra University, Iran***Paper 3. Changes in approach-avoidance achievement motivation in physical education across the primary-secondary school transition**

Victoria Warburton\* &amp; Christopher Spray

*\*Loughborough University, UK***Paper 4. Achievement motivation and intensity of effort regulation during a 90 min soccer match**

Tor Oskar Thomassen\* &amp; Hallgeir Halvari

*\*Finnmark University College, Norway***HALL: TELEMACHUS II****SESSION 25. Motivational concomitants in sport and physical education**

Chair: Nektarios Stavrou

**Paper 1. Integrity and autonomy of self and sport achievement**

Marija Sreckov

*Institute of Psychiatry, Clinical Centre of Serbia, Belgrade***Paper 2. The motivating role of competence feedback in physical education: Evidence for an integrated motivational model from an experimental study**

Athanasios A. Mouratidis\*, Maarten Vansteenkiste, &amp; Willy Lens

*\*University of Leuven***Paper 3. Examining the relation of flow experience and motivation**

Nektarios Stavrou, Maria Psychountaki, &amp; Yannis Zervas

*Department of Physical Education and Sport Science, University of Athens, Greece***Paper 4. Cognitive dissonance from an ethnomethodological perspective: Exploring mount Everest climbers narratives of experience**

Shaunna Burke\*, Natalie Durand-Bush, &amp; Raymond Leblanc

*\*University of Ottawa*

**HALL: ATHENAIDA****SESSION 26. Ageing, physical activity and well - being**

Chair: Vasiliki Zisi

**Paper 1. Analyses of the effects of a psychological intervention program on the levels of stress, anxiety and depression of elderly physically active individuals**

Amparo Liliame\* &amp; Samulski Dietmar

*\*Federal University of Minas Gerais, Brazil***Paper 2. Can physical activity reduce vulnerability of older women to anhedonia ?**

Danthois Aurélien\* &amp; Bertsch Jean

*\*UFR STAPS de l'Université de PARIS-Sud Orsay, France***Paper 3. Psychosocial factors and adapted physical activity for elders: Three experiences of a wide field of intervention**

Emilia Tasso\* &amp; Francesca Vitali

*\*University of Genoa, Faculty of Medicine, Course of Bachelor in Sport Sciences, Italy***Paper 4. Physical, emotional and social aspects of quality of life with physical activity of the elderly**

Luci Fuscaldi Teixeira-Salmela\*, Christina D.C.M. Faria, Fátima R. de Paula Goulart, &amp; Janine G. Cassiano

*\*Department of Physical Therapy, Universidade Federal de Minas Gerais, Brazil***Paper 5. The effects of physical activity and exercise on ageing and longevity**

Habib A. Rabbani

*Sainte Anne Hospital University, Paris***HALL: ALEXANDROS****SESSION 27. Exercise Motivation and Interventions**

Chair: Hülya Aşçı

**Paper 1. External validity of the Amotivation toward Exercise Scale among inactive older individuals**

Maria A. Gigoudi &amp; Symeon P. Vlachopoulos

*Aristotle University Of Thessaloniki, Department Of Physical Education And Sport Science At Serres, Greece***Paper 2. The effectiveness of a primary care based adapted motivational interviewing intervention on physical activity, healthy eating and CHD risk factors**

Hardcastle, S. J.\*, Taylor, A.H., Bailey, M., &amp; Castle, R.

*\*University of Brighton, UK***Paper 3. A 7-week randomized controlled trial investigating the influence of 30 minutes of moderate intensity bi-weekly work-based lunchtime walking on trait anxiety and coping resources in sedentary university employees**

Ailsa Niven\*, Juliet Balfour, &amp; Gemma Ryde

*\*Heriot Watt University, Edinburgh, Scotland, UK*

**Thursday 6/9/2007****14:00-15:20****HALL: TELEMACHUS I****SESSION 28. Issues in sport psychology II**

Chair: Erwin Apitzsch

**Paper 1. Can higher cognitive impairment associated with the lateral prefrontal cortex in experienced climbers account for a high frequency of mountain accidents?**

Robert Anderson

*University of Bedfordshire, United Kingdom***Paper 2. Changing low frustration tolerance: A case study of a Hong Kong Olympic medallist**

Gangyan Si

*Hong Kong Sports Institute***Paper 3. Mental skill differences between medal winners and non-medal winners of Iranian athletes at the Asian Games**

Fatolla Mosayebi\*, Shamsi S. Monfared, &amp; John H. Salmela

*\*NOC of the Islamic Republic of Iran***Paper 4. Referees' psychological demands: Identification and suggestions**

Dimitrios Rousis &amp; Georgios Loizou

*Brunel University UK***Paper 5. Can mental training enhance the learning effect after differential training? A Tennis Serve Task**

Wolfgang I. Schöllhorn\*, Mira Oehlenberg, &amp; Maren Michelbrink

*\*Institute of Sport Science, Department Training Science, Muenster, Germany***HALL: TELEMACHUS II****SESSION 29. Motivational climate in sport**

Chair: Yngvar Ommundsen

**Paper 1. Motivational climate, need satisfaction, regulation of motivation and subjective vitality: A study of young soccer players**

Yngvar Ommundsen\*, Glyn C. Roberts, Pierre-Nicolas Lemyre, &amp; Frank Abrahamsen

*\*Norwegian School of Sport Sciences, Oslo, Norway***Paper 2. Seasonal change in perceived motivational climate and performance anxiety in female and male elite handball teams**

Frank Eirik Abrahamsen\*, Glyn C. Roberts, Anne Marte Pensgaard, &amp; Lars Tore Ronglan

*\*Norwegian Olympic Center, Oslo***Paper 3. Motivational climate and social relationships of children: The effect of parental motivational climate on social relationships and sport involvement of boys and girls**

Marit Sørensen\* &amp; Glyn C. Roberts

*\*The Norwegian School of Sport Sciences, Norway***Paper 4. Links between perceived coach motivational climate, goal orientation and burnout among elite adolescent athletes**

Gauthier Sandrine\* &amp; Guillet Emma

*\*Centre de Recherche et d'Innovation sur le Sport – EA647, Université Claude Bernard Lyon, France*

**Paper 5. Causal relationships of students' perceived physical ability with exercise participation, and satisfaction in sport and physical education lessons: A longitudinal study**

Perikles Kalogiannis\*, Athanasios Papaioannou, Giorgos Ampatzoglou, & Alexandros Sagovits

\* *Democritus University of Thrace*

## HALL: ALEXANDROS

### SESSION 30. Coaching – related issues I

Chair: Sophia Jowett

**Paper 1. Transition into new coach- performer dyads**

Christopher Sellars

*University of Huddersfield, UK*

**Paper 2. A tool to facilitate coaches' interventions**

Josean Arruza\*, Gloria Balague, & Silvia Arribas

\**UPV/EHU (University of Basque Country), Spain*

**Paper 3. A seminal examination of the interaction between female coaches and male athletes from three competitive levels: Unique interviews**

Matthew J. Wilson\* & Lindsey C. Blom

\**The University of Southern Mississippi*

**Paper 4. Factorial validity of a long version of the Coach-Athlete Relationship Questionnaire (CART-Q): Coaches' perceptions**

Daniel J. A. Rhind & Sophia Jowett

*Loughborough University, UK*

**Thursday 6/9/2007**

**15:30- 16:50**

## HALL: ALEXANDROS

### SESSION 31. Soccer related psychological research II

Chair: Sandy Wolfson

**Paper 1. Results of a seasonal-period psychological skills training in football young-players**

Godoy-Izquierdo, D.\*, Vélez, M., & Godoy, J.

\**Depto. Personalidad, Evaluación y Tratamiento Psicológico, Facultad de Psicología. Universidad de Granada, Spain*

**Paper 2. Home advantage in the last ten years in Portuguese First League Football**

Silvério, J.\*, Tendais, I., Almeida, G., & Smith, A.

\**Psychology Department – Minho University, Portugal*

**Paper 3. A pilot study of the Spanish adaptation of MSCI for its use in young soccer players**

Eva M. García-Quinteiro\*, Elena M. Andrade, & Rodríguez Mauro

\**University of Santiago de Compostela, Spain*

**Paper 4. Elite football players in Norway. Do they have some common background characteristics?**

Unni Segberg\* & Rune Høigaard

\**Agder University College, Norway*

**Paper 5. Effect of automatic priming by activation on the performance of expert soccer players in simulated decision-making task**

Claire Locquet\* & Bachir Zoudji

\**University of Valenciennes, Faculty of Sports Sciences, France*



**HALL: TELEMACHUS I****SESSION 32. Coaching – related issues II**

Chair: Marja Kokkonen

**Paper 1. Professional coaches' emotional skills are related to their well-being**

Marja Kokkonen

*Department of Sport Sciences, University of Jyväskylä, Finland***Paper 2. Sources of information used by athletes when forming initial impressions and expectancies of a coach**

Andrew J. Manley\*, Iain Greenlees, Jan Graydon, Richard Thelwell, William C.D. Filby, &amp; Matthew J. Smith

*\*University of Chichester, UK***Paper 3. The impact of cultural diversity on intercollegiate team sport coaches**

Catherine Duchesne\* &amp; Gordon Bloom

*\*McGill University, Canada***Paper 4. A general theory of coaching in team sports**

Leif Isberg

*Department of Health Sciences Örebro University, Sweden***HALL: TELEMACHUS II****SESSION 33. Motivation and dance**

Chair: Jarmo Liukkonen

**Paper 1. Processing emotions without using words: Participation motives of 5 Rhythms™ dancers**

Ineke Vergeer

*Durham University, England***Paper 2. Enjoyment of 12-16 year old dancers during one-year training period**

Sami Yli-Piipari, Timo Jaakkola, &amp; Jarmo Liukkonen

*University of Jyväskylä, Department of Sport Science, Finland***Paper 3. Body image: a study of comparisons and associations between female professional and non professional dancers**

Bakali Nikoleta\* &amp; Pollatou Elisana

*\*Department of Physical Education and Sport Science, Democritus University of Thrace, Komotini, Greece***Paper 4. Study on Observers' Impression in Dance**

Nao Shikanai\*, Misako Sawada, &amp; Motonobu Ishii

*Tokyo Institute of Technology, Tokyo***Paper 5. Dance/movement therapy: A useful tool for sport psychology (Review)**

Kavazidou Eleni, Doganis George, &amp; Fachantidou-Tsiligiorglou Anna

*Department of Physical Education & Sports, Aristotle University of Thessaloniki, Greece***Paper 6. Social environmental predictors of motivation regulations and self-perceptions in dancers**

Eleanor Quested &amp; Joan Duda

*University of Birmingham, UK*

**HALL: TELEMACHUS II****SESSION 34. Swimming related psychological research**

Chair: Antonis Hatzigeorgiadis

**Paper 1. Understanding resilience in swimming: A qualitative investigation utilising personal construct psychology**

Timothy Chambers, Sandy Gordon, &amp; Robert Grove

*(M408) School of Human Movement and Exercise Science, The University of Western Australia***Paper 2. The examination of Autogenic Training (AT) by using psycho-physiological measurement for Japanese collegiate woman swimmers (Division) before intercollegiate competition**

Yasuhisa Tachiya

*Japan Institute of Sports Sciences, Japan***Paper 3. Development of mental strength among Danish elite swimmers**

Martin Thomsen Langagergaard

*"Team Danmark". Danish Elitesport Federation, Aalborg, Denmark*

**Friday 7/9/2007****08:30- 09:50****HALL: TELEMACHUS II****SESSION 35. Combat sports and Sport psychology**

Chair: Tim Woodman

**Paper 1. Diagnostics of psychophysiological states in wrestlers**

Georgiy Korobeynikov\* &amp; Volodymyr Driukov

*\*State Scientific Institute of Physical Culture and Sport, Ukraine***Paper 2. Identification and analysis of mood states in men and women from the Brazilian national judo team**Sérgio Ricardo de Souza Oliveira, Helio Serassuelo Junior, Antonio Carlos Simões, & Marcos Eduardo Garcia  
*School of Physical Education and Sport at the University of São Paulo, Department of Sport – Laboratory of Psychosociology of Sport – LAPSE, Psychosociology of Sport Study and Research Group – GEPPSE, Brasil***Paper 3. Bi-gendered embodiment among female elite wrestlers**

Mari Kristin Sisjord\* &amp; Elsa Kristiansen

*\*Norwegian School of Sport Sciences, Oslo, Norway***Paper 4. Skilled memory of expert judoka**

Bachir Zoudji\* &amp; Maxence Van Den Bossche

*\*University of Valenciennes, Faculty of Sports Sciences, France***Paper 5. Wrestling with gender stereotyping in media constructions. A study of Norwegian elite wrestlers.**

Elsa Kristiansen\* &amp; Mari Kristin Sisjord

*\*Norwegian School of Sport Sciences, Oslo, Norway***Friday 7/9/2007****11:30- 12:50****HALL: TELEMACHUS II****SESSION 36. Burn out and coping**

Chair: Emmanouil M. Georgiadis

**Paper 1. Coping with facilitative and restricting factors during long successful career in Top sport**

Nadine Debois\* &amp; Aurélie Ledon

*\*Institut National du Sport et de l'Education Physique (INSEP), France***Paper 2. Defining occupational disability in patients suffering from chronic fatigue syndrome**

Van Hoof Elke\*, McGregor Neil, &amp; De Meirleir Kenny

*\*University of Hasselt, Belgium***Paper 3. Stress-regeneration and reaction times in overtraining diagnosis**

Esther Nederhof\*, Koen A.P.M. Lemmink, &amp; Johannes Zwerver

*\*Center for Human Movement Sciences, University Center for Sports, Exercise and Health, University Medical Center Groningen, University of Groningen, The Netherlands***Paper 4. Why don't they just quit? – Restraining factors in athletes' burnout**

Henrik Gustafsson\*, Peter Hassmén, Göran Kenttä, &amp; Mattias Johansson

*\*Örebro University*

**Paper 5. An idiographic approach to understanding 'severe' athlete burnout – An individual case study of an elite boxer**

Tom Fawcett  
Salford University, UK

**Friday 7/9/2007****14:00-15:20****HALL: TELEMACHUS II****SESSION 37. Volley – ball and Sport Psychology**

Chair: Chair: Nikos Chatzisarantis

**Paper 1. The development and application of goal setting and self-evaluation interventions with a division I college volleyball team in Japan**

Airi Naoi  
Kinki University, Japan

**Paper 2. Psychological aspects: An intervention with high performance volley team from Maringá-PR**

João Ricardo Nickenig Vissoci\*, Leonardo Pestillo de Oliveira, Saulo Luders Fernandes, Elton Fernando Hoshino, Christiane de Cassia Ferraz, Lenamar Fiorese Vieira, & José Luiz Lopes Vieira e Christi Noriko Sonoo.

\*Universidade Estadual de Maringá, Brazil

**Paper 3. Mental skills profiles of Brazilian and South American men junior Volleyball teams**

Newton Santos Vianna Júnior\*, Antonio Marcos Lerbach, Katya Mourthé, & John H. Salmela

\*Volleyball Federation of Minas Gerais, Brazil

**Paper 4. The effect of different interpolated tasks on warm-up decrement in the volleyball serve**

Hasan Mohammad Zadeh\* & Saeed Ghorbani

\*Urmia University, Iran

**HALL: ALEXANDROS****SESSION 38. Performance related factors**

Chair: Michael Bar-Eli

**Paper 1. The influence of manipulated self-efficacy on effort, persistence and motor performance**

Jamie A. Taylor\*, Rod M. Corban, David F. Shaw, & Paul Pollard

\*University of Central Lancashire, UK

**Paper 2. Specific or general explanatory style predict the performance: An exploratory study**

Mareï Salama-Younes\*, Charles Martin-Krumm, Stephanie Hanrahan, & Charles Roncin

\*Sport Psychology Departement, Helwan University, Egypt

**Paper 3. Sport practice changes the brain: A study on motor preparation in top-level shooters**

Donatella Spinelli\*, Teresa Aprile Francesco Di Russo, & Sabrina Pitzalis

\*Institute of Motor Sciences (IUSM) and Mind in Sport Team, Roma, Italy

**Paper 4. Performance optimisation and rhythmical acoustic stimulation: Experimental evidences in track and field**

Giovanni Righi\*, Alessandra Galmonte, Bruno Bianchi, Alice Gherzil, Alberto Pin, & Tiziano Agostini

\*Department of Psychology, University of Trieste, Mind in Sport Lab, Italy

**Paper 5. “Order effects in sport: Further examining the impact of order of information presentation on performance and ability attribution”**

Matthew J. Smith\*, Iain Greenlees, Jan Graydon, & Andrew J. Manley.

*\*University of Chichester, UK*

**Paper 6. The comparison of attributional styles at failure and success situations in motor task**

Hasan Mohammad Zadeh

*Urmia University, Iran*

**Saturday 8/9/2007****08:30-09:50****HALL: THEODORA****SESSION 39. Clinical issues and doping**

Chair: Mark Andersen

**Paper 1. Prevalence of eating disorders and prediction of eating behavior among Greek female swimmers and water polo players**Douka, A., Skordilis E., Kontogianni, N., & Koutsouki, D.  
*National and Kapodistrian University of Athens, Greece***Paper 2. Sport-specific aspects of disordered eating in athletes**(Karin) de Bruin, A.P.\*, Oudejans, R.R.D., & Bakker, F.C.  
*\*Vrije Universiteit Amsterdam, Netherlands***Paper 3. Representations of the physical self and patterns of relationships among its dimensions: The case of substance abuse populations**George Kyrkoulis\* & Despina Stamatopoulou  
*\*Department of Philosophy and Social Sciences, University of Crete, Greece***Paper 4. The social-cognitive mechanisms regulating adolescents' use of doping substances**Lucidi F.\*, Zelli A., Mallia L., Grano C., & Violani C.  
*\*Department of Psychology, University of Rome "La Sapienza", Rome, Italy***Paper 5. Social information processing and doping use in adolescents**Arnaldo Zelli\*, Fabio Lucidi, Caterina Grano, & Luca Mallia  
*\*University of Sport and Movement Sciences of Rome, Italy***HALL: TELEMACHUS I****SESSION 40. Sport parenting**

Chair: Wolf – Dietrich Brettschneider

**Paper 1. 'Conversations with a purpose': Adopting alternative modes of representation within children and family ethnography**Archbold, V.\*, Richardson, D., Dugdill, L., & Gillbourne D.  
*\*Leeds Metropolitan University***Paper 2. Examining the congruence of attitudes towards ice hockey between young athletes and their parents**Kim D. Dorsch\*, Harold A. Riemer, Erwin Karreman, Larena Hoeber, Wade Kolmel, & Orland Hoeber  
*\*University of Regina, Canada***Paper 3. Congruencies of motivations for sport involvement between children and their parents**Erwin Karreman\*, Harold A. Riemer, Kim D. Dorsch, Larena Hoeber, Wade Kolmel, & Orland Hoeber  
*\*University of Regina, Canada*

**HALL: TELEMACHUS II****SESSION 41. Disabilities**

Chair: Dieter Teipel

**Paper 1. Metacognitive skills of golf learning in persons with intellectual disabilities**

Matikka M. Leena\* &amp; Kairi Tea

*\*University of Tampere and Finnish Association on Intellectual and developmental Disabilities, Finland***Paper 2. Consideration for self-handicapping research in sport**

Ferrand, C.\*, Bouzdine-Chameeva, T., &amp; Euvrard, A.

*\*Centre de Recherche et d'Innovation sur le Sport, Université Claude Bernard Lyon 1, Villeurbanne France***Paper 3. Perceived concept of women with disabilities**

Reinhild Kemper\*, Carina Treu, &amp; Dieter Teipel

*\*Institute of Sport Science Jena, Germany***HALL: ALEXANDROS****SESSION 42. Perceptual and Motor Control**

Chair: Markus Raab

**Paper 1. Side-specific perceptual training reverses laterality effects in novices**

Jörg Schorer\*, Norbert Hagemann, Florian Loffing, &amp; Simone Lotz

*\*Institute for Sport Science, Westfälische Wilhelms-University Münster***Paper 2. The influence of selective attention on the development of balance control**

Arli Ramos de Oliveira\*, Jere Dee Gallagher, &amp; Ann Smiley Oyen

*\*State University of Londrina, Paraná, Brazil***Paper 3. Estimating the distance in optimist sailors.**

Gherzil A.\*, Pin A., Righi G., Galmonte A., Bianchi B., &amp; Agostini T.

*\*University of Trieste – Department of Psychology – Mind in Sport Lab, Italy***Paper 4. Visual search behavior in catching baton twirlers**

Madoka Takahashi\*, Kazunobu Fukuhara, &amp; Motonobu Ishii

*\*Tokyo Institute of Technology, Japan***Paper 5. Spatial cueing in 1-on-1 and 3-on-2 situations in soccer**

Rouwen Cañal-Bruland\* &amp; Bernd Strauss

*\*Institute of Sport Science, Department of Sport Psychology, University of Münster, Germany***HALL: ATHENAIDA****SESSION 43. Perfectionism**

Chair: Howard Hall

**Paper 1. Perfectionism, goal expectancies, and competitive performance in triathletes**

Joachim Stoeber\* &amp; Mark A. Uphill

*\*University of Kent, UK*

**Paper 2. A test of the concurrent and construct validity of the positive and negative perfectionism scale**

Andrew P. Hill\*, Howard K. Hall, Paul R. Appleton, &amp; Steve A. Kozub

*\*University of Bedfordshire, UK***Paper 3. The origins of perfectionism in elite junior sport: Examining the Social Learning Model**

Paul R. Appleton\*, Howard K. Hall, Andrew P. Hill, &amp; Stephen A. Kozub

*\*University of Bedfordshire, UK***Paper 4. Multi-dimensional perfectionism, and exercise dependence: The mediating influence of introjected self-regulation and intrinsic motivation**

Howard K. Hall\*, Andrew P. Hill, Paul R. Appleton, &amp; Stephen A. Kozub

*\*University of Bedfordshire, UK***Saturday 8/9/2007****11:30-12:50****HALL: TELEMACHUS I****SESSION 44. Social support and career decision making**

Chair: Tim Rees

**Paper 1. The stress-buffering relationship of social support with golf performance, and the role of self-efficacy in mediating this relationship**

Tim Rees\* &amp; Paul Freeman

*\*University of Exeter, UK***Paper 2. Career decision-making of elite athletes in Australian institutes of sport**

Lisa Fraser\*, Gerry Fogarty, &amp; Majella Albion

*\*University of the Sunshine Coast, Australia***Paper 3. Social support, the optimal matching model, and objective performance outcome in golf**

Paul Freeman\* &amp; Tim Rees

*\*University of Exeter, UK***HALL: TELEMACHUS II****SESSION 45. Personality and individual differences**

Chair: George Grouios

**Paper 1. Relationships between the college students' sport practice, personality and coping styles**

Greg Décamps\*, Emilie Boujut, &amp; Marilou Bruchon-Schweitzer

*\*Laboratory of Health Psychology, Université Bordeaux2, France***Paper 2. Impact of mixed-sex and single-sex schooling in physical education on self-perception of instrumental and expressive personality traits**

Maike Tietjens\* &amp; Norbert Hagemann

*\*Department of Sport psychology, University of Muenster, Germany***Paper 3. Is optimistic vs pessimistic too simplistic with sport children?**

Mareï Salama-Younes

*Sport Psychology Departement, Helwan University, Egypt*



**Paper 4. Development and validation of the Trait Robustness of Self-Confidence Inventory (TROSCI)**

Beattie, S.\*, Hardy, L., Woodman, T., & Callow, N.  
 \*University of Wales, Bangor, UK

**Paper 5. The second to fourth digit ratio in elite and non-elite male sport competitors**

Grouios, G.\*, Koidou, I., & Kollias, N.  
 \*Aristotle University of Thessaloniki, Greece

**Saturday 8/9/2007****14:00-15:20****HALL: ALEXANDROS****SESSION 46. Injury Rehabilitation**

Chair: Urban Johnson

**Paper 1. Psychological and emotional reactions to a major sports injury as perceived by athletic trainers**

Caroline R.F. Jannes  
 Centrum voor Sportgeneeskunde, UZ GENT, Ghent University,  
 Belgium/ Psy4Sport, Belgium

**Paper 2. Imagery use during rehabilitation from injury: A case study of an elite athlete**

Evans, L.\*, Hare, R., & Callow, N.  
 \*University of Wales Institute, Cardiff, UK

**Paper 3. Psychological need satisfaction and well-being during injury recovery: A preliminary investigation**

Les Podlog\* & Scott Cresswell  
 \*Charles Sturt University, Australia

**Paper 4. Determinants and consequences of perceived vulnerability to sport-related injury**

Yannick Stephan\*, Thomas Deroche, Gabrielle Visse, & Christine Le Scanff  
 \*Paris XI University, France

**Paper 5. Effects of motor imagery in injury rehabilitation: An overview**

Guillot Aymeric\*, Vernay Marion, Gimenez Pierre, & Collet Christian  
 \*Centre de Recherche et d'Innovation sur le Sport, UFR STAPS, Université Lyon 1 – Université de Lyon

**HALL: TELEMACHUS II****SESSION 47. Perceptual and Motor Control**

Chair: Nicola J. Hodges

**Paper 1. Table Tennis: Visual cues on return of the serve**

Bruno Bianchi\*, Alice Gherzil, Alberto Pin, Giovanni Righi, Alessandra Galmonte, & Tiziano Agostini  
 \*Department of Psychology, University of Trieste, Mind in Sport Lab, Italy

**Paper 2. Superstitious beliefs regarding clubs in a laboratory based putting task**

Churchill, A.\*, Parkes, R., & Taylor, J.  
 \*University of Central Lancashire, UK

**Paper 3. Unwanted effects in aiming actions are mediated by changes in gaze behavior**

Olaf Binsch\*, Raoul R.D. Oudejans, Frank C. Bakker, & Geert J.P. Savelsbergh  
 \*VU University Amsterdam, Institute of fundamental and clinical human movement science, The Netherlands

**Saturday 8/9/2007****15:30- 16:50****HALL: TELEMACHUS II****SESSION 48. Social Dynamics in sport**

Chair: Joan L. Duda

**Paper 1. An examination of the self-presentation approach and the drive theory of social facilitation**

Yahya Al-Nakeeb\*, Mark Lyons, Michael Duncan, Alan Nevill, &amp; Christopher James

*\*Newman College of Higher Education, UK***Paper 2. 'Robo-Yacht : A human behaviour-based tool to predict the performances of yacht-crew systems'**

Scarponi, M.\*; McMorris, T., Sheno, R. A., Turnock, S. R., &amp; Conti, P.

*\*University of Perugia, Italy***Paper 3. A longitudinal investigation of the self-concordance model in sport**

Alison L. Smith\*, Nikos Ntoumanis, &amp; Joan L. Duda

*\*University of Birmingham, UK***Paper 4. 'In' or 'out': The influence of the players' behaviour upon umpires' decision in tennis**

Norbert Hagemann\* &amp; Julia Kusber

*\*University of Münster, Germany***Paper 5. Social Identities in Physical Activity Promotion for Sedentary Women**

Erin Pearson &amp; Tony Morris

*Victoria University, Australia***HALL: ALEXANDROS****SESSION 49. Management and services on sport psychology**

Chair: Roland Seiler

**Paper 1. The Master in "Sport and psychosocial management: Promoting cooperation, mediating conflict", a training – research project**

Caterina Gozzoli\*, Mara Gorli, &amp; D'Angelo Chiara

*\*Catholic University in Milan, Italy***Paper 2. Displaying implicit knowledge of culture in sport organizations**

Frank Engel\*, Sebastian Kaiser, &amp; Richard Keiner

*\*Institute of Sport Economics and Sport Management, Köln***Paper 3. Delivering psychology services to elite sports in Germany – efforts and trends**

Gabriele Neumann

*Federal Institute of Sport Science, Germany*

**Saturday 8/9/2007****17:00-18:20****HALL: TELEMACHUS II****SESSION 50. Feedback - biofeedback**

Chair: Frank C. Bakker

**Paper 1. Influence of information sources on efficiency of motor learning: verbal instruction, visual modelling and knowledge of performance**

Renata Barić\* &amp; Gordana Furjan-Mandić

*\*Faculty of Kinesiology, University of Zagreb, Croatia***Paper 2. Are ironic effects in penalty shooting the result of negative instructions or priming?**

Frank C. Bakker\*, Olaf Binsch, &amp; Raoul R. D. Oudejans

*\*Institute for Fundamental and Clinical Human Movement Sciences, VU University, Amsterdam***Paper 3. Summing Hasselhoff! – Effects of instruction on basketball free throw performance for varying skill levels**

Jörg Schorer\* &amp; Heiko Maurer

*\*Westfälische Wilhelms-University Münster, Germany***Paper 4. Change of EEG coherence after neurofeedback training**

Tsung-Min, Hung\*, Yung-Shun, Wang, &amp; Chih-Chieh, Chang

*\*T'aipei Physical Education College, Taiwan***Paper 5. Judging bias in aesthetic sports: Open feedback leads to nonperformance-based conformity**

Boen Filip\*, Vanden Auweele Yves, De Geest Annick, Feys Jos, Claes Ellen, Karen Van Hoye, &amp; Bert De Cuyper

*\*Department of Human Kinesiology, K.U.Leuven, Belgium***HALL: ALEXANDROS****SESSION 51. Psychological preparation and performance enhancement**

Chair: Zisis Papanikolaou

**Paper 1. Monitoring of psychological training periods for the sportsmen of professional level**

Jan Supiński\*, Lesław Kulmatycki, &amp; Kazimierz Witkowski

*\*Akademia Wychowania Fizycznego we Wrocławiu, Polska***Paper 2. System of psychological care in Polish Olympic Mission**

Marek Graczyk

*Academy of Physical Education and Sport, Psychological Department, Gdańsk, Poland***Paper 3. Strategies used by south african non-elite athletes to cope with the environmental stressors found in endurance events**

Steyn, B.J.M.\*, &amp; O'Neil, J. W.

*\*Department of Biokinetics, Sport and Leisure Sciences University of Pretoria South Africa***Paper 4. Using Music to Alleviate Choking Under Pressure in "Choking-Susceptible" Athletes**

Christopher Mesagno\*, Daryl Marchant, &amp; Tony Morris

*\*Victoria University, Melbourne, Australia***Paper 5. The mental representation of dance figures – portrayed in unique neural activity of the cortex and in physiological functions**

Hökelmann, A.\* &amp; Blaser, P.

*\*Otto-von-Guericke-University, Magdeburg, Germany*

**Paper 6. The effect of internal and external focus attention on performance of dynamic balance and retention in male student of Shahid Chamran University**

Shafie Nia Parvaneh \*, Zarghamy Mehdy, Norbakhsh Parivash, & Baharloey Karim

*\*Shahid Chamran University, Iran*

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# **POSTER SESSIONS PROGRAMME**



**POSTER SESSION 1**

WEDNESDAY 5/9/2007

**YOUNG INVESTIGATOR AWARD****01. Bad performance in sports because of insufficient preparation? - Experimental study about social loafing**

Jeannine Ohlert\*, Nadine Huettner, &amp; Randolph Ochsmann

*\*Johannes Gutenberg-University Mainz***02. An Investigation of the Effectiveness of the Old Way New Way Technique in a Group Setting**Lisa A Fraser<sup>1</sup> & Gerald Tehan<sup>2</sup><sup>1</sup>*University of the Sunshine Coast, Australia*<sup>2</sup>*University of Southern Queensland, Australia***03. Living up to high standards: The effect of perfectionistic concern over mistakes on negative mood in sport**Mark Schuls<sup>1</sup>, Nico W. Van Yperen<sup>1</sup>, Frank C. Bakker<sup>2</sup>, Bregje Speet<sup>2</sup>, Gerhardus A.B.M. Menkehorst<sup>3</sup>, & Henricus H.P.M. Schuijers<sup>4</sup><sup>1</sup>*University of Groningen, Department of social and organizational psychology, The Netherlands*<sup>2</sup>*VU University, Faculty of Human Movement Sciences, Amsterdam, The Netherlands*<sup>3</sup>*Mental Training & Coaching Centre, Groningen, The Netherlands*<sup>4</sup>*Rico Schuijers Sport Psychology & PROTASK, Nijmegen, The Netherlands***04. The goalkeepers' bravery: A self-efficacy study**

Sara Landi\*, Serena Benedetti\*, &amp; Giorgio Merla

*\*Italian Football Federation (F.I.G.C.)***05. Sources of Acute Stress and Psychological Skill Training Methods among Czech Elite Soccer Players**

Meichi Chen

*Charles University, Faculty of Physical Education and Sport***06. Application of data mining techniques for identifying the holistic athlete's characteristics**Stavroula Psouni<sup>1</sup> & Dimitris Psounis<sup>2</sup><sup>1</sup>*Faculty of Physical Education and Sport Science, National and Kapodistrian University of Athens  
Department of Psychology, University of Crete*<sup>2</sup>*PhD Candidate, Department of Informatics and Telecommunications, National and Kapodistrian University of Athens***07. Applications of sports psychologist occupation to organizational fields in sports clubs**

Stavroula Psouni

*Faculty of Physical Education and Sport Science, National and Capodistrian University of Athens**Department of Psychology, University of Crete***08. The effects of exercise on regional brain activation in response to smoking cues during temporary abstinence from smoking**Janse Van Rensburg, K<sup>1</sup>, Taylor, A. H<sup>1</sup>, & Hodgson, T<sup>2</sup><sup>1</sup>*School of Sport and Health Science, University of Exeter, England*<sup>2</sup>*School of Psychology, University of Exeter, England***09. The effects of acute exercise on cognitive functioning and desire to smoke during temporary abstinence from smoking**

Kate Janse Van Rensburg &amp; Adrian Taylor

*University of Exeter, School of Sport and Health Sciences*

**10. An exploration of the relationship between athletic identity and starting status**

Carla Meijen

*University of Amsterdam*

**11. Goal self-determination and adaptive goal disengagement/re-engagement in sport**

Alison L. Smith, Nikos Ntoumanis, & Joan L. Duda

*University of Birmingham, School of Sport and Exercise Sciences*

**12. The differences between anxiety and self-confidence in relation to individual and team sports college athletes**

Liga Geme

*University of Latvia*

**13. Gaze control and mental skills during the hitting phase in tennis**

Lafont, D.

*A.S. Montferrand Tennis, Ligue Auvergne Tennis, France*

**14. How instructions make SMART?**

Nele Tielemann

*Institute for Movement Science and Sport, University of Flensburg, Germany*

**PHYSICAL EDUCATION****01. Level of physical fitness performance in Malaysian secondary school students**

Ahmad Hashim\*, Shaharudin Abd Aziz, &amp; Mohd Sani Madon

\*Faculty of Sport Sciences, Sultan Idris University of Education, Malaysia

**02. Interest in state anger rating in Spanish physical education teachers working in “Center Preferential Attention”**

Ayme, S.\*, Ferrand, C., &amp; Puig, N.

\*University Lyon 1, France

**03. A study on the structure of psychomotor proficiency in preschool age**

Kambas, A.\*, Venetsanou, F., Christoforidis, C., Xanthi, P., &amp; Taxildaris, K.

\*Democritus University of Thrace, Greece

**04. The 2 X 2 achievement goal framework in Greek physical education**

Vassilis Barkoukis\*, Konstantinos Alexandris, George Lambropoulos &amp; Haralambos Tsorbatzoudis

\*Department of Physical Education and Sport Science, Aristotle University of Thessaloniki, Greece

**05. The Development of professional identity of sport’s teachers: Emotional and typological peculiarities**

Valerijs Dombrovskis\*, Svetlana Guseva, &amp; Vadims Murasovs

\*Daugavpils University, Latvia

**06. Psychological characteristics of the Hungarian state-sponsored “Héraklész” star athletes in contrast to the athletes in the Central School of Sports**

Attila Szabo\*, Attila Velenczei, Árpád Kovács, &amp; Tamás Szabo

\*National Institute for Sport Talent Care, Budapest, Hungary

**07. Leadership behaviors of physical education teachers and its relation with students’ satisfaction**

Anastasia Kotsavasilidou\*, George Tzetzis, Thomas Kourtesis, &amp; Athanasios Koustelios

\*Department of Physical Education &amp; Sport Science, Aristotle University of Thessaloniki, Greece

**08. Adapted physical activity in Italian schools**

Rosa Anna Rosa\*, Italo Sannicandro, &amp; Annalisa Frisardi

\*University of Foggia - Faculty of Medicine and Surgery- Degree Course in Motor and Sport Sciences, Italy

**09. Forming of cognitions in sports games training of 9-10-year-old pupils**

Antoaneta Momchilova\*, Iskra Ilieva, &amp; Iliyan Ilchev

\*University of Russe “Angel Kanchev”, Bulgaria

**10. Intellectualism of the physical training in the Bulgarian schools**

Antoaneta Momchilova\* &amp; Tzvetana Dobрева

\*University of Russe “Angel Kanchev”, Bulgaria

**11. Contribution of video linked to post lesson interviews in emotional studies of the physical education teachers**

Ayme, S.\* &amp; Ferrand C.

\*University Lyon 1, France

**12. Physical activity, body mass index and smoking habits among students in Norway and UK**

Bjørn Tore Johansen\* Rune Høigaard, Derek Peters, &amp; Gareth Jones

\*Agder University College, Norway

**13. “Amallós Consultaría”: from University to Enterprise”**

Eva M. García-Quinteiro\* &amp; Graciela Lois-Rio

\*Amallós Consultaría – Empresa-Concepto, Spain



**14. Evaluation of students' attitudes towards computers in comparison to their attitudes towards physical education (pe) and physical activity.**

Panagiotis Antoniou\* &amp; Evangelos Bebetos

*\*Democritus University of Thrace, Dept. of Physical Education & Sport Science, Greece***15. Daily physical activity, programmed exercise and health in university students**

Valero, M.\*, Ocaña, M., Parrado, E., Pintanel M., &amp; Capdevila, L.

*\*Universitat Autònoma de Barcelona, Spain***17. The body image and eating habits of girls in an Ontarian elementary healthy school**

Abou-Rizk, Z.\* &amp; Beaudoin, C.

*\*University of Ottawa, Ontario, Canada***18. The physical activity habits and body image perceptions of students in a healthy Ontarian junior school**

Moore, T.\* &amp; Beaudoin C.

*\*University of Ottawa, Canada***19. Influence of "Quick mini-step callanetics program /Galinetika/" on the attention parameters with female students**

Anna Bojkova\*, Galina Dyakova, &amp; Konstantin Vasilev

*\*University of Medicine, Sofia, Bulgaria***20. Norms for assessment of physical preparation of students – volleyball players**

Anna Bojkova

*University of Medicine, Sofia, Bulgaria***21. Clumsiness in children – do they grow out of it? A study of motor skills in 6-12 year-old Norwegian children**

Unni Segberg\* &amp; Thomas Moser

*\*Agder University College, Kristiansand, Norway***22. Administrative personal, teachers, and medical school team perceptions of what it means to be healthy: implications for implementing a comprehensive school health approach**

Charlotte Beaudoin\*, Tracy Moore, Zeina Aou-Rizk, &amp; Didier Caty

*\*University of Ottawa, School of Human Kinetics, Canada***23. Effects of perceived autonomy support on physical education and leisure need satisfaction**

George Lambropoulos\*, Vassilis Barkoukis, &amp; Haralambos Tsorbatzoudis

*\*Department of Physical Education and Sport Science, Aristotle University of Thessaloniki, Greece***24. Relationship between parents' education level and athletes' gender on sporting achievements of pupils in the Central School of Sports in Budapest**

Attila Szombat\* &amp; Attila Szabo

*\*National Institute for Sport Talent Care, Budapest, Hungary***25. Testing motor skills and physical fitness among children – two sides of the same coin?**

Bjørn Tore Johansen\* &amp; Tommy Haugen

*\*Faculty of Health and Sport, Agder University College, Norway***26. Enhancing anticipation skills of physical education teacher students**

Minna Blomqvist\*, Tomi Vanttinen, &amp; Mikko Häyrinen

*\*KIHU - Research Institute for Olympic Sports, Finland*

**27. GO Kids! - Evaluation of a physical activity program to prevention of overweight in children**

Petra Wagner\* &amp; Sarah Päßgen

*\*Kaiserslautern University of Technology, Germany***28. Student's moral and ethical development through "Kallipatira": Evaluation of the teachers' training programme**

Ioanna Tzinieri \*, Andreas G. Avgerinos, &amp; Vasillios Grammatikopoulos

*\*Department of Physical Education & Sports Science, Democritus University of Thrace, Greece***29. Personality traits' changes of students from either with or without additional physical education"**

Dagmara Budnik

*University of Gdańsk, Poland***30. Handedness and motor performance in preschool children**

George Daloukas \*, Filippos Vlachos, &amp; Argiris Karapetsas

*\*University of Thessaly, Greece***31. The important competencies of a qualified PE teacher: A student's perception**

Nieminen Pipsa\* &amp; Junnila Laura

*\*University of Jyväskylä, Finland***32. Causal effects between achievement goals and satisfaction in physical education context: A longitudinal study**

Georgios Ampatzoglou,\* Periklis Kalogiannis, Alexandros Sagovits, &amp; Athanasios Papaioannou

*\*Democritus University of Thrace, Greece***33. The relationship between perceptions of obese children and inclusive practice in future physical education teachers**

Derek M. Peters\* &amp; Ruan Jones

*\*School of Sport & Exercise Science, University of Worcester, UK***34. The function of Piaget's cognitive development theory in evaluation of physical education students' attitude on the problems of career choice**

Nasrollah Javadian Sarraf\* &amp; Reza Shajie

*\*Ferdowsi University of Mashhad, Iran***35. The evaluation of a social skills enhancing program in physical education**

Evmorfia Magotsiou &amp; Marios Goudas

*University of Thessaly, Laboratory of Exercise Psychology and Quality of Life, Greece***36. Learned helplessness, depression, anxiety and motivational climate in physical education**

Karakanda, E. &amp; Papaioannou, A.

*University of Thessaly, Greece***37. Efficiency of consolidation on free and serial recall in a complex motor task in school-aged children**

Balázs Fügedi\*, László Tóth, József Bognár, Salvára I. Marina, &amp; László Honfi

*\*Collage of Károly Eszterházy, Institute of Physical Education and Sport Science, Eger, Hungary***SPORT PSYCHOLOGY****38. A Contemporary Dynamic Model of Motivation in Sport**

Matej Tušak\*, Maks Tušak, &amp; Robert Masten

*\*University of Ljubljana, Faculty of sport, Department of Sport Psychology, Ljubljana, Slovenia***39. The Performance Success Appraisal Inventory: A French validation with elite athletes**

Nathalie André\* &amp; Jonathan Metzler

*\*Faculté des Sciences du Sport de Poitiers, France*

**40. Sport Career and Athletes Personal Development**

Galina Gorsraya

*Kuban State University of Physical Education, Sport and Tourism, Russia***41. Strain Situations in Sport**

Michala Bednáriková\* &amp; Tomáš Gurský

*\*Comenius University in Bratislava. Faculty of Philosophy, Department of Psychology, Slovak Republic***42. Learning Habits and Preferences of USA Cycling Licensed Coaches**

Kristen Dieffenbach

*West Virginia University, USA***43. Investigation of effect of anxiety levels and reaction times of professional basketballers on game statistics**

Leyla Tavacioglu\* &amp; Birgul Arslanoglu

*\*Technical University of Istanbul, Physical Education Department, Turkey***44. Identification, sport fan and intergroup conflict**

Santiago Yubero Jiménez, Elisa Larrañaga Rubio, &amp; Luis Javier Sánchez García

*Department Of Psychology. University Of Castilla-La Mancha, Spain***45. Levels of development psicosocial in Gipuzkoa federated football: Analysis, and valuation of the perceived autoefficiency and the level of satisfaction in young football players**

Jose Antonio Arruza Gabilondo\*, Xabier Saizar, &amp; Beñat Amenabar Perurena

*\*University of the Basque Country, Spain***46. The effects of transformational leadership on athlete anxiety and self-confidence**

Emily Oliver\* &amp; Lew Hardy

*\*University of Wales, Bangor, UK***47. Neurofeedback training enhances  $\alpha$  power**

Chang Chih-Chieh\*, Wang Yung-Shun, &amp; Hung Tsung-Min

*\*Taipei Municipal University of Education, Taiwan***48. The relationship between perceived coach behaviors and anxiety among Moroccan elite and scholar athletes**

EL Hassane Nabli\* &amp; Abderrahim Baria

*\*Moroccan Association of Sport Psychology, Morocco***49. The link between knowledge and visual fixations in gymnastics coaching and judging: A case study approach**

Page, J. \*, Lafferty, M.E., &amp; Wheeler T.J.

*\*University of Chester, UK***50. Reasons why 18-19 year old male football players in the elite programme "Tipselit" drop out and their view of their time in Tipselit**

Carlsson, B. \*, Ekmark, B., &amp; Hinic, H.

*\*Halmstad University, School of Social and Health Science, Sweden***51. Psychometric properties of the Test of Performance Strategies in a Flemish athletic sample**

Caroline R. Jannes \*, Karen Verniers, Michael I., Portzky, &amp; Hannelore A. Verbrugge

*\*Centrum voor Sportgeneeskunde, UZGent, Ghent University,**Belgium/ Psy4Sport, Belgium***52. Performance strategies and resilience in a Flemish athletic population**

Caroline R. Jannes \*, Michael I. Portzky, Karen Verniers, &amp; Hannelore A. Verbrugge

*\*Centrum voor Sportgeneeskunde, UZGent, Ghent University, Belgium/Psy4Sport, Belgium***53. Examining the relationship between perfectionism and burnout in collegiate coaches**

Lauren Tashman\*, Allison Dyrland, Melissa Murray, &amp; Gershon Tenenbaum

*\*Florida State University, USA*

**54. The relationship between prayer and team cohesion in collegiate softball teams**

Melissa Murray\*, Allison Dyrlund, &amp; Lauren Tashman

*\*Florida State University, U.S.A.***55. Relationship between athletic self-concept and exercise self-efficacy of Iranian elite wrestlers participated in the Qatar Asian Games**

Nasrollah Javadian Sarraf\* &amp; Reza Shajie

*\*Ferdowsi University of Mashhad, Iran***56. The effect of physical practice and random/blocked mental practice on performance and learning of tracking task**

Sohrabi, M. \*, Farrokhi, A., Bahram A., &amp; Arghami, N.R.

*\*Ferdowsi University of Mashhad, Iran***57. Postural stability and emotional status in survivors of domestic violence**

Jana Smidova\*

*\*Charles University in Prague, Faculty of Physical Education and Sport, Czech Republic***58. Differences among coping responses, performances and adjustment to competition's stress in sportswomen: Research of self-efficacy's influence**

Andreea Dinca\* &amp; Elisabeth Rosnet

*\*University of Reims Champagne-Ardenne, Laboratory of Applied Psychology, France***59. Coaches as caregivers in children's competitive sports**

Karen Hoffmann\*, Alfred Richartz &amp; Jeffrey Sallen

*\*University of Leipzig, Faculty of Sport Science, Germany***60. Empathy in coach-athlete dyads: The influence of relationship quality and group size**

Ross Lorimer\* &amp; Sophia Jowett

*\*Loughborough University, UK***61. Corelation between electroencephalografic feature and behavior at judo sportsmen**

Mircea Danoiu\*, Suzana Danoiu, &amp; Veronica Sfredel

*\*University Of Craiova, Romania***62. Intuitive physics in experts: Misconceptions about the balls momentum in football professionals**

Jan Rauch\*, Moritz M. Daum, &amp; Friedrich Wilkening

*\*University of Zurich, Department of Psychology, Cognitive and Developmental Psychology, Switzerland***63. Patterns of dream of the basketball female players of the Spanish national team in the preparation for the Athens' Olympic Games**

Felix Guillen\*, Mauricio Bara, &amp; Rosi Sanchez

*\*University Of Las Palmas De Gran Canaria, Spain***64. The effects of modelling and imagery type on performance and learning of the volleyball simple serve**

Masoumeh Shojaei\* &amp; Tahere Bagher Poor

*\*School of Physical Education, Al-Zahra University, Iran***65. Swimmers and coaches' perceptions of transitional changes after selection for an elite sports swimming school**

Wylleman, P.\*, Reints, A., &amp; Wanter, A.

*\*Vrije Universiteit Brussel, Faculty of PE and Physiotherapy, Belgium***66. Coaches' knowledge of mental training with talented young athletes**

Wylleman, P.\*, de Caluwé, D., Beyens, K., &amp; Wanter, A.

*\*Vrije Universiteit Brussel, Faculty of PE and Physiotherapy, Belgium*

**POSTER SESSION 2**

THURSDAY 6/9/2007

**SPORT PSYCHOLOGY****01. Sport Psychology's intervention: An experience with the reserve of young players in a football indoor Club**

Lois Río Graciela

*A. Lobelle de Santiago F.S., Spain***02. Excessive Effort in Sport – Development and Validation of the Excessive Effort in Sport Scale (EESS)**

Sabine Würth

*University of Vienna, Department of Sports Sciences, Austria***03. Comparing the effect of massed & distributed practice in different stages of discrete motor task learning**

Mohammad Taghi Aghdasi\*, &amp; Mir Taghi Garooci Farshi

*\*Faculty of Educational Sciences and Psychology, Tabriz University, Tabriz, Iran***04. The impact of competitive state anxiety on the production of muscular power in a golf drive shot**

Donna Dunne

*Waterford Institute of Technology, Ireland***05. Psychological skills and athletes satisfaction to participate among Greek water polo and swimming athletes**

Doukas Konstantoulas\* &amp; Evangelos Bebetos

*\*Department of Physical Education & Sport Science, Democritus University of Thrace, Greece***06. Phase-1 Development of the Perfectionism in Sport Questionnaire (PSQ)**

Michael A. Pickering\* &amp; Damon Burton

*\*University of Arkansas at Little Rock, USA***07. Mental training in artistic gymnastics**

Emilia Florina Grosu\*, Ioan Pascan, Ancuta Nut, Gheorghe Sabau, Denisa Petrehus, Sirb Sanda, Peter Szabo, &amp; Dan Monea

*\*"Babes –Bolyai" University, Faculty of Physical Education and Sport, Cluj –Napoca, Romania***08. Speed/accuracy trade-off: An explanation for a soccer imagery intervention?**

Munroe-Chandler, K.J.\*, Murphy, L., Hall, C.R., &amp; Fishburne, G.

*\*University of Windsor, Canada***09. Why a sport psychologist and a coach cannot find each other?**

Valery Malkin\* &amp; Liudmila Rogaleva

*\*Ural State University, Russia***10. Relationship among role ambiguity and athlete satisfaction**

Evangelos Bebetos &amp; Anastasia Beneka

*Democritus University of Thrace, Dept. of Phy. Education & Sport Science, Greece***11. The test of reversal theory on reducing stress and enhancing national athlete's efficiency**

Alinagy Aghdasi

*Islamic Azad Tabriz University, Iran***12. A confirmatory factorial analysis of the Athletic Coping Skills Inventory: an Italian contribution**

Marco Guicciardi\* &amp; Daniela Fadda

*\*Department of Psychology, University of Cagliari, Italy*

**13. Relation of role ambiguity and athlete satisfaction among Greek players**

George Karamousalidis\*, Evangelos Bebetos, Kostas Laparidis, K., &amp; Yannis Theodorakis

*\*Department of Physical Education and Sport Science, Democritus University of Thrace, Greece***14. The effects of psyching-up and a passive warm-up on muscular strength and fatigue**

David Tod\*, Jonathan Baker, &amp; Michael McGuigan

*\*University of Wales Aberystwyth, United Kingdom***15. Main and interactive Effects of attributions upon efficacy expectations following less successful performances**

Peter Coffee &amp; Tim Rees

*University of Exeter, UK***16. A test of the predictions of processing efficiency theory using a simulated archery task**

Mark Wilson\* &amp; Mike Behan

*\*University of Exeter, UK***17. The use of the Freeze-Framer Interactive Learning System in mental training**

Frank van den Berg\* &amp; Hardy Menkehorst

*\*Mental Training & Coaching Centre – Groningen/Calgary, Canada***18. Mental toughness (MT) is contextually driven. Psychological interventions and coaching strategies which attempt to develop MT should reflect such research findings.**

Tom Fawcett

*Salford University, UK***19. A qualitative investigation of attentional processes underlying the anxiety-motor performance relationship**

Yvonne Penna\* &amp; Richard Mullen

*\*Brunel University***20. An exploration of the relationship between high sensitivity and competitive anxiety**

Ineke Vergeer

*Durham University, England***21. Control of the football players' stress by group dynamics**

Amparo Pozo Calvo\*, David Rincón Izcaría, Eva García Quinteiro, &amp; Graciela Lois Rio

*\*Centro Regional de Medicina Deportiva; Junta de Castilla y León, Valladolid, Spain***22. Longitudinal monitoring of training distress in well-trained triathletes**

Luana Main\*, Brian Dawson, Robert Grove, &amp; Grant Landers

*\*The University of Western Australia, Australia***23. Soccer referee's attentional style and performance**

Pin A.\*, Righi G., Galmonte A., Bianchi B., Gherzil A., &amp; Agostini T.

*\*University of Trieste, Department of Psychology, Mind In Sport Lab, Italy***24. The relationship between coping skills and multidimensional perfectionism in Romanian professional athletes – a correlational study**

Marius Craciun\* &amp; Csilla Szatmári

*\*Babes-Bolyai University, Faculty of Psychology and Educational Sciences, Cluj-Napoca, Romania***25. A post master program for applied sport psychology in the Netherlands**

R.I. (Vana) Hutter\* &amp; J.R. (Rob) Pijpers

*\*VU-University Amsterdam, Faculty of Human Movement Sciences, The Netherlands*

**26. The influence of self-efficacy manipulation on affective response during a handgrip endurance task**

Jasmin C. Hutchinson\*, Todd Sherman, Gershon Tenenbaum, Nevena Martinovic, &amp; Richard Rosenfeld

*\*Oxford College of Emory University, USA***27. AASP and FEPSAC, two different organizations for two different continents**

Alessandro Quartiroli

*West Virginia University, USA***28. Does role ambiguity influence athletes' perceptions of coach competency?**

Bosselut, G.\* &amp; Heuzé, J.P.

*\*Laboratoire Sport et Environnement Social (EA 3742), Université Joseph Fourier, UFR APS***29. Cohesion or collective efficacy: What should be the focus of elite female handball team coaches?**

Heuzé, J.P.\* &amp; Bosselut, G.

*\*Laboratoire Sport et Environnement Social (EA 3742), Université Joseph Fourier, UFR APS***30. Social support & intervention preferences of high level academy football players**

Simon Kawycz\* &amp; Moira Lafferty

*\*Liverpool Hope University, UK***31. Australian rules football: Making the transition to senior-level umpiring**

Andrew Dunhill\* &amp; Harriet Speed

*\*Victoria University, Australia***32. Coping and values: A cultural approach of stress in professional basketball**

Paty Emmanuel

*Center for Research in Psychology / Laboratory of Applied Psychology / University of Reims Champagne-Ardenne, France***33. Psychological training in progressive muscular relaxation: Effects on anxiety levels and heart rate variability (HRV)**

Ocaña, M.\*, Parrado, E., Valero, M., Ramos, J., García, M.A., &amp; Capdevila, L.

*\*Universitat Autònoma de Barcelona, Catalunya, Spain***34. Performance-emotion dynamics during an event in competition**

Melinda Pellizzari\* &amp; Maurizio Bertollo

*\*Department of clinical sciences and bio-imaging physiology lab. Faculty of Human Movement Science University of Chieti, Italy***35. Heart Rate Variability (HRV) and competition stress in swimmers**

Lluís Capdevila\*, Julio Cervantes, Marta Ocaña, Eva Parrado, Gil Rodas, &amp; Montse Valero

*\*Sport Psychology Laboratory, Universitat Autònoma de Barcelona, Spain***36. Exploring a modified conceptualisation of imagery direction and golf putting performance**

Richard Ramsey\*, Jennifer Cumming, &amp; Martin Gareth Edwards

*\*The University of Birmingham, UK***37. Identifying individual voices within applied group work – The application of q-sort technique**

Moira E. Lafferty

*University of Chester, UK***38. The effect of exterior appearance of athletes in the sport of Rhythmic Gymnastics**

Tsopani, D.\*, Dallas, G., Tasika, N., &amp; Abruzzini, E.

*National & Kapodistrian University of Athens, Greece***39. Group dynamics: An application in sport context**

Eva María García Quinteiro\*, Graciela Lois Río, &amp; Amparo Pozo Calvo

*\*University of Santiago de Compostela, Spain*

**40. Perceived stressors in elite international rugby union age group players**

Richard Mullen\*, Lynne Evans, &amp; Darren Edwards

*\*Brunel University, UK***41. Anxiety symptom interpretation in high anxious, defensive high anxious, low anxious, and repressor athletes**

Richard Mullen\*, Andrew Lane, &amp; Sheldon Hanton

*\*Brunel University, UK***42. "A system theory perspective on goal setting, an explorative case study with elite soccer players towards expanding development and performance"**

Christian Engell\* &amp; Carsten Hvid Larsen

*\*Institute of Sport Sciences and Biomechanics, University of Southern Denmark, Denmark***43. Personality and performance during competition**

Tatiana Iancheva

*National Sports Academy, Sofia, Bulgaria***44. The impact of anxiety on visual attention in climbing**

J.R. (Rob) Pijpers\*, Arne Nieuwenhuys, Raoul R.D. Oudejans, &amp; Frank C. Bakker

*\*VU-University Amsterdam, Faculty of Human Movement Sciences, Amsterdam, The Netherlands***45. Couple self-efficacy in dual sports**

Francesca Vitali\* &amp; Stefano Del Veneziano

*\*University of Genoa, Faculty of Medicine, Course of Bachelor in Sport Sciences, Italy***46. Antecedents of sports performance**

Alkistis Olympiou

*University of Leeds, UK***47. Assessment of the personality profile of elite Spanish soccer referees**

Itziar Alonso-Arbiol\*, Kepa Diez, Francesc Falco, &amp; Manuel Lopez

*\*University of The Basque Country, Spain***48. Assessing the personality profile of elite soccer officials: The referees of 2006 FIFA World Cup**

Itziar Alonso-Arbiol\*, Kepa Diez, Francesc Falco, &amp; Manuel Lopez

*\*University of The Basque Country, Spain***49. Personality character peculiarities of students, athletes who have chosen to study different kinds of sports**

Galinda Goriniene

*Department of Kinesitherapy of the Lithuanian Academy of Physical Education, Kaunas, Lithuania***50. Relationship between optimal level of arousal that deals with A and B type athletes' Performance**

Ali Keyani

*University of Kurdistan, Iran***51. Title: Identity and anxiety in athletes**

Robert Masten\*, Maks Tušak, &amp; Matej Tušak

*\*University of Ljubljana, Faculty of Arts, Department of Psychology, Ljubljana, Slovenia***52. Multifactorial preparation of an Olympic shooter**

Lénárt, Á.\*, Petrekanits, M., Számadó, J., &amp; Gyömbér, N.

*\*Semmelweis University, Faculty of Physical Education and Physical Science, Department of Psychology***53. Eye movements during somersaulting**

Thomas Heinen\*, Konstantinos Velentzas &amp; Heiko Berger

*\*Psychological Department – German Sport University Cologne, Germany*



**54. Stress coping strategies and anxiety by handball and football players**

Marcin Krawczyński

*Jędrzej Śniadecki Academy of Physical Education and Sport, Gdańsk, Poland  
Ateneum-The Higher School, Gdańsk, Poland***55. “Big Five Model” of personality and technical-tactical effectiveness in judo**

Marcin Krawczyński\* &amp; Piotr Klimowicz

*\*Jędrzej Śniadecki Academy of Physical Education and Sport, Gdańsk, Poland  
Ateneum-The Higher School, Gdańsk, Poland***56. Career-development and coaching in professional sports. Stage-specific considerations and the general role of trust and unconditional appreciation**

Schweer, M. \* &amp; Gerwinat, A.

*\*University of Vechta, Germany***57. Life Span Sports career motivation - development: phases of transition**

Hana Válková

*Palacký University, Faculty of Physical Culture  
Olomouc, Czech Republic***58. Analysis of Perception of Quality of Life of Handball and Volleyball Players: A Comparison among Genders**

Cunha, R.A.\*, Amparo, L.P., &amp; Samulski, D.M.

*\*Laboratório de Psicologia do Esporte da Universidade Federal de Minas Gerais – Brasil***59. Survey and Analysis on Present Situation of Mental Fatigue of Professional Athletes**

Gou Yu-Jiang\* &amp; Zhou Yi-Gang

*\*Physical Education College of Zhengzhou University, Henan***60. Motivational climate in sports teams: situational vs. dispositional determinants**

Renata Barić

*Faculty of Kinesiology, University of Zagreb, Croatia***61. Enhancing motor learning in Volleyball with visualisation training based on movement modelling**

Konstantinos Velentzas\* &amp; Thomas Heinen

*\*Psychological Department – German Sport University Cologne, Germany***62. Qualitative Analysis in the Evaluation of Imagery Abilities and Use in Sport**

Anthony Watt\* &amp; Tony Morris

*\*Victoria University and Centre for Aging, Rehabilitation, Exercise and Sport, Australia***63. The influence of imagery functions on flow in competition**

Koehn, S.\*, Morris, T., &amp; Watt, A. P.

*\*Centre for Ageing, Rehabilitation, Exercise and Sport (CARES), Australia***64. Interaction effects on flow state**

Koehn, S.\*, Morris, T., &amp; Watt, A. P.

*\*Centre for Ageing, Rehabilitation, Exercise and Sport (CARES), Australia***65. Development and validation of the Coping In Competition Questionnaire.**

Antonis Hatzigeorgiadis\* &amp; Stilianos Chroni

*\*University of Thessaly, Greece***66. Development and validation of Sport Self-Confident Questionnaire of injured athletes**

Anna Christakou\*, Nektarios A. Stavrou, Maria Psychountaki, &amp; Yannis Zervas

*\*Department of Physical Education and Sport Science, University of Athens, Greece*

**67. Social support, self-talk and affect**

Nikos Zourbanos\*, Antonis Hatzigeorgiadis, Paul Davis, & Yannis Theodorakis

*\*University of Thessaly, Greece*

**68. The effect of personal goals in a service task in University level volleyball**

Haralampos Krommidas \*, Christos Mouzakidis & Asterios Patsiaouras

*\*University of Thessaly, Greece*

**69. Gender differences in competitive anxiety of 13-14 Years old handball players during a tournament**

Christodoulidis, T. \*, Bebetos, E., Bakou, M., Diggelidis, N., Kouli, O., & Rokka, S.

*\*Democritus University of Thrace, Greece*

**70. The effectiveness of deliberate practice in learning Volleyball skills and rules in novice athletes**

Zetou, E. \*, Courtesis, T., Paspala, O., & Kioumourtzoglou, E.

*\*Democritus University of Thrace, Greece*

**POSTER SESSION 3**

FRIDAY 8/9/2007

**EXERCISE PSYCHOLOGY****01. The differential evolution of the decision-making processes according to the age, the degree of physical activity and the complexity of the task**

Souha Khadher\*, Rim Sioud, &amp; Jean Bertch

*\*UFR STAPS de l'université Paris Sud, Orsay, France***02. The influence of three types of exercise on emotional states of middle-aged women**

Monika Guszowska

*Jozef Pilsudski Academy of Physical Education, Warsaw, Poland***03. Social lived space through physical activities based in a traditional Brazilian art-form called capoeira: An experience in Poland**

André Luiz Teixeira Reis

*University of Brasília, UnB, Brazil***04. Lived experience of Capoeira – a Brazilian art-form – through Van Manen`s (1990) phenomenology of body, time, space and human relation**

André Luiz Teixeira Reis

*University of Brasília, UnB, Brazil***05. Cohesion, humour and assiduity in Fitness**

Silva C. \*, Borrego C. &amp; Matias R.

*\*Sport Sciences School of Rio Maior, Canadas***06. Automatic Goal Activation and Enhancement of Physical Activity in a 3-Month Physical Activity Intervention for Sedentary Women**

Erin Pearson\* &amp; Tony Morris

*\*Victoria University, Australia***07. Examining the role of intention in the Theory of Planned Behavior**

Erin Pearson\* &amp; Tony Morris

*\*Victoria University, Australia***09. The influence of reported exercise participation on how older adults are perceived**

Iain Greenlees\* &amp; Hayley Webb

*\*School of Sport, Exercise & Health Sciences, University of Chichester, College Lane, Chichester, West Sussex, UK***10. Physical self-esteem and appearance in adolescents that practise physical activity at different levels**

Scalas, L. F.\*, Meleddu, M., &amp; Guicciardi, M.

*\*Department of Psychology – University of Cagliari, Italy***11. Formation of subject of the activity at physical culture lesson**

Liudmila Rogaleva\* &amp; Valery Malkin

*\*Ural State University, Russia*

**12. Age group differences in attitudes towards exercise, perceived athletic ability, perceived physical attractiveness and participation in physical activity**

Spiridon Kamtsios\* & Nikolaos Digelidis

*\*Department of Physical Education and Sport Sciences, University of Thessaly, Greece*

**13. Effects of glycaemic index of carbohydrate meals on endurance performance in healthy, untrained and trained Thai men**

Taweesak Janyacharoen\*, Naruemon Leelayuwat, Paradee Auvichayapat, Ian A Macdonald, & Kostas Tsintzas

*\*Department of Physiology, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand*

**14. Running after core factors**

Leif Isberg

*Department of Health Sciences, Örebro, Sweden*

**15. Practical investigation of a life skills program using a part-time job as part of athletic club activities**

Kohei Ueno

*Tottori University, Japan*

**16. The effects of objective and subjective competence on RPE and affects under the different exercise intensity**

Yao-Chung Huang\* & Likang Chi

*\*National College of Physical Education and Sports, Taiwan*

**17. Confirmatory factor analysis of the behavioural regulation in exercise questionnaire – Portuguese Version**

Palmeira, A.\*, Teixeira, P. Silva, M., & Markland, D.

*\*Universidade Lusófona de Humanidades e Tecnologias, Lisboa, Portugal*

**18. Performance-based validation of the human activity profile**

Luci Fuscaldi Teixeira-Salmela\*, Sandra J. Olney, & Revathy Devaraj

*\*Department of Physical Therapy, Universidade Federal de Minas Gerais, Brazil*

**19. The effect of exercise training in water on depression and thyroid hormone in male students**

Ali Younesian\*, Hamid Kalalian-Moghaddam, Morteza Mohammadion, & Nader Rahnama

*\*Department of Physical Education & Sport Science, Shahrood University of Technology, Shahrood, Iran*

**20. Acute effects of bouts of exercise of different duration on cognitive functioning in 10-11 year old children**

Remco Polman\*, Mike Sleaf, Erika Borkoles, & Tom Coleman

*\*The University of Hull, Department of Sport, Health & Exercise Science, UK*

**21. Gender differences in ability of biological motion**

Kaivo Thomson\*, Liina Valt, & Jaan Ereline

*\*University of Jyväskylä, Finland*

**22. Can older adults acquire a novel motor skill independently of working memory load?**

Guillaume Chauvel\*, François Maquestiaux, Sven Joubert, Nicolas Benguigui, & Jean Bertsch

*\*UFR STAPS de l'Université Paris-Sud, France*

**23. Biological motion perception and its interaction with speed discrimination ability**

Liina Valt\*, Kaivo Thomson, & Jaan Ereline

*\*University of Tartu, Estonia*

**24. Peak height velocity offset; an objective measure of maturation for exploring the psychological determinants of physical activity behaviour**

Samantha Fawcner\*, Ailsa Niven, Ann-Marie Knowles, Claire Stephenson, & Joan Henretty

*\*Teenactive Research Group, Heriot Watt University, Edinburgh, Scotland, UK*

**25. High stress reduces qigong adherence**

John Jouper\* &amp; Peter Hassmén

*\*Department of Health Sciences, Örebro University, Sweden***26. The relationship between body image, physical self-efficacy and motor abilities in children**

Milena Morano\*, Laura Bortoli, Italo Sannicandro, &amp; Dario Colella

*\*Facoltà di Medicina e Chirurgia, Scienze delle Attività Motorie e Sportive, Università degli Studi di Foggia, Italy***27. Adapted physical activity in adult psychiatric patients**

Rosa Anna Rosa\*, Italo Sannicandro, &amp; Marc Clement

*\*University of Foggia - Faculty of Medicine and Surgery- Degree Course in Motor and Sport Sciences, Italy***28. Development of an objective Weekly Physical Activity Report (RSAF) to evaluate healthy physical activity**

Parrado, E.\*, Ocaña, M., Pintanel, M., Valero, M., &amp; Capdevila, L.

*\*Universitat Autònoma de Barcelona, Spain***29. Translation and preliminary study about validity of the Portuguese version of Goal Orientation in Exercise Scale (GOES)**

Luís Cid\*, João Moutão, Pedro Sobreiro, José Vasconcelos-Raposo, &amp; José Alves

*\*Sport Sciences School of Rio Maior, Portugal***30. Translation and preliminary study about validity of the Portuguese version of Attitudes towards Physical Activity and Sport Scale (EAFD)**

Luís Cid\*, João Moutão, José Alves, &amp; Joaquín Dosil

*\*Sport Sciences School of Rio Maior, Portugal***31. Information processing and dyslexia. Differences in reaction time, attention and memory between dyslexics and non-dyslexics**

Marisa Barroso\*, Luís Cid, &amp; José Alves

*\*Sport Sciences School of Rio Maior, Portugal***32. Effects of exercise and mental stress on the antibody response to vaccination: Evidence that acute stress improves vaccine efficacy in humans**

Ring, C.\*, Edwards, K.M., Burns, V.E., Carroll, D., &amp; Drayson, M.

*\*University of Birmingham, UK***33. Changing sedentary lifestyles to improve health and quality of life: behavioural strategies for specific target groups**

Lluís Capdevila\*, Tomás Blasco, Beatriz Galilea, Josep M Losilla, Gil Rodas &amp; Jaume Vives

*\*Sport Psychology Laboratory, Universitat Autònoma de Barcelona, Spain***34. Understanding obesity: Psychological cues and antecedents of eating behaviour**

Michelle Cranston\* &amp; Dr Harriet Speed

*\*Victoria University, Australia***35. Effect of two different cardiovascular training protocols on mood states of well conditioned exercisers**

João Moutão\*, Luís Cid, Humberto Silva, &amp; José Alves

*\*Sport Sciences School of Rio Maior, Portugal***36. Physical self-perceptions and global self esteem in gym exercisers**

José Alves\*, Luís Cid, Daniel Pacheco, &amp; João Moutão

*\*Sport Sciences School of Rio Maior, Portugal***37. Development and validation of the Mood State Scale: A patient mood state questionnaire for use in patients with chronic low back pain**

Anastasia Beneka\*, Evangelos Bebetos, Vivian Malliou, &amp; Maria Papadopoulou

*\*Democritus University of Thrace, Greece*

**38. The Study of relationship between attitude and some of social association with anabolic steroids use among men bodybuilders in Ahwaz**

Shafie Nia Parvaneh\*, Nourbakhsh Parivash, Boshehry Nahid Shetab, & Hashemi Farzaneh  
\*Shahid Chamran University, Iran

**39. Mental inducement of cognitive and motor tasks in a multiple-sender multiple-receiver design**

Maren Michelbrink\* & Wolfgang I. Schöllhorn  
\*Institute of Sport Science, Department Training Science, Muenster, Germany

**40. The effect of aerobic dance exercise on the psychological mood state of adults**

Rokka, S.\*, Bebetos, E., Mavridis, G., Kapralou, A., & Kouli, O.  
\*Democritus University of Thrace, Greece

**41. Movement analysis from mental and motor aspects**

Anita Hökelmann\*, Peter Blaser, & Katja Westphal  
\*Otto-von-Guericke-University- Magdeburg, Germany

**42. A comparison of physical activity level and physical self-perception in overweight and normal weight adolescent girls**

Katina Damaskopoulou\*, Andreas G. Avgerinos, & Nikolaos Vernadakis  
\*Department of Physical Education & Sports Science, Democritus University of Thrace, Greece

**43. A longitudinal study on visual-motor skills development**

Filippos Vlachos\* & George Daloukas  
University of Thessaly, Greece

**44. Is physical activity more beneficial for aging persons?**

Alexandra Perrot\* & Jean Bertsch  
\*Université Paris Sud Orsay, Canada

**45. Exercise continuation and discontinuation within Swiss fitness clubs**

Mattia Piffaretti\* & Benoît Lenzen  
\*University of Geneva, Faculté de Médecine, Suisse

**46. Written anti-smoking/pro-exercise messages: Does a peer source make the difference for adults or adolescents?**

Evdoxia Kosmidou\*, Yiannis Theodorakis, Marios Goudas, & Athanasios Papaioannou  
\*University of Thessaly, Greece

**47. "Stop smoking time for exercise". The effectiveness of an intervention program on smoking cessation**

Georgia Kofou\*, Nikos Zourbanos, Marios Goudas, & Yannis Theodorakis  
\*University of Thessaly, Greece

**48. Psychological Responses and Consequences of Career Ending Injury**

Tom Fawcett\* & Neil Light  
\*Salford University, UK

**49. Applied science in elite youth soccer: A diagnosis and intervention project to optimize prevention measures to reduce knee and ankle injuries**

Gabriele Neumann  
Federal Institute of Sport Science, Germany

**50. The association between level of physical activity and eating disorders among Norwegian women and men**

Einar Vedul-Kjelsås  
Department of Neuroscience, Faculty of Medicine, NTNU and St. Olavs University Hospital, Department of research and development, AFFU, Norway

**51. Effect of a physical activity program on physical self-concept in older adults**

Ménier Ouaghlani\* &amp; Jean Bertsch

*\*Université Paris sud Orsay, UFR STAPS, France***52. Influence of the “PG FITNESS” program on the physical fitness of female students**

Galina Petrova Dyakova, Penka Mihailova Peeva\*, &amp; Anni Tichomirova Bojkova

*\*Trakia University, Bulgaria***SPORT PSYCHOLOGY****53. Laterality in the sport of Full Contact. Changes in conditions of training and competition**

Del Valle Sagrario\*, &amp; De La Vega Ricardo

*\*Faculty Of Sport Sciences. University Of Castilla La Mancha, Spain***54. Self-regulation in a motor task: handstand**

Del Valle Sagrario\*, Moreno Amparo, &amp; De La Vega Ricardo

*\*Faculty of Sport Sciences, University of Castilla La Mancha, Spain***55. Development and Psychometric Evaluation of the Basic and Earning Self-Esteem Scale (BESES)**

Carolina Lundqvist\* &amp; Göran Kenttä

*\*The Swedish School of Sport and Health Sciences, Stockholm, Sweden***56. Group cohesion, performance and player’s satisfaction in soccer**

Borrego, C\*, Silva, C., &amp; Silva, N.

*\*Sport Sciences High School of Rio Maior, Portugal***57. Leadership and player’s satisfaction in soccer**

Borrego, C.\*, Silva, C., &amp; Gouveia, A.

*\*Sport Sciences High School of Rio Maior, Portugal***58. Human factor in air sports accidents in Poland according to text-mining analysis**

Ryszard Makarowski

*University of Gdansk, Poland***59. The beginning and the maintenance of eating disorders in female athletes**

Lieurquin A.S. \*, Godin., Ph. &amp; Lories., G.

*\*University of Louvain; Department of Psychology; Research Unit for Emotion, Cognition, and Health (ECSA), Belgium***60. Personal characteristics as regulators of burnout in male and female athletes**

Helen Grin

*Kuban State University of Physical Education, Sport and Tourism, Russia***61. I want to pee but I just can not do it – the problem of urine doping tests in competitive sports**

Anne-Marie Elbe\* &amp; Katharina Strahler

*\*University of Copenhagen, Denmark***62. Study on interrelationship of fatigue, social support and mental health of elite athletes**

Zhou Yi-Gang\* &amp; Yu-Jiang Gou

*\*Physical Education College of Zhengzhou University, Henan***63. Present situation and interrelationship of social support and mental fatigue for college athletes**

Yu-Jiang Gou \* &amp; Yi-Gang Zhou

*\*Physical Education College of Zhengzhou University*

**64. Experiences of people with disabilities playing golf in Finnish golf courses**

Leena M. Matikka

*University of Tampere, Finland*

**65. Eating disorder and mood states in female junior long-distance runners in Japan**

Yoko Kajiwara\*, Saburo Yokokura, Masami Hirashita, & Shinichiro Ono

*\*Faculty of Education, Bunkyo University, Saitama, Japan*

**66. Recovery from burnout among elite soccer coaches**

Sören Hjälms\*, Peter Hassmén, Henrik Gustafsson, & Erik Lundkvist

*\*Örebro University, Sweden*

**67. Relationship between quality of life and depression among elders in a sport games**

Wen-chin Chen\*, Chang-Yong Chu, & Hui-Chun Tang

*\*Taipei Physical Education College, Taiwan*



**POSTER SESSION 4**

SATURDAY 8/9/2007

**MOTIVATION IN SPORT****01. Confirmatory factor analysis and factorial dimensionality of the Amotivation Toward Exercise Scale among older inactive individuals**

Maria A. Gigoudi &amp; Symeon P. Vlachopoulos

*Aristotle University Of Thessaloniki, Department Of Physical Education And Sport Science At Serres, Greece***02. Formation optimum motivational climate at lessons of physical culture**

Erkomayshvili, I.\*, Serova, N., Rogaleva, L., Fitina, L., Galysheva, S., &amp; Zhukova, O.

*\*Ural State Technical University, Ekaterinburg, Russia***03. Socio-cognitive antecedents of teacher motivation**

Georgia Stephanou\* &amp; Aggeliki Tsapakidou

*\*University of Western Macedonia, Florina, Greece***04. Examining the effect of motivational regulations on intention and actual participation in physical activities**

Vassilis Barkoukis, George Lambropoulos, &amp; Haralambos Tsorbatzoudis

*Department of Physical Education and Sport Science, Aristotle University of Thessaloniki, Greece***05. Social physique anxiety, motives for physical activity and physical activity levels in early adolescent girls**

Ailsa Niven\*, Samantha Fawcner, Ann-Marie Knowles, Claire Stephenson, &amp; Joan Henretty

*\*Teenactive Research Group, Heriot Watt University, Edinburgh, Scotland, UK***06. Perceived value of physical activity to significant others, peer relationships, and social goals predict physical activity motivation of adolescents**

Amanda G. Smith\* &amp; Alan L. Smith

*\*Purdue University, USA***07. The prediction of 2 X 2 achievement goals and perceived competence on passion in sport**

Chiung-Huang Li\*, Likang Chi, Han-Ni Peng, &amp; Chen-AnYu

*\*Ming Chuan University, Taoyuan, Taiwan***08. The relationships of perceived learning environment and intrinsic motivation in elementary school physical education classes**

Chun-Nan Tung\*, Chen Shih-Hsin, &amp; Ke Wei-Duhng

*\*National College of Physical Education and Sports, Taiwan***09. Motivational climate, goal orientations friendship and peer acceptance in organized youth sport**

Blake W. Miller\*, Glyn C. Roberts, Yngvar Ommundsen, Marit Sørensen, &amp; Mari Kristin Sisjord

*\*Norwegian School of Sport Sciences, Oslo, Norway***10. A comparative study of exercise motivations in university students in Norway and England**

Rune Høigaard\*, Bjørn Tore Johansen, Gareth W. Jones, &amp; Derek M. Peters

*\*Agder University College, Norway***11. Motive manifestations with taking into consideration individual profile of functional asymmetry.**

Svetlana Kumskova\* &amp; Olena Polyanichko

*\*Inter-Regional Academy of personnel management, Ukraine***12. Sport motivation and commitment: An evaluation with university sport intramural participants**

Gdonteli, K., Mudakis, K., Avgerinou, V., Stergioulas, A., &amp; Gavriilidis, A.

*University Of Peloponnese, Department Of Sport Management, Greece*

**13. Specific motivational aspects in female soccer referees**

Dieter Teipel\* &amp; Reinhild Kemper

*\*Institut für Sportwissenschaft, Germany***14. The relationship between perceived coach behaviour and perceived motivational climate in youth football**

Rune Høigaard\* &amp; Derek M. Peters

*\*Faculty of Health and Sport, Agder University College, Norway***15. Sport in pregnancy: Motivational aspects**

Jens Kleinert\*, Katharina Engelhard, Bettina Schmitt, &amp; Marion Sulprizio

*\*Institute of Psychology, German Sport University Cologne, Germany***16. Model development and first steps of evaluation**

Jens Kleinert\* &amp; Sabine Jüngling

*\*Institute of Psychology, German Sport University Cologne, Germany***17. Intrinsic motivation in gym exercisers and it's relation with gender, most practiced activity and weekly training frequency**

João Moutão\*, Luís Cid, Daniel Pacheco, &amp; José Alves

*\*Sport Sciences School of Rio Maior, Portugal***18. Influence of different in content motive activities classes on the attention of female students with harmful habits**

Galina Petrova Dyakova

*Trakia University, Bulgaria***19. Promoting self determined motivational strategies in physical activity**

Ikulayo, P. B.\*, Awoyinfa, J. O., &amp; Semidara, J. A.

*\*Department of Human Kinetics and Health Education, Faculty of Education, University of Lagos, Akoka, Lagos State, Nigeria***20. Effects of motivational strategies on the achievement level of professional footballers in Lagos State**

Philomena Bola Ikulayo\* &amp; Adesanya Adeyemi Taofik

*\*Department of Human Kinetics & Health Education, University of Lagos, Akoka, Lagos State, Nigeria***21. Motivational profiles of sport dancers**

Iliana Ianovska\* &amp; Zshivka Zsheliaskova-Koynova

*\*National Sports Academy, Sofia, Bulgaria***22. The dynamics of the motivation for sport dancing**

Iliana Ianovska\* &amp; Julia Mutafova-Zaberska

*\*National Sports Academy, Sofia, Bulgaria***23. Relationships between emotions and goal orientations, in swimmers and water polo athletes.**

Olga Kouli\*, Ekaterini Kouvarda, Konstantinos Astrapellos &amp; Athanasios Papaioannou

*\*Department of Physical Education and Sport Science, Democritus University of Thrace, Komotini, Greece***24. Relation between achievement motivation and self-efficacy in professional and non-professional swimmers**

Adriana Zagorska\* &amp; Anna Kuk

*\*Academy of Physical Education Warsaw, Poland***25. Sport Mindsets – Exploration of the multivariate relationships among ability beliefs, goal orientations, and dimensions of sport perfectionism**

Michael A. Pickering\* &amp; Damon Burton

*\*University of Arkansas at Little Rock, USA*

**26. Motives for the adults to occupy themselves with physical education in Greece**

Ioannis Athanailidis

*Democritus University of Thrace, Greece***SPORT PSYCHOLOGY****27. Football young-players' perception of change in level of knowledge and control over their psychological skills after a psychological training**

Vélez, M.\*, Godoy-Izquierdo, D., &amp; Godoy, J.

*\*Facultad de Psicología. Universidad de Granada, Spain***28. Coaches' perception of change in level of knowledge and control over trained psychological skills by football young-players**

Vélez, M.\*, Godoy-Izquierdo, D., &amp; Godoy, J.

*\*Grupo de Investigación CTS-0267 Universidad de Granada, Spain***29. Goal orientation and maintaining participation in youth soccer**

Niilo Konttinen

*Research Institute for Olympic Sports, Jyväskylä, Finland***30. Effective communication of refocusing skills to athletes**

John H. Salmela\*, Shamsi S. Monfared\*\*, &amp; Fatolla Mosayebi\*\*

*\*Federal University of Minas Gerais**\*\*NOC of the Islamic Republic of Iran***31. Augmented information feedback in supporting performance of the shooters with disabilities**

Kaisu Mononen\* &amp; Niilo Konttinen

*\*KIHU-Research Institute for Olympic Sports, Finland***32. The foundation of the competition strategies of the TOPS questionnaire**

Katsikas C. \*, Donti O., &amp; Psychountaki M.

*\*Dept. of Physical Education & Sport Science, University of Athens, Greece***33. Gender and level differences in competition strategies of track and field athletes**

Katsikas, C.\* &amp; Smirniotou, A.

*\*Dept. of Physical Education & Sport Science, University of Athens, Greece***34. Locus of control and feeling of loneliness comparison in male athletes in individual and team sports**

Vahid Tadibi\* &amp; Bahram Yousefi

*\*Faculty of Physical Education, Razi University, Kermanshah, Iran***35. Pregame anxiety of female basketball players**

Doloma, D.\*, Mavridis, G., Rokka, S., &amp; Psychountaki, M.

*\*Department of Physical Education & Sport Science, Democritus University of Thrace, Greece***36. Greek adolescents and organized sports**

Nelly Kontogianni\*, Polina Kontogianni, &amp; Angeliki Douka

*\*National and Capodistrian University of Athens, Greece, Psychology Dept.***37. The influence of sport dances on positive and negative affects**

Iliana Ianovska\* &amp; Zshivka Zsheliaskova-Koynova

*\*National Sports Academy, Sofia, Bulgaria***38. Implicit learning in problem solving: Case of analogy the link between "insight" and "incremental processes"**

Ursula Debarnot\*, Patrick Fargier, &amp; Raphaël Massarelli

*\*Centre de Recherche et d'innovation sur le sport, France*

**39. The effect of feedback (Subject-determined and Teacher-determined) on performance and learning of long service badminton**

Mahdieh Gharehlar\* & Hasan Mohammad Zadeh

*\*Urmia University, Iran*

**40. Psychological preparation of Greek Elite Shooters: From a theoretical integrated program to applied individual consulting**

Vasilis Kakkos

*Department of Physical Education & Sport Science, Athens University, Greece*

**41. Coach competence dimensions as predictors of moral behaviours, self-efficacy, commitment, enjoyment, and effort in Rugby Union**

Boardley, I. D.\*, Kavussanu, M., & Ring, C. M.

*\*University of Birmingham, UK*

**42. Types of female volleyball players depending on their personality traits, intelligence, tactical thinking and volleyball efficacy**

Zshivka Zsheliaskova-Koynova\* & Georgy Bozhilov

*\*National Sports Academy, Sofia, Bulgaria*

**43. The influence of self-talk and observational learning on long jump performance**

Flora Panteli\*, Ioannis Zarotis, Apostolos Theodorou, & Athanasia Smirniotou

*\*University of Athens – Faculty of Physical Education & Sport Sciences, Greece*

**44. Personality characteristics of athletes, sport reliability and finances of a sport club**

Evelina Savcheva\* & Zshivka Zsheliaskova-Koynova

*\*National Sports Academy, Sofia, Bulgaria*

**45. Mental training for fencing beginners**

Evelina Savcheva\* & Zshivka Zsheliaskova-Koynova

*\*National Sports Academy, Sofia, Bulgaria*

**46. Optimism and sport career**

Zshivka Zsheliaskova-Koynova

*National Sports Academy, Sofia, Bulgaria*

**47. Competitive state anxiety in male basketball players**

Mavridis, G.\*, Rokka, S., Mavridis, K., & Phychoudaki, M.

*\*Department of Physical Education & Sport Science, Democritus University of Thrace, Komotini, Greece*

**48. Parents' influence on their child's optimism in the context of high level tennis competition**

Christiane Trottier\* & Pierre Trudel

*\*Laval University, CA*

**49. Goal orientation and its influence in sport commitment\***

Sousa, C.\*, Torregrosa, M., Viladrich, C., Villamarin, E., Borràs, P. A., Palou, P., & Cruz, J.

*\*Autonomous University of Barcelona, Spain*

**50. The Relationship Between Passion and Mood**

Han-Ni Peng\*, Likang Chi, & Chiung-Huang Li

*\*National College of Physical Education and Sports, Taoyuan, Taiwan*

**51. Possibilities for measurement of Telic/paratelic dominance in Bulgarian athletes**

Tatiana Iancheva

*National Sports Academy, Sofia, Bulgaria*

- 52. The prediction of 2 X 2 achievement goals and on intensity and direction of precompetitive anxiety**  
Chiung - Huang Li\* & Likang Chi  
*\*Ming Chuan University, Taoyuan, Taiwan*
- 53. A study of emotional operation of music in the women marathon races: An analysis of difference in the effects of rhythms between the gold medalists and other elite runners.**  
Saburo Yokokura\*, Yoko Kajiwara, & Masami Hirashita  
*\*School of Science and Engineering MEISEI University, Tokyo, Japan*
- 54. Goal achievement of Brazilian young athletes**  
Cláudia Goulart  
*Universidade De Brasilia, Brasil*
- 55. The relationships of goal involvements and perceived competence to intensity and direction of competitive state anxiety and sport performance**  
Chun-Nan Tung\*, Likang Chi, & Shih Hsin Chen  
*\*National College of Physical Education & Sports, Taiwan*
- 56. The Athlete's Psychological Needs Questionnaire (APNQ)**  
Joaquín Dosil  
*University of Vigo, Spain*
- 57. Superstitious Behavior Questionnaire in Sport: A preliminary study**  
Donti O.\*, Katsikas C., Stavrou, N.A., & Psychountaki, M.  
*\*University of Athens*
- 58. Self and collective efficacy: Relationships with team cohesion and performance**  
Panagidou, D.\*, Stavrou, N.A., & Psychountaki, M.  
*\*University of Athens*
- 59. The relationship between team cohesion and competitive state anxiety**  
Psychountaki, M.\*, Stavrou, N.A., & Agelonidis, Y.  
*\*University of Athens*
- 60. Preferred and perceived coaching leader style in high level basketball**  
Gialama M.\* & Daroglou, G.  
*\*Department of Psychology, Aristotle University of Thessaloniki, Greece*
- 61. Motivational and mood changes of the participants involved in a "Special Program" and selected psychological variables**  
Adriana Zagorska\* & Monika Guskowska  
*\*Academy of Physical Education, Warsaw*
- 62. Comparative Effect Of Mental Practice and Physical Practice On Learning Motor Skills In Volleyball**  
Madhusudan P. Reddy\* & Rajender Singh  
*\*National Institute of Technology, India*
- 63. Recreational physical activity as a psychosocial situation**  
Jacek Gracz  
*University School of Physical Education, Psychology Department, Poland*



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# KEYNOTE LECTURES



**YOUNG PEOPLE'S LIFESTYLES AND SEDENTARINESS –  
AN INTERDISCIPLINARY AND EUROPEAN PERSPECTIVE**

Wolf-Dietrich Brettschneider  
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“Fast food junkies”, “media freaks”, “couch potato kids” – the state of health in our young generation is deplorable”. Analyses and statements of a similar nature can be found in newspapers and journals in many European countries. Alarming reports that focus on young people and depict them as a high-risk group seem to become popular. Adolescents are diagnosed as tending towards social, emotional and mental impoverishment and as being ever more ready to show deviant behaviour such as drug use and violence. Recently, growing attention is being paid to young people's lifestyles: European kids are allegedly becoming fatter and fatter, supposedly because they eat too much, particularly too much fat and too much sugar, spend too much time sitting in front of the computer and the TV set, fail to take enough exercise in their daily life and are less physically fit than any generation before them. Europe's young generation seems on its way to an overweight society.

To find out whether this scenario represents a distorted view or an accurate picture of reality is not an easy task. Though we find almost identical and equally dramatic headlines in the newspapers and journals of many European countries science has not been able to give clear answers.

Prevalence rates vary across European countries and the trend is the same: The rates are rising. Childhood overweight and obesity are related to the metabolic syndrome including blood pressure, cholesterol, cardiovascular disease and type 2 diabetes; they are also linked to social, emotional and psychological difficulties including low self-esteem and distorted body image. Overweight with its clustered risk factors is likely to track from childhood into early adulthood; children from a low socio-economic background and a low educational level face a greater risk than children in socially privileged families.

As the rise in overweight and obese children has been too rapid in the course of the last decade to consider genetic factors as their primary factors, it must therefore reflect changes in young people's lifestyles. They live in an environment that promotes an unbalanced diet and favours sedentary behaviour patterns, thus leading to an energy imbalance. Data on nutrition, media use, physical activity and fitness that are available in Europe as well as on the relationship between these variables are far from being consistent. The interplay of factors affecting body fatness is complex and still remains undecoded.



## SELF-FULFILLING PROPHECY IN PHYSICAL EDUCATION CLASSES. IMPACT ON MOTIVATION AND ACHIEVEMENT

Philippe Sarrazin (Ph.D.)  
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Psychology has long emphasized the power of beliefs to shape reality. Consistent with this tradition, Merton (1948) introduced the term *self-fulfilling prophecy* to refer to a false belief that leads to its own fulfillment. Research bearing on Merton's analysis has clearly supported the existence of self-fulfilling prophecies (e.g., Harris & Rosenthal, 1985) but has not supported his suggestion that self-fulfilling prophecies are powerful (e.g., Jussim & Harber, 2005). Standardized regression coefficients for naturally occurring relations between perceivers' beliefs and targets' future outcomes rarely exceed .2 after relevant control variables have been taken into account (Jussim & Harber, 2005; Trouilloud & Sarrazin, 2003). It is now well established that the effects of naturally occurring self-fulfilling prophecies are generally small in magnitude. However, this does not mean that self-fulfilling prophecies are never powerful. This communication will present a program of research carried out in Physical Education (PE) classes intended to answer the following questions: (1) Does teacher expectation impact on students motivation and achievement in PE? (2) Which are the mediator and moderator of phenomenon? (3) Is teacher expectation biased by student sex? And (4) Does student expectation about teacher motivation impact on student motivation? Six studies were carried out to specifically answer these questions. The Figure 1 summarizes the research questions and the framework of this work.

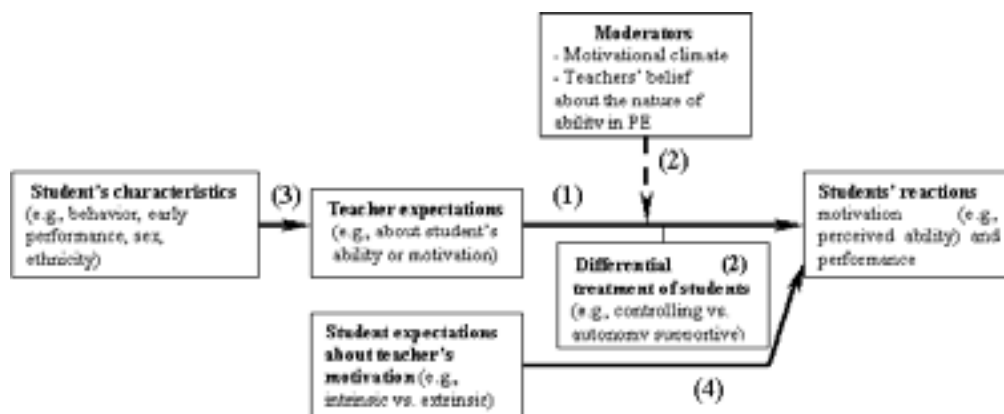


Figure 1. Theoretical framework and research questions

The main purpose of the first study (Trouilloud, Sarrazin, Martinek, Guillet, 2002) was to explore the relation between teacher expectations and student achievement in PE classes, in the light of three complementary hypotheses. Student achievement may confirm teacher expectations because these expectations create self-fulfilling prophecies, create perceptual biases, or accurately predict, without influencing, student achievement (Jussim, 1989). Another purpose was to examine the mediating role played by students' perceived ability in the teacher expectancy process. Participants were 173 students and their 7 PE teachers. This study was conducted over a 10-week period during a swimming cycle. The procedure can be described in three steps: (1) During the first swimming lesson, students responded to a questionnaire assessing their initial perceived ability in swimming. In addition, students completed a standardized test as an initial assessment of their achievement. These measures were done by the experimenter in pool other than the one used for the lessons so teachers were not aware of student performance. (2) After the first lesson, teachers responded to a questionnaire assessing their expectations for each student's swimming ability and talent in the swimming session. (3) During the last lesson, students responded to a questionnaire assessing their final perceived ability. A standardized test was completed again by each student to assess his/her final achievement. Additionally, student grades on these 10-swimming lessons were collected. Essentially, path analysis revealed that teacher expectations have weak self-fulfilling effects: they predicted student final performance in swimming with a beta weight of .28. Results also show evidence concerning the role of partial mediator of perceived student ability in the confirmation process of teacher expectations.

The purpose of the second study (Sarrazin, Tessier, Pelletier, Trouilloud, & Chanal, 2006) was to examine a mediator of the self-fulfilling effect: the differential treatment of students. Grounded on the Self-determination theory (e.g., Deci & Ryan, 2002), this study has examined the bonds between teachers' expectations about students' motivation on the frequency of controlling and autonomy-supportive behaviors. Following the assessment of teachers' expectations about students' motivation and the assessment of students' self-determined

motivation at the end of the first lesson, the interactions between PE teachers from nine classes and 172 students were videotaped and systematically coded during the six following gymnastics courses. Analyses revealed that (1) teachers' expectations were not related to students' initial self-determined motivation, (2) overall, teachers interacted less frequently with students that they expected to be more motivated, and (3) teachers were much more controlling with students that they believed to be not motivated.

The purpose of the two other studies was to explore potential moderators of self-fulfilling prophecy in naturalistic PE classes. In the first one, Trouilloud, Sarrazin, Bressoux, and Bois (2006) have examined if the relation between teachers' early expectations about students' ability in PE and students' later perceived competence was moderated by the extent to which the motivational climate created by the teachers was autonomy supportive. Using a 1-year longitudinal design, data were obtained from 421 students and 22 teachers from 10 French junior high schools. Multilevel analyses revealed that (a) teachers' early expectations were related to students' later perceived competence, particularly when these expectations were positive ( $\beta=.33$ ), and (b) this relation was stronger when the classroom motivational climate was low ( $\beta=.32$ ) in autonomy support (i.e., controlling) than high ( $\beta=.04$ , *ns*).

In the second one, Tessier and Sarrazin (2007) have examined if the relation between teachers' early expectations about students' motivation in PE and students' perception about motivation climate was moderated by teachers' belief about the nature of ability in PE. More precisely, we hypothesized that teachers who endorsed an entity theory of ability (Dweck, 1998) would treat their students with a more differentiated manner. By contrast, teachers who endorsed an incremental theory of ability would treat their students in a more equitable way. Using a 10 weeks longitudinal design, data were obtained from 292 students and their 14 teachers. Essentially, multilevel analyses revealed that teachers' early expectations were more related to students' perception of an autonomy (*vs.* controlling) motivational climate, when teachers endorsed an entity theory ( $\beta=.50$ ) than when they endorsed an incremental one ( $\beta=-.07$ , *ns*). In other words, teachers with an entity theory supported more the autonomy of students they considered high in motivation and were particularly controlling for the ones they considered low in motivation. By contrast, teachers who endorsed an incremental theory tend to support the autonomy of all the students.

The purpose of the fifth study was to investigate different forms of sex bias in teacher expectations relative to performance in gymnastics. First, a laboratory experiment including 163 PE teachers confirmed that stereotypes favorable to boys may influence teacher expectations even in gymnastics – a sport sex-typed as feminine.

The purpose of the fifth study was to investigate different forms of sex bias in teacher expectations relative to performance in gymnastics. First, a laboratory experiment including 163 PE teachers confirmed that stereotypes favorable to boys. Next, a naturalistic study involving 15 teachers and 422 students showed that teachers expected no sex differences even though girls performed higher than boys. However, this sex bias was not due to the reliance on a sex stereotype *per se*, but to the reliance on non-diagnostic student personal characteristics favorable to boys. These results suggest that egalitarian beliefs may mask a bias in favor of a social group when group differences do really exist, and that sex-biased teacher expectations do not inevitably involve an influence of sex stereotypes.

The last study (Radel, Legrain, Wild, & Sarrazin, 2007) investigated the extent to which perceptions of the teacher's motivation affected students' interest. 72 students novices in a new sport activity were randomly affected to two conditions. In a perceived intrinsically motivated teacher condition, participants were led to believe that the teacher had volunteered to teach the lesson. In a perceived extrinsically motivated teacher condition, participants believed that the teacher made the lesson only for money. Despite receiving identical lessons, the students of the first condition reported more intrinsic motivation than those of the second one. A second goal was to determine whether a social contagion of motivational orientations toward learning could spontaneously spread from person to person during social interaction. For that, learners were asked to teach the skill to two other naive students. Results show that lower levels of intrinsic motivation of the first-generation learners "infected" the second learners in the chain: students who received their lesson by a tutor from the intrinsic motivation condition reported significantly more interest/enjoyment for the activity and were more involved during the free-choice period than those who learnt the activity with a tutor from the extrinsic motivation condition.

Taken together, these studies provide support for the proposal that different expectations from teacher or students are likely to modify the motivation and *in fine* the performances of pupils in PE.

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**PROMOTING SELF-DETERMINED MOTIVATION IN PHYSICAL ACTIVITY****Nikos Ntoumanis**

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For a number of years I have been interested in studying the motivational mechanisms that can account for variations in behavioural investment and well-being in the physical domain. What follows is an overview of some of the studies that I have conducted pursuing this research interest using as a guiding theoretical framework Deci and Ryan's (2002) self-determination theory (SDT). It is beyond the scope of this short article to outline the major components and propositions of this theory; interested readers are referred to Deci and Ryan's (2002) book.

The Ntoumanis' (2001) paper was the first application of Vallerand's (1997) hierarchical model of intrinsic and extrinsic motivation to the context of school physical education (PE). I chose to study PE because it is a compulsory physical activity context, therefore, issues of self-determination and psychological need satisfaction are highly relevant to this context. Also, unlike competitive sport, PE classes contain virtually all members of an age cohort with quite discrepant physical ability levels. Lastly, PE has been identified in many governmental reports and academic papers as a key context for improving the decreasing levels of physical activity of young people. The results of Ntoumanis' (2001) paper supported Vallerand's (1997) model (socio-contextual factors--> psychological need satisfaction--> motivational regulations--> motivational outcomes) by showing that adaptive features of a teacher motivational climate predicted student satisfaction of their psychological needs. Of the latter, competence was the major predictor of both high and low self-determined motivational regulations. In turn, intrinsic motivation was related to positive consequences (low boredom, high effort and intentions to stay physically active in the future), whereas external regulation and amotivation were positive predictors of boredom. A multi-sample structural equation modelling analysis indicated that the tested motivational sequence was largely invariant across gender. Following on from this cross-sectional study, I was interested to examine whether SDT can be used to examine prospectively not only behavioural intentions but actual behavioural choices (Ntoumanis, 2005). Structural equation modelling analysis largely replicated the motivational sequence presented in the 2001 paper. It also showed that self-determined motivation predicted directly various adaptive motivational indices (concentration, teacher ratings of student effort, low negative affect), and indirectly student choice to participate in optional PE classes in the following school year. Further, comparisons between those students who opted for optional PE classes and those who did not, showed that the former reported more positive perceptions of the teaching climate, and higher self-determined motivation and need satisfaction in the previous school year.

However, despite these findings emphasizing the importance of promoting self-determination in PE, there is cross-sectional evidence indicating reductions in adaptive indices of motivation in PE from late childhood onwards. Parallel trends have been reported with respect to the physical activity levels of young people. Thus, in association with colleagues (Ntoumanis, Barkoukis, & Thøgersen, under review) I have recently examined changes in student motivation to participate in PE twice a year over a period of three years of junior high school in Greece (i.e., ages of 13-15 years). Multilevel modelling analysis showed significant decreases in task-involving teacher climate, relatedness, identified regulation, and intrinsic motivation. In contrast, there were increases in ego-involving climate and amotivation. However, we found substantial between-student variability in the intercepts and growth trajectories of these variables. For example, a high task-involving climate, as well as competence and relatedness need satisfaction resulted in more adaptive growth trajectories of motivational regulations. Why do some children become disillusioned with PE and what can be done about it? In 2004 I was involved in a study (Ntoumanis, Pensgaard, Martin & Pipe) which interviewed a group of highly amotivated children (who were selected from a large sample based on their responses to a questionnaire). The analysis of the interviews identified three main perceived causes of amotivation: learned helplessness beliefs (effort, capacity and strategy), low need satisfaction, and negative interactions with PE teachers. Amotivation was mainly displayed by non-attendance, low involvement in the class, and low intention to be physically active after leaving school. Students' suggestions to reduce amotivation focused on enhancement of positive affect, need satisfaction, and structural/organizational changes, in particular changes in teaching style.

These findings indicated to me the importance of studying the motivational strategies PE teachers use to motivate students in PE, their impact on student motivation, as well as the relationship between student and teacher motivation. Thus, Taylor and Ntoumanis (in press) examined the relationships between student self-determination, student psychological need satisfaction, teachers' perceptions of student self-determination, teachers' self-determination, and their reported use of three motivational strategies: Autonomy support, structure, and involvement. The results indicated that students perceived by their teachers as low in self-determination were less likely to be taught using adaptive motivational strategies and this further diminished student self-determination. Further, multilevel modelling analysis indicated that students' perceptions of teacher

use of all three motivational strategies positively predicted student self-determination via the mediation of student autonomy and competence need satisfaction. Interestingly, teacher and student reports of the degree to which teachers use the three motivational strategies were only modestly related.

Given the importance of these strategies for student motivation, can we teach teachers to use more autonomy support, structure and involvement in their teaching? I am currently pursuing this research question in physical education. However, I have already obtained data from an experimental intervention (Edmunds, Ntoumanis & Duda, in press) that aimed to manipulate these strategies in an exercise setting. Female exercise class participants enrolled in a 10-week exercise programme were exposed to a SDT-based (i.e., SDT;  $n = 25$ ) or typical (i.e., control group;  $n = 31$ ) teaching style that aimed to promote autonomy support, structure and involvement. Multilevel regression analyses showed that the SDT condition reported a significantly greater linear increase in structure and interpersonal involvement (the exercisers' reports were also confirmed by the ratings of independent observers), relatedness and competence need satisfaction and positive affect. Attendance rates were significantly higher in the SDT condition than in the control condition. Further analysis showed that SDT-based social-contextual characteristics and psychological needs predicted self-determined regulations; all these variables collectively predicted adaptive outcomes (behavioural intentions, high positive affect and low negative affect). This study represents the first comprehensive experimental test of a SDT-based intervention in a real life setting. Although this research needs to be replicated and expanded, our results should be considered as a first encouraging step for the application of effective exercise promotion strategies grounded in SDT.

Self-determined motivation is associated not only with adaptive exercise-related behaviour and affect, but also with positive physical self-evaluations. For example, Thøgersen-Ntoumani and Ntoumanis (2006) showed in a sample of adult exercise participants that intrinsic motivation was a positive predictor of physical self-worth and a negative predictor of social physique anxiety. In contrast, low self-determined motivation is often associated with problematic physical self-evaluations. For example, in a study of aerobic instructors, whose body is constantly "on display" due to the nature of their work, Thøgersen-Ntoumani and Ntoumanis (2007) showed that introjected regulation was a positive predictor of social physique anxiety, drive for thinness and body image concerns, and a negative predictor of physical self-worth. Further, those instructors at risk for developing an eating disorder reported higher introjected regulation for exercise and lower general need satisfaction in their lives than those not at risk for developing an eating disorder. It seems, therefore, that individuals' degree of satisfaction of their psychological needs and self-determination in their behaviour has implications in terms of the quality of their psychological experiences and the extent of well/ill-being in their lives. Similar findings have also been found in the context of competitive sport where pain rather than pleasure is often presented as the hallmark of what the motivated athlete should feel. Reinboth, Duda and Ntoumanis (2004) in a sample of youth sport competitors showed that competence and autonomy need satisfaction were positive predictors of subjective vitality and intrinsic satisfaction/interest in sport. Further, competence need satisfaction also emerged as a negative predictor of the frequency of self-reported physical symptoms such as a runny nose, headaches, and stomach-ache/pain. The association between psychological need satisfaction and well-being/ill being in sport could also be examined by looking at whether athletes pursue goals for autonomous (intrinsic or identified) or controlled (introjected or external) reasons. Smith, Ntoumanis and Duda (in press) examined the relationship between goal self-concordance, goal effort, goal attainment, psychological need satisfaction and well-being in adult athletes. Structural equation modelling analysis showed that autonomous goal motives positively predicted effort which, in turn, predicted goal attainment. Goal attainment was positively linked to need satisfaction which, in turn, predicted an index of relative well-being. In contrast, controlled motives had a negative direct path to relative well-being.

I have found my exploration of motivational issues in physical activity settings intriguing and self-rewarding. I have answered a few questions but in the process new questions and possibilities for future research work have been raised in my mind. I am planning to share some of these thoughts at the conference.

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## ATHLETIC CAREER TRANSITIONS IN THE HISTORICAL-CULTURAL CONTEXT OF RUSSIAN SPORT PSYCHOLOGY

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### Introduction

“Career, in the most generic sense, refers to the fate of a man running his/her life cycle in a particular society at a particular time.” [3, p. 295]. This definition refers to a lifelong career, in which an athletic career may occupy up to one-third part. Moreover, a multiyear competitive sport involvement, especially on the elite level, usually impacts the athlete’s entire life. As commented by a former elite Russian fencer Tatiana Lyubetskaya, “sport stays in you forever, like your youth, a type of your blood, and your first love”. After about 20 years of studying athletic careers of Russian athletes and, more recently of Swedish athletes, I can rephrase Lev Vygotsky’s statement “Personality development is a drama” into a saying: “Athletic careers are dramatic.” What makes them dramatic, are not only victories and failures in competitions, but to a large degree the athlete’s transitions and crises as well.

*Transitions* or developmental shifts are the *turning points/phases* in an individual’s development. Subjectively, they are associated with stress and uncertainty about whether the situation will change for the better or for the worse. Objectively, they come with a set of new demands and require additional resources to adjust/cope. This principle equally applies to the development of systems broader than an individual, such as whole societies or scientific fields. In this keynote address I am going to use “*transition*” as a key word and a conceptual framework (a) to present the evolution of Russian sport psychology in the historical, social and scientific context; b) to share the evolution in my views of the athletic career transition topic based on my research and assistance to athletes and coaches.

My experiences can be better understood by knowing my background and position in the field. I received training in sport sciences and sport psychology in the Soviet Union. My scientific interests have evolved from psychological aspects of physical education to youth sports and, finally (since late 80s) to athletic career and transitions. It is also worthwhile to mention the three major transitions in my life that put serious impacts on my professional career and interests: from sport to sport psychology (1970s), from the Soviet Union to Russia (1990s), and from Russia to Sweden (2000s). During my 30 years in sport psychology, I have developed three professional identities: a teacher, a researcher and a consultant, with the first one dominating the other two. For example, many of my research questions first appeared through teaching and were inspired by questions from student-athletes and coaches. Patton and McMahon [5, p. 5] define career as “the pattern of influences that coexist in an individual’s life over time.” I am pleased to admit that I am lucky with my “pattern of influences”. First of all, it is my family, which has always been supportive and understanding. Next, I would like to acknowledge my mentor Avksentii Puni, my former colleagues at the P.F.Lesgaft State University of Physical Culture, and my psychology/sport psychology colleagues in St.-Petersburg, especially Vladimir Ganzen, Yuri Hanin, Evgenii Iljin and Elena Rybalko. Since my first meeting with American colleagues in 1989, which marked a start of my international involvement, I have learned a lot about sport psychology in North America and Western Europe from Dan Gould, Bruce Hale, Taru Lintunen, Carole Oglesby, Bruce Ogilvie, Glyn Roberts, John Salmela, Marit Sorensen, Ron Smith, Robin Vealey, and many others. I am thankful to the co-workers in the FEPSAC MC (1995-99), and in the ISSP MC (2001-now), who added much to my understanding of a diversity of sport psychology around the world. My special thanks to the CT-SIG - Dorothee Alfermann, David Lavallee, Paul Wylleman, Yannick Stephan, and others - for fruitful exchange and collaboration in our topic. At last but not least, I am grateful to all my colleagues in Halmstad who provide a stimulating and productive work environment, and to my students in Russia and Sweden.

### Evolution and transitions in Russian Sport Psychology

For many colleagues around world and even in Europe, Russian sport psychology was and still is *terra incognita*. Meanwhile, it has more than one hundred years of history and its own unique “face”. Applying an athletic career analogy to the history of Russian sport psychology, it is possible to identify the stages as follows: initiation stage (1896–mid of 40s); development stage (1946–end of 60-s); mastery stage (beginning of 70s–end of 80s); transitional stage (beginning of 90s–today). These stages are also associated with major transition events in Russian history during the 20<sup>th</sup> century: the socialist revolution (1917), the formation of the Soviet Union (1922), the WWII (1941–45), the Perestroika initiated by Mikhail Gorbachev (end of 80s), and, finally, the disintegration of the Soviet Union (1991). The milestones of *initiation stage* include: the foundation of the P.F.Lesgaft courses in St.-Petersburg (1896); the first sport psychology publication (1911); the reorganization of the Lesgaft courses into the Lesgaft Institute of Physical Culture and foundation of the Central Institute

of Physical Culture in Moscow (1918); the first sport psychology lab in Moscow (1925); the first psychology department at the Central Institute in Moscow (1930); the creation of a sport psychology group at the Lesgaft Institute in Leningrad (1932); and the appearance of the first sport psychology publications in *Theory and Practice of Physical Culture* (end of 20s-30s). This brief overview shows that sport psychology in Russia had its roots more in sport sciences than in psychology.

During *development stage*, the year of 1952 was particularly important. It was marked by the first doctoral dissertation in sport psychology authored by A.Puni. In fact, it meant the recognition of our field as a part of psychology. Then, the Soviet Olympic team has made a successful debut at the Olympic Games. That success gave the Communist Soviet government an idea to use sport as “a trump card” in the ideological struggle with the capitalist world to demonstrate the advantages of the socialist way of life. As a result, serious investments were made in sport, coaching education, and sport sciences with a task to develop a high international reputation of the Soviet sport. In the 50-60s, *two major scientific sport psychology schools* had been formed in Moscow and Leningrad, under the leadership of P.Rudick and A.Puni. The two leaders have competed with each other rather than collaborated. Puni focused more on performance enhancement and applied aspects [6; 12], while Rudick - on ideological and volitional preparation of athletes.

The beginning of *mastery stage* was marked by applied psychological work with elite athletes and teams. It was initiated in preparation to the 1976 Olympic Games, and intensified during preparation to the 1980 Olympics in Moscow. Sport psychologists worked with the national teams as a part of “scientific support groups.” Generally, the 70-80s can be seen as the most fruitful years in the history of Russian sport psychology based upon the number of books published and the frameworks and approaches developed. It was also a period of active international collaboration with the sport psychologists from other socialist countries, although we were still isolated from the rest of the world. The focus in research and applied work was mainly on elite athletes and performance enhancement, as well social sport psychology issues (e.g., team building, communication, leadership). Preparations to the Moscow Olympics had stimulated a big societal interest in the Olympic movement, and right before the Games a large sociological study of the Soviet Olympians has been presented to the public [4]. In spite of its clear ideological orientation, this study can be seen as the first athletic career study in the Soviet Union.

The beginning of *transitional period* was marked by Perestroika and the first exchange of delegations between the Soviet and American sport psychologists (1989). On the one hand, the collapse of the Soviet Union and a decrease in the ideological pressure opened a door between the Russian sport psychologists and international sport psychology community. With the Perestroika, a lot of negative information about the Soviet era has flooded the mass media. There was a strong need in the society “to know the truth” about different aspects of life, including sport and athletes. Taboo names (like Vygotsky in psychology) came back to light. All of that stimulated an interest to athletic career studies free from the ideological blinkers. But on the other hand, the Perestroika has presented a new set of demands to the sport psychologists related to the protracted economic, political, and social crises in the country. As athletes often experience a performance slump being in a crisis, the same happened to the Russian sport psychology in 90s. But I do not expect it to “retire”.

### **Athletic career: from ideologically inspired to psychologically oriented descriptions**

The sociological study of the Soviet Olympians mentioned above [4] had provided important demographic information about 1476 elite athletes. In its qualitative part, interviews with 716 athletes clearly emphasized the positive examples of the adjustment in the post-sport world, and presented some negative examples as “rare exceptions” to the general rule. Interestingly, a term “athletic career” was never used in the Soviet literature because it connoted a negative “bourgeois” meaning. Only after Perestroika, the term became legal, and several attempts have been made to create psychological theoretical frameworks to study an athletic career. My own attempt was based on the systems approach [2] to description of complicated research objects, which implied three steps: “rough” synthesis, analysis, and synthesis on a higher level. Following this approach, three working descriptive models were developed and then tested empirically in a series of survey and interview studies. The three descriptions of an athletic career considered it from three different complementing viewpoints [7; 8]. *The synthetic description* study (n=216) viewed a career as a whole, through the set of characteristics like duration of sport participation, sport event(s) practiced, achieved sport titles/records/results, perceived “benefits” and “costs,” career satisfaction, and perceived career successfulness. *The analytic description* study (n=552) considered an athletic career as a multiyear process with several stages and transitions. This study confirmed six normative transitions of an elite career, such as: the beginning of sport specialization, the transition to more intensive training in chosen sport, the transitions from junior to senior/high achievement sport, the transition from amateur to professional sport, the transition from the peak to the final stage, and the transition to the post-career. *The structural description* study (n=117) focused on athletes’ perceived dynamics of psychological characteristics (motivation, athletic identity, individual style of the sport activity) and their contribution to



sport achievements on each of the athletic career stages. These *general descriptions*, based on studying mixed samples, were then *stratified* into descriptions of careers of male and female athletes, as well as careers in four major groups of sports such as complex coordination sports, cyclic sports, combats, and sport games [8].

### **Athletic career transitions: from description to explanation**

The *athletic career transition model* [7; 11], which is an attempt to explain what happens to an athlete in a transition, was developed based on the analytic description study. This model considers transition demands, resources and barriers, coping processes/strategies, two potential transition outcomes (i.e., successful transition vs. crisis-transition), and the negative consequences of non-coping with the transition. The model emphasizes a match between the transition demands and the athlete's resources as a key factor for successful coping. It also presents a crisis-transition as a situation in which an athlete has to but is not able to cope with transition demands on his/her own and needs psychological assistance. When the model was presented to coaches, the crisis concept generated the highest interest. A question I often got from coaches was about the *symptoms of a crisis-transition*, which is a set of an athlete's cognitions, feelings, and behaviours that can serve as indicators that the athlete is in crisis. Such a set of symptoms was established in a grounded theory study [11] and derived from analyses of 126 athletes' crisis-narratives. Four major categories were confirmed: decrease in self-esteem; chronic emotional discomfort; increased sensitivity to mistakes/failures and susceptibility to psychological barriers; and disorientation in decision-making and behaviour. This study also allowed to empirically classifying the athletes' crises.

The analytic description study showed that both internal and external factors could work as resources and barriers in a transition. External social factors were one of my special interests, and two projects focused on social/cultural and historical contexts of athletic careers. The first one [10] compared the micro- and macro-social influences on career development of 24 elite athletes who retired from sport before the mid 80s (during the Soviet era) and 28 elite athletes who ended their careers in mid 90s (after the Perestroika). It appeared that the historical shift and changes in the post-Perestroika sport system led to a perceived increase in the role of family at the career start and in the role of mass media at its peak. Approaching career termination in the 90s, athletes felt more dependent on their social environment and less often planned retirement in advance compared to the athletes of the Soviet era. The second study was a part of the European Perspectives on Athletic Retirement project. It compared athletic retirement of German, Lithuanian and Russian athletes, and showed a common pattern and some nationally specific patterns in the athletes' adaptation to life after sport [1]. As expected, Russian and Lithuanian athletes demonstrated more similar patterns in reasons to retire and in coping strategies used, which were both different from those shown by German athletes.

### **Athletic career transitions: from explanation to intervention**

As previously mentioned, Russian sport psychology has developed rich traditions in helping elite athletes with performance enhancement. Other issues (such as role conflicts, injuries) were addressed mainly in their association with performance. Originally, athletes of lower than elite levels, as well as retiring and retired athletes were not target groups for psychological services. *Career consulting* appeared in the 90s as a new trend in applied work aimed at helping athletes with various issues related to their careers inside and outside of sport [8].

When I started as a career consultant, I initially drew from Vygotsky's ideas about age-related crises and then began applying my own career models. I view the transition framework as a foundation, which works well with a variety of other approaches. The athletic career transition model emphasizes three types of interventions that can be applied during a transition process: *crisis-prevention, crisis-coping, and dealing with the consequences of failure to cope*. Being an educationally oriented consultant, I focus on the first two types of interventions helping athletes to prepare for the forthcoming transitions and teaching them how to turn ineffective coping strategies into effective ones. Because counselling is the most important starting point in both preventive and crisis-coping interventions, I constantly searched for suitable counselling frameworks and ended up developing the 5-step career planning framework and the mobilization model of counselling athletes in crises [9].

### **“Big things are visible at a distance” (lessons learned, future research, conclusion)**

During my research and applied work, I was able to learn a great number of athletes' career stories, which were very diverse. Many athletes I talked to acknowledged my interest in more than their performance. I have learned that it is really beneficial in applied work to have a *holistic view of a person* with his/her background, present situation, and perceived future both inside and outside of sport in order to help them make decisions “for” or even “from” the future. Another lesson is that of an importance of the *multilevel context*, in which all of us (athletes, coaches, consultants, etc.) are embedded. Rephrasing Patton and McMahon [5], an athletic career

can be defined as the pattern of influences that coexist in an athlete's life over time. To investigate this pattern, more longitudinal and cross-cultural studies on athletic career and transitions are required. The Congress topic directs us *to bridge between disciplines and cultures*, and I hope that my excursion into the history Russian sport psychology and the evolution of career research and practice in Russia will make a contribution to the Congress mission. Meanwhile, my own transition to Sweden has helped me to better understand Russian culture. What was invisible from inside has become more salient from the outside. As said by Russian poet Sergey Esenin, "Face to face you cannot see the face. Big things are visible at a distance."

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# **WORKSHOPS ABSTRACTS**



**Workshop 1****FORUM OF APPLIED SPORT PSYCHOLOGISTS IN TOPSPORT: PROFESSIONAL WORKSHOP**

The 2007 FEPSAC European Congress has been chosen as venue for the FAST-experts to share, during a one-day professional workshop, its knowledge, skills, and experiences with not only the sport psychology community but also with the world of sports. This professional workshop will host different experts from around Europe presenting topics relevant to the organisation and provision of applied sport psychology services. The workshops will not only be applied-driven but also open to two-way communication between presenters and participants.

**Workshop 2****SPECTRUM TEACHING STYLES WORKSHOP**

The 2007 FEPSAC European Congress has been chosen as the venue for the first Spectrum TS-experts international meeting. This professional workshop will host different experts from around the world presenting topics relevant to the Spectrum of Teaching Styles and their implementation in the educational environment. The workshops will not only be applied-driven but also open to two-way communication between presenters and participants.

**Workshop 3****COACHING- AN EXPERIENCE-BASED AND NARRATIVE ORIENTED CONVERSATION STYLE**

Reinhard Stelter

*University of Copenhagen, Department of Exercises and Sport Sciences*

Coaching – defined as *participation* in the learning process of the focus-person or focus-group – shall be understood as a specific form of conversation, where the coach/interviewer and the focus person or -group are involved in a process of co-creation of meaning with the aim: to give the focus person/group space and possibilities for reflections and the forming of a new understanding 1) of own personal experiences in regard to a concrete and often challenging situation and 2) of finding new ways of negotiation, making-meaning and shaping narratives about specific contexts and events. The intention of this approach is to connect two theoretical perspectives in an applied concept: a phenomenological-experiential and a social constructionist-narrative perspective.

The theoretical basis has an impact on the development of the coaching practice. Different coaching modes will be presented:

1. Focusing on present moments, where the aim is to sharpen the awareness of the focus person on the “here and now” of the situation.
2. Active listening, where the aim is to work in an appreciative way and by inviting the focus person/group to reflect on the many aspects of the situation and specific tasks.
3. Asking questions and the co-creation of meaning. Here the aim is to create new and alternative narratives where the focus is a focus on possibilities and resources of the focus person/group instead of a focus on “problem solving”. This work can be supported by the sharing of outsider witnesses as a kind of reflective team.

The workshop will be organized by integrating theory and practice.

**Workshop 4****APPLICATION OF THE DISCONNECTED VALUES MODEL FOR SPORT AND EXERCISE PSYCHOLOGY CONSULTANT: A NOVEL APPROACH TO HIGH PERFORMANCE TRAINING**

Mark Anshel

*Middle Tennessee State University, Department of Health and Human Performance*

The purpose of this workshop is to provide skills to sport and exercise consultants in applying the Disconnected Values (intervention) Model to any individuals who engage in human performance (e.g., athletes, exercisers, rehabilitation patients). The intervention focuses on the use of cognitive-behavioral skills that does require licensure as a psychologist or mental health professional. The goal of the program is to replace negative (undesirable) habits with positive (effective and proper) routines. The steps include: (1) identifying negative habits that create barriers to optimal performance, (2) examining the benefits, costs, and long-term consequences of

these habits, (3) determining one's most important, deepest values and beliefs about one's priorities and goals, (4), detecting disconnects between the one's negative habits and their values about "what really matters," (5) to consider whether these disconnects are acceptable, given their costs and long-term consequences, and finally, (6) if unacceptable, to develop an action plan to replace negative (undesirable) habits with positive (preferred) routines. Participants will learn a new technology of behavior change that has been validated in three studies, two of which are "in press," to be published in 2007. The workshop will include a workbook, DVD (if equipment is available, or power point if DVD equipment is not available), lecture, and group member interaction over a 3-hour period. Examples of behavior change include improving an athlete's determination to train and prepare for sport competition, promoting a person's willingness to initiate and maintain an exercise program, improving energy, and demonstrating long-term adherence to a rehabilitation program that improves confidence and optimal performance.

### Workshop 5

#### PEER CONSULTATION (BY PROTOCOL) – A VALUABLE TOOL FOR PROFESSIONAL DEVELOPMENT IN SPORT PSYCHOLOGY CONSULTANCY

Frank van den Berg (M.Sc.) & Hardy Menkehorst (M.Sc.)

*Calgary Alberta, Groningen*

Peer consultation is a process that validates the premise that "none of us is as smart as all of us". It is a process that is similar to building a high performing team. Members work through challenging issues/problems using their combined skills and experiences. Peer consultation is based on the belief that our peers are our greatest resource, our best critics and have working knowledge and intimate understanding of areas of critical concern. In short, peer consultation is a cooperative, collaborative approach to enhancing problem-solving and learning. Sport psychology consultants – who wish to analyze their professional behaviours and to make changes in their practice – benefit by peer consultation (by protocol) for many reasons. Professional collaboration through peer consultation has been employed on a regular basis by 5-8 sport psychologists in The Netherlands, since 1998. The success of this initiative has led to another (FAST), where senior sport psychologists from different European countries share their experience, knowledge and skills in sport psychology consulting. This workshop offers congress participants (sport psychology consultants) an opportunity to understand the relevance of peer consultation, to become familiar with the 10 step protocol\*, and become aware of the importance for proper facilitation. In the workshop an experienced group of consultants will execute peer consultation, for example. Then congress participants can engage in a peer consultation session themselves, which will be facilitated by one of the hosts. Participants can discuss a particular issue chosen from their professional experiences in their work with athletes, teams or coaches.

### Workshop 6

#### PSYCHOLOGY OF THE PENALTY SHOOTOUT

Geir Jordet & Mark Anshel

*University of Groningen, Center for Human Movement Sciences*

The penalty shootout is a regular feature in international football (soccer) tournaments. Specifically, in the last 30 years, kicks from the penalty mark have been used to decide approximately 25% of matches in the knockout stages of the most prestigious tournaments in the world (Jordet et al., 2007), including the 2006 World Cup final. Moreover, recent research has shown that competitive pressure is a powerful predictor of kick outcomes (Jordet et al., 2007), suggesting that sport psychologists potentially can have an impact on teams ending their matches this way. The objective of this workshop is to provide participants in-depth knowledge about a) the psychological processes that have been empirically shown to be influential in penalty shootouts, and b) ways to help teams prepare and cope with these events. The presenter will describe a research program exclusively designed to illuminate the psychology of the penalty shootout, with data from match record analyses (502 shots), video analyses (332 shots), and interviews (20 elite and 30 sub-elite players). In addition, the presenter will draw upon practical experiences working with 5 teams as they prepare for penalty shootouts in major international football tournaments, including one team that recently took part in the 2006 World Cup. Among the practical issues that will be addressed are player-selection, shot strategies, coping techniques, and simulation exercises. The workshop will be lecture-based, but with ample opportunities for interaction with the presenter and with the other participants. Handouts and abstracts of key research papers will be available for all participants.

**WORKSHOP 7****CONGRUENCE IN THE CURRICULA OF SPORT PSYCHOLOGY FOR COACHES IN EUROPE**

Klaudia Zuskova

*Presov University, Faculty of Sport*

The work of a coach is to a big extent educational and psychological in nature. Coach education usually does include elements from sport psychology but so far a common understanding on what should be the core contents is lacking. The aim of the FEPSAC Project, in co-operation with AEHESIS, is to develop a more complete presentation of sport psychology in Europe, mainly for the coach education institutions, sport psychologists and the specific target group, which are the coaches, especially in countries where sport psychology is not yet developed enough. The long-term goal is to develop a European framework for curricula. Data collected from western, Scandinavian, middle and eastern European countries in the curricula of Sport Psychology for coach education will be presented. More specifically, selected curricula courses within different levels of coach training (syllabi, course descriptions, the proportion of theoretical and practical teaching materials ...) will be analysed and compared. Discussion in groups on relevant issues: reaction and feedback on the presented material, experience from the teaching and learning process in the subject of sport psychology, ideas for elaborating the curricula models (the important domains to know) for educational needs in coach preparation or a concrete program in the domain for the target group. Results from the workshop will be presented on the FEPSAC web page and will be considered in the future development of the project.

**Workshop 8****PHYSICAL ACTIVITY AND MENTAL HEALTH: TRANSLATING THEORY AND RESEARCH EVIDENCE TO PRACTICE**

Adrian Taylor, Ken Fox, &amp; Emma Everson

*University of Exeter, School of Sport & Health Sciences**University of Bristol, Department of Exercise, Nutrition, and Health Sciences*

Physical activity positively impacts on numerous dimensions of mental health (eg, depression, anxiety, use of addictive substances) both as a preventative and treatment behaviour (Taylor & Faulkner, 2005; Taylor & Ussher 2005). However, the challenge is to facilitate a more physically active lifestyle among people with mental health problems who are often sedentary and use other regulating mood behaviours. An effective intervention not only needs to facilitate sustained behaviour change (of optimum dose) but also requires a focus on changing specific psycho-social and bio-physical processes (ie, theoretical perspectives) that mediate the link between physical activity and mental health. The workshop will initially present a critical summary of the evidence for the effects of exercise on two important outcomes; depression and smoking cessation. Psycho-social (eg, self-determination theory) and bio-physical (eg, mood regulation) mechanisms will be highlighted with implications for intervention design. Small groups will then be tasked to develop an intervention to increase physical activity and maximize the benefits on a mental health outcome, guided by a series of specific questions within a behaviour change framework. Groups will report back their ideas for general discussion. A final summary will be presented of how two interventions are emerging, in which the workshop leaders are involved: (1) TREAD (probably the largest randomized trial to date, involving 800 patients, on the use of exercise to treat depression in primary care), and; (2) Walk-2-Quit (a 2 year NPRI feasibility study to examine the effects of an exercise intervention to help smokers to quit). Both examples will highlight how theory and evidence is being used to develop interventions and involve delegate discussion.

**Workshop 9****THE DIFFERENTIAL EVOLUTION OF THE DECISION MAKING PROCESS ACCORDING TO THE AGE, THE DEGREE OF PHYSICAL ACTIVITY AND THE COMPLEXITY OF TASK**

Souha Khadher, Sioud Rim, Jean Bertsch

*University of Paris*

**Workshop 10****UEFA WORKSHOP - THE PSYCHOLOGY OF FOOTBALL REFEREEING: PRACTICAL EXPERIENCES FROM DIFFERENT EUROPEAN PERSPECTIVES**

Piffaretti Mattia

*AC&T Sport Consulting, Lausanne*

While experiences in the mental preparation of football referees are numerous in Europe, there is little knowledge about the precise strategies and the rationale of these interventions. Additionally, no comprehensive work has yet been done, to try to give a general overview of the current sport psychology work. The present workshop aims to gather the major European experts in this field, to present their experiences with football referees in a very practical format (case studies, video-clips, practical exercises, etc.). The workshop will entail the following contributions: *Dr. M. Piffaretti*, sport psychologist and UEFA expert (Switzerland): "Introduction: the referees' psychological qualities"; *T.A. Egeland*, clinical psychologist (Norway): "Working with the group: Team building and supervision of referees."; *J. Brouwers*, clinical psychologist (Belgium): "Refereeing is communicating effectively and effective communication is based on self-awareness"; *Prof. Dr. I. Maynard*, sport psychologist (England): "Building the bubble of self-belief with elite soccer referees"; *Prof. Dr. C. Mahoney*, chartered psychologist (England): "Psychology in English Premier League Refereeing"; *A. Cei*, sport psychologist (Italy): "Referee psychological training"; *J. N. Pacheco*, sport psychologist (Portugal): "Mental preparation of football referees: game plans and visualisation"; *L. Kirsanova*, psychologist (Russia): "A model of psychological preparation for the football referees in Russia"; *Prof. Dr. W. Helsen*, sport scientist and UEFA expert (Belgium): "Expert perception and performance in football refereeing". The workshop will allow time for discussion, the final objective being the writing of a document that will describe the state-of-the-art of psychological interventions for football referees. This paper will provide practical and scientific guidelines to refereeing sport psychologists.

**Workshop 11****POETICS OF THE EVENT– A SOMATIC EXPERIMENTAL APPROACH TO PERSONAL AND CULTURAL CHANGE**

Lis Engel

*University of Copenhagen, Institute of Exercise and Sport Sciences*

The aim of the workshop is to explore and experiment with the poetics of human movement as ways of changing practices and experiences of the body, self and world. The experiments deal with somatic experience of movement dynamics as ways of transforming embodiment, energy and meaning. Theory and practice is inspired from body-mind techniques in the arts of movements and dance. We will experiment with basic somatic exercises in relation to phenomenological theories of poetics of the event (Fogh-Kirkeby, Merleau-Ponty, 1962, 1964; Sheets-Johnstone, 1999; Meijnsing 2000) and phenomenological and ethnographic theories of imagination (Bachelard, 1884/1962; Willis 2000). I have been working professionally as a dancer, choreographer, teacher and researcher in the phenomenology and aesthetics of human movement with a wide variety of somatic techniques of movement and dance as an art form and as creative processes of personal and cultural change. Seen in this holistic perspective all forms of human movement can be regarded as the medium of poetics of life – the vital part of ongoing conscious and unconscious processes of co-creation of form and feeling as normative or transforming possibilities of the now (Engel 1991; 1993; Engel and Andersen 2000; Engel 2001a, 2001b, 2006). There are no special requirements for participants of the workshop (except comfortable clothes for the somatic movement experimentation).

**Workshop 12****USING THE ART OF TRANSFORMATIONAL COACHING IN PREPARATION OF SPORTSMEN TO COMPETITIONS**

Nataliya Hayevska

*Ukraine*

Transformational Coaching is the science about building of the own future, which uses techniques of the psychotherapy and skills of sporting trainers. It is approach, directions on the search of decision, which gives a way to the choice and change. Using the methods of Transformational Coaching is perspective

and useful for sportsmen in their preparation to the competitions, because allows to reduce the level of anxiety and make sportsmen more determined for the best results. One of the most effective instruments of Transformational Coaching is forming of the valued appearance itself in a sportsmen. Creation of valuable appearance itself enables to find internal support and internal integrity. We follow our cogitative habits, and descriptions of appearance itself, on which we pay attention, are the key which forms our actions in life. When a sportsman creates appearance itself, organized round his deep values, this appearance can send his actions in a necessary direction. In my Professional Workshop I plans to represent the technique methodologically grounded, on creation of the effective valued appearance at sportsmen. And also to show other techniques, such as Walt Disney planning strategy, the Mastery Walk, Critic's exercise – Mentor's Table, which affect deep psychodynamic processes and is instrumental in forming of more integral and the perception directed on success at sportsmen. The all higher indicated methods are actively and successfully practiced at preparation of sportsmen-swimmers to competitions on the base of Ternopil sporting complex «Politecnik».

### Workshop 13

#### FIT 4 ME

Indira Mandzuka

*Bosnia & Herzegovina*

First degree of program Fit4Me, five simple but effective exercises are part of relaxing program for everyone. They are specially recommended at the day of the match or important event. Including whole being exercises train mind and body simultaneously. Combination of the essence of martial arts, modern medicine, deep breathing and quantum physics, exercises bring maximum effects of flow of energy for the entire body and mind. That means collecting, coordination, exchanging and converting negative into positive energy. Focus and concentration skills with powerful proverbs are in use to train neurochemicals for the best performance. Multimedia (audio-visual) effects influence all senses, therefore covers fitness for mind and body. Exercises can be done anytime anywhere, with no special equipment or clothes. They are excellent as part of any seminar, conference, symposia or just 5 minutes break in the hard working day. Modern medicine proves that having these exercises as routine they release stress, back/neck pain, migraine and sinuses, increase blood pressure, helps in movements of joints and balance.

### Workshop 14

#### APPLICATIONS OF MULTILEVEL MODELS IN THE SOCIAL AND BEHAVIORAL SCIENCES

John B. Nezlek

*Professor of Psychology, College of William & Mary*

Increasingly, researchers in the social and behavioral sciences are conducting studies that produce what are often referred to as hierarchically nested, or simply nested, data structures. Nesting, in this instance, refers to the fact that observations at one level of analysis are nested within observations at another. Diary studies, in which days or events are nested within persons or studies of teams or other groups in which persons are nested within groups are good examples of such studies. When data are nested, observations such as diary entries for a person or the performance of individuals in a group cannot be treated as independent, and analyzing such nested data requires techniques that take into such interdependence. In this workshop, prof. Nezlek will review such issues and discuss various approaches to analyzing multilevel data. He will describe the advantages of using what is referred to as Multilevel Random Coefficient Modeling (MRCM) to analyze multilevel data. This description will include a rationale for using MRCM instead of other techniques, a discussion of how to conceptualize, conduct, and interpret such analyses, and a discussion of software options. No advanced statistical training is needed, although I assume participants will be familiar with basic regression techniques.



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# **SYMPOSIUMS ABSTRACTS**



**Wednesday 5/9/2007****8:30-9:50****SYMPOSIUM 1****Psychological aspects of youth sport**Organizer/Chair: **Sasa Cecic Erpic**, *Faculty of Sport, University of Ljubljana*Discussant: **Dorothee Alfermann**, *Faculty of Sport Science, University of Leipzig, Germany*

The symposium integrates contributions from four countries. The main focus is on discovering determinants and consequences of sport participation and individual development in adolescent athletes. The first two papers (Hoffmann; Aşçı et al.) consider motivational and self-concept variables that may explain adolescents' participation or dropout in sports and sport clubs respectively. Both papers are testing a theory. Paper 2 is testing Harter's Competence Motivation Theory, Paper 1 the Theory of Planned Behavior. Paper 3 focuses on the development of physical self-concept over a three-year period in adolescence. It is one of the rare contributions to the literature with a longitudinal design. It specifies the question of increase, decrease or stability of physical self-concept in adolescence which is a particularly important period in human development. Important conclusions for physical education and sport, e. g. how to improve physical self-concept, can be drawn. Paper 4 is concerned with the role of the coaches in youth sport. It investigates how coaches in youth sport may react to the personality of their athletes. The main focus is on how the perceived personality may contribute to the motivating behaviour of the coaches which is, besides instruction, the main task of coaches in youth sport. All in all, the papers of the symposium focus on youth sport from different perspectives (athlete, coach; motivation and self-concept) and from a different cultural (European) background.

**Paper 1. Commitment and dropout of adolescents in club sports**

Antje Hoffmann

*Faculty of Sport Science, University of Leipzig, Germany*

The main objective of the study is to examine why adolescents take up, maintain or discontinue physical activity in sport clubs. The research model is based on the Theory of Planned Behavior (TPB). The model is enlarged by the following variables: social support, commitment and a cost-benefit-analysis of sport activity. A 1-year follow-up was conducted to clarify the following questions: Do adolescents who are physically active in sport clubs score higher in the predictor variables than those who never entered a club or dropped out of a sport club? Which are the most important determinants of intention to be physically active? Does the TPB research model predict physical activity in sport clubs? Can members and dropouts be differentiated on the basis of the variables of intention, commitment, social support and cost-benefit-analysis? Participants were 876 adolescents ( $M$  age = 13,2;  $SD$  = 1,2), who completed an online-questionnaire assessing attitude, subjective norm, perceived behavioural control, intention and social support by family and peers. Participants who are currently club members or who had dropped out of a sport club, rated aspects of commitment and the costs and benefits of their club organized activity.  $N$  = 115 students took part in both data collections. Data will be analyzed using MANOVA, discriminant and regression analyses as well as SEM. Results will be presented and discussed in accordance with the research questions.

**Paper 2. Physical self-perception and participation motives of Turkish youth athletes: An examination of Harter's Competence Motivation Theory in Turkey**F. Hülya Aşçı<sup>1</sup>, Emine Çağlar<sup>2</sup> & Gökhan Deliceoğlu<sup>2</sup><sup>1</sup> *Sport Sciences Department, Başkent University Ankara, Turkey*<sup>2</sup> *School of Physical Education and Sport, Kırıkkale University, Turkey*

Understanding the motives for youth sport participation has become an important issue for sport practitioners and researchers in the last decade. The participation motivation research has been linked to Harter's Competence Motivation Theory (1978). According to Harter's Competence Motivation Theory; the perceptions of competence associated with successful performance are critical determinants of subsequent motivation to participate. In other words, individuals who perceive themselves as competent in sports are more likely to continue their participation, while those who are low in perceived physical competence will likely to discontinue participation in the particular sport. Thus, the purpose of this study is to determine the physical self-perception and participation motives of Turkish youth athletes and examine gender differences in physical self-perception and participation motives. This study is also aimed to test the notions based on

Harter's Competence Motivation Theory, that perceptions of competence are related to particular motives that children have for sport participation. Male and female youth sport athletes from a variety of sports volunteered in this study. "Participation Motivation Questionnaire (PMQ)" and "Children and Youth Physical Self-Perception Profile (CY-PSPP)" were administered to all participants. Data are analyzed with respect to the objectives of the study and results will be discussed based on Harter's Competence Motivation Theory.

### **Paper 3. Stability and change of physical self-perceptions during early adolescence**

Lennart Raudsepp

*Institute of Sport Pedagogy and Coaching Science, University of Tartu, Estonia*

This research was designed to examine the stability of physical self-perceptions in physically active and nonactive adolescents. Participants ( $n = 288$ ) completed Children and Youth Physical Self-Perception Profile (CY-PSPP) over a 3-year time interval. Three categories of temporal score stability (structural stability, differential stability, and latent mean stability) were assessed for the CY-PSPP subscales. In general, results indicated a relatively high level of consistency in multidimensional measurement properties of the CY-PSPP over a 3-year time interval. Specifically, relative fit indexes did not decrease significantly in any model, although additional constraints revealed statistically significant decrements in chi-square relative to degrees of freedom in some models. The results also indicated that the relative position of participants in the sample remained consistent over a 3-year period. Within the entire sample, differential stability coefficients for the CY-PSPP subdomains were statistically significant and ranged from 0.48 to 0.73. There were no significant gender differences in the differential stability of the physical self-perceptions, with exception of the subdomain of body attractiveness where girls self-perceptions were less stable. Additionally, stability of physical self-perceptions was higher in physically active adolescents compared to physically inactive youngsters. Latent growth modeling revealed that compared to the no growth model, specification of linear trajectory models resulted in statistically significant increases in absolute fit for all models across gender and level of physical activity. Furthermore, goodness of fit indices point to acceptable model fit to the data. The study showed idiosyncratic negative growth (decrease over time) for the adolescents' physical self-perceptions. Physical self-perceptions revealed a moderate decrease during early adolescence. Future research is needed to understand the process that produces stability and change in physical self-perceptions during childhood and adolescence.

### **Paper 4. Does coach's perception of young athlete's personality influence his/her motivational behaviour toward the athlete?**

Sasa Cecic Erpic

*Faculty of Sport, University of Ljubljana, Slovenia*

Chelladurai's (1984, 1993) multidimensional model of leadership in sport defines leadership as a behavioral process in which the coach influences athletes in achieving previously set athletic goals. The efficiency of performance and athlete's satisfaction derives from the congruity between preferred and actual leadership behaviour. The athlete's personality structure is one of the dispositional factors that define which behaviour of the coach would be perceived as preferred. We can assume that coaches modify their behavior according to their perception of an athlete's personality. Therefore the aim of the study was to investigate whether coaches differ in their behaviour (motivational behavior in particular) toward athletes according to their perception of young athletes' personality. The sample consists of 42 young athletes (30 boys, 12 girls), aged from 11 to 19 years ( $M = 14.07$ ;  $SD = 2.41$ ) and their 9 coaches (each coach evaluated his/her 5 athletes, 3 athletes were excluded from the sample). On the average athletes were competing for 5.74 years, of which 2.69 years were with this particular coach. Coaches were asked to complete The Inventory of Child Individual Differences (ICID; Halverson et al, 2003) and answer to the questions of The Young Athlete in Comparison to Others (YACO; Cecic Erpic, 2006) semi-structured interview. YACO was designed to elicit coach's perceptions of individual characteristics of an athlete and his/her particular behaviour (i.e., methods and means of motivating) toward the athlete. Results of ANOVA showed that coach's motivational behavior differs regarding his/her perception of young athlete's personality traits.

**SYMPOSIUM 2****Effects of a four-month preschool PE intervention on Socioemotional Skills:  
The "Early Steps" project in four European countries\***

Organizer/ Chair: **Evridiki Zachopoulou**, ATEI Thessaloniki, Department of Early Childhood Care & Education, Greece

Discussant: **Jarmo Liukkonen**, *Professor of Sport Pedagogy, University of Jyväskylä, Finland*

Programs that aim to develop social learning use movement and play forms to provide opportunities for children to work with others, to support their peers, to take responsible decisions based on fairness, equity, and equality (Ennis, 2003). The sample of the following studies comprised 511 children, their parents and 20 early educators, who implemented the 'Early Steps' Physical Education curriculum (ESPEC). This curriculum was implemented to preschool aged children from four European countries, and it had specific goals and objectives related to socioemotional skills. For the evaluation of children's skills the Social Behavior Instrument (SBI) was developed and it was checked for its validity using parents' and teachers' data. Exploratory factor analysis revealed that the SBI consisted of one factor containing 18 items, and provided adequate psychometric support for the instrument. The comparison between parents' and teachers' views about children's socioemotional skills and behaviour showed that parents seem to assess their children's skills clearly more positively than preschool teachers. An observatory category system was also developed to analyze socioemotional skills in Finnish preschool children who participated in the ESPEC. This system consisted of three dimensions (prosocial behaviour, empathy and self-control) and 21 sub-categories. Selected children were analyzed by two independent observers and t-tests revealed statistically better skills for girls for five sub-categories and five-year-old children had better skills compared to the four-year-olds in four sub-categories. The effectiveness of ESPEC implementation in three European countries was studied by comparing teachers' and parents' pre and post SBI measures. The results were similar for teachers and parents' opinions indicated that this curriculum positively affects children's socioemotional skills.

**Paper 1. Social skills in preschool aged children & how PE could affect them**

Niki Tsangaridou<sup>1</sup>, Evridiki Zachopoulou<sup>2</sup>, Ian Pickup<sup>3</sup> & Jarmo Liukkonen<sup>4</sup>

<sup>1</sup>*University of Cyprus, Department of Education, Cyprus*

<sup>2</sup>*Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece*

<sup>3</sup>*Roehampton University, United Kingdom*

<sup>4</sup>*University of Jyväskylä, Department of Sport Sciences, Finland*

Research findings suggested that quality physical education programs help children develop physically, emotionally, socially, and intellectually (Kirk, 2005). It is also documented that motor play has a significant function in children's total literacy, growth, and development (Whitehead & Murdoch, 2006). Scholars also emphasized that meaningful preschool physical education curricula should provide opportunities to children to learn through playful movement forms because "play is a lifeblood of childhood" (Siedentop, Herkowitz, & Rink, 1984, p. 5). According to play theories and social learning theories, movement and play forms contribute to a great extent to children's socialization (Siedentop, 1980). Children learn to interact in the play settings, where the rules and the boundaries for behavior are much obvious than in the real world. Play also provides structure and rules that are appropriate to the developmental stage. Programs that aim to develop social learning are concerned in developing both interpersonal competency and social competency (Siedentop, Herkowitz, & Rink, 1984). These programs use movement and play forms to provide opportunities for children to work with others and accept personal responsibility for their behaviors. They encourage children to develop the ability to respect themselves and others, to support their peers, to take responsible decisions based on fairness, equity, and equality (Ennis, 2003). An alternative preschool physical education program "The Early Steps Physical Education Curriculum" (ESPEC) was designed to foster children social learning. The emphasis of the social aspect of the ESPEC was to help children cooperate with others and respect individual differences. This paper concludes that the ESPEC is a promising program in promoting social learning in preschool children.

**Paper 2. Early Steps" PE curriculum evaluation. Preliminary validation results for the Social Behavior Instrument**

Vasilis Grammatikopoulos<sup>1</sup>, Efthimios Trevlas<sup>2</sup>, & Evridiki Zachopoulou<sup>2</sup>

<sup>1</sup>*University of Thessaly, Department of Physical Education & Sport Science, Greece*

<sup>2</sup>*Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece*

Preliminary validation of the instrument used to evaluate preschool children's socioemotional behavior was the aim of the current study. The Social Behavior Instrument (SBI) was developed in order to be used in the "Early Steps" project. First, face and content validity of the items was evaluated, and this procedure resulted to a pool of items. Second, the pool of the items selected was factor analyzed by administering the instrument to the teachers and parents of 511 preschool children of four European countries. The countries were Greece, Cyprus, Italy, and Finland. Exploratory factor analysis revealed that the SBI consisted of one factor containing 18 items, and provided adequate psychometric support for the instrument. Exploratory factor analysis should be preferred at first when an instrument includes items that had not been tested before and thereby, had not yet reached its final form. Regardless of the encouraging results, the SBI should be assessed further, combined with advanced statistical methods in order to be ensured the validation of the instrument.

### **Paper 3. How realistically do parents evaluate their preschool children's socioemotional skills?**

Jarmo Liukkonen<sup>1</sup>, Evridiki Zachopoulou<sup>2</sup>, & Niki Tsangaridou<sup>3</sup>

<sup>1</sup>*University of Jyväskylä, Department of Sport Sciences, Finland*

<sup>2</sup>*Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece*

<sup>3</sup>*University of Cyprus, Department of Education, Cyprus*

The aim of the study was to analyze differences between parents' and teachers' views about children's socioemotional skills and behaviour as a part of the Comenius Program for early childhood physical education curriculum development. The participants were parents and preschool teachers of 406 children, 4 - 5 years of age in Finland, Greece, and Cyprus. The 18-item Social Behaviour Instrument (SBI) was administered to the parents and the teachers at the start of the four-month physical education intervention program. The items were assessed using a 6-point Likert scale ranging from 1= Strongly disagree to 6= Strongly agree. There were remarkable differences in the evaluations between the parents and the teachers on the mean level. In the case of Greek girls there were eight items with statistically different evaluation of the parents having a more positive view about the girls than the teachers. In Finland there were fourteen such items, and in Cyprus ten. In the case of Greek boys there were fourteen statistically significant items, in Finland eight, and in Cyprus ten. Parents seem to assess their children's social-emotional skills clearly more positively than preschool teachers. This may cause underestimation of the need to help children in developing their social and emotional skills, which may be detrimental especially for the boys, whose socioemotional skills are often worse compared to the girls.

### **Paper 4. "Early Steps" PE curriculum implementation: Effects of the four-month intervention on Socioemotional Skills**

Evridiki Zachopoulou<sup>1</sup>, Niki Tsangaridou<sup>2</sup>, Jarmo Liukkonen<sup>3</sup>, & Elisavet Konstantinidou<sup>1</sup>

<sup>1</sup>*Alexandrio Technological Educational Institute of Thessaloniki, Department of Early Childhood Care & Education, Greece*

<sup>2</sup>*University of Cyprus, Department of Education, Cyprus*

<sup>3</sup>*University of Jyväskylä, Department of Sport Sciences, Finland*

The idea behind the 'Early Steps' Physical Education Curriculum (ESPEC) is to help children be able to cooperate with others and respect individual differences and is a part of the 'Early Steps' Transnational Project. This innovative PE Curriculum had specific aims, goals and objectives, which were indicators of children's socioemotional behavior, meaning that children learn to interact positively with the members of a group, to work in groups, to share the place and resources with others, to share ideas and roles, to recognize and respect individual differences, and to help others. The purpose of this paper was to reflect the effectiveness of this ESPEC in four European countries after its implementation for four months. Participants were 485 preschool aged children, (160 from Greece, 79 from Finland, 144 from Cyprus and 102 from Italy). Four trained early educators in each country implemented 24 PE lesson plans from ESPEC. Pre and post measures were conducted using the Social Behavior Instrument for teachers (N=16) and for children's parents (N=386). The Instrument consisted of 18 items in a 6-point Likert scale. The same items were administered both to parents and teachers. Comparison between teachers' pre and post measures indicated that the implementation of ESPEC positively affects children's socioemotional skills. These results were confirmed by parents' opinions about their children, concerning the same issues. Although parents weren't actively involved in this intervention, they were able to recognize positive effects on their children's socioemotional skills.

**Paper 5. Development of an observational category system for analyzing socioemotional skills in 4 to 5 year-old Finnish preschool children**

Marja Kokkonen & Jarmo Liukkonen

*University of Jyväskylä, Department of Sport Sciences, Finland*

Two Finnish preschools with 38 children participated in the Early Steps PE curriculum (ESPEC), one aim of which was to develop children's socioemotional skills. An observation category system with three dimensions and 21 sub-categories was developed. The dimensions consisted of prosocial behaviour (seeks company, invites others to play, disturbs other, behaves aggressively, takes contact to others, helps others, shares equipment, is able to go join the group, defends others, asks for help when needed, calls other children names, boasts others), empathy (consoles others, identifies others' feelings, apologizes on one's own initiative), and self-control (is restless, waits one's turn, listens to instructions, follows rules, interrupts others, gets angry when losing to others). Selected children were analyzed by two independent observers. The inter-observer reliability over the entire category system was 91.1%, when deviation of maximum one unit from 1=fully disagree to 5=fully agree was accepted. The lowest reliability coefficient (52%) was for "asks others to play". 100% congruity was for "defends others", "asks for help", "calls other children names", "boasts others", "consoles others", "identifies others' feelings", and "apologizes on one's own initiative". T-tests revealed statistically better skills for girls for "defends others" ( $p=0.007$ ), "calls other children names" (0.043), "boasts others" (0.008), "consoles others" (0.003), and "apologies" (0.034). Five-year-old children had better skills compared to the four-year-olds in "seeks company" ( $p=0.016$ ), "invites others to play" (0.015), "helps others" (0.003), and "shares equipment" (0.019).

**Wednesday 5/9/2007**

**11:30-12:50**

**SYMPOSIUM 3**

**Morality in sport: The good, the bad, and the ugly**

Organizer/ Chair: **Maria Kavussanu**, *University of Birmingham*

Discussant: **Glyn C. Roberts**, *Norwegian School of Sport Sciences*

This symposium consists of five papers examining morality in sport. The first two papers report the development of two instruments. Paper 1 reports a large-scale cross-sectional study that has developed a measure of moral behaviour applicable to five team sports: football, basketball, hockey, rugby, and netball. This study also examined prevalence and gender and sport differences in moral behaviour. Paper 2 reports two studies, in which a sport-specific measure of moral disengagement was developed and validated. In Study 1, a long version of the scale was developed and tested. Study 2 provided evidence for the factorial, concurrent, convergent, and discriminant validity of the measure. Papers 3 and 4 are based on longitudinal studies in youth football. Paper 3 examined the temporal stability and reciprocal relationships among task and ego orientation, task and ego-involving climates, and prosocial and antisocial behaviour at the beginning and end of a competitive season. Paper 4 investigated the effect of the perceived coach-created motivational climate on moral functioning across two consecutive seasons. The final paper examined age and gender differences in physical education students' self-reported fair play behaviours, moral atmosphere and daily life morality.

**Paper 1. Moral behaviour in sport: Dimensions, frequency, and differences across genders and sports**

Maria Kavussanu & Ian D. Boardley

*University of Birmingham*

Recent research (e.g., Kavussanu, 2006; Sage, Kavussanu, & Duda, 2006) has shown that moral behaviour of male football players consists of two major dimensions: prosocial and antisocial behaviour. The purpose of this study was to extend this work to females and other team sports and examine dimensions, frequency, and differences across genders and sports in moral behaviour. Based on extensive discussions with undergraduate students, who were involved in five team sports (i.e., hockey, rugby, football, basketball, and netball), a list of 76 behaviours common to all sports was compiled. This list was pilot-tested with 29 athletes participating in the five sports to determine the frequency of the behaviours in these sports. Based on the pilot-testing, 43 behaviours were retained and used in the main study. Behaviours were selected to represent two major dimensions each consisting of two sub-dimensions: prosocial behaviours toward teammates and opponents, and antisocial behaviours toward teammates and opponents. After initial contact with 100 teams, most of which agreed to participate in the study, data collection was arranged at the beginning or end of a practice session; a

total of 1200 male and female athletes participating in the five sports completed the questionnaire reporting the frequency of engaging in the 43 behaviours. Exploratory followed by confirmatory factor analysis indicated that the behaviours could be classified in the expected two major dimensions and the two subdimensions. ANOVA revealed gender differences with females engaging in more prosocial and males engaging in more antisocial behaviours. Significant differences were also found among the five sports with football and rugby players reporting the highest levels of antisocial behaviour and netball players reporting the lowest levels.

### **Paper 2. Development and validation of the Moral Disengagement in Sport Scale**

Ian D. Boardley & Maria Kavussanu

*University of Birmingham*

A sport-specific measure of moral disengagement was developed in two studies. The scale was designed to measure the moral disengagement mechanisms described by Bandura (1991): moral justification, euphemistic labeling, advantageous comparison, diffusion of responsibility, displacement of responsibility, distortion of consequences, dehumanization, and attribution of blame. In Study 1, a 59-item version of the scale was developed and tested with 308 athletes from the sports of football, hockey, rugby league, rugby union, netball, and basketball. A series of Confirmatory Factor Analyses (CFA) testing different models suggested that the model that best fitted the data had six first-order factors that could be represented by one second-order factor. Study 2 involved 305 athletes from the same six sports completing a 40-item version of the scale alongside measures of the theoretically related constructs of prosocial behaviour, antisocial behaviour, and societal moral disengagement. CFA confirmed the 6-factor, second-order structure. Results from Study 2 supported the construct validity of the final 32-item version of the scale, providing evidence for its factorial, concurrent, convergent, and discriminant validity. These results included significant correlations between overall sporting moral disengagement and prosocial behaviour ( $r = -.34$ ), antisocial behaviour ( $r = .60$ ), and societal moral disengagement ( $r = .71$ ). The Moral Disengagement in Sport Scale (MDSS) is proposed as a valid and reliable measure of moral disengagement for use in the sporting context.

### **Paper 3. An exploration of temporal stability and reciprocal relationships between goal orientations, motivational climate and moral behaviour in youth football**

Luke D. Sage & Maria Kavussanu

*University of Birmingham, UK*

This study examined the temporal stability and reciprocal relationships among task and ego orientation, task and ego-involving climates, and prosocial and antisocial behaviour in youth football. Male ( $n = 156$ ) and female ( $n = 24$ ) youth football players (mean age = 14.11,  $SD = 1.75$  years) completed questionnaires towards the beginning (Time 1) and end of a regular season (Time 2). Questionnaires measured goal orientation, perceived motivational climate, and frequency of moral behaviours. Structural equation modelling indicated temporal stability in all variables between Times 1 and 2. Subsequent analysis indicated that prosocial behaviour at Time 1 positively predicted a task-involving climate at Time 2. Antisocial behaviour at Time 1 positively predicted both ego orientation and an ego-involving climate at Time 2 and a reciprocal relationship was revealed whereby ego-orientation at Time 1 positively predicted antisocial behaviour at Time 2. Finally, task orientation at Time 1 negatively predicted an ego-involving climate at Time 2.

### **Paper 4. Perceived motivational climate and moral functioning in youth football: A longitudinal study**

Blake W. Miller<sup>1</sup> & Glyn C. Roberts<sup>2</sup>

<sup>1</sup>*Hedmark University College*

<sup>2</sup>*Norwegian School of Sport Sciences*

Recent cross-sectional research has indicated that a coaching emphasis on winning may lead athletes to adopt lower moral functioning in competitive sport (e.g., Miller et al., 2005). The purpose of the present study was to investigate the effect of the perceived coach-created motivational climate on moral functioning in competitive youth football over time. Participants were 142 ( $n = 96$  males,  $n = 46$  females, ages 14-15 years) youth football players from in and around the greater Oslo area. Participants were administered questionnaires examining motivational climate (PMCSQ-2; Newton et al., 2000) and moral functioning (e.g., moral judgment, reason, intention, and self-reported moral behaviour) at two time points across consecutive competitive seasons. In order to account for error at Time 1, we created standardized residual scores for each of the motivational climate and moral variables to be used in further analyses. Several hierarchical regression analyses were then conducted using the residual scores for performance and mastery climates as independent variables and each of the moral

variables as dependent variables, respectively. Results of the regression analyses indicated that an increased performance climate emphasis by the coach over time significantly accounted for lower moral judgment, intention, and self-reported low moral behaviour. Clearly, for these football players, when the coach emphasized winning and avoiding losing, players' moral functioning was affected in an alarmingly negative fashion.

**Paper 5. Variation and relations of fair play behaviour, fair play atmosphere and daily life morality of physical education students**

Mary Hassandra, Marios Goudas, & Yiannis Theodorakis

*University of Thessaly*

The purpose of this study was to examine age and gender differences in physical education students' self-reported fair play behaviours, moral atmosphere, and daily life morality. The study also investigated the influence of moral atmosphere and daily life morality on students' fair play behaviours. A total of 740 students (10 to 18 years old) participated in the study. Analyses showed that students' prosocial fair play behaviours decreased with age, whereas antisocial fair play behaviours and daily life morality increased. Students' perceived antisocial fair play atmosphere created by the physical education teacher and by classmates increased significantly as age increased. Gender differences also emerged with boys reporting higher scores than girls on antisocial fair play behaviours and on perceived antisocial moral atmosphere created by the physical education teacher. Regression analysis showed that the best predictor of antisocial behaviours was the antisocial fair play atmosphere created by classmates, while the best predictor of prosocial fair play behaviours was the prosocial fair play atmosphere created by the physical education teacher.

**SYMPOSIUM 4**

**Researching Self: Perils, Pitfalls and Therapeutic Encounters When Doing Autoethnography and Ethnodrama in Sport Psychology**

Organizer/ Chair: **David Gilbourne & Mark B. Andersen**, *Victoria University*

Discussant: **Brett Smith**, *Exeter University*

This symposium will start with a general discussion of the problems (personal, ethical, methodological) and benefits (personal insights, discovery, making research come alive) of conducting autoethnography and ethnodrama research in applied sport psychology research. The first two presenters will cover these issues in a broad context. In the first presentation, the focus will be on ethical issues in conducting autoethnography from the student, supervisor and institution perspectives. In the second presentation, ethnodrama will be the focus with readings and a video presentation of an ethnodrama with follow-up discussion. In the third and fourth presentations graduate students will discuss their different experiences in autoethnographic research. These research approaches are atypical in sport and exercise psychology research, but have found more acceptance in the sport sociology field. This symposium is aimed at introducing the benefits, controversies, methodological issues, ethical problems, and the risks to both supervisors and students working in these new areas of research in the sport psychology field.

**Paper 1. Ethical Issues in Autoethnography: The Researcher at Risk**

Mark B. Andersen

*Centre for Ageing, Rehabilitation, Exercise and Sport, Victoria University*

The process of introspection and examination of one's life when doing autoethnography has the potential to unearth memories of past physical and psychological trauma. The graduate student and seasoned researcher may be opening Pandora's box and are potentially at substantial risk, both personally and for significant others around them. Autoethnography has the potential to become a narcissistic and self-indulgent exercise. How does one frame autoethnography in ways that truly contribute to our understanding of athlete experiences? What students and academics explore and write about may, at times, put some strain on them personally and in their relationships with family, friends, fellow students, and colleagues. Autoethnography challenges university human research ethics committees who often have no guidelines on how to identify and assess the risks of such research. In this part of the symposium, the author will discuss the problems encountered when working with students interested in examining their lives. Also, obtaining approval from an ethics committee for conducting such research may be problematic. Educating ethics committees about the method of autoethnography is a crucial step in seeking approval, and the health and safety of the person doing the autoethnography are central to the whole process.



**Paper 2. Telling Your Story through Performance: Navigating the Challenges of Auto-ethnodrama**

David Gilbourne, Ros Merkin, &amp; Carmel Triggs

*Research Institute for Sport and Exercise Sciences, Liverpool John Moores University*

In recent times a number of representational styles such as autoethnography, creative non-fiction and auto-ethnodrama have been associated with research activity in the domain of sport psychology. All these styles of writing tend to require the authors to 'give of themselves' as they try to illustrate cultural, emotional, value-based experiences. It is the interconnections between auto-ethnographic writing and performance that is the specific focus of this presentation. Stories based on one's own life can be illuminative, engaging, emotive and authentic. In that regard, and in the context of sports psychology, textual strategies such as auto-ethnography and ethno-drama potentially offer cultural and personal insights unmatched, in terms of characterisation and illustration, by writing that is more scientific or realist in tone. When research, auto-ethnographic or otherwise, is translated to a dramatic context then the skills of practitioners trained in the world of theatre are used to mount a live research performance. In the present symposium a recently performed ethno-drama (Gilbourne, Triggs, & Merkin, 2006) will be reviewed with specific reference to the 'process' of writing and to the dominant engagement of auto-ethnographic material within the script. Readings and videos from the play will be used to illustrate the nature of the performance and a critical review of both process and outcome will identify issues that might assist the development of future projects.

**Paper 3. Personal Experiences in Auto-ethnographic Research**

Jim McGuinness

*Research Institute for Sport and Exercise Sciences, Liverpool John Moores University*

There are many arguments that support the practice of autoethnography. For example an autoethnographic text might engage the reader in such a way that they are encouraged to reflect on their own lives. Similarly, an ethnographic text allows readers to imagine aspects of sporting experience and sporting culture. In both these examples an autoethnographic text might succeed in bringing elements of an author's world into the consciousness of others. In such cases, an autoethnographic text will have demonstrated authenticity and captured evocative and challenging moments in graphic terms. It follows that the writing of such expansive and personal material might also have an impact on the author. In the following presentation an autoethnographic tale explores elite sports performance through the lens of a loving family and the devastation of bereavement. The presentation draws from the text of this work and also reflects on how the writing process influenced the life and subsequent sports performance of the author.

**Paper 4. I Love You Best When You Are Sick or Injured: A Triathlete's Autoethnography****Lior Zach-Maor***Victoria University*

Lior is a student from Israel studying to become a psychologist, who specialises in sport and exercise, at Victoria University, Australia. As many other psychologists start out, he wanted to understand himself, his world, and the forces that have influenced his development. He is a triathlete (and a good one), and started out trying to think of ways to study triathletes for the thesis component of his graduate degree. In consultation with his supervisor, he decided to go down the path of autoethnography. Lior is one of the most guileless students his supervisor has ever met, a quality both beneficial and risky for someone doing auto-ethnography. His plan was to study four different cultures: (a) Israeli small village culture where basketball was the centre of community life, (b) Israeli military culture, (c) the culture of triathlon, and (d) the student culture of training to become a sport psychologist, all through the lens of his lived experience. As with much student research, things changed. The project was too large, and he reduced it to studying the culture of triathlon and the culture of students involved in becoming sport psychologists, but his Israeli roots in a small sport-oriented village and his military experiences still played important roles in understanding his life. Lior's wife inadvertently gave him the title of his thesis, and it exemplifies the problems he has encountered in his pursuit of triathlon excellence. Lior will also read some short passages from his thesis for examples of autoethnographic writing.

**SYMPOSIUM 5****Life skills and Sport: Teaching At- Risk Youth How to Succeed in Life**

Organizer/ Chair- Discussant: **Steven J. Danish**, *Virginia Commonwealth University*

Sport is a cultural and social phenomenon that permeates all of society throughout the world. Its influence extends into education, politics, economics, art, the mass media, and even international diplomatic relations. Sport also is a major influence in the development of one's identity and feelings of competence for youth. Whether the attitudes, behaviors, values and skills acquired by youth through their participation in sports contribute positively or negatively to their later success in life has been a topic of debate by both professionals and nonprofessionals alike. In this symposium, presentations by individuals from several different countries will focus on how teaching life skills can help at-risk youth succeed.

**Paper 1. Promoting positive development for at-risk youth through sports**

Steven J. Danish

*Virginia Commonwealth University, USA*

The rationale for teaching life skills through sport will be presented. This program, entitled SUPER (Sports United to Promote Education and Recreation), has been taught successfully to several at-risk groups in the U.S. Results of some of these efforts will be described as will how other organizations and sport scientists can implement the program in their own setting.

**Paper 2. Promoting positive development for at-risk Aboriginal youth through an active after- school program**

Amanda D. Stewart Stanec<sup>1</sup> & Steven J. Danish<sup>2</sup>

<sup>1</sup>*St. Francis Xavier University, CANADA*

<sup>2</sup>*Virginia Commonwealth University*

The legacy of colonization of Aboriginal People in Canada has created an imbalance in relationship that affects almost all areas of life. Aboriginal youth are more overweight, less active, and have higher levels of diabetes than their non-Aboriginal peers (Paradis et al., 2005). Moreover, low socioeconomic status continues to hinder Aboriginal Canadians from participating in organized extra curricular activities more so than their non-Aboriginal peers. The aim of this project is to integrate life skills and the ideologies of the people that the Mi'kmaw Kina'matnewey School Board represents. This way, youth within the seven communities under the jurisdiction of the Mi'kmaw Kina'matnewey School Board will learn new life skills, while remaining in an environment that views their culture as a valid and purposeful group. If given such opportunity, youth may begin to engage in increased health practices and develop a positive future orientation. In addition, older youth who have been involved in the program as participants, peer leaders, or both may begin to consider a career in physical education or health.

**Paper 3. The Hokowhitu Program: Designing a sporting intervention for adolescent Maori**

Justin Ihirangi Heke<sup>1</sup> & Steven J. Danish<sup>2</sup>

<sup>1</sup>*Otago University, New Zealand*

<sup>2</sup>*Virginia Commonwealth University*

At present very little published material is available regarding teaching life skills through sport from an indigenous perspective. Research had determined that intervention programs for adolescent Māori require a different approach since mainstream programs based on non-Māori cultural paradigms are ill suited to Māori people (Blair, Heke, Siataga, 1996). For many Maori, sporting achievement is a source of widely accepted *mana* (pride) and social prestige (Best, 1976). To take an area of natural strength (sport) and build a program around these attributes was a way to connect with the culture. The Hokowhitu program is a series of ten, two-hour workshops taught by older Maori youth to younger Maori students using Maori language and culture. The results of the implementation of this program will be described.

**Wednesday: 5/9/2007: 14:00-15:20**

**SYMPOSIUM 6**

**Current issues in team sports**

Organizer/ Chair: **Erwin Apitzsch and Taru Lintunen**, *Dept of Psychology, Lund University*

Discussant: **Erwin Apitzsch**, *Dept of Psychology Lund University*

The purpose of this symposium is to present some new and innovative aspects of team sports with the aim to improve the performance of sport teams. Teams are usually composed of 20-25 persons of whom a smaller number are selected for a particular match. Of those selected, some start the match and the others are substitutes (bench players), who may or may not play in a certain match. The aim of all players is to be on the starting team, which may cause a rivalry between the players, which in turn may affect the way they co-operate and communicate and in the end the overall performance of the team. Team performance may also be affected by external factors such as audience effects, the performance of the opposing team, and unexpected changes during the match. These factors have to be handled effectively in order to achieve a good performance. The first two presentations of this symposium deal with collective collapse - a sudden performance decrement. Results from a team and the experience of a basketball player, who has suffered from a collective collapse will be presented. The third presentation deals with the relationship between starters and bench players in football with regard to interactions in the team, team cohesion, role acceptance and self-confidence. The final two presentations deal with sociometry in a youth ice-hockey team. Sociometry analysis relations of attraction between individuals in small groups and provides a new approach to phenomena that offer opportunities of understanding the ways players interact.

**Paper 1. Collectivice collapse in team sports**

Erwin Apitzsch

*Dept of Psychology Lund University*

The purpose of this study was to shed light on collective collapse in team sports - a phenomenon that has received little attention in the literature, but can result in a dramatic effect, especially in a match of a decisive character. Collective collapse occurs when a majority of the players in a team suddenly perform below expected level in a match of great importance in spite of a normal or good start of the match or when a team underperforms right from the start. The first part of the study consisted of interviews with coaches, team managers and officials on national and international level. On the basis of these interviews, a questionnaire was developed in order to describe the frequency of collective collapses, cognitions, affects and behaviour related to the occurrence and to detect possible antecedents. In the second part of the study a questionnaire was sent to all teams for men in floorball, handball, and ice-hockey in the highest division in Sweden during the season 2005-06. 70% of the players had experienced at least one collective collapse. Communication within the team decreases and 90% was negative. The main reason for collective collapse was the behaviour of the players. The third part of the study will be a case study on a team which has suffered from a collective collapse. On the basis of the results obtained a list of actions in order to prevent collective collapses to occur or to find ways to deal with them if they occur.

**Paper 2. Collectivice collapse in basketball**

Simon Granér

*Lund University*

Collective collapse is a phenomenon that affects teams in sports. Although most athletes and coaches will recognise it, very little scientific research has been done. Collective collapse is defined as when a team experiences a sudden decrease in performance that is devastating for the outcome of the game after a normal or good start of a game. To find out why the collective collapse occurs and how it is experienced emotionally and cognitively, nine interviews were conducted with professional male basketball players and five coaches from the Swedish basketball league. During the interviews a game was watched where the team had experienced a collective collapse. Questions about the game concerned the players' and coaches' feelings, thoughts, perceived control and general reactions about the game were asked. Additional questions about role structure, the occurrence of emotional contagion, attribution, motivation, decision making, egoistic behaviour, fear of losing, and their own explanation of why the collective collapse occurred were asked. The results were coded with Interpretive Phenomenological Analysis

(IPA), a qualitative method to come up with the common feelings and thoughts. Preliminary results indicate that a breakdown in the role structure can be one of the key factors of what ignites the collective collapse. Important individuals on the team, who are influential senders of emotions, and holders of important roles have an impact on the entire group structure and can in certain circumstances make it collapse. This may have a devastating influence on the team's performance making it hard to communicate and cooperate.

### **Paper 3. The relationship between starter and bench players**

Irina Simonenkova

*Lund University*

The purpose of this study was to examine the differences between starters and bench players in first-division football teams with regard to interactions in the team, group cohesion, role acceptance and self-confidence. 52 football players of 4 Latvian first-division teams participated in the study. 14 statements were developed to investigate the first topic. The Group Environmental Questionnaire was used to study the differences in group cohesion. Role acceptance was studied by eight questions referring to four types of role conflicts (Kahn et al., 1964), and for the fourth topic the subscale self-confidence of the Competitive State Anxiety Inventory-2 was used. Four major research hypotheses were formulated. First, due to the existence of starters and bench players, competition should occur between players. This hypothesis is partially confirmed, although there was more evidence for cooperation differences between starters and bench players. Second, perceptions concerning group cohesion should be different for starters and bench players. Personal attractions to the group task, attractions to the social aspects of the group were found to be different. Third, a difference was expected between starters and bench players concerning role acceptance. Fourth, we expected that starters would have a higher level of self-confidence compared to bench players. However, no significant difference between starters and bench players was found, not even tendencies in the expected direction.

### **Paper 4. A case study of using sociometry to describe and understand group dynamics in an ice-hockey team**

E. Rovio<sup>1</sup>, O. Salmi<sup>2</sup>, T. Kaarto<sup>3</sup>, J. Kinnunen<sup>3</sup>, & T. Lintunen<sup>3</sup>

<sup>1</sup>*Finnish Society of Sport Sciences, Helsinki, Finland*

<sup>2</sup>*Likes -Research Center, Jyväskylä, Finland*

<sup>3</sup>*Department of Sport Sciences, University of Jyväskylä, Jyväskylä, Finland*

The aim of the present study is to use sociometric questionnaire as a tool to measure and understand group dynamics of a junior-league ice-hockey team of 22 15-16-year-old players. The club team played at the highest level in the national league. Sociometry is a traditional but recently less used approach, which analyses relations of attraction between individuals in small groups. To develop a sociogram of acceptance and rejection requires each member of a group to indicate which other members they like or dislike. Social networks and relations are represented with a sociogram, individuals by dots or points and relations by one-way or reciprocal lines. In addition, dominance and communication relations were measured similarly. The measurements were made in the middle of the season when the power relations were formed and stabilised. A sociogram of three patterns was obtained, the players with power (n=11), the quiet group (n=4), and the central group (n=7). By measuring attraction, dominance and communication relations of the group it is possible to identify intergroup dynamics and to understand the behavior of the group members. Especially, the identification of dominant players is important, as these individuals affect the group's processes greatly. In evaluating the attraction relations it is better to use a scale from 1 to 5 rather than to name persons. That way the choices don't polarize (e.g. the most or least popular person) and the picture obtained of the group's dynamics is more extensive. Sociometry opens our minds to phenomena that are emotionally sensitive, and offers opportunities of understanding the ways people interact.

### **Paper 5. A case study of using sociometric questionnaire as a tool to measure social cohesion during one ice-hockey season**

E. Rovio<sup>1</sup>, O. Salmi<sup>2</sup>, A. Nikander<sup>3</sup>, & T. Lintunen<sup>3</sup>

<sup>1</sup>*Finnish Society of Sport Sciences, Helsinki, Finland*

<sup>2</sup>*Likes -Research Center, Jyväskylä, Finland*

<sup>3</sup>*Department of Sport Sciences, University of Jyväskylä, Jyväskylä, Finland*

The aim of the present case study was to describe and evaluate the use of sociometry as a measure of social cohesiveness in an ice-hockey team of 22 15-16-year-old players during one season. The information obtained from sociometry is compared with the Group Environment Questionnaire (GEQ, Widmeyer, Brawley &

Carron, 1985) - a more widely used measure of cohesion. The study was a qualitative case study. Specifically, the case is one player, his social interaction and how he was accepted in the team. Players filled the sociometric questionnaires three times in the season and evaluated other team members. In the beginning of the season the player was rejected. He scored lowest in the team on the index of received choices of positive affiliation (48, mean of the group 72). The coach intervened actively in the situation. Rules emphasising open communication and trust were created and followed. During the season the player started to collaborate better in the team. In addition, the other players started to value him more which was indicated by the increase in the positive choices he received in the middle and at the end of the season in sociometry. It was concluded that it is possible to recognise a person having an effect on the cohesion of the team with sociometry. However, the GEQ measures cohesion at the level of group; this means that it does not recognise a single player and his or her position in the team. These two ways of measuring cohesion complete each other.

## SYMPOSIUM 7

### Research and application in career development and career transitions in competitive sport (1)

Organizer/ Chair: **Paul Wylleman & Natalia Stambulova**, *Vrije Universiteit Brussel, Faculty of PE and Physiotherapy*

Discussant: **Natalia Stambulova**, *Halmstad University, Centre for Sport & Health Research*

The growing number of publications and congress symposia on the topic of career development and career transitions has been reported not only indicative of the interest from the sport psychology community but also reflective of developments which has occurred in the study of career transitions during the past three decades (Wylleman, Alfermann & Lavallee, 2004). This symposium will highlight recent studies looking into theoretical as well as applied aspects of career development and career transitions of (former) competitive and elite athletes.

#### **Paper 1. Players and coaches' perceptions of transitional changes after selection for an elite sports tennis school**

Paul Wylleman, Nathan Kahan, & Anke Reints

*Vrije Universiteit Brussel, Faculty of PE and Physiotherapy*

Athletic, psychological, psychosocial, academic, and occupational transitions have been reported to influence the progress and the quality of the development of elite (young) athletes' sports career (Wylleman & Lavallee, 2004). In order to examine the transitional changes occurring during the initial phases of the sports career, a qualitative research methodology was used to study the perceptions of 16 8-12 year old tennis players and 14 coaches during the first three months at the elite tennis primary school of the Flemish tennis federation (VTV). Results revealed not only that young players perceived changes at athletic (e.g., increase in frequency and intensity of training), psychological (e.g., increased daily mental focus on tennis, decrease in daily non-athletic activities), psychosocial (e.g., boarding school, living with other tennis players five days/week, being away from home) and academic level (e.g., need to adapt to new school system) but also that these perceived changes differed from the perceived transitions reported by the coaches. Recommendations for coping strategies as well as for sport psychology support service provision will be presented.

#### **Paper 2. A dynamic model of transition out of elite sport**

Yannick Stephan & Virginie Demulier

*Paris XI University*

It is now widely acknowledged that retirement from elite sport is a transition process. Nevertheless, since Taylor and Ogilvie' model (1994), there have been no attempt to specifically conceptualize transition out of elite sport. A new conceptual model of this transition is proposed. Its includes ideas from both existing career stage descriptive and career transition explanatory models, and incorporates also specific research on retirement from elite sport and from other psychosocial transition studies. This model is built on the definition of human adaptation and functioning. Transition out of elite sport is henceforth considered as a complex, dynamic and interactional process. The understanding of transitional athletes' adaptation is the focus of this conceptualization, which is designed to provide (1) an observable sequence of athletes' reactions to the transition process leading to the point of adaptation (a descriptive perspective labelled the observable part of the iceberg) (2) a complementary perspective on the underlying mechanisms explaining these reactions

and the adaptation process (the explanatory view called the hidden face of the iceberg). Thus, transition out of elite sport is conceptualized as being composed of three interrelated observable stages, defined as pre-transitional, transitional, and adjustment stages ending to the adaptation point. These stages are characterized and determined by a network of contextual as well as individual factors in continuing interaction with each other over time. Given the dynamic nature of adaptation, the temporal perspective is central in its conception. Theoretical, methodological, as well as practical issue emerge from this modelisation.

### **Paper 3. Qualitative study of an early retirement from competitive sport: Preliminary results**

Sasa Cecic Erpic

*University of Ljubljana, Faculty of Sport*

The retirement from competitive sport (sport career transition – SCT) is followed by an adaptation on a psychological, social, physical, and financial level. SCT is comprehended as a continuing process with several factors strongly influencing the quality of its outcome. Among other significant factors timing of SCT has to be taken into the account. The aim of this paper is therefore to present qualitative aspects of early (or premature) SCT. Since athletes who retired before they advanced to the senior level were older adolescents, study focused on the developmental characteristics of SCT process as well. The qualitative study included 25 talented gymnasts (all female), aged from 19 to 22. They terminated their careers before they reached the senior level. A semi-structured in-depth Interview about Sport Career Termination (Cecic Erpic) was designed to elicit the characteristics of SCT. The content analysis was used to describe characteristics of an early SCT. Beside contents that are characteristic for the developmental stage of adolescence, results accentuated factors that are related to sport disciplines where athletes are young when achieve the top level.

### **Paper 4. Perceived leadership behaviour, motivational climate and group cohesion as correlates of skill development and satisfaction in female soccer players**

Ines Pfeffer

*University of Leipzig, Faculty of Sport Science*

The sports career can be divided into several stages, with each stage characterised by a set of specific demands on the athletes. Within-career transition is examined comparing 2<sup>nd</sup> and 3<sup>rd</sup> league female soccer players. Based on the multidimensional model of leadership (Chelladurai, 1978) we assume that perceived leadership behaviour, motivational climate and cohesion is dependent on skill level of the athletes. Furthermore, leadership behaviour, motivational climate and cohesion are correlates of performance and satisfaction in different ways within the two skill levels. In a longitudinal study with two points of measurement data of 150 female soccer players and 9 coaches were obtained by standardised questionnaires in the middle of the season. As independent variable the skill level was assessed dichotomous (2<sup>nd</sup> league vs. 3<sup>rd</sup> league players). Dependent measures were obtained using german versions of the LSS, the PMCSQ and GEQ. The second point of measurement will be at the end of the season. Performance is assessed by win-loss percentage and satisfaction is measured based on social exchange theory (criteria). First results show that 2<sup>nd</sup> league players have significant more intensive training, perceive lower social cohesion and higher performance climate than 3<sup>rd</sup> league players. No differences were found according perceived leadership behaviour. The results indicate that skill level has an influence on perceived motivational climate and cohesion but not on perceived leadership behaviour. However, data of the second point of measurement will bring more specific insight regarding performance and satisfaction of the athletes.

### **Paper 5. The transition from junior to senior sports: A summary of six Swedish studies**

Natalia Stambulova

*Halmstad University, Centre for Sport & Health Research*

The paper presents a summary of six studies on the transition from junior to senior sports conducted by Swedish master's students under the author's supervision. All the studies were qualitative and used the developmental model (Wylleman & Lavallee, 2004) and the athletic career transition model (Stambulova, 2003) as theoretical frameworks. Ekengren (2003) studied male handball players in the transition. Josefsson (2004) conducted an intervention case study of a female track-and-field athlete in the transition. Hornbrinck and Båge (2005) interviewed female football players who made successful transition to the senior national team. Mavroidis (2005) focused on the role of coaches in the transition of male football players. Vujic (2006) contrasted one successful and one crisis transitions in swimming. Stolze (in progress) follows the transition of four female football players longitudinally. To summarise, the studies demonstrate that the transition from junior to senior

sports relates not only to a sport context. Besides new challenges in practice and competitions, the athletes experience new demands in psychological development (identity formation, striving for independence), in psychosocial (importance of socializing, having friends/love), and in academic/vocational development (higher education/professional choice demands). As a result, the athletes are under high life stress and need to find time/energy for everything. The successful transition lasts one-three years depending on the resources/barriers balance and coping strategies. Career planning, balancing lifestyle, stress/time/energy management, effective recovery are important issues helping athletes to develop internal resources to cope. Continuity in coaching and significant others' psychological support are the most valued external resources for the transitional athletes.

**Wednesday 5/9/2007**

**15:30-16:50**

**SYMPOSIUM 8**

**Getting published in sport and exercise psychology: meet the journal editors**

Organizer/ Chair: **Adrian Taylor**, *University of Exeter*

The session does not follow the stated guidelines but will involve as many respective editor-in-chiefs for the 7 journals in our field as possible, including *Psychology of Sport and Exercise*, *Journal of Applied Sports Psychology*, *The Sports Psychologist*, *Journal of Clinical Sport Psychology*, *Journal of Sport & Exercise Psychology*, *International Journal Of Sport Psychology*, *International Journal Of Sport & Exercise Psychology*. The session will provide a forum for both experienced and less experienced researchers to hear about the aims, policies, and procedures of each journal, as well as details about acceptance rates and tips for how to get manuscripts accepted. It is expected that each co-editor-in-chief (or a nominated senior representative) will give a brief presentation followed by an opportunity for delegates to ask questions. An invitation has been sent out to all editors-in-chief, as agreed in correspondence with Yannis Theodorakis.

**SYMPOSIUM 9**

**Past, present and future of the European Network of Young Specialists in Sport Psychology (ENYSSP)**

Organizer/Chair: **ENYSSP Managing Council / Xavier Sanchez**, *Edge Hill University*

Discussant: **A member of the ENYSSP Managing Council**, *Edge Hill University*

The present symposium discusses the past, present and future of the European Network of Young Specialists in Sport Psychology (ENYSSP). The first paper by Araújo, Lindwall and Sanchez summarises the origins of ENYSSP. The authors will recall how ENYSSP grew out of the European Master's Programme on Exercise and Sport Psychology, especially its Intensive Course. The presentation will summarise how the first students of that programme started to work towards the development of a more stable forum to sharing ideas and knowledge for young professionals in the field. Thus, how ENYSSP began! The second paper by Sanchez and de Oliveira will illustrate what ENYSSP is today. The structure of ENYSSP will be presented, emphasizing the equal importance given to the three different departments of the network; that is, Research, Applied and Education. The services ENYSSP provides, such as the Website (<http://www.enyssp.org>), the Forum and the Newsletter, will also be presented. The third paper by Nederhof, de Oliveira and Sanchez informs about one of the most challenging activities ENYSSP has organised during its first three years of official existence. That is, the yearly ENYSSP Workshops, which have been so far held in Amsterdam (2004), Ghent (2005), and Lisbon (2006). The fourth and last paper of the present symposium, by de Oliveira, Snauwaert, Nederhof and Sanchez, looks at what awaits ahead to ENYSSP. Precisely, the authors will discuss what the current Managing Council (whose mandate ends in 2007) believes future *ENYSSPists* should consider in the near future.

**Paper 1. The origins of ENYSSP**

Duarte Araújo<sup>1</sup>, Magnus Lindwall<sup>2</sup>, & Xavier Sanchez<sup>3</sup>

<sup>1</sup>*Technical University of Lisbon (Portugal)*

<sup>2</sup>*Högskolan i Halmstad (Sweden)*

<sup>3</sup>*Edge Hill University (UK)*

The foundation of, and impetus for the beginning of the European Network of Young Specialist in Sport Psychology (ENYSSP) grew out of the European Master's Programme on Exercise and Sport Psychology. The

heart and soul of this programme is the Intensive Course (IC), where students interact intensively with each other and with teachers from all over Europe during two weeks, sharing knowledge in the area of sport and exercise psychology. Since its first edition in 96-97 more than 200 students have participated. Acknowledging the unique network possibilities spawned from the meeting of young specialists all around Europe that the IC and the European programme afforded, students from the first and second year of the programme started to work towards the development of a more stable forum to sharing ideas and knowledge for young professionals in the field. In 2003, during the FEPSAC congress in Copenhagen (Denmark), ENYSSP was formed officially. The following members were nominated for a position in the first Managing Council: President Xavier Sanchez (Spain/UK); Past Coordinator Duarte Araújo (Portugal); Secretary General Bjorn Carlsson (Sweden); Treasurer Caroline Jannes (Belgium/USA); Research Coordinators Rita de Oliveira (Portugal/Netherlands) and Magnus Lindwall (Sweden); Applied Work Coordinators Els Snauwaert (Belgium) and Cristina Rolo (Portugal/USA); Education Coordination Elke van Hoof (Belgium) and Jeroen Meganck (Belgium); the latter, for professional reasons, requested to be replaced by Esther Nederhof (Netherlands).

### **Paper 2. ENYSSP today: Objectives, structure, membership and services**

Xavier Sanchez<sup>1</sup>, & Rita de Oliveira<sup>2</sup>

<sup>1</sup>*Edge Hill University (UK)*

<sup>2</sup>*Vrije Universiteit Amsterdam (Netherlands)*

The main objectives of the European Network of Young Specialists in Sport Psychology (ENYSSP) are: to coordinate European links between young researchers, educators and professional practitioners; to promote and facilitate a cross-national cooperation for research, education and applied work in Sport and Exercise Psychology (SEP); to support the development and standardisation of official degrees in SEP within Europe; and to promote SEP as an independent branch of study, which intercepts sport and exercise science and psychology but it is not dependent of any of them. The structure of ENYSSP includes three different departments: Research, Applied and Education. The three are given the same importance within the organisation, which is reflected in all services ENYSSP provides. Some of the services ENYSSP provides are the Website (<http://www.enyssp.org>), hosting information about our members, departments, forthcoming events, etc. The Forum, that provides updated information with regards to the field of SEP and, crucially, space to sharing information. ENYSSP also sends a Newsletter to all its members. With two issues in 2004, three in 2005, and four in 2006 and 2007, the newsletter has increasingly become a place for members' sharing of input. As a one off, for its first year, free membership was given to all who showed interested in ENYSSP during the 2003 FEPSAC congress in Copenhagen. Indeed, ENYSSP membership has oscillated between 54 and 124 during the first three years of its existence.

### **Paper 3. The yearly workshops of ENYSSP**

Esther Nederhof<sup>1</sup>, Rita de Oliveira<sup>2</sup>, & Xavier Sanchez<sup>3</sup>

<sup>1</sup>*Universiteit Groningen (Netherlands),*

<sup>2</sup>*Vrije Universiteit Amsterdam (Netherlands)*

<sup>3</sup>*Edge Hill University (UK)*

After the first formal meeting of ENYSSP's managing council (MC) in December 2003, it was decided to combine future MC meetings with a Workshop; that would perfectly fit ENYSSP's goals. Thus a one-day 1<sup>st</sup> Workshop was organised in November 2004 in Amsterdam by Rita de Oliveira, Esther Nederhof and Caroline Jannes. The organisers strived for an affordable workshop in which equal attention was paid to the three pillars of ENYSSP: education, research, and applied sport psychology. This 1<sup>st</sup> Workshop was a success: it was fully booked with 63 participants and feedback gathered was so excellent that it was decided to run a two-day event next time. In November 2005 the 2<sup>nd</sup> Workshop was organised in Ghent by Caroline Jannes, Els Snauwaert and Elke van Hoof. This was the first two-day workshop, which was attended by 73 participants. The 3<sup>rd</sup> Workshop (the last organised under the 2003-2007 MC) was organised by António Palmeira, Duarte Araújo and Pedro Passos in November 2006 in Lisbon. Indeed, it was the first time that our yearly event was organized in collaboration with *outsiders* to ENYSSP MC. This proved to be a good decision that should be kept open in coming years. All three organising committees succeeded in organising high quality workshops with very low fees. The informal part of these events (e.g., dinners, sporting activities) was, at the very least, as important, appreciated and enjoyable as the formal part. With such recipe the workshops have provided participants with a great opportunity to meet, network and learn.



**Paper 4. The years ahead of ENYSSP.**Rita de Oliveira<sup>1</sup>, Els Snauwaert<sup>2</sup>, Esther Nederhof<sup>3</sup>, & Xavier Sanchez<sup>4</sup><sup>1</sup>*Vrije Universiteit Amsterdam (Netherlands)*<sup>2</sup>*Sport Support (Bel)*<sup>3</sup>*Universiteit Groningen (Netherlands)*<sup>4</sup>*Edge Hill University (UK)*

Years have given an account of the past and current concerns and activities of ENYSSP, but with the terminus of the mandate of the first managing council (MC) it is time to wonder about the future of this network. The present MC thinks there is a future for this network and draws attention to three needs. First, ENYSSP needs to be up to date, meaning that it will have to continue to attract new members while retaining some of the previous members. This renewal extends to the MC. New members can pose new questions and keep the concerns of the network updated while previous members can share more knowledge and resources. Second, ENYSSP needs to be proactive and dynamic. The great challenge of the next MC is to continue to promote initiatives like the newsletter, forum, website and workshops but also to create new formats and support members' initiatives. In this regard it is important to have dynamic, creative and involved people who can help to fulfil the goals of the network. Third, ENYSSP needs to strive for visibility within the sport psychology community. The problems specific to young specialists must be accounted for if we want quality in sport psychology, be it in research, education or applied work. The current *ENYSSPists* have built and will continue to build conditions that allow a better sport psychology, especially for those starting in this amazing field.

**Wednesday 5/9/2007****17:00-18:20****SYMPOSIUM 10****Life skills teaching in sport and physical education**Organizer/ Chair: **Marios Goudas**, *University of Thessaly*Discussant: **Steven J. Danish**, *Virginia Commonwealth University*

This symposium focuses on the teaching of SUPER, a sport based program for teaching life skills in sport. The structure of SUPER will be explained, its components will be analyzed and examples of its application will be provided. Further, an abbreviated form of SUPER developed in the at the Psychology of Exercise and Quality of Life Laboratory of the University of Thessaly will be described together with the results of recent studies that have evaluated this program in youth sport and in physical education settings.

**Paper 1. Teaching Life Skills Through Sports: A "How to Do It" Primer**

Steven J. Danish

*Virginia Commonwealth University*

The SUPER Program is a sports-based life skills program designed to enhance positive youth development. We teach life skills through 18 modules taught like sports clinics involving three components: learning the physical skills related to a specific sport; learning life skills related to sports in general; and playing the sport. Although sport skills may improve, and they often do, that is not our primary goal. As a result of participating in SUPER, we have as our goal to help youth learn to work well, play well, love well, think well, serve well and be well. In this presentation the focus will be on how we teach the program. Several key strategies are used: 1) we emphasize teaching youth how to set and achieve their goals; 2) each module is taught as a skill; 3) as part of the instruction we stress that successful athletes need to improve both their "below the neck" (physical skills) and "above the neck" (mental skills) abilities; 4) older peers are often used as SUPER leaders; and 5) we explain and provide examples of how both physical and mental skills can be practiced and improved in sport settings and how the mental skills can be practiced and improved in non-sport settings. We believe that sport *can* play an important role in preparing youth to learn essential "life lessons" so that they may be successful adults *if* youth are able to transfer these sport-related mental skills.

**Paper 2. Incorporating life skills teaching in practice sessions: An abbreviated form of SUPER**

Marios Goudas

*University of Thessaly*

This presentation describes an abbreviated form of SUPER that has been developed, implemented and evaluated at the Psychology of Exercise and Quality of Life Laboratory of the University of Thessaly. This form of SUPER has 3 distinct characteristics: a) The sessions are shorter (15 minutes), b) they take place during practice time, and c) the program begins with sport skill/fitness tests that serve as stimuli for participants to set goals. The components of the program are goal setting, problem solving and positive thinking. Learning objectives were introduced in combination with sport practice. Examples of the application of this form of SUPER together with respective results are presented.

**Paper 3. Implementation of a life skills development program in physical education and sports**

Vassilios Papacharisis

*Aristotle University of Thessaloniki*

Three studies, the first in volleyball ( $N=40$ ), the second in soccer ( $N=32$ ), and the third in school physical education ( $N=80$ ), were conducted to test the hypothesis that children, age of 10-12, participating in an abbreviated form of SUPER program, would demonstrate greater improvement: a) in life skills such goal setting, problem solving and positive thinking b) in specific sport skills. The program lasted 8 weeks and consisted of a single 15' session per week. The contents of the program were gradually integrated to the training session or physical education class. Evaluations were conducted pre, post and two months after the implementation of the program. Self-reported questionnaires were used to assess knowledge in life skills and perceived competence in life skills. Children performance on motor skills was measured employing specific volleyball, soccer, and fitness tests. The results showed that children participating in the program demonstrated significant improvement in life skills knowledge, perceived competence to use life skills and sport skills performance. Two months after the implementation of the program, children maintain the acquired life skills knowledge, but such a positive influence was not evident in perceived competence. The above results suggest that the implementation of the abbreviated form of SUPER program seems to be effective and applicable in sport and physical education context.

**Paper 4. The effectiveness of teaching a life-skills program in a physical education setting**

Georgios Giannoudis &amp; Marios Goudas

*University of Thessaly*

The purpose of the present study was to examine the effectiveness of a life skills program taught in a physical education context. The 17-lesson program was administered to 191 elementary and junior high schools students from the broad district of Thessaloniki, Greece. The experimental group was taught 10 basketball and 7 volleyball lessons coupled with 10minutes life skills units while the control group was taught typical physical education lessons. The life skills program focused on setting goals, making plans for achieving goals, on positive thinking and problem solving strategies. To evaluate the program quantitative and qualitative methods were used. Quantitative method involved two volleyball (overhand pass and underhand service) and two basketball skill tests (chest pass and speed dribble) and questionnaires which assessed knowledge about life skills, beliefs about effective use of life skills and intrinsic motivation to participate in physical education lessons. Evaluations were conducted pre and post the intervention. Qualitative method involved interviews after the termination of the program and participant observation by the researcher during the program's duration. Results showed gains on sport skills, knowledge, self-beliefs regarding goal setting and intrinsic motivation for the experimental group while the qualitative analysis supported and reinforced these results. Moreover students enjoyed and appreciated the program, regarded life skills very useful and valuable for their everyday life. On the contrary there were a few acceptance problems of the program attributed to the students' attitude and manner. Overall the results showed that this program seems to be effective and applicable.

**SYMPOSIUM 11****Research and application in career development and career transitions in competitive sport (2)**Organizer/ Chair: **Natalia Stambulova & Paul Wylleman**, *Halmstad University, Centre for Sport & Health Research*Discussant: **Paul Wylleman**, *Vrije Universiteit Brussel, Faculty of PE and Physiotherapy*

The growing number of publications and congress symposia on the topic of career development and career transitions has been reported not only indicative of the interest from the sport psychology community but

also reflective of developments which has occurred in the study of career transitions during the past three decades (Wylleman, Alfermann & Lavallee, 2004). This symposium will highlight recent studies looking into theoretical as well as applied aspects of career development and career transitions of (former) competitive and elite athletes.

### **Paper 1. Career planning strategy: How to balance the past, the present and the future?**

Natalia Stambulova

*Halmstad University, Centre for Sport & Health Research*

Career assistance as a relatively new area in applied sport psychology requires further development of professional strategies/tools to work with athletes. This paper presents the 5-steps career planning strategy based of the athletic career transition model (Stambulova, 2003) and the holistic perspective outlined by the developmental model (Wylleman & Lavallee, 2004). The 1<sup>st</sup> step entitled “*make a framework*” directs an athlete to draw a lifeline and to mark his/her birth and current age on it. The 2<sup>nd</sup> step “*structure your past*” encourages the athlete to describe the most important events in his/her life before today and to mark them on the lifeline. The 3<sup>rd</sup> step “*structure your present*” suggests the athlete to write down the most important parts of his/her current life and then to rank them in regard of their subjective importance, time spend, and stress level. Then the ranking is analysed. The 4<sup>th</sup> step “*structure your future*” stimulates the athlete to think forward and to tell about the most important events he/she expects in the future (during the whole life, next 10, 5, 3 years and one year). The 5<sup>th</sup> step “*bridge your past, present and future*” involves sub-steps as follows: (a) “from the past to the present” focusing on lessons learned and coping resources developed; (b) “from the present to the future” involving goal setting in priority areas, resources/barriers analyses, and an action plan; (c) “from the future to the present” balancing current and future priorities. Reflections on implementing the strategy will be outlined.

### **Paper 2. On the multidimensionality of transition out of elite sport: A study of multiple sources of influences on retired French elite athletes’ global self-esteem**

Yannick Stephan & Virginie Demulier

*Paris XI University*

Recent studies have emphasized that transition out of elite sport is a multidimensional process, with changes in several spheres of live (Stambulova, Stephan, & Japharg, 2007). However, no research has yet tested if these different changes could have broad psychological consequences, when considered simultaneously. The purpose of this study was to test for the multidimensionality of transition out of elite sport, through the identification of the respective weight of several life changes for retired French elite athletes’ global self-esteem. The sample consisted of 69 former French elite athletes (46 males and 23 females, *Mean age*= 34.88, *SD*= 4.82), representing a wide range of Olympic sports. Areas of perceived difficulties during the transition included professional career, studies, family, communication (social network), leisure activities, and bodily domain, and were assessed by a five-point Likert scale anchored from 1 (not at all) to 5 (very much). The global self-esteem single item of the Physical Self Inventory was also used, using a visual analogue scale from 1 (not at all) to 10 (absolutely so). Multiple regression analysis revealed that both difficulties experienced with professional career ( $\beta = -.24, p < .05$ ) and difficulties experienced with the body ( $\beta = -.32, p < .01$ ) have a significant relation with global self-esteem. This study is the first to demonstrate that transition out of elite sport is a multidimensional phenomenon, with different changes which could simultaneously influence transitional athletes’ reactions. This result has practical implications for a multidimensional retirement planning.

### **Paper 3. Sport career counseling: Is step back in the career always a bad decision?**

Sasa Cecic Erpic

*University of Ljubljana, Faculty of Sport*

The career assistance and counselling related to career decisions is becoming an important segment of psychologist’s applied work with elite athletes. Elite sport is a highly demanding industry that requires fast and effective decisions that have significant effect on athlete’s sporting career. Although majority of athletes aspire to reach higher steps in their careers, they sometimes have to make decisions that are actually a step back. The question is whether the step back is always a bad decision as was the case in the participant’s decision process. The aim of the paper is to present a case study of an elite handball player (female, aged 23 at the time of counselling) and the process of her career related decisions. During her regular work with sport psychologist, career related issues arose. As the end of a season was approaching, she had to make a decision where and how to proceed her aspiring career. She received several offers from various clubs. Career related issues were discussed

during several individual sessions with sport psychologist. Using the qualitative research methodology various cognitive, behavioural and emotional aspects of the decision process were found. Athletic- and non-athletic spheres of life were discussed. Identification of the stressors related to the decision and her basic beliefs about herself were discussed from the cognitive-behavioural perspective. Some characteristics of the career planning process and problem solving strategies will be presented.

**Paper 4. Evaluation of a programme to combine elite sport and university education**

Torregrosa, M., Mateos, M., Sanchez, X., & Cruz, J.

*Universitat Autònoma de Barcelona - Edge Hill University*

Tutoresport is an educational programme offered at the *Universitat Autònoma de Barcelona* that provides counselling to elite athletes and aims to optimise both their educational and athletic career. Participating athletes are allocated a tutor who offers guidance regarding the planning of the academic year and deals with all possible conflicts that may arise from the combination of competition and studies. Thirty-five athletes (17 male and 18 female; mean age= 21.63, SD=2.73) completed a survey that evaluated the programme, provided information about their difficulties in making decisions related to career, and how they viewed their athletic identity. Results showed that athletes perceived themselves significantly more competent as athletes rather than as students. Moreover, they tended to perceive their academic level as lower than the average student, but higher than the average athlete enrolled in the programme. Overall the programme was highly appreciated by the athletes enrolled in it. The longer athletes had been involved with the programme the more they valued its contribution, the higher its impact in clarifying their professional objectives, and the lower they scored in career decision making difficulties. Athletic identity correlated negatively with time involved in the programme, and positively with the perception of contribution of the programme to clarify the long term professional objectives. All athletes were highly satisfied with the tutors' availability and efficiency. Programmes such as Tutoresport provide elite athletes with the necessary services to optimally combine competition and education at a very important point of their sporting and vocational/educational careers. The support provided was highly appreciated at a practical level (e.g., changing examination days) as well as at a developmental level (e.g., balance between roles and career decision making).

**Paper 5. An in-depth evaluation of the Australian Athlete Career Education (ACE) program**

Redmond, J., Gordon, S., & Chambers, T.

*University of Western Australia*

It is recognised that both physical and mental preparation is important to the performance outcomes of an elite athlete. In the early 1990s career education became an integral part of the mental preparation of many elite athletes. This change acknowledged that a balanced life that helped prepare elite athletes for life after sport often had a positive effect on their on-field performance. An in-depth evaluation of the Athlete Career Education (ACE) program, as it was delivered to the Australian Women's Hockey Squad (AWHS), was undertaken to assess its effectiveness to assist elite athletes achieve a balanced life and prepare for life after sport. The experience of the AWHS of the ACE program was used as an illustrative case and the research was informed by rigorous qualitative procedures. The participants in the study included 8 hockey squad players, the hockey coach and the ACE program co-ordinator. Two key issues emerged from the evaluation. First, there was positive support for the inclusion of the ACE program in the athlete's weekly preparation. Second, improvements were considered possible by embedding a life span development perspective into the ACE program's design and delivery. The results support the view that athlete's benefit from career education which helps them to achieve sport, life and career goals. In addition, the value of the ACE program would be enhanced by incorporating a life span development perspective which is cognizant of the transitional processes incurred during an athlete's sport career and beyond.

**Thursday 6/9/2007****08:30-09:50****SYMPOSIUM 12****Attention and memory in motor and sport performance**Organizer/Chair: **Gershon Tenenbaum**, *Florida State University*Discussant: **Ronnie Lidor**, *The Zinman College of Physical Education and Sport Sciences*

The symposium on "Attention and Memory in Motor and Sport Performance" is aimed at establishing a logical cognitive sequence between knowledge base/structure, attention, and performance under neutral and pressure conditions, and the use of attentional strategies in ADHD and normal samples. To operationalize this sequence, the first presentation (Schack) introduces an innovative method, which provides evidence that mental representations stored in LTM can be detected consciously, and be used to differentiate expertise level. These mental representations can also be detected using EMG coherence method. Land and Tenenbaum's presentation examines the notion that under pressure, mental representations of expert and novice athletes may not protect against choking, and thus securing step-by-step (novice) or automatic (expert) processing before action execution may require different attentional strategies. The study introduces alternative "processing" measures of performance variation than outcome measures used so far in similar experiments. External and target-focus attentional strategies were also examined in learning closed new skilled by ADHD and regular learners by Lidor and Solomon. Immediate effect was evident for external attentional strategy, but accuracy increase and persistence decrease as a consequence of target-focus strategy. Together the three experiments demonstrate the linkage between knowledge base/skill-level, attention strategies, and motor performance, and suggest perceptual-cognitive-emotional construct related to performing motor tasks.

**Paper 1. Building Blocks of Motor Performance in Memory and Brain**

Thomas Schack

*Bielefeld University, Israel*

Memory structures play a central role in the voluntary control and organization of actions. For improving performance in practice it was our interest to measure such structures in memory and brain and use the results for developing new tools in mental training. For measuring the mental structure of movement representations in long term memory we used an experimental method (SDA-M, Schack, 2004). Here we performed a first group of studies and investigated athletes in volleyball (n=36), golf (n=60), swimming (n=30) and athletes (n=33) and coaches (n=10) in Tennis. In high-level experts these representations were organized in a distinct hierarchical tree-like structure and were well matched with the functional and biomechanical demands of the task. In comparison, action representations in novices were organized less hierarchically and were less well matched with functional and biomechanical demands. Interestingly, experts' representation structures were remarkably similar across individuals. In comparison, the action representations in low-level athletes showed more between-persons variability. In a second step of research we used an experimental method (CMC, Schack, 2004) to learn about chunking structures in working memory. This test-paradigm presented a binary recognition task. Coloured pictures with movement-elements of different techniques were shown as stimulus material in several test-series in volleyball, free-climbing, and gymnastics. We observed not only significant differences in the median reaction time between the expertise-dependent groups but also, the slopes of the functions between the number of stimuli and reaction time differed between experts and novices. This seems to point to an expertise-dependent storage of movement-specific information in working memory. To find out the neurophysiological basis of such representations in the brain we used in a third step neurophysiological measurements; for instance an EEG-coherence-method (Schack, 1999). EEG activity of cortical areas revealed sequence of coherence maps which remain stable over time. We found different activation patterns in the neurophysiological structures of movement memory between experts and beginners. Based on these results we propose that movements are planned, executed, and stored in memory by way of structured representations. This grants the methods applied here direct significance for the development of new forms of mental training.

**Paper 2. Facilitation of automaticity: Sport relevant vs. non-relevant secondary task**

William Land &amp; Gershon Tenenbaum

*Florida State University*

Recent studies have identified attentional mechanisms underlying choking under pressure in motor skills. These findings reveal that performance pressure disrupts automaticity through a return to conscious processing. The

present study bridged the gap between theory and practice by extending previous research into an applied realm in order to develop a practical intervention to prevent choking. The study examined skilled ( $n = 20$ ) and novice ( $n = 24$ ) golfers on a putting task under high and low pressure, while carrying out two types of secondary tasks: a traditional secondary task consisting of random letter generation, and a sport-relevant task consisting of monitoring club head – ball impact. Putting performance was measured using state of the art motion analysis, which determined changes in motion consistency across putting conditions. It was hypothesized that both types of secondary tasks will facilitate automaticity (i.e., increasing motion consistency) by controlling attentional focus and preventing a return to conscious processing. Results revealed that skilled golfers exhibited lower variations in task performance than novice players under both neutral and pressure conditions; motion variation remained stable under the three attentional conditions in high skill golfers but varied in novices. However, traditional performance measures indicated a skill level advantage, as well as support for the benefits of secondary tasks on outcome performance in skilled golfers. The study clarifies the underlying processing mechanisms, which determine skill superiority under conditions, which vary in attentional demands.

### **Paper 3. The effectiveness of attentional strategies on learning closed-motor skills among learners with ADHD and without ADHD**

Ronnie Lidor & Hilla Solomon

*University of Haifa, Israel*

Research in motor learning and sport psychology (e.g., Lidor & Yanovitz, 2005; Wulf, Höb, & Prinz, 1998; Wulf, Lauterbach, & Toole, 1999; Wulf, McNevin, & Shea, 2001; Wulf & Prinz, 2001) has shown that learners who were taught to focus attention away from their body (i.e., an external focus) achieved better than those who were directed to focus attention on their own body (i.e., an internal focus). The use of attentional strategies has been examined among normal population. Little is known about the use of these strategies in learners with ADHD. Among the characteristics of individuals with ADHD are attention difficulties, concentration deficiencies, and high distractibility. The purpose of this study was to examine the effectiveness of attentional strategies on learning of closed-motor skills among learners with ADHD and without ADHD. Sixty fifth- and sixth-grades learners took part in the study. They were assigned to six groups (four attentional groups and two no-attentional [control] groups), each consisting of 10 participants. The participants took part in three sessions: in the first two sessions they were exposed to the attentional or control instructions and performed an acquisition task (throwing a ball at a single target apparatus). In the third session, a retention task (i.e., the acquisition task) and a transfer task (throwing a ball at one target out of five options) were performed. Accuracy and consistency were measured for all throwing performances. Analyses of variance were used for the acquisition, retention, and transfer tasks. The data analyses revealed that learners (with and without ADHD) who were directed to use an attentional strategy outperformed those who were not directed to use the strategies. The advantage of using an external focusing strategy was found only for the acquisition phase. Inverse relationships were found for the accuracy and consistency of performance: while level of accuracy increased in learners who used an attentional focusing strategy – performance consistency decreased. No differences were found between learners with and without ADHD regarding the effect of attentional strategy. It was concluded that teaching a new motor skill may preferably be done using attention focusing strategies. In addition, learners with ADHD may not be taught a different strategy from the one used with learners without ADHD.

## **SYMPOSIUM 13**

### **Interpersonal and social dynamics in sport settings**

Organizer/Chair: **Sophia Jowett**<sup>1</sup> & **Alan L. Smith**<sup>2</sup>, <sup>1</sup>*Loughborough University*, <sup>2</sup>*Purdue University*

Discussant: **Alan L. Smith**, <sup>2</sup>*Purdue University*

The symposium on “Interpersonal and social dynamics in sport settings” will present cutting edge research on interpersonal and social issues as these unfold in sport settings. The papers selected to form part of this symposium will underline the multifaceted interpersonal and social context of sport and its impact on talent development, performance improvement, and experiences of satisfaction among others. The symposium objectives will be two-fold: (a) to present four papers and (b) to engage the audience in a discussion about the current status of research in this area and future research directions. Paper 1 essentially sets the scene by highlighting the importance of young children sampling varied social experiences in the early years of sport involvement for positive outcomes in later years of sport specialization. The remaining papers deal with specific social (coach-athlete) and personal (athlete-partner) relationship contexts. Paper 2 is based on a three-

dimensional efficacy-based model and reveals that an examination of efficacy beliefs in the coach-athlete relationship can expand knowledge and understanding of this complex type of relationship. Paper 3, is based on a popular leadership framework to investigate the degree to which athletes' and coaches' gender moderate the relationship between the preference/perception discrepancy and various outcomes. Paper 4 examines a relationship type that has received very little attention over the years, namely the athlete-partner relationship, as it associates to athletic performance.

### **Paper 1. A Sampling Environment to Promote Diverse Relationships and Continued Involvement in Sport**

Jean Côté & Scott Wilkes

*Queen's University at Kingston, Canada*

Retrospective studies have shown that athletes and coaches sample a wide range of sporting activities during their childhood (Côté, Baker, & Abernethy, 2003; Ericksson, Côté, & Fraser-Thomas, 2007). The purpose of the present paper is to propose the social mechanisms by which a sampling environment during early childhood, as opposed to early specialization, helps promote positive outcomes in sport. Lerner, Freund, Stefanis, and Habermas (2001) proposed a curvilinear function in which either too many or too few goal-related activities may be disadvantageous for successful development. In sport, Côté and Fraser-Thomas (2007) suggest that sampling various sporting activities from ages 6-12 leads to more positive outcomes than early specializing. Sampling a variety of sports during childhood allows youth to have more contact with a variety of people and diversify their experiences. Just as greater breadth of involvement over time in various structured activities predicts positive developmental success (Busseri, Rose-Krasnor, Willoughby, & Chalmers, 2006), this paper suggests that sampling various sports during childhood predicts more positive developmental outcomes than early specialization (Côté, Baker, & Abernethy, 2007). These positive outcomes may result, at least partly, from the various social contexts that youth experience from involvement in different sports.

### **Paper 2. Efficacy beliefs in athlete-coach dyads: A qualitative investigation into antecedents and consequences**

Ben Jackson<sup>1</sup> & Mark R. Beauchamp<sup>2</sup>

<sup>1</sup>*Canada University of Leeds, UK*

<sup>2</sup>*University of British Columbia,*

Lent and Lopez (2002) recently presented a 'tripartite' model that conceptualizes three types of efficacy belief that exist in close partnerships, namely self-efficacy, other-efficacy, and relation-inferred self-efficacy (RISE). The overall purpose of this study was to examine the antecedents and consequences of efficacy beliefs within coach-athlete relationships. Semi-structured interviews were conducted with each member of six international-level athlete-coach dyads from individual sports. Through a combination of inductive and deductive content analytic procedures, meaning units were grouped into salient themes and higher-order categories. Findings for both coaches and athletes supported, as well as supplemented, theoretical tenets outlined by Lent and Lopez (2002). Specifically, antecedents that emerged for efficacy beliefs were broadly based on perceptions regarding the individual (e.g., experience as a coach/athlete), current or past partners (e.g., partner's mastery achievements), and the relationship as a whole (e.g., dyadic communication). A number of important cognitive (e.g., relationship persistence intentions), affective (e.g., relationship satisfaction, anxiety), and behavioural (e.g., performance, effort expended) consequences were also identified in relation self-efficacy, other-efficacy and RISE. Results are discussed in relation to theory advancement, future research, and practical implications for fostering coach-athlete relationships.

### **Paper 3. The preference/perception discrepancy of leadership behaviour as a function of athletes' and coaches' gender**

Harold Riemer

*University of Regina*

Gender (often operationalised as sex) of the individuals making up a task group has been hypothesized as moderating and/or mediating important relationships in sport psychology. Chelladurai's Multidimensional Model of Leadership suggests that males and females will have different preferences for leadership behaviour. In his recent review, Riemer (2006) noted that the evidence in this regard has been mixed; most of this work has been merely descriptive in nature. Central to the multidimensional model of leadership behaviour is the premise that the discrepancy between preferences and perceptions of leadership behaviours impact outcomes

such as satisfaction and performance; evidence for this hypothesis has also been mixed. Recently, Riemer and Toon (2001) suggested that preferences of leadership behaviour were a function of the interaction between an athlete's sex and the coach's sex. By extension, since perceptions of leadership behaviour may be influenced by preferences (e.g., Eagly & Chaiken, 1993), the relationship between the preference/perception discrepancy and various hypothesized outcomes may be a function of whether or not the athlete and coach are of the same gender (sex). The purpose of the study was to answer this question. A total of 148 athletes (77 females and 71 males) participated in the research by completing preference and perception versions of the Leadership Scale for Sport (Chelladurai, 1996) and four subscales of the Athlete Satisfaction Questionnaire (Riemer & Chelladurai, 1998, 2002). Results of the multiple regression analyses suggested that the relational demography (Bauer & Green, 1996) of the coach-athlete dyad does impact the discrepancy-satisfaction relationship.

#### **Paper 4. The role of personal relationships in athletes' sporting career**

Sophia Jowett & Duncan Cramer

*Loughborough University, UK*

There is no single empirical study that examines the role of personal relationships formed between athletes and their partners in athletic performance. Athletes, particularly those who operate at high performance levels, are required to commit wholeheartedly to their sport and spend long hours training. They are expected to participate in competitions Saturdays, Sundays, evenings, even holidays, and travel away from home. Thus, athletes face demanding work conditions as well as highly competitive and uncertain careers that can cause intense relationship dynamics and difficulties with their partners. These relationship difficulties may, in turn, cause worries related to an athlete's well-being including performance accomplishments. The paper will present information in two main areas: (a) the quality and content of athletes' personal relationships and (b) the impact of personal relationships on athletes' satisfaction and performance accomplishments. Male and female athletes who competed at a good standard participated in the study. A relationship-oriented questionnaire measuring, for example, closeness, commitment, communication, support, and empathy as well as performance satisfaction was administered to athletes who were involved in a romantic or marital relationship. Data collected were analysed using various techniques, one of which was hierarchical regression analysis, to test the prediction of sporting performance in terms of the relationship variables measured.

### **SYMPOSIUM 14**

#### **Self-talk: State of the art and perspectives in sport psychology research**

Organizer/ Chair: **Yannis Theodorakis**, *University of Thessaly*

Discussant: **Judy L. Van Raalte**, *Springfield College, Massachusetts, USA*

This symposium presents research on the assessment of self-talk in sport settings and the effects of different types of self-talk on performance. The first paper examines results from experimental studies investigating the effects of different types of self-talk on different tasks and the functions self-talk serves. The second focuses on the development and evaluation of the psychometric properties of an instrument assessing positive and negative ST. On a similar note, the third paper examines the psychometric integrity of an instrument developed to assess the structure of athletes' self-talk during training and competition. Finally, the fourth paper deals with the effect of instructional and motivational self-talk on performance and the kinematics of the vertical jump. Overall, the symposium presents advancements in the area of self-talk, initiates potential lines in self-talk measurement, and stimulates new paths of interdisciplinary research.

#### **Paper 1. Self-talk: It works, but how? Research and implications on the functions of self-talk**

Antonios Hatzigeorgiadis, Yannis Theodorakis, Stilianos Chroni, & Nikolaos Zourbanos

*University of Thessaly, Trikala, Greece*

Self-talk (ST) has been recognized as an effective cognitive strategy for learning and performance enhancement. Nevertheless, results from experimental studies have shown that the use of *certain ST cues can be more effective for some tasks than for others*, and that the use of *some ST cues can be more effective than other ST cues in certain tasks*. A plausible explanation for the above findings is that ST may serve different functions depending on the content of ST and the nature of the performed task. Studies on the possible mechanisms through which ST functions suggest that ST can serve to enhance attentional focus, increase confidence, regulate effort, control cognitive and emotional reactions, and trigger automatic execution. If different ST types serve



different functions, then to be able to design and implement effective ST plans, it is important to understand how ST operates. This presentation focuses on results from experimental studies investigating the functions of different types of ST on different tasks. Overall, the results provide support for an attentional interpretation of the facilitative effects of ST on performance, but also indicate that the content of ST may moderate the functions of ST, suggesting that the relative significance of the task-element highlighted by ST on performance, is crucial in determining how effective the use of ST can be for each task. Implication for research and practice within the suggested ST functions framework are discussed.

### **Paper 2. Development and preliminary validation of the Positive and Negative Self-Talk Scale (PANSTS)**

James Hardy & Emily Oliver  
*University of Wales, Bangor, UK*

Although a major emphasis in the self-talk (ST) literature has been on positive and negative ST, a psychometrically sound and generalizable measure of athletes' use of positive and negative ST is currently lacking. The lack of such instrumentation has likely contributed to the underdeveloped nature of ST research. Thus, the purpose of this investigation was to develop a measure of positive and negative ST. To this end, 201 athletes completed a 33-item questionnaire (PANSTS) assessing the usage of positive and negative ST. Confirmatory factor analyses offered support for a correlated two-factor structure (overall fit indices;  $SB \chi^2 = 269.55$ ,  $df = 229$ ,  $RMSEA = .030$ ,  $CFI = .96$ ,  $SRMR = .066$ ) with a 23-item questionnaire with good internal consistency (positive ST  $\alpha = .84$  and negative ST  $\alpha = .86$ ). Support for the PANSTS' criterion validity was evident; both positive ( $r = .25$ ,  $p < .001$ ;  $r = .36$ ,  $p < .001$ ) and negative ( $r = -.19$ ,  $p < .01$ ;  $r = -.34$ ,  $p < .001$ ) ST were positively correlated with the valance and interpretation dimensions of the Self-talk Grid, respectively. Supportive evidence for the PANSTS' concurrent validity was also generated via an appropriate pattern of significant correlations between positive ( $r = .29$ ,  $p < .001$ ) and negative ( $r = -.17$ ,  $p < .05$ ) ST and optimism as well as with subscales from a trait version of the CSAI-2: cognitive anxiety (negative ST;  $r = .37$ ,  $p < .001$ ); somatic anxiety (positive ST;  $r = .22$ ,  $p < .01$ , negative ST;  $r = .46$ ,  $p < .001$ ); and self-confidence (positive ST;  $r = .33$ ,  $p < .001$ , negative ST;  $r = -.30$ ,  $p < .001$ ). Given these findings, we recommend the PANSTS for examining positive and negative self-talk.

### **Paper 3. Evidence on the validity of the Automatic Self-Talk Questionnaire for Sport – ASTQS**

Nikolaos Zourbanos, Antonis Hatzigeorgiadis, Yannis Theodorakis, & Stiliani Chroni  
*University of Thessaly, Trikala, Greece*

The purpose of the present investigation was to assess the psychometric integrity of the Automatic Self-Talk Questionnaire for Sport (ASTQS). The ASTQS was developed to identify the nature and the structure of athletes' self-talk during training and competition. The development of the instrument was based on raw data themes from open-ended questionnaires completed by athletes. The structure underlying the nature of athletes' self-talk was assessed through content analysis and a series of exploratory factor analyses. This preliminary evidence revealed three broad dimensions of self-talk; positive, negative and neutral/irrelevant. Factor analysis identified four positive (confidence, psych-up, attention, and anxiety control), three negative (worry, somatic fatigue, and disengagement) and one neutral/irrelevant factors. In the present investigation, confirmatory factor analyses were performed to test the factor structure of the ASTQS. First, separate models were tested for positive and negative self-talk dimensions. The results supported the hypothesized factor structure for both dimensions (CFI: .93, RMSEA: .05 for positive; CFI: .96, RMSEA: .04, for negative). Subsequently a model comprising all the identified factors was tested. The results showed acceptable fit for the 8-factor model (CFI: .91, RMSEA: .04). Finally, a second-order factor model was tested, where the individual positive and negative self-talk factors were hypothesized to load on two higher positive and negative self-talk factors respectively. The analyses for the second-order factor analysis showed marginal fit (CFI: .89, RMSEA: .04). Further examination to establish the validity of the instrument is warranted; nonetheless the results of the present investigation provide support regarding the psychometric integrity of the ASTQS.

### **Paper 4. The effect of instructional and motivational self-talk on performance and the kinematics of the vertical jump**

David Tod, Rhys Thatcher, Michael McGuigan, & Joanne Thatcher  
*University of Wales, Aberystwyth, UK*

We investigated the effect of instructional and motivational self-talk on performance and the kinematics of the vertical jump. After completing a 10 minute warm-up on a stationary bike, 12 men (mean  $\pm$  SD; 20.8

$\pm 3.0$  years,  $77.8 \pm 13.5$  kg,  $1.78 \pm 0.07$  m) and 12 women ( $22.1 \pm 5.8$  years,  $62.6 \pm 6.7$  kg,  $1.65 \pm 0.05$  m) performed 4 vertical jumps, 3 minutes apart, on a force plate (9287BA, Kistler Instrumente AG Winterthur, Poland) set at a 1000 Hz sampling frequency. Prior to each trial, participants engaged in 1 of 4 counterbalanced interventions, verbalized out loud, that included motivational self-talk, instructional self-talk, distraction, or no-instruction. A one-way ANOVA with repeated measures, followed by paired t-tests with a Bonferroni adjustment, was used to analyse data. Both instructional (0.42 m) and motivational (0.42 m) self-talk lead to greater centre of mass displacement than distraction (0.41 m,  $p = 0.002$  and  $0.006$  respectively, alpha set at 0.008). Both instructional (263.9 N.s) and motivational self-talk (261.2 N.s) lead to greater impulse than distraction (254.1 N.s,  $p = 0.009$  and  $0.007$  respectively, alpha set at 0.025). Instructional self-talk (582.6 rad/s) lead to greater angular rotation about the knee than distraction (565.8 rad/s,  $p = 0.001$ , alpha set at 0.025). The comparison between motivational self-talk (592.3 rad/s) and distraction approached significance ( $p = 0.036$ ). We hypothesise self-talk lead to greater angular rotation about the knee, thus generating greater impulse and increased jump height, a conjecture needing empirical testing.

**Thursday 6/9/2007**

**11:30-12:50**

**SYMPOSIUM 15**

**The Home Advantage in Association Football (Soccer): International Perspectives**

Organizer/Chair: **Sandy Wolfson**, *Northumbria University*

Discussant: **Richard Pollard**, *California Polytechnic State University*

The home advantage is well documented in virtually all team sports and is particularly pervasive in association football (soccer), where teams score significantly more goals and win more games when playing on their home territory compared to competing away. This effect occurs across the world and at a wide range of levels of expertise. Traditional explanations for the home advantage include audience support, referee bias, familiarity, travel and routine disruption. This symposium examines further the likely causes and processes underlying the home advantage in football. Poulter discusses performance, rule and player factors underlying the effect at international level. Wolfson, Neave and Anderson demonstrate elevations in testosterone before home matches and suggest that a protective territoriality instinct might be aroused in players whose home ground is threatened by rival teams. Pollard and Seklin examine the degree of physical isolation of teams within the Balkan countries and show that teams from isolated areas may enjoy a higher home advantage. Finally, Lewis and Goltsi discuss English and Greek fans' perceptions of their personal role in the home advantage and reveal that supporters feel a sense of superiority over fans of rival teams.

**Paper 1. Performance, rule, and player factors underlying the home advantage effect in international club soccer matches**

Damian Poulter

*University of Reading*

The home advantage effect in UEFA Champions League soccer was investigated at both a team and player level using in-depth performance and disciplinary variables rather than a single outcome measure. Team performance analysis revealed overall home win percentage was 5% greater than away win percentage across a balanced schedule of games. Analysis of team performance variables revealed the home team scored more goals per game ( $p < .01$ ), even with shots on goal and shots wide accounted for ( $p = .05$ ), won more corners than the away team ( $p < .01$ ), and had a greater share of possession ( $p < .01$ ). In general there was an opposite trend for disciplinary variables, with the home team having a lower number of yellow cards per game than the away team ( $p < .01$ ), even when fouls committed were accounted for ( $p < .01$ ), although a similar number of offsides were awarded to home and away teams ( $p = .40$ ). For player analysis, performances were compared for national and foreign players during their team's home games and away games. There were home advantage effects at player level for most performance and disciplinary variables investigated at team level, but only a significant interaction between player nationality and match location for goal-to-shot ratio ( $p = .03$ ). Foreign players scored more goals during their team's home games than national players but scored the equivalent number of goals as national players during their team's away games. Further analysis of player performance is planned.

**Paper 2. Hormones and the home advantage in English football**

Sandy Wolfson, Nick Neave, &amp; Melissa Anderson

*Northumbria University*

Recent evidence suggests that the home advantage may be mediated by hormonal changes which could be triggered by territoriality, the protective response to challenges to one's perceived home. Territoriality is widely exhibited in lower animals, who behave more aggressively and are capable of defeating larger rivals when their territory is threatened. Territorial invasions have been associated with increases in testosterone, which may have an activating effect through such mechanisms as higher cardiovascular and muscular efficiency, assertiveness and attention. While a strong home advantage has been found in a football throughout a wide range of levels and cultures, the evidence with female performers is less conclusive. For example, in recent English football seasons, approximately 62% of total wins in the top men's leagues occurred at home, while only 55% were won in the top female leagues. The present study investigates psychobiological factors implicated in the home advantage in male and female footballers. Saliva samples were taken one hour before several home and away matches as well as in training to measure testosterone and cortisol. The results revealed significant surges in testosterone among male footballers before home competitions compared to away games and baseline measures, but the effect was not found for females. Males also responded more intensely to teams perceived as extreme rivals. Perceptions of players regarding their ownership of their home ground, as well as objective measures of birthplace and length of time associated with the team, are also considered.

**Paper 3. Why is home advantage in south-east Europe the highest in the world?**Richard Pollard<sup>1</sup> & Aylin Seklin<sup>2</sup><sup>1</sup> California Polytechnic State University, San Luis Obispo & <sup>2</sup>Istanbul Bilgi University, Istanbul

Previous work has shown a surprising variation in the home advantage seen in national football leagues throughout the world. The advantage gained by teams playing at home is unusually high in the Andean nations of South America and in the Balkan countries of Europe, where over 70% of points gained are won by the home team. These countries all contain isolated communities in rugged mountainous terrain. In addition, they all have a long history of occupation and bloody conflict. Because of this, an increased sense of territoriality was suggested as a possible contributing cause of the high home advantage. The purpose of the study is to further investigate home advantage in the Balkans countries, together with neighboring Greece and Turkey. This is done within each country by introducing variables to quantify the degree of physical isolation of each team and the extent to which the local team reflects a specific local ethnic group. In Turkey, match performance data can also be used to investigate the role of specific components of performance. Preliminary results suggest that teams from isolated towns, such as Van in Turkey, may have higher home advantage. However in Bosnia home advantage since 2002 does not seem to have increased as a result of the introduction of a national league in which all ethnic and religious groups are represented. Prior to this date, Bosnian football had been organized on ethnic lines with the three main ethnic groups having their own national league, a situation which had produced the highest home advantage in Europe.

**Paper 4. Perceptions of contributions to the home advantage by English and Greek football fans**

Matthew Lewis &amp; Vicki Goltsi

*Northumbria University*

Football fans' perceptions of their role in the home advantage were obtained by questioning fans from supporters clubs using a paper and pencil questionnaire. 357 highly identified fans were questioned towards the end of the season, from clubs facing either certain (already promoted, relegated, or due to finish mid-table) or uncertain (possible promotion or relegation) outcomes in the English football league. All fans rated their fellow fans as significantly more supportive, loyal, emotional, and passionate than fans of other teams. All fans also rated their team kits, aspects of their home stadiums (view, comfort, atmosphere, facilities, attractiveness), and match-day catering, significantly higher than those of all other teams. There were no differences between the certain and uncertain groups. It is thought that this type of 'positive illusion' allows fans to maintain the positive outcomes of allegiance to their team, but reduces the potential discomfort of losing. However, fans of teams facing uncertain outcomes rated their identification with their fellow fans significantly higher than the fans of the teams facing certain outcomes, suggesting that fans of teams with an uncertain future come to identify more strongly with their fellow fans. These results concur with uncertainty reduction theory, which indicates that people identify more strongly with groups of high entitativity when they are feeling uncertain; this may be an efficient and immediate way of reducing self-conceptual uncertainty. The questionnaire was repeated with fans of teams playing in the Hellenic Football Federation in Greece, this data is yet to be analysed.

**SYMPOSIUM 16****Research and practice in imagery and observation in sport: an integrative approach**

Organizer/Chair- Discussant: **Paul Holmes**, *Manchester Metropolitan University*

This symposium will review the sport and neuroscience literature relating to imagery and observation. We will present studies from our own laboratories and propose that a number of theoretical and methodological concerns are evident. We will contrast the techniques of imagery and observation focusing on some of the fundamental characteristics for their use (Holmes). Smith and Cumming will discuss these issues in relation to imagery research, raising questions about the validity of some of work in the area. We will present a case that will argue for partial neural functional equivalence between imagery, observation and physical behavior (Edwards et al.) and discuss the benefits and limitations of this knowledge for applied techniques in sport psychology and skill learning (Cumming & Williams). Finally, Callow and Holmes will present data that considers specifically the issues of different visual perspectives, behavior agency and modality factors and discuss the importance of factor independence with a link to current observation research.

**Paper 1. Integrating imagery, observation and neuropsychology**

Holmes, P.S.

*Manchester Metropolitan University*

Imagery is still regarded as one of the key skills in sport psychology and motor control. The neuroscience literature to support its efficacy has identified a number of fundamental considerations to guide researchers and practitioners attempting to 'match' the neurological correlates with those evident during physical execution of the task. In sport, these factors are rarely considered fully in research designs or in applied interventions. With the imagery content and process remaining relatively opaque, the neural outcome of imagery may be severely compromised. One solution may be for the researcher or practitioner to take greater control of these key characteristics and, rather than asking the performer to generate and control an image, provide the specific content of the image through a bottom-up observation approach. This paper will explore the main control elements and discuss how observation and imagery may be used together to compliment physical training.

**Paper 2. Methodological issues in imagery research**

Smith, D.<sup>1</sup> & Cummings, J.<sup>2</sup>

<sup>1</sup>*University of Chester, UK*

<sup>2</sup>*Birmingham University, UK*

The rather ethereal nature of the imagery experience can make it a difficult topic for researchers to examine. When planning and performing imagery research, close attention to various methodological issues is necessary to produce useful data. The aim of this presentation is to examine these issues and make suggestions for imagery researchers to consider. One of the key issues to consider when planning an imagery study is the actual study design. Most published studies have used group-based designs. Whilst such designs can provide very useful information, they can obscure important interindividual differences in the effects of interventions. Therefore, we recommend more widespread use of singlecase designs to provide detailed information regarding the individual effects of imagery interventions. The imagery intervention itself is also something that needs considerable planning. Many interventions in the published literature appear ill-thought out and atheoretical. Issues such as ensuring functional equivalence, using the appropriate imagery modality, imagery type and imagery perspective need to be considered carefully. Perhaps most importantly, the intervention needs to be tailored to the needs and personal preferences of the individual; interventions that are not are very unlikely to be successful. Finally, manipulation checks are also essential to ensure participants have followed their imagery instructions, but in many studies are not mentioned or appear cursory at best. We advise researchers to perform detailed manipulation checks, using questionnaires, interviews or both, to ensure that they have a full picture of what their participants actually did and experienced.

**Paper 3. Neuroscience of Action Observation and Imagery**Edwards, M.G.<sup>1</sup>, Cumming, J.<sup>1</sup>, Holmes, P.S.<sup>2</sup> & Williams, A.M.<sup>3</sup><sup>1</sup>*Birmingham University*<sup>2</sup>*Manchester Metropolitan University*<sup>3</sup>*Liverpool John Moores University*

The presentation will review recent findings from the brain imaging, electrophysiological and stimulation literature that show evidence for equivalent neural processes between both action observation and execution and between action imagery and execution (e.g., Buccino et al. 2004; Calmels et al. 2006; Kuhtz-Bushbeck et al. 2003; Fadiga et al. 1995, 1999). In the first part of the presentation, evidence for possible equivalent neural mechanisms that would allow for prior action observation or imagery to modulate subsequent execution performance will be discussed. In the second part of the review, we will report two experiments that measured matched visual action observation and imagery conditions using functional Magnetic Resonance Imaging and Transcranial Magnetic Stimulation. The data will be discussed in terms of whether action observation and imagery representations in the brain are also equivalent to one another.

**Paper 4. Observation and learning**Cumming, J.<sup>1</sup> & Williams, A.M.<sup>2</sup><sup>1</sup>*Birmingham University*<sup>2</sup>*Liverpool John Moores University*

A common neural mechanism underlies the beneficial effects of imagery and observational learning (OL) for enhancing motor skill performance. These interventions, however, have not always resulted in the desired improvements, and in certain circumstances, led to impaired performance (McCullugh & Weiss, 2001, 2002; Murphy, Nordin, & Cumming, in press). Examining the content of what is being imaged or observed has helped to clarify why such equivocal results have occurred. For instance, imagery will impede learning when its content is not congruent with the aims of the task whereas congruent imagery is more likely to show a facilitative effect (Cumming et al., 2006; Nordin & Cumming, 2005; Short et al., 2002). OL content has received less attention in the literature, but there is evidence to suggest that novice athletes pay attention to less relevant cues when observing opponents than their expert counterparts (Hodges, Williams, Hayes, & Breslin, 2007). The purpose of the paper will be to review this literature while drawing comparisons between imagery and OL. Particular reference will be made to the importance of understanding individuals' perceptions of the imagery/OL content. Furthermore, practical implications of these findings will be discussed, and recommendations will be offered for future research.

**Paper 5. New imagery perspectives: questions, challenges and solutions**Callow, N.<sup>1</sup> & Holmes, P.S.<sup>2</sup><sup>1</sup>*University of Wales, UK*<sup>2</sup>*Manchester Metropolitan University*

This paper will argue that previous imagery research has tended to confound perspective, agency and modality factors. We will report empirical research that identifies a clear and important distinction between these factors and propose that practitioners should articulate their independence to improve the efficacy of imagery as an intervention. Visual imagery perspective research has demonstrated that an external self-perspective visual imagery (EVI) is beneficial for form-based task, whereas internal selfperspective visual imagery (IVI) is beneficial for more line-based, slalom tasks. In addition, for formbased tasks, with performers who have a degree of expertise, kinaesthetic imagery produces additional performance effects over and above visual imagery. We also know that when the performer is the agent of behaviour in the image, there is a strong relationship between visual imagery and kinaesthetic imagery. Also, dynamic imagery leads to significantly more vivid kinaesthetic imagery than static imagery. However, when combining perspective and modality, how do they interact, does one modality occur before another, and should practitioners deal with separate modalities? We will report preliminary data using the VMIQ-2 (Roberts, Callow, Hardy, Markland, & Bringer in preparation) to address some of these questions and suggest that observation may provide an effective alternative for the control of perspective, agency and modality concerns.

**Thursday 6/9/2007****14:00-15:20****SYMPOSIUM 17****Judgment and Decision Making in Sport and Exercise**Organizer/Chair- Discussant: **Markus Raab<sup>1</sup>, & Michael Bar-Eli<sup>2</sup>,**<sup>1</sup>*University of Flensburg, Germany,*<sup>2</sup>*Ben-Gurion University of the Negev, Israel*

The field of Judgment and Decision Making (JDM) in sport and exercise has recently been rediscovered, and new visions have been applied in a special issue of *Psychology and Exercise* (Bar-Eli & Raab, 2006). This session will present a selection of these new theoretical visions on JDM and their applications to various domains within the sport context. The goal of the session is to present divergent theoretical approaches in the field of sport and exercise and to discuss their merits. Research on JDM will be presented from a social cognition approach (Brand, Schweizer, & Plessner) for decision training of referees in soccer. A computational modeling approach (Johnson) concentrates on the demonstration of risk decisions and individual differences in athletes. A dynamic approach describes and explains decisions of athletes in boxing and sailing (Araújo). In the domain of athletes' expertise, decisions in the form of attention will be examined in basketball and tennis (Tenenbaum). The last presentation focuses on the relation between decisions and perception (Vickers). Finally, we (Raab & Bar-Eli) will suggest a taxonomy of the theoretical approaches to JDM in sport and exercise.

**Paper 1. Decision-making as multiple transitions in a course of (inter)action in ball sports: a model**Araújo, Duarte<sup>1</sup>, Diniz, Ana <sup>1</sup>, Passos, Pedro<sup>1,2</sup>, Davids, Keith<sup>3</sup> & Hristovski, Robert<sup>4</sup><sup>(1)</sup> *Faculty of Human Kinetics/Technical University of Lisbon, Portugal* <sup>(2)</sup> *Lusófona University of Humanities and Technologies, Portugal,* <sup>(3)</sup> *Queensland University of Technology, Australia,* <sup>(4)</sup> *Faculty of Physical Culture – University StCyril and Methodius, FYROM*

Coordination processes and transitions (behavioural decisions) in attacker-defender dyads emerge from informational constraints of specific performance contexts (Araújo et al., 2004). Studies of transitions in these systems have only conceptualized task dynamics with two attractor states and have yet to be formally modelled. In this presentation we propose a three-attractor model of 1v1 decision making behaviour in rugby dribbling. Attacker-defender interactions were captured by the angle  $x$  between a line connecting both participants and the try line. Dyad collective behaviour was defined by changes in  $x$  over time as expressed by the equation  $dx/dt = -dV/dx$ , where  $V = V(x)$  is a potential function. Minima of  $V$  correspond to dyad stable states. We observed that this system had three stable attractors:  $x = -\pi/2$ ,  $x = 0$ , and  $x = \pi/2$ , suggesting a potential function of the form  $V(x) = -k_1 x + k_2 a x^2/2 - b x^4/4 + x^6/6$ , where  $k_1$  and  $k_2$  are two control parameters,  $a = (\pi/4)^2 * (\pi/2)^2$ , and  $b = (\pi/4)^2 + (\pi/2)^2$ . The parameter of the linear term  $k_1$  is linked to the attractors  $-\pi/2$  and  $\pi/2$ , and the parameter of the quadratic term  $k_2$  is related to the attractor 0. Random fluctuations in dyad behaviour were modeled as white noise  $e_t$ , leading to the more general equation  $dx/dt = -dV/dx + Q^{0.5} e_t$ , where  $Q$  is the noise variance. Importantly the model successfully predicts dyadic outcomes i.e. when defenders have supremacy (tackle) and when attackers have supremacy (try).

**Paper 2. A computational, information-processing approach to athlete decision making**

Joseph G. Johnson

*Miami University*

The purpose of this talk is to provide an introduction to the theoretical, practical, and methodological advantages of applying cognitive models to sports decisions. The use of sequential sampling models, in particular, is motivated by their correspondence with the properties of sports decisions. In particular, I will briefly survey three major streams of investigation in this context: (1) a model for how people generate options in real, dynamic situations, and how they select from among them; (2) methods for incorporating personality variables and learning styles into formal models; and (3) efforts that use athletes' dynamic streams of attention, as measured by eye-tracking, to predict their choices. Empirical evidence will be reviewed that supports the use of sequential sampling models over other approaches to decision making. Finally, future directions for fine tuning these models to the sports domain will be discussed.

**Paper 3. Development of a decision training for expert soccer referees**Ralf Brand<sup>1</sup>, Geoffrey Schweizer<sup>1</sup>, & Henning Plessner<sup>2</sup><sup>1</sup>*University of Stuttgart*<sup>2</sup>*University of Heidelberg*

Although judgments of soccer referees' decisions about fouls are frequently treated in public as judgments about matters of fact, it is actually very difficult for a lot of contact situations to determine the 'correct' decision. Additionally, a number of systematic judgment errors in referee decisions have been identified empirically and have been reported in the sport psychological and social cognition literature. Social cognition is the general study of how people make sense of other people and themselves on the basis of an information processing framework. Among others, this approach provides insights into the processes that underlie biases in social judgments and, thus, some hints on how to prevent them. On the basis of this approach and more general work on skill acquisition, we develop a video training for soccer referees that aims at optimizing their decision-making skills. The idea of this training, its implementation, and first results will be presented and are open to discussion.

**Paper 4. The Quiet Eye As A Factor In Athlete Decision Making**

Joan N.Vickers

*University of Calgary*

Athletes must be able to make split-second decisions under the pressures of competition. In this presentation, the vision-in-action method of recording what athletes see when they perform will be demonstrated using a number of sports. The role of the quiet eye will be explained in each and shown to provide an index of the quality of athlete decision-making. A method of training, called decision training, will also be presented. Decision training is designed to improve the athlete's attention, anticipation, concentration, memory, and problem solving skills, leading to extraordinary long-term gains in physical performance. Together, these three advances (vision-in-action, quiet eye, decision training) provide scientific evidence of perception-action coupling in sport that is both sound and effective for training more effective decision-making in athletes.

**Paper 5. Decision in the Form of Attention: The Speed-Accuracy Trade-off and the Cost-Benefit Paradigm**

Gershon Tenenbaum

*Florida State University*

Two experiments were carried out to examine visual target detection and attention flexibility in basketball and tennis players. In Experiment 1, 140 basketball players in 3 age categories and two skill levels (high and low) were exposed to 80 game scenes, half structured and half transitional with only half containing an "exceptional" target. They were asked to scan the computerized display and decide whether an exceptional target is present or absent as fast as possible. The results indicated that with experience/age decision time is faster and high skill resulted in more accurate decisions across all age categories. In Experiment 2, high and low skill-level tennis players of 3 age categories performed a computerized tennis task, which consisted of priming a response (80% of the times if preceded by an  $x$ ) and examining reaction time (RT) in the "benefit" (80%), "cost" (20%), and "neutral" (50%) conditions during 0.5, 1.0, and 2.0 seconds intervals between warning and imperative stimuli. The results revealed that RT becomes faster with experience in all 3 conditions, and high skill level players gain more from the "benefit" and "cost" conditions, contrary to results obtained by less skilled players. Both experiments failed to show that differences in attention flexibility and target detection increase with experience and skill-level. Mimicking the real environment and its constraints over the visual field are requirements, which should be taken into account in future research.

**SYMPOSIUM 18****Psychology interventions with football (soccer) teams**Organizer/ Chair: **Joaquin Dosil**, *University of Vigo*Discussant: **Santiago Rivera**, *Sevilla FC*

The presence of sport psychologists in football (soccer) is still a recent occurrence and has come about thanks to the improved training received by technical staff. Nevertheless, similar to what occurred years ago with

physical trainers (coaches were originally responsible for physically training players), many coaches remain reluctant to the sport psychology figure. Nowadays, physical trainers are considered an essential part of football teams and no other professional would be considered for this specialised task. In scientific terms, sport psychology of soccer has a good reputation. In the last *Congress of Science and Football* (Turkey, 2007) the psychology area was very well accepted, and two keynote speakers talked about mental aspects of football. At the 3<sup>rd</sup> ENYSSP Workshop (Portugal, 2006) one of the Symposium was about "Psychology of elite soccer". This modality needs more research and new forms to intervention. For this reasons, we will try to explain some keys to understand the actual situation of the psychology in football. The Symposium has been divided into two major sections: In the first, the psychological peculiarities of football are discussed, in order for participants to discern the keys for intervention with teams. In the second part, two of the most common demands in football are described: working with grass-roots football and working with elite football.

### **Paper 1. The psychological peculiarities of football**

Joaquín Dosil

*University of Vigo and Pontevedra C.F. Spain*

Football (soccer) is one of the most famous sports in the world. It's well-known by many people who consider themselves capable of analysing all that occurs within its realms. From the psychological point of view there are many peculiarities, and the sport psychologist should to know them. These basic aspects related to training and competition should be controlled in order to perform quality psychological interventions. Likewise, sports psychologists are required to adapt to the objectives sought by the clubs they are guiding, focussing on the main reasons for which they have been contracted. In this work we describe 8 important issues to get a good performance in football:

- Achieving the optimum arousal level to commence the match and maintaining it throughout the game
- Concentrating during the entire match
- Self-control in the face of adverse situations
- The interaction with referees and rivals
- The pressure of coaches, team-mates and the public
- Named players and substitutes
- The media
- The score-time relationship

### **Paper 2. Psychological training with elite young football players**

Aurelio Olmedilla<sup>1</sup>, M<sup>a</sup> Dolores Andréu<sup>2</sup> & Francisco J. Ortín<sup>3</sup>

<sup>1</sup>*Universidad Católica de San Antonio of Murcia, Spain*

<sup>2</sup>*Sociedad Murciana de Psicología de la Actividad Física y el Deporte. Spain.* <sup>3</sup>*University of Murcia, Spain*

This work shows a part of the programme of psychological training carried out during the season 2005/2006 in the Football Club Real Murcia SAD (Spain). Among other duties, Psychology Area of the Club worked with the players of "Cadet" teams, Sub-16, National Youthful and Honor Division. The aims were: optimize the psychological resources of players to improve their performance and establish behavioural protocols that guarantee a football practice orientated to get physical and psychological well fore. This was the psychological intervention carried out: a group work for the explanation and formation in the methodology for the psychological training; an individual work with some of the football players; and a programme of psychological techniques learning with three groups. The sense of this structure was to make possible an effective psychological work, complementing the general guidelines in group, with individualized training and learning of certain psychological techniques. In the group work we established the general guidelines of the psychological training, teaching the players techniques for the goal setting and strategies for the psychological preparation of the match. Definitively, that is to endow the player with strategies for this psychological formation as a football player that can favour his performance<sup>3</sup> in trainings and matches, and can be the base of a more individualized programme in psychological training. The individualized work was developed in the line of the acting protocols basic: psychological evaluation, contextualization, intervention and monitoring. The psychological intervention could be demanded by the player, by any other member of the "Staff" or suggested by the psychologist. The programme of psychological techniques was carried out along three months (twelve sessions) dividing The Selective Group in three small groups (homogeneous in competitive category) and the contents were relaxing techniques, breathing techniques and imagery.



**Paper 3. Psychological needs in grass-roots football elite**Joaquín Dosil<sup>1</sup> & Santiago Rivera<sup>2</sup><sup>1</sup>*University of Vigo. Spain*<sup>2</sup>*Sevilla Fútbol Club's Psychologists Technical Team.*

The purpose was to describe and analyze the psychological needs of grass-roots football elite players with reference to the arousal, motivation, concentration and self-confidence levels. The hypotheses were: a) Selected players develop better psychological capacities than substitutes, b) A better psychological skills are acquired with more years of practical experience, and c) A Better domain of psychological processes is developed at old categories. The participants were 176 grass-roots football players from the Sevilla F.C., from 8 teams and between 12 and 18 years old. The measure was taken with the *Sports Psychological Needs Questionnaire* (Dosil et al., 2005), that consists of 30 items, from which 8 measures self-confidence, 9 arousal, 6 concentration and 7 motivation. The answers to the items correspond to a Likert kind scale with a range from 1 to 6, where 1 corresponds to total disagreement and 6 to total agreement. Within the identification data, questions about the category, the age, the position, the years of practice and the selections or substitutes were analysed. The instrument was validated by the factorial analysis and was applied at the end of the season. To analyse the results it was employed the SPSS 13.1 software. In relation to the first hypotheses, it was found that selected players have better attentional and motivational capacities than the substitutes (significance level <0.05). This accords with the findings mentioned by Dosil (2006) and Williams and Reilly (2000), who explain the differences between footballers with and without talent. With regard to the second hypothesis, more experienced players do not necessarily have better acquired psychological abilities. It was found that in relation to the third hypothesis, there were found differences between attention and motivation, according to the category, but there is not always a better domain of psychological processes. In reference to the attention and concentration, 12-14 years old group obtain better results than 14-16 years old group (Media=5.29 and 4.13), and concerning motivation (16-18 years old group) and (14-16 group) with Medias= 5.86 and 4.94, significant differences were found. Conclusions: Experience is not a predictor of better psychological abilities, but the category does in terms of motivation. Therefore, motivated footballers practice more than the ones with a less level of motivation. On the other hand, activation and self-confidence have no relation with the fact of being selected, the experience or the category.

**Paper 4. The process of evaluation of the tactical understanding in soccer: pedagogical applications**Ricardo de la Vega<sup>1</sup>, Sagrario del Valle<sup>2</sup>, Onofre Contreras<sup>2</sup> & Luis Miguel García<sup>2</sup><sup>1</sup>*University Autónoma of Madrid. Spain*<sup>2</sup>*University of Castilla la Mancha. Spain*

This study analyzes the role of the processes of understanding and awareness in tactical reasoning that takes place in a free-flowing sport like soccer, resulting in the generation of a model that explains how these processes evolve from the beginning of organized soccer playing in Spain (at age 8) through the "cadete" category (age 14). To do this, two novel tool called "Intelligent Soccer" and "Questionnaire of Evaluation of the Tactic applied to Understanding the Soccer" (C.E.C.T.A.F.), has been developed. This board game attempts to recreate the basic structural and functional components of soccer (Castelo, 1998) in which the youth must project his knowledge of the game through five basic dimensions of analysis: aspects of collective tactics, group tactics, individual tactics, offensive tactics and defensive tactics. Both instruments obtain data on the understanding that the players have about soccer and allow to obtain a model about as fast knowledge is developed. Our objective is centred in presenting both instruments, as well as deepening in the pedagogical repercussions that its use has.

**Paper 5. Psychology intervention with elite football teams: three experiences in the spanish professional football league**Dosil, J.<sup>1</sup>, García-Mas, A.<sup>2</sup>, & De la Vega, R.<sup>3</sup><sup>1</sup>*University of Vigo. Spain*<sup>2</sup>*University of Illes Balears. Spain*<sup>3</sup>*University Complutense of Madrid. Spain*

The final work of the Symposium will be the psychological intervention with elite football teams. We will describe three experiences in the Spanish Professional Football League, with teams of three categories: 1<sup>st</sup> Division, 2<sup>nd</sup> Division A, and 2<sup>nd</sup> Division B. García-Mas have worked with Mallorca F.C. of the 1<sup>st</sup> Division and he will show his experience with this team, De la Vega with Rayo Vallecano and Leganes, and Dosil with

Pontevedra C.F. The different types of intervention used by these professionals will be discussed during the presentation. Finally, all the Symposium's participants will suggest new directions in grass-root and professional football.

## SYMPOSIUM 19

### Case-studies in applied sport psychology

Organizer/ Chair: **Paul Wylleman & Maria Psychountaki**, *Vrije Universiteit Brussel – Faculty of PE and Physiotherapy, Brussel*

Discussant: **Maria Psychountaki**, *Department of Physical Education & Sport Science, University of Athens*

The field of applied sport psychology has known an increase in interest not only from the sport psychology service providers themselves, but also from the world of elite sports. In response to this increased interest, the Forum for Applied Sport psychologists in Topsport (FAST) has brought together (Athens, 2004; Rome, 2005; Oslo, 2006) sport psychology experts who work with elite level athletes and coaches in order to discuss professional issues directly relevant to the provision of sport psychology support. In this symposium FAST-members will present some of their applied work and provide a detailed insight into the way in which they provide sport psychology support to elite and Olympic athletes and coaches.

#### **Paper 1. Sailing athletes' psychological preparation: Aims and content of their mental imagery use**

Maria Psychountaki

*Department of Physical Education & Sport Science, University of Athens*

Applied sport psychologists suggest that imagery can influence athletes in a variety of ways. This presentation describes indicative applications of mental imagery focusing on aim, content, phase of application and evaluation in four sailing categories (men's 470, women's 470, Yngling, and Mistral) of the Greek National Team. The presentation will provide examples of how the content of mental imagery is adapted to the intervention goals for each case. After teaching and training in mental imagery, each athlete used a specific program once or twice a day for 10 – 15 minutes. The mental imagery training took place before, during or after the physical training, or at another moment during the day. Each practice (for 10-20 days) was evaluated by the athletes by filling in a relative evaluation form so that they would get aware of their ability for visualization. Psychological service to sailing athletes was evaluated at the end of each competitive year using interviews with athletes, informally with team officials and by the fact that more and more athletes from the same federation every year asked for psychological support. Throughout the four years (2000-2004), in which the program was in use, the athletes were able to achieve their goals and medals in many international Regattas, European, or World championships and the women's 470 got the gold medal and men's Mistral the silver medal in the Athens's OG. The program for some of these athletes started again and has been planned to last until the 2008 Olympic Games.

#### **Paper 2. Coaching Program for Coach: A Case Study**

Alberto Cei

*University of Tor Vergata, Roma*

To increase the coach leadership efficacy through the realization of individual development program and action plans is very relevant in order to lead teams and athletes. This presentation describes the development of a coaching program requested by a coach of a professional team. This program pursued the goal to promote the personal self-development, following the approach of the professional and personal continuous improvement. The method used included (a) presentation to the coach of goals, method, duration and commitment requested to manage coaching well; (b) interview with the coach to identify and analyze the competences requested in his job with his team; (c) identification of the coach's strength/weakness points and the competences he expected to improve; (d) elaboration of the development plan and the action plan based on the data collected and the coach's personal expectations; (e) accomplishment of the action plan and meetings with the coach to talks about his change process. There have been two main moments of assessment of the coaching activities: (a) mid-evaluation after three months from beginning and (b) final evaluation at the end of the regular season. The coach wanted to reduce his impulsivity and anger behaviours toward the players, because he thought that these were his main issues, especially when they did not apply his ideas in the stressful competitive situations during the matches. The parameters used to establish the positive changes in the coach's behaviours had been:

(a) the increasing of the interpersonal communication efficacy between coach and team and (b) the substitution of the impulsivity and anger behaviours with others characterized by the increasing of competences as: the listen to the players, an optimist style of the match assessment, the confidence in the team, the reinforce of the players' commitment and the development of the team accountability.

**Paper 3. Psychological consultancy and interventions in a semi-professional female basketball team during qualification and play-off**

Tomas Gursky

*Top-Fit, Bratislava*

Psychological consultancy closely before and during a play-off is difficult task from various reasons however typical in top-sport area. 1st female basketball league in Slovakia conglomerates professional and semi-professional teams with both profis and amateurs or students. Most players are not prepared to copy with stress resulting from often fully professional ambitions of club management. Pressure comes from different subjects like club owner, sponsors, officials, media people and fans. As we know female sportpersons are sensitive towards sharpen relations from above as consequence of lost matches or worse performance. Sport psychologist was hired by club management and asked for help in their aim to qualify in final four and maybe take a medal. This case is about 5-month period of psychological consultancy and fieldwork faced with varied requests, needs and demands rised on the fly in a basketball club during qualification and play-off phases.

**Paper 4. Personal growth through crisis: The case study of an overtrained athlete**

Daniel Birrer

*Swiss Federal Institute of Sport Magglingen*

Overtraining is characterised by a decrease in performance together with mood disturbances and represents a severe problem for the affected athlete. However, a crisis if successfully coped with can have positive effects. The present case study describes such an episode of an elite cross country skier. The first signs of overtraining occurred while preparing for the 2003/2004 season half a year after the break-up with his girlfriend and just after he moved from his parents to a national training facility. First intervention was to reduce drastically the training load to one third of the previous volume. Subjective feelings were monitored by the REST-Q Sport questionnaire and the BFS. In a second step a sport psychologist taught the athlete different psychological strategies which also intended how to increase self-awareness in training situations. Two years after the overtraining episode the athlete competed at the World Championships and another year later at the Olympics in Torino. To gather information about the most helpful intervention effects an in-depth interview was held 2 years after the overtraining episode. The athlete reported personal growth in general and particularly in many respects; such as: better life quality, better relations to significant others, a more fulfilling time management, increased self-awareness before, during and after training sessions and improved regeneration quality. Furthermore he took more responsibility regarding the training and therefore increased its quality.

**Paper 5. Two case studies of sport psychology support service delivery to Olympic athletes**

Paul Wylleman

*Vrije Universiteit Brussel – Faculty of PE and Physiotherapy, Brussel, Belgium*

This presentation will report on two case studies characterized by two styles of sport psychology service delivery to Olympic athletes, i.e., a "one-to-one" and a "multidisciplinary team" approach. The first case study consisted of providing – within a one-to-one approach – sport psychology services to a Winter Olympic athlete in preparation of the Winter Olympic Games 2006. While the sport psychologist had a high frequency-level working relationship with the athlete and his coach, the frequency of interaction with other service providers (e.g., physiotherapist, strength coach) was (very) low. The second case study included a multidisciplinary team approach in which service delivery experts (incl. technical, strength training, physiotherapy, managerial, and sport psychological support) worked in a team-approach, emphasizing, amongst others, a structured exchange of information between. While the one-to-one approach reflected a higher effectiveness and quality of communication between sport psychologist-athlete and sport psychologist-coach, and an increased need for managerial skills in the Olympic athlete, the team approach was characterized by a higher frequency of interaction and exchange of expert information between sport psychologist and other experts, and the need for the sport psychologist to enhance the communication between experts. Recommendations will be presented on optimizing the use of both approaches.

**Thursday 6/9/2007****15:30-16:50****SYMPOSIUM 20****Cross-cultural Assessments and Interventions of Mental Skills in Sport**Organizer/Chair: **John H. Salmela**, *Federal University of Minas Gerais*Discussant: **Natalie Durand-Bush**, *School of Human Kinetics, University of Ottawa*

This symposium addresses both the assessments and interventions of mental skills of a variety of high level athletes from Canada, Iran, France and Spain. Assessments included both psychometric and more informal observational methods both in training and competition. Attention is brought to the manner in which both athletes and coaches from these four cultures participated in and appreciated these sport psychology interventions.

**Paper 1: A Valid Assessment of Mental Skills in Sport**Natalie Durand-Bush<sup>1</sup> & John H. Salmela<sup>2</sup><sup>1</sup>*School of Human Kinetics, University of Ottawa*<sup>2</sup>*Federal University of Minas Gerais*

The Ottawa Mental Skills Assessment Tool (OMSAT) was devised by Salmela and colleagues and Bota (1993) empirically tested the first and second versions of the OMSAT and recommended that the instrument be further revised. The purposes of this study were to create an enhanced version of the OMSAT (OMSAT-3), assess its psychometric properties, and determine the relative importance of each mental skill presented in the inventory. The OMSAT-3 was comprised of 85 questions, six of which measured social desirability, and 12 mental skills scales that were regrouped under the following three broader conceptual components: foundations skills, affective skills, and cognitive skills. It was administered to 462 individuals, however only 335 athletes' (175 males and 160 females) scores were included in the analysis. Subjects were from various sports, with hockey, soccer, water polo, basketball, swimming, and baseball being the most predominant ones. Results demonstrated that the scales had acceptable internal consistency with the mean alpha score being .80. Because of the behaviorally-related, situation-dependent nature of the inventory, most of the OMSAT-3 scales did not yield good test-retest reliability estimates. In terms of validity, the OMSAT-3 was found to significantly discriminate between competitive and elite level athletes. The most discriminating scales were commitment, stress control, and refocusing. Durand-Bush, Salmela and Green-Demers (2002) conducted a confirmatory factor analysis on the second version of the OMSAT and found that the proposed factor model fit the data well. Avenues for both research and intervention using OMSAT are outlined.

**Paper 2. Discriminating Mental Skill Variables between Selected and Non-selected Athletes for the Asian Games**Shamsi S. Monfared<sup>1</sup>, Fatolla Mosayebi<sup>1</sup>, & John H. Salmela<sup>2</sup><sup>1</sup>*NOC of the Islamic Republic of Iran*<sup>2</sup>*Federal University of Minas Gerais*

Durand-Bush et al., (2002) were able to show how the OMSAT differentiated between international and national level Canadian athletes on all mental skill scales. However, when the homogeneity of the sample is increased by restricting the level of athletes with international experience, it is possible that the athletes who were selected for the Asian Games in relation to those international athletes who were not selected would not result in differences for all 12 scales. Six months prior to the 15<sup>th</sup> Asian Games in Doha, the Persian version of the OMSAT was administered to 208 Iranian athletes, 101 of whom were selected in 15 different sports. An overall ANOVA revealed that the selected athletes reported higher mental skills scores, even at this international level. Post-hoc analyses revealed that stress reactions and refocusing skills separated the selected and non-selected athletes at ( $p < .05$ ) and that relaxation skill differences approached significance. These findings formed the basis for the systematic training of relaxation and imagery skills over a five month period with all of the targeted athletes who had the greatest chance for medals. Teaching of these skills were reported to be the most important interventions when assessed during the Asian Games by both coaches and athletes.

**Paper 3. Mental Skill Evaluations of Elite French Athletes**

Marjorie Bernier &amp; Jean Fournier

*Institut National du Sport et de l'Education Physique, Département des Sciences du Sport*

This research reports the results of a mental skill evaluation for 309 French elite athletes. Ninety-eight women and 211 men volunteered to participate. One hundred and eighty athletes trained at the National Institute of Sport and 120 in state training centers. The assessment was comprised of the French (for France) version of the Ottawa Mental Skills Assessment Tool (OMSAT-3) and a guided interview. French athletes' results were lower than those found with Canadians. French athletes were aware of their mental skill needs, but did not develop this component of their training. They reported that they did not receive much support from specialists. This result can be explained by the minimal emphasis on sport psychology in the education of coaches in France, and by the slow spread of sport psychology concepts (definitions, theories, applied exercises) in the sport milieu of France. This evaluation was useful in introducing some of the concepts, such as the distinction between mental training and psychological counseling, or the necessity of being aware of skills needing improvement. Some requests for mental skill training came directly from the involvement of these athletes and coaches in this research. A simplified version of the interview guide has been given to the sport federations so that they can process evaluations and organize mental training. The last version of the questionnaire is available on the internet to validate the latest enhancements and to establish individual profiles for mental skills at a given time.

**Paper 4. Needs Assessment and Interventions of the Spanish Team at the Football World Cup**

Leonard Zaichkowsky

*Boston University*

In preparation for the football World Cup, the Real Federacion Espanola de Futbol, contracted with the author and former graduate student to provide psychological services beginning with the training camp in mid-May 2006, and concluding with World Cup competition. Needs assessment were obtained via an interview protocol with the head coach, the players, and our observations. The head coach indicated a need for psychological training in the following areas: team identity and cohesion, media relations, and coping with pressure/adversity. Players with one exception, had never been exposed to sport psychologists or methods of strengthening mental skills. Probing the athletes, and observing training sessions led us to emphasize skill development in the following areas: enhancing overall skill development through a commitment to focus on deliberate practice (using personal goal-setting), identifying and dealing with distractions (focus and refocus), playing with passion and intensity, yet with "inner calm", controlling emotions, effective use of imagery and self-talk, being mentally tough, and trusting teammates. Given that educational interventions needed to be conducted over a short period of time, a variety of methods were used including brief meetings with coaches, the sports medicine staff, and players in a variety of venues including the training fields, meeting rooms, hotel rooms and dining halls. Both individual and group sessions were conducted using lecture methods, demonstrations, and video clips. The day of each World Cup game, we met for 10-15 minutes with the team and provided brief reminders of important self-regulation skills using key words and a major emphasis on positive thoughts.

**Paper 5. Iranian Athletes' and Coaches' Perceptions of the Effectiveness of Mental Training Interventions at the Asian Games**John H. Salmela<sup>1</sup>, Fatolla Mosayebi<sup>2</sup> & Shamsi S. Monfared<sup>2</sup><sup>1</sup>*Federal University of Minas Gerais,*<sup>2</sup>*NOC of the Islamic Republic of Iran*

Intervention processes in sport psychology have been rarely assessed after selection and competition in major international Games. Orlick and Partington (1987) reported that successful interventions by sport psychologist who worked with Canadian athletes at the Los Angeles Olympic Games were characterized by the mental trainer fitting in with the team environment, having useful performance strategies and having useful skills. Iranian athletes and coaches from taekwondo, judo, and cycling were administered a brief questionnaire regarding their perceptions of both the needs of the athletes and the importance of various interventions and behaviors of the mental trainers. It was found that the Iranian coaches reported significantly lower perceived needs of their athletes, especially for the women. Both coaches and athletes reported that the five month intervention process of brief relaxation combined with imagery sessions were most beneficial in group sessions while targeted performance blocks related to external pressures of the press and the sport governing bodies as well as self-imposed performance stressors leading up to the competitions were effectively dealt with in one-on-one

sessions. The OMSAT profiles were used as a mirror of their reported strengths and weaknesses. The highly positive response levels of the perceptions of women Iranian athletes were of particular interest, and may have reflected that they received less attention and social support than the men.

## SYMPOSIUM 21

### Complex systems approach to situated action in sport

Organizer/ Chair: **Duarte Araújo**, *Technical University of Lisbon, Faculty of Human Kinetics, Portugal*

Discussant: **Robert Hristovski**, *University StCyril and Methodius, Faculty of Physical Culture; FYROM*

Sport is a human activity characterized by a particular organization and functioning in a certain context. The ecology of sport is not only distinguished by the physical characteristics of the location where the activities of athletes take place, but also by its social aspects. Given all the physical and social constraints, the interactions of performers in sports events provide a window onto the competition, and to a lesser extent the cooperation, between players. The factor of interest for sports audiences is precisely to observe which players or teams succeed in a competition, characterised by a complex dynamical interaction of physical (e.g., gravity) and social (e.g., rules) constraints specific to a certain sport. Complexity is, in general, a multidimensional concept. A systems perspective shows how sport competitions may differ in complexity. For example, some are characterized by direct interactions between an athlete and his/her opponent (e.g., martial arts), whereas others are characterised primarily by collaborative interaction between athletes competing with other group of collaborative athletes (e.g., team ball sports). The following list of presentations is intended to be broad enough to subsume the different types of complexity that can be found in a complex system such as sport competition.

#### **Paper 1. Ventral and dorsal contributions in the visual regulation of ball catching**

Geert Savelsbergh<sup>1,2</sup> & John van der Kamp<sup>1,3</sup>

<sup>1</sup> *Research Institute for Fundamental and Clinical Human Movement Sciences  
Vrije Universiteit Amsterdam, The Netherlands*

<sup>2</sup> *Institute for Biophysical and Clinical Research into Human Movement  
Manchester Metropolitan University, UK*

<sup>3</sup> *Institute of Human Performance, University of Hong Kong, Hong Kong*

A framework for a broad division between vision for perception and vision for action is proposed by Goodale and Milner. These authors have convincingly argued that two separate neuro-anatomically and functionally different visual systems exist. The dorsal vision for action pathway is used for visual guidance of a movement. For instance, it controls the execution of a stroke such that the ball will be hit at the right place at the right time with the right amount of force. The ventral vision for perception pathway serves to obtain knowledge about objects, events and places. The aim of this presentation is to provide an appraisal of the significance of Milner and Goodale's two-visual system model for the study of the visual regulation of sport actions. The model will be illustrated by one-handed catching experiments. In addition, the implications for the design of future perception experiments in sport will be discussed.

#### **Paper 2. Interpersonal pattern dynamics and decision-making in rugby**

Passos Pedro<sup>1,2</sup>, Araújo Duarte<sup>1</sup>, Davids Keith<sup>4</sup>, Diniz Ana<sup>1</sup>, Gouveia Luis<sup>3</sup>, & Sidónio Serpa<sup>1</sup>

<sup>1</sup> *Faculty of Human Kinetics/Technical University of Lisbon*

<sup>2</sup> *Lusófona University of Humanities and Technologies*

<sup>3</sup> *Faculty of Pharmacy/University of Lisbon*

<sup>4</sup> *Queensland University of Technology*

In previous work of Passos et al (in press) the authors suggested that the dynamics of attacker-defender dyads can be characterized as an evolving sequence since players positioning and movements will clearly be connected in diverse ways over time, the emergent interdependence amongst players has created a larger whole: an attacker-defender system. Schönér (1990) suggested that behavioral repertoire that becomes available due to the emergence of attacker-defender system could be sustained on the "behavioral information" that contributes to the emergence of pattern dynamics attracting the system to a required coordination pattern. We identified an attacker-defender system with three attractors towards which system components converge over time. We proposed a conceptual model with three coordination patterns characterized as attractor states: i) physical contact takes place but the attacker does not pass the defender; ii) physical contact takes place and the

attacker passed the defender; or iii) the attacker passed the defender without physical contact. Therefore, we first identified a collective variable that suitably described system behaviour. The data suggested that different curve shapes of the collective variable allow us to identify three different coordination patterns (characterized as attractor states) that emerge between attacker and defender in a course of action. The main conclusion was that 1 vs 1 situation near the try area in Rugby might be viewed as an emergent process, governed by laws of dynamical systems at the ecological scale.

### **Paper 3. Emergent tactical solutions in an attack – defence hand-striking game**

Hristovski Robert<sup>1</sup>, Davids Keith<sup>2</sup> & Araújo Duarte<sup>3</sup>

<sup>1</sup> Faculty of Physical Culture – University StCyril and Methodius, FYROM

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In this presentation we discuss dynamical effects such as: persistence, on-off (metastable) and transitional behavior, as well as hysteresis, chasing and hesitation behaviour in tactical solutions in a dyadic (i.e. 1 v 1) system in combat sports – a synergy that arises under the pressure of constraints characterising the system. Our observations led us to propose a polynomial model of fourth order that captures the dynamics of the dyadic synergy. The attack – defence angle in this system acts as an order parameter, while the perceived defensibility and the risk of being hit by the attacker (i.e. ‘harmability’ variable) are two independent control parameters. By scaling the striking frequency of the attacker, and discretely changing the risk control parameter, diverse emergent behaviours were observed. For large and small risk values the system was stable and the dynamics persistent. For intermediate risk values the dynamics became much more diverse and unpredictable as assessed by entropy measures. The data demonstrate how decision making can emerge in dyadic systems under the constraints of competitive sport.

### **Paper 4. Amplifying noise enhances acquisition and learning of complex sport movements**

Schöllhorn, W.I., Welminski, D., & Michelbrink, M.

*University of Münster, Germany*

Despite the low probability of identical movement repetitions and the individuality of movement traditional motor learning approaches mainly orient on person independent models that refer to the to-be-learned technique and to the acquisition process as well as on repetitive characteristics of single movement techniques. Alternative approaches put more emphasis on the acquisition of several techniques in parallel (Brady 2004) or on the constructive influence of noise during the learning process (Schöllhorn 2006). Here we examine whether performance and learning of high jump technique can be enhanced by adding noise in form of random components to target movements during training. A classical (CI), a differential (DI), and one control (CO) group were compared in a pre/post-test design with retention-test. The test consisted of a fosbury-flop and a jump-and-reach-test. Group CI was trained with error correction and a high number of repetitions, whereas group DI received no corrective instruction and never repeated a high jump twice by changing movements every trial. Significant changes could be observed in the fosbury flop only in the differential group from pre- to post and from pre- to retention test. Changes in the jump and reach test were only significant in the differential group from pre to post test. All groups kept the level of the post test until the end of the experiment. Overall, adding noise not only seems to enhance performance and learning in coordinative tasks but can provide improvement of conditional factors in explosive sport movements as well.

### **Paper 5. Layers of complexity in performance**

Beatrix Vereijken

*Human Movement Science Programme, Norwegian University of Science and Technology, Trondheim, Norway*

For any physical performance to be proficient, be it in sports or in activities of daily life, many factors at many different levels need to come together in a coordinated effort. In this presentation, I will take a look at the complexity of performance, peeling away layer after layer, and illustrate what some of the major challenges at each layer are, how they are accomplished, and how a learning process might contribute to improvement in performance. At the behavioural level of overall performance, one of the major issues is the number of degrees of freedom. Using research examples, I will illustrate how inclusion of additional degrees of freedom during a learning process increases both the complexity and the proficiency of performance. Peeling away the layer of multiple degrees of freedom, one arrives at the layer of 1-df performances. Here, I will illustrate how different 1-df joints have different properties of accuracy. Taking away this layer brings us to the ensemble of muscles

moving a 1-df joint, where I will illustrate the differential characteristics of flexion and extension. Arriving at the properties of a single muscle, I will discuss the learning potential for force modulation for different groups of subjects such as adolescents, adults and elderly. Finally, I will bring all these layers back together in a single example, the take-off in ski jumping, illustrating how immediate feedback about performance helps the jumper to learn to balance force exertion in the lower extremities.

**Thursday 6/9/2007**

**17:00-18:20**

**SYMPOSIUM 22**

**Early years in sport: Talent detection, continued participation, and transitions**

Organizer/Chair: **Dieter Hackfort**, *ASPIRE Academy for Sports Excellence*

Discussant: **Jean Côté**, *Queen's University at Kingston, Ontario*

The Managing Council of the International Society of Sport Psychology (ISSP) discussed the psychological perspectives on and responsibilities for the initiation of a career in high performance sports, the development of young athletes, and athletes in transition phases and recently assigned colleagues to review empirical and theoretical contributions on these issues, to summarize and prepare a state-of-the-art report for position statements of the society. The colleagues presenting in this symposium built up an ISSP workgroup and all of them have run research on these issues and are regarded to be experts in the field. They will provide empirical evidences from their studies and discuss the results considering various concepts and approaches. Ex ante, in the introduction, controversial standpoints are delineated and a theoretical framework will be outlined, which should serve to link these issues and the various contributions to demonstrate an approach toward an integrative understanding and perspective.

**Paper 1: To Test or not to Test? – The Use of Physical and Skill Tests in Talent Detection and Early Phases of Talent Development**

Ronnie Lidor<sup>1</sup>, Jean Côté<sup>2</sup>, & Dieter Hackfort<sup>3</sup>

<sup>1</sup>*The Zinman College of Physical Education and Sport Sciences, University of Haifa* <sup>2</sup>*Queen's University at Kingston, Ontario, Canada*

<sup>3</sup>*ASPIRE Academy for Sports Excellence, Doha, Qatar*

Talent detection and early development of young prospects in sport often include measurement and evaluation of physical abilities and skill level (Brown, 2001; Lidor et al., 2005a). Coaches in both individual and team sports use various tests at early phases of talent development to assess the general and specific skill level of their players as well as to predict the players' future success. The use of physical and skill tests in these phases of development has been widely examined in male and female prospects (e.g., Falk et al., 2004; Lidor et al., 2005a, b, in press; Spamer & Coetzee, 2002; Stamm, Stamm, & Thomson, 2005). The main observation that can be made based on the data from these studies is that no clear-cut evidence has been found to support the predictive value of physical and skill tests at early phases of sport development. For example, data obtained from a variety of physical and skill tests given in these phases revealed no correlation with final selection and rankings of players (e.g., Lidor et al., 2005a, b), or with performance in actual games (e.g., Stamm et al., 2005). However, there is data indicating that some physical and skill tests did serve as good predictors for performance in actual games or final ranking of players (e.g., Spamer & Coetzee, 2002). In addition, different physical and skill predictors for actual performances or final ranking of players were found for male and female athletes (e.g., Stamm & Stamm, 2004; Lidor et al., in press). This paper discusses the data emerged from those studies examining the use of physical and skill tests in early phases of talent development and outlines the benefits and limitations of the use of these tests. The paper proposes to minimize the use of batteries of physical and skill tests in talent detection and early sport development.

**Paper 2: To Sample or to Specialize? Five Postulates about Childhood Sport Activities that Lead to Continued Participation and Elite Performance**

Jean Côté<sup>1</sup>, Ronnie Lidor<sup>2</sup>, & Dieter Hackfort<sup>3</sup>

<sup>1</sup>*Queen's University at Kingston, Ontario, Canada*

<sup>2</sup>*The Zinman College of Physical Education and Sport Sciences, University of Haifa, Israel*

<sup>3</sup>*ASPIRE Academy for Sports Excellence, Doha, Qatar*

The Developmental Model of Sport Participation (Côté & Fraser-Thomas, 2007) provides a framework that outlines different pathways of involvement in sport. In pathways one and two, the sampling years serve as the



foundation to both elite and recreational sport participation. On the other hand, pathway three shows the path for elite performance through specialization in one sport from ages 6-12. This paper proposes five postulates regarding the role that sampling and deliberate play can have during childhood, as opposed to specialization and deliberate practice, in promoting continued participation and elite performance in sport. The five postulates are: 1) sampling during childhood does not hinder elite sport participation in sports where peak performance is reached after maturation (Baker, Côté, & Abernethy, 2003; Soberlak & Côté, 2003); 2) sampling during childhood is linked to a longer sport career and has positive implications for long-term sport involvement (Barynina & Vaitsekhovskii, 1992; Wall & Côté, 2007); 3) sampling during childhood allows participation in a range of contexts that most favorably affects positive youth development (Fredricks and Eccles, 2006; Wright & Côté, 2003); 4) high amounts of deliberate play during childhood builds a solid foundation of intrinsic motivation through involvement in activities that are enjoyable and promote intrinsic regulation (Gilbert, Côté, Harada, Marchbanks & Gilbert, 2002); and 5) high amounts of deliberate play during childhood establish a range of motor and cognitive experiences that the child can ultimately bring to their principal sport of interest (Soberlak & Côté, 2003).

### **Paper 3: Career Development and Transitions of Athletes**

Natalia Stambulova<sup>1</sup>, Dorothee Alfermann<sup>2</sup>, Jean Côté<sup>3</sup>, & Traci Statler<sup>4</sup>

<sup>1</sup>*Halmstad University, Sweden*

<sup>2</sup>*Leipzig University, Germany*

<sup>3</sup>*Queen's University at Kingston, Ontario, Canada*

<sup>4</sup>*California State University at San Bernardino, USA*

The ISSP Position Stand on Career Development and Transitions of Athletes focuses on historical trends in the topic, major research findings and applied issues related to career assistance. It defines “athletic career” as a multiyear sport involvement voluntarily chosen by the person and aimed at achieving his/her individual peak in athletic performance in one or several sport events. It emphasizes importance of macro- (e.g., culture, sport system) and micro- (coaches, parents, peers) social environment in career development and transitions. “Career transitions” are defined as normative or non-normative “turning” phases in the course of an athletic career, with a set of specific demands athletes have to cope with in order to continue successfully in sport, or to adjust to the post athletic career life. Considering a transition as a process, the Position Stand outlines transition demands, coping strategies, factors influencing coping, potential outcomes of a transition (e.g., successful transition and crisis-transition) and consequences of not coping with the transition based on cultural and cross-cultural studies around the world. It also presents major principles (e.g., “whole career”, “whole person”, developmental perspective, individual approach) and strategies (e.g., preventive, crisis-coping) in career assistance/interventions. In conclusion recommendations for sport authorities/managers, coaches, applied sport psychologists, athletes and their parents on how to optimize career development in sport and to use it for the benefit of lifespan development and life career are suggested.

## **SYMPOSIUM 23**

### **On becoming skilled: implications for visual-motor practice**

Organizer/Chair: **Nicola J. Hodges**, *University of British Columbia*

Discussant: **A. Mark Williams**, *Research Institute for Sport & Exercise Sciences, Liverpool John Moores University*

The aim is to address current issues in motor skill research concerning the role of visual skills in acquiring and maintaining skilled performance. We bring together researchers in the areas of *expert performance* and *motor learning*. The first three presenters have studied skilled performers under various perceptual-motor practice manipulations to help isolate control strategies which typify performance in basketball and soccer. Their research has implications for the conditions of practice which are best suited for efficient and effective skill acquisition. Keetch *et al.* and Ford *et al.* look at how the acquisition of skill changes the nature of visual-motor representations which govern performance. Certain skills are specially represented for action execution and are influenced by the visual conditions specific to performance. Ball flight information is shown to influence how experts plan and execute kicks, although novice performers are shown to be more dependent on this information for successful execution. Savelsbergh addresses more generally the issue as to how movements are constrained by vision. He proposes a model of perceptual skill and uses examples from soccer to illustrate. These ideas are also explored by Breslin *et al.* and Horn *et al.* who measure visual search and performance acquisition in cricket bowling, kicking and throwing. The observer's visual search as a function of practice and

watching demonstrations is inappropriately biased towards the bowling arm, even when multiple sources are available and potentially more informative. As Horn *et al* show, this depends on the task and availability of feedback. Methods for improving the observation process during skill acquisition are explored.

### **Paper 1. Especial motor skills: Implications for motor performance and practice conditions**

Katherine M. Keetch<sup>1</sup>, Timothy D. Lee<sup>1</sup> & Richard A. Schmidt<sup>2</sup>

<sup>1</sup>*Dept of Kinesiology, McMaster University, Canada*

<sup>2</sup>*Human Performance Research, LA. Psychology Dept., UCLA, USA*

In five experiments we found that the basketball set shot from the foul line (15 ft; the free throw) is an *especial* skill – one that is developed with massive amounts of practice and which represents a highly specific capability among a general class of skills (Keetch, Schmidt, Lee, & Young, 2005). Varsity athletes demonstrated specificity for the free throw in a variety of experimental manipulations. Specifically, the set shot at the foul line (15 ft) was performed more accurately than predicted based on performance at positions in front of and behind the foul line, at positions equidistant (15 ft) but angularly distinct from the foul line (15°, 30°, 45° to the right and left of the foul line), and compared to jump shots at the foul line. In contrast, jump shot performance at the foul line corresponded with regressed predictions from surrounding shots, but was superior to set shots taken at the athlete's chosen "favorite" locations on the court. These data, together with other findings, suggest that the set shot and jump shot are not represented as a unitary memory. We discuss the implications of these findings for both motor control theory and structuring practice conditions.

### **Paper 2. The role of ball flight information in skilled kicking**

Paul Ford<sup>1</sup>, Nicola J. Hodges<sup>2</sup>, A. Mark Williams<sup>1</sup>

<sup>1</sup>*Research Institute for Sport & Exercise Sciences, Liverpool John Moores University, UK*

<sup>2</sup>*School of Human Kinetics, University of British Columbia, Canada*

The associations between an action and its effects are acquired through practice. Five experiments were conducted to examine the role of action effect information in the planning, execution, and evaluation of a complex motor skill. In Experiments 1, 2, and 3 the importance of ball trajectory information in the execution of a soccer kick to a target as a function of skill was examined using visual occlusion (Exp 1 and 2) and perturbation (Exp 3) techniques. Skilled performers were able to maintain accuracy when vision of ball trajectory was occluded, although they were shown to use this information when it was available yet perturbed. The accuracy of less-skilled performers decreased when vision of ball trajectory was occluded. These findings suggest that action effect information is used to execute the action when it is available, irrespective of skill level. In Experiments 4 and 5 the importance of ball trajectory information in planning a soccer kick to a target as a function of skill was examined. Participants were instructed to plan the action in terms of the ball's trajectory or in terms of body movements. Body planning conditions were less accurate than ball planning conditions when visual feedback was withheld, irrespective of skill level. In these five experiments there was evidence that ball trajectory information is used to plan and perform actions across skill levels, although skilled performers are less reliant on this information for successful execution than their less skilled counterparts.

### **Paper 3. A perception-action perspective on learning and practice: The stopping of a penalty kick**

Geert, J.P. Savelsbergh

*Institute for Fundamental and Clinical Human Movement Sciences, Vrije Universiteit Amsterdam, The Netherlands & The Institute for Biophysical and Clinical Research into Human Movement, Manchester Metropolitan University, UK & Academy for Physical Education, University of Professional Education, Amsterdam, The Netherlands*

An important characteristic of skilled performance is the precise tuning of the action to the continuously changing environment. Perception is indispensable in this respect, because successful movement co-ordination demands conformity to highly constrained spatial and temporal requirements, while perception provides the actor with the necessary information about environmental events. One such skill that is crucially dependent on visual perception is the interception of moving objects (e.g., a ball in football or tennis). In order to make a successful interception, the performer has to orient and locate the foot, hand (in case of goal keeping) or racket at a precise location and time. In addition, the actor needs to anticipate the exact moment the ball/shuttle will hit the foot, hand or racket in order to be successful. Reaching such high levels of performance and flexibility often takes years of learning and practice. The goal of my presentation is to elaborate upon the role of visual information in the acquisition of a motor skill, with a particular focus on the penalty kick in soccer.

The performance of goal keepers of different level is used as a vehicle to illustrate the theoretical approach. I present a model of stages in the acquisition and development of the coupling of visual information and movement. This model of Savelsbergh and Van der Kamp (2000) can be used as a framework to understand how information and movement are coupled under certain sets of constraints and illustrated with examples from football goal-keeping and tactical position play. Implications for application in practice and training will be discussed.

#### **Paper 4. Isolating information in cricket bowling to facilitate observational learning**

Gavin Breslin<sup>1</sup>, Nicola J. Hodges<sup>2</sup>, & Mark Williams<sup>3</sup>

<sup>1</sup>*School of Sports Studies, University of Ulster Jordanstown, Northern Ireland*

<sup>2</sup>*School of Human Kinetics, University of British Columbia, Canada*

<sup>3</sup>*Research Institute for Sport & Exercise Sciences, Liverpool John Moores University, UK*

There is evidence that novice bowlers focus only on the end-effector (the bowling arm) when trying to learn bowling actions (Breslin et al., 2005, 2006). In this experiment we manipulated the amount of information presented each day of practice to help encourage a more global pick up of information. Visual search during observation was examined as well as outcome success and intra- and inter-limb coordination. A no-demonstration group was compared to three experimental groups who saw either a dynamic full-body point-light model, only the action of the bowling arm or the motions of the left and right wrists. Following retention tests on Day 2, all participants practiced after viewing a full body display. Retention was again examined on Day 3. For intra-limb coordination of the bowling arm, only the FB and bowling arm groups became more like the model across practice. There were no differences between groups when replicating the model's non bowling arm or approximating inter-limb coordination. Visual search data indicated that the participant's immediate focus was on the model's bowling arm, although visual search became more disparate as more information was introduced on day 2. These data support the view that 'end-effector' information is an important perceptual constraint during early observational learning and that extended practice is likely needed for observers to attune to more global information sources.

#### **Paper 5. Reducing the conflict between program- and parameter-based information sources in learning through demonstration with visual knowledge of results**

Robert R. Horn<sup>1</sup>, A. Mark Williams<sup>2</sup>, Nicola J. Hodges<sup>3</sup>, & Spencer J. Hayes<sup>2</sup>

<sup>1</sup>*Department of Exercise Science & Physical Education, Montclair State University, USA*

<sup>2</sup>*Research Institute for Sport & Exercise Sciences, Liverpool John Moores University, UK*

<sup>3</sup>*School of Human Kinetics, University of British Columbia, Canada.*

When learners have to acquire a specific movement pattern together with an accurate outcome, there is evidence that demonstration and visual knowledge of results (VKR) interact in a negative manner. For example, in two experiments we (Horn et al., 2002, 2005) reported that when participants viewed a demonstration of a soccer chip with VKR present, they learned to improve outcomes yet did not mimic the model's relative motion pattern. When VKR was removed participants rapidly acquired the model's relative motion but did not improve outcomes. Similarly, we have demonstrated using a task in which VKR in relation to ball speed was available yet not readily usable, that participants rapidly acquired the movement pattern and increased ball speed (Horn et al., in press). Most recently, we have found that superior learning of a specialized kicking action occurs when feedback and demonstration are provided separately rather than together. The findings from this program of work are interpreted with reference to Newell's (1985) hierarchy of coordination, control, and skill. Moreover, it is our proposal that in line with Schmidt and Wrisberg's (2004) concept of *program* and *parameter* KR, that demonstrations have a 'program' (movement assembly) and a 'parameter' (outcome scaling) role in motor learning and that the efficacy of demonstrations is largely controlled by the extent to which program and parameter information sources are complimentary. Finally, we describe ongoing research in which we examine this proposal and discuss potential implications for practice.

**SYMPOSIUM 24****The roles of implicit and explicit cognitions in sport: Attention, perception, pressure, and performance**

Organizer/ Discussant: **Jon Maxwell**, *Institute of Human Performance, University of Hong Kong*

Chair: **Rich Masters**, *Institute of Human Performance, University of Hong Kong*

The past fifteen years have witnessed a steady increase in research examining the roles of implicit and explicit cognitions in sport. Implicit cognitions are largely unavailable to consciousness, minimally reliant on attentional resources, and are difficult to convey to other individuals, whereas explicit cognitions are typically verbally based (but can be pictorial), accessible to consciousness, attention demanding, and can be communicated to other individuals (for a recent review see Masters & Maxwell, 2004). Previous studies have examined the role of implicit cognitions during motor learning and subsequent performance. The evidence to date suggests that implicit learning places a lighter load on attentional resources and produces skills that are resistant to the effects of performance pressure (e.g. psychological stress and physiological fatigue). In this symposium we present data that furthers our understanding of the roles of implicit and explicit cognitions as they relate to attentional demands, unconscious perception of task relevant information, performance under pressure, and extended learning periods. The results suggest that both implicit and explicit cognitions have an important part to play in sport performance and that future research should concentrate on identifying the circumstance under which they are optimized and the nature of their interactions.

**Paper 1. Distribution of attentional resources as a function of learning technique: Evidence from probe reaction times**

Jamie Poolton, Jon Maxwell, Gilbert Lam, & Rich Masters

*Institute of Human Performance, University of Hong Kong, Hong Kong*

Maxwell et al., (2001) argued that the commission of errors during learning increases the amount of attention dedicated to task performance because the learner develops and tests hypotheses about how to perform correctly. The reduction of errors decreases attentional load. To test this attentional hypothesis, two groups were subjected to either errorless or errorful learning protocols followed by retention and two transfer tests. The learning phase consisted of eight blocks of 50 putting trial performed from eight distances. The errorless group began putting from the shortest distance to the hole and moved back after each successive block until they reached the furthest distance. The errorful group began putting from the furthest distance and moved progressively closer. The retention and transfer tests were performed by both groups at a distance of 200cm from the hole. During the Transfer tests, the putter was modified to increase task difficulty. Throughout the learning and test phases, attention allocation was measured using verbal probe reaction times (PRT) in response to an auditory tone. Errorless learners had significantly shorter PRTs during movement execution, but not prior to movement initiation. The PRT of errorful learners increased during both novel task transfer tests, but remained constant for the errorless group. Putting performance did not differ between groups during the retention and transfer tests. These results suggest that errorless learners pay less attention to online movement control than do errorful learners; however, attention during movement planning is similar for both groups.

**Paper 2. Getting used to the pressure: Training with mild levels of anxiety may prevent choking in perceptual-motor tasks**

Raoul R. D. Oudejans, & J. R. (Rob) Pijpers

*Institute for Fundamental and Clinical Human Movement Sciences, VU University Amsterdam, The Netherlands*

We examined whether practicing with mild anxiety can help reduce choking in perceptual-motor tasks. In Experiment 1 two teams of expert basketball players practiced additional free throws over a five-week period either with (experimental team) or without (control team) induced anxiety. Both teams reported mild levels of anxiety in the high- compared to the low-anxiety condition during both the pre- and the posttest. Nevertheless, only the experimental team managed to maintain performance during the high-anxiety posttest. In Experiment 2, beginners practiced dart throwing while hanging low on a climbing wall either with (experimental group) or without (control group) mild anxiety. After training both groups were tested under low-, mild- and high-anxiety (high on the climbing wall) conditions. While both groups maintained performance under low and mild anxiety, under high anxiety performance of the control group dropped significantly leaving performance of the experimental group unaffected, despite similar increases in on-task effort by both groups. We conclude that practicing under mild levels of anxiety can already help prevent choking in perceptual-motor tasks, as

one acclimatizes to the specific processes accompanying the additional anxiety. These results better fit the distraction models than the conscious processing hypothesis of choking under pressure.

### **Paper 3. The effect of Müller-Lyer illusions on far aiming tasks**

John van der Kamp<sup>1,2</sup> & Richard S.W. Masters<sup>2</sup>

<sup>1</sup>*Faculty of Human Movement Sciences, VU Amsterdam, The Netherlands*

<sup>2</sup>*Institute of Human Performance, University of Hong Kong, Hong Kong*

Milner and Goodale (1995) proposed two neuro-anatomical separate visual systems: the dorsal system is associated with the implicit control of action whereas the ventral system is involved in perception. The latter operates both implicitly and explicitly. By and large the behavioral evidence for this distinction stems from relatively simple laboratory tasks such as pointing and grasping. Recently, we have advocated the generalization of the two-visual systems model to more complex sport tasks (Van der Kamp, Rivas, Van Doorn & Savelsbergh, 2007). In this paper, we will present data on perception and action in far aiming tasks like shuffle boarding, golf putting and the free throw in handball. From the perspective of the two-visual system model, effects of visual illusions flag the contribution of the consciously accessible ventral system. Participants are instructed to throw, putt or shuffle a projectile to a target that is embedded in one of different variants of the Müller-Lyer illusion. For instance, when a goalkeeper raises her or his arms diagonally she or he assumes a posture that resembles a 'fins-out' Müller-Lyer configuration. We show that by assuming this posture, the goalkeeper looks bigger and report the effects of this illusion on the accuracy of the handball free throw. We also ask whether the illusion bias is dependent on skill level.

### **Paper 4. Rule formation and table tennis performance following explicit and analogy learning over 10,000 repetitions**

Johan M. Koedijker, Raoul R. D. Oudejans, & Peter, J. Beek

*Research Institute MOVE, Faculty of Human Movement Science, VU University Amsterdam, The Netherlands*

We investigated whether performance advantages of implicit over explicit learning, such as robustness under performance pressure, are preserved over long periods of learning. An analogy and explicit learning group performed 10,000 table tennis forehand strokes. After 1,400 and 10,000 repetition explicit learners reported more explicit rules about movement execution than analogy learners, although in the explicit learners the number of rules decreased between 1,400 and 10,000 repetitions. Despite differences in number of rules, neither group showed performance decrements under performance pressure or secondary task loading after 1,400 or 10,000 repetitions, suggesting that the putative disadvantage of explicit learners (higher susceptibility to choking) had already disappeared after 1,400 repetitions. Remarkably, performance of the analogy group plateaued after 1,400 repetitions, whereas that of the explicit group continued to increase. Based on these findings, there appear to be no grounds for attempting to prevent learners from accumulating explicit knowledge during learning.

### **Paper 5. Getting a bit on the side - penalty kick direction is influenced implicitly by the position of the goalkeeper**

Rich Masters,<sup>1</sup> John van der Kamp,<sup>1,2</sup> & Rob Jackson<sup>1</sup>

<sup>1</sup>*Institute of Human Performance, The University of Hong Kong, Hong Kong Special Administrative Region, China*

<sup>2</sup>*Faculty of Human Movement Sciences, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands*

Performance can be influenced by stimuli that do not breach the surface of conscious awareness and can not be described with words. Evidence of this phenomenon has been produced in tasks varying from line length discrimination (McCourt & Olafson, 1997) to motor learning (Masters, Eves & Maxwell, 2007). We will present data from both observational and experimental studies that suggest a goalkeeper can, by standing marginally left or right of goal center, bias a penalty taker implicitly (unconsciously) to kick to the side with more space. The goalkeeper can then dive strategically to that side to make the save. Our data are compatible with Weber's law in that the smallest difference at which penalty-takers showed reliably above-chance discrimination of the side with most space was constant, regardless of the scaling of the stimuli. Extrapolation of our data indicates that the optimum displacement of the goalkeeper in real life is somewhere between 6 and 10 cm. With a displacement in this range, the penalty taker will be only implicitly aware that there is more space on one side of the goalkeeper, but will be 10% more likely to direct the penalty to that side.

**Friday 7/9/2007****08:30-09:50****SYMPOSIUM 25****Injury rehabilitation**Organizer/Chair: **Urban Johnson**, *Halmstad University, Centre for Sport & Health Research*Discussant: **Mark Andersen**, *Centre for Rehabilitation, Exercise, and Sport Science  
Victoria University*

A growing number of publications, books and congress symposia about the topic of injury, rehabilitation and sport psychology have been reported the last 5-10 years. In such diverse fields as sports medicine, physical education and the elite sport world, psychological aspects of sport injury and rehabilitation is becoming an important part of the game. In this symposium a variety of research and methodological considerations will be presented. In the first paper the presenter describe development and evaluation of a multimedia tool designed to enhance processes and outcomes associated with ACL-surgery. In the second paper the presenter discuss the possibility of reducing injury risk in male ice hockey players through a short-term psychological intervention program. In the third paper attempts is made to describe the latest development and validation of a Sport Self-Confident Questionnaire of Injured Athletes. The fourth presentation will address questions and issues about anxiety, mental toughness, and imagery in sport injury rehabilitation research which are troubled with methodological, design, data collection, and analysis problems. Finally, the fifth presentation explores the injured body's experience of pain by focusing on memories of pain in relation to the narratives constructed by the participants some years after the injury has taken place.

**Paper 1. Development and preliminary evaluation of a behavioral multimedia CD-ROM for ACL surgery and rehabilitation**Britton W. Brewer, Judy L. Van Raalte, & Allen E. Cornelius  
*Springfield College*

Anterior cruciate ligament (ACL) reconstruction surgery is typically followed by an extended period of rehabilitation, the outcomes of which have been favorably affected by psychological interventions. Multimedia technology offers a dynamic and economical means of delivering psychological interventions to surgery patients. The purpose of this presentation is to describe the development and preliminary evaluation of a CD-ROM designed to enhance processes and outcomes associated with ACL surgery. Based on the results of a literature review, focus groups conducted with former ACL surgery patients, and expert feedback, a prototype CD-ROM that included preparatory and context-specific information on goal setting, imagery, and positive self-talk was created. Forty former ACL surgery patients: (a) completed a questionnaire assessing their knowledge of ACL surgery and rehabilitation; (b) viewed the entire CD-ROM; (c) completed the knowledge questionnaire again; (d) indicated the impact that viewing the CD-ROM prior to surgery and rehabilitation would have had on their preparedness, confidence, anxiety, and knowledge; (e) rated the treatment acceptability of the CD-ROM; and (f) participated in a focus group in which they discussed their impressions of the CD-ROM. Knowledge scores were significantly higher after viewing the CD-ROM. The CD-ROM was viewed as acceptable and having potentially beneficial effects on preparedness, confidence, and knowledge. The evaluation of the prototype suggests that it was viewed favorably by the target audience and that it should be subjected to more rigorous testing in a formal clinical trial to examine its efficacy in enhancing the experience of people undergoing ACL surgery and rehabilitation.

**Paper 2. Injury Prevention in Sweden: Helping Ice hockey Players at Risk**Ulrika Tranaeus & Urban Johnson  
*Halmstad University, Centre for Sport and Health Research*

Epidemiological studies report that the injury risk for elite ice hockey players is statistically high during a season. Thus, the aim of the study was to examine the possibility of reducing the risk of incurring sport injuries on male ice hockey players through implementation of a psychological intervention program during the season of 2005/2006 in the Swedish hockey league. The population consisted of 9 ice hockey players in an experimental group and 13 players in control group, organized in a matched pair design in which age and injuries at the start of the study were paired. ACSI-28 and SAS was used to measure coping and anxiety before and after the end of intervention. Moreover, interview was performed with three players in the experimental group. The intervention consisted of relaxing techniques, goal setting, stress prevention, self confidence and attributions.

Number of injuries was counted during the period and classified into mild, moderate and severe, after caused absence from training and games, which corresponded to the injury's severity. The result showed that the experimental group faced less injuries compared to the control group ( $p < .05$ ). Moreover, the experimental group improved seven of ten subcategories in ACSI-28 and SAS, though not in a statistical significant way. The result of the interviews showed that the experiment group faced less negative stressful moments at the end of the study compared to the beginning. It is suggested that future research should focus on female ice hockey players, as well as difference between acute and overuse injuries.

### **Paper 3. Development and Validation of Sport Self-Confident Questionnaire of Injured Athletes**

Anna Christakou, Nektarios A. Stavrou, Maria Psychountaki, & Yannis Zervas  
*University of Athens, Department of Physical Education and Sport Science*

The purpose of this study was to describe the development and validation of the Sport Self-Confident Questionnaire of Injured Athletes (SSCQ-IA) after an acute sport injury. The SSCQ-IA consists of fourteen items, representing two factors, namely the "Self-Confident due to Recovery" (SCO-R) and the "General Self-Confident" (G-SCO). For this purpose a series of three studies were conducted. In the first study interviews with athletes with a sport injury in the last year were examined. Also, thirty six expert judges (physiotherapists, sport psychologists, teachers of the Department of Physical Education and Sport Science, and M.Sc. students of athletic psychology) assessed the content validity of the new questionnaire. The aim of the second study targeted to test the factor structure of the instrument. The subjects were 186 athletes (107 men and 79 women) from different sports (e.g., soccer, basketball, handball, water-polo, judo, tennis) aged from 18 to 28 years ( $M = 19.53$ ;  $SD = 1.85$ ). The sample had an acute injury during the last year and had followed a physiotherapy program. Exploratory factor analysis indicated a marginal fit to the data (Cronbach  $\alpha$  for SCO-R factor = .98 and for G-SCO factor = .92). The purpose of the third study was to examine further the psychometric properties of the instrument. The final sample consisted of 184 athletes (138 men and 46 women) with a sport injury in the last eight months, ranging in age from 18 to 42 years ( $M = 21.22$ ;  $SD = 3.45$ ), and participating in soccer, basketball, handball, water-polo and judo. The results of confirmatory analysis indicated an acceptable fit to the data (NNFI = .971; CFI = .975; RCFI = .990; SRMR = .037; RMSEA = .058). The factors are internally consistent (Cronbach  $\alpha$  for SCO-R factor = .95 and for G-SCO factor = .89). The results provide adequate psychometric support for the instrument.

Acknowledgements: We wish to acknowledge financial support from the Alexsandros S. Onasis Scholarships Foundation

### **Paper 4. Injury Recovery Research Issues: Questions about Anxiety, Imagery, and Mental Toughness in Rehabilitation**

Mark B. Andersen, Qusai H. Mubaidin, Stephanie Tibbert, & Tony Morris  
*Victoria University*

Anxiety after sport injuries may be related to a variety of issues that athletes face in the recovery process. Negative future fantasies, such as, "I will lose my place on the team," "I will not recover fast enough to play this season," and "After I recover I will probably get injured again" may hinder or delay the rehabilitation process. Anxieties about recovery may lead to behaviours that actually result in outcomes the athlete fears most. For example, anxieties about slow recovery may lead to over-compliance with rehabilitation exercises and result in set-backs due to overuse of injured body parts. "Mental toughness" is currently a popular area of research in sport and exercise psychology and is being applied to rehabilitation. Question that arise from the mental toughness research are suggesting that there may be a "dark side" to mental toughness, with those athletes who rate high on mental toughness possibly being at risk for suboptimal recovery. Imagery may serve as an intervention during the healing process in a variety of ways. Imagery may be used to address anxiety about reinjury, facilitate recovery, or prepare the athlete for return to practice and competition. These questions and issues about anxiety, mental toughness, and imagery in sport injury rehabilitation research are fraught with methodological, design, data collection, and analysis problems. This part of the symposium will address these issues and how they may be resolved.

### **Paper 5. Disabled bodies and memories of pain: A narrative analysis**

Brett Smith  
*University of Exeter*

Pain due to an injury is a multidimensional phenomenon, more than a matter of firing neurons. Drawing upon life history interview data from a small group of men who through playing sport have experienced spinal cord injury (SCI) and are now disabled, this paper explores the injured body's experience of pain. By focusing on the

initial acute phase of rehabilitation following SCI, the men's memories of pain are explored in relation to the narratives constructed by the participants some years after the injury has taken place. Accordingly, attention is given to the themes or categories of unspeakable pain, naming pain, welcomed pain, hidden pain, locked in pain, and phantom pain. The narrative analysis provided both complements and extends previous work on pain by highlighting the contextual nature of this phenomenon and the narrative resources that are drawn upon by individuals to give meaning to pain over time. It also problematises categories of pain and in doing so suggests that sport and exercise psychology, rather than washing away the true mess of life, needs to explore the messiness of it and approach the edge of the vortex of unspeakable embodied suffering.

## SYMPOSIUM 26

### The Psychophysical Effects of Music in Sport and Exercise

Organizer/Chair: **Costas Karageorghis**, *Brunel University, UK*

Discussant: **Nikos Ntoumanis**, *University of Birmingham, UK*

Music is omnipresent in sport and exercise contexts. Consequently, the specific psychophysical and ergogenic effects of music have attracted considerable interest from researchers over the last two decades (e.g., Crust & Clough, 2006; Karageorghis & Terry, 1997; Schwartz, Fernhall, & Plowman, 1990). This symposium comprises four papers which collectively cover contemporary research and applied work spanning related yet distinct areas of music in sport and exercise research. Dr Karageorghis and Prof Terry have researched this area for many years and Messrs Bishop and Loizou have recently embraced cutting-edge technology to advance our knowledge of this exciting area. The first paper (Karageorghis, Jones, & Stuart) addresses the relationship between working heart rate and preference for music tempo extending Karageorghis, Jones, and Low's (2006) recent work. The second paper presents original experimental data concerning the interactive effects of video, priming, and music on emotion and motivation. The third paper (Bishop, Wright, & Karageorghis) examines the neurophysiological correlates of both emotional responses to music listening in elite tennis players and subsequent psychomotor performance. The fourth paper (Terry & Karageorghis) examines the use of music in psychological interventions with elite athletes, based on experiences from numerous Olympic Games and World Championships. The entire symposium will provide a unique combination of established and innovative ideas for applied sport psychology practitioners seeking to use music in a scientifically rigorous manner.

#### **Paper 1. Effects of Music Tempi on Intrinsic Motivation, Flow, and Music Preference during Long-duration Exercise**

Costas I. Karageorghis, Leighton Jones, & Daniel P. Stuart  
*Brunel University*

This study investigated the effects of three music tempi conditions on intrinsic motivation, global flow and music tempo preference during long-duration exercise. Undergraduates ( $N = 118$ ) were surveyed to establish their three favourite music artists for an exercise context. Another group of undergraduates ( $N = 29$ ) selected the music of a single artist from the three highest-rated artists in the earlier survey. These participants walked at 70% maxHRR on a treadmill in three experimental conditions (medium tempo, fast tempo, and mixed tempo and a no-music control). The Intrinsic Motivation Inventory, Flow State Scale-2 and a tempo preference item were completed after each trial. Data were analysed using a mixed-model MANOVA and ANOVA. Contrary to expectations, the main effect indicated that the medium tempo music condition yielded the highest intrinsic motivation scores, Pillai's Trace = .92,  $F(12,16) = 16.17$ ,  $p < .001$ ,  $\eta_p^2 = .92$ . Specifically, enjoyment scores were higher ( $p < .001$ ,  $\eta_p^2 = .33$ ) for the medium tempo when compared to the mixed tempo condition. They were also higher for the three experimental conditions when compared to control,  $p < .001$ ,  $\eta_p^2 = .64$ . A main effect was found for global flow, with follow-up comparisons indicating that the medium tempo condition yielded higher scores than the fast tempi condition, and that experimental conditions yielded higher flow than the no-music control. There were also significant differences for tempo preference,  $F(2,26) = 4.03$ ,  $p < .05$ ,  $\eta_p^2 = .13$ , with follow-up comparisons indicating that medium tempo was more preferred than the mixed tempi condition. It was concluded that medium tempo music was the most appropriate for an exercise intensity of 70% maxHRR.



**Paper 2. Effects of Video, Priming and Music on Emotions and Motivation**

Georgios Loizou &amp; Costas I. Karageorghis

*Brunel University*

This paper will present results of a randomised controlled study addressing the interactive effects of video, priming, and music on emotions and motivation with reference to the circumplex theory of emotion (Russell, 1980) and self-determination theory (Deci & Ryan, 1985). Priming studies are concerned with temporary activation states and how environmental information together with internal readiness interact to produce perceptions and evaluations as well as motivations and behaviours (Bargh, 1997). Priming can therefore act as a process to unconsciously alter an individual's psychological state both prior to and during the execution of a task. Video has been used in psychosocial interventions as a feedback tool for behaviour modification strategies as well as to train communication skills and behaviours (Ives, Straub, & Shelley, 2002). Peak performance videos, visualisation tapes, and video clips with music can be created for mental training and motivational purposes (Ives et al., 2002). Williams and Grant (1999) contended that video is one of the most efficacious perceptual motor training tools. In their review of psychomusicological research in sport and exercise, Karageorghis and Terry (1997) concluded that motor performance could be facilitated by music in a number of ways. For example, music has the capacity to act as a legal stimulant or sedative and can enhance both pre-task and in-task affect (feeling of pleasure/displeasure). This paper will present the state-of-the-art for the use of video, priming and music in sport and propose new implications for theory development with several recommendations for sport psychology practitioners and researchers.

**Paper 3. Neurophysiological Correlates of Tennis Players' Emotional Responses to Pre-Performance Music**

Daniel T. Bishop, Michael J. Wright, &amp; Costas I. Karageorghis

*Brunel University*

Young tennis players listen to music to manipulate their emotional state, as part of their pre-performance routine (Bishop, Karageorghis, & Loizou, in press); and this may be an effective strategy to facilitate subsequent choice reaction time (CRT) performance (Bishop & Karageorghis, unpublished manuscript). The objective of this study was to elucidate the neurophysiological mechanisms which may underlie this effect. Twelve full-time national and international level tennis players (6 male, 6 female) aged 18-27 years (mean = 20.9 years; SD = 2.87 years) took part in a functional magnetic resonance imaging (fMRI) study. Data were collected using a Siemens Trio 3T MRI scanner and an 8-channel array head coil. Participants completed a total of nine randomised 90 s blocks of experimental trials: Music listening (6 in total; 3 tempi x 2 intensities), white noise (2 intensities), and silence (control condition). Participants also performed a visual CRT task immediately subsequent to each listening condition. Paired-samples *t* tests revealed a significant music-silence contrast in activation during listening, for right posterior cingulate cortex,  $t = 5.94, p < 0.01$ ; subjectively more pleasant music also elicited greater nucleus accumbens (NAc) activation than unpleasant music,  $t = 5.84, p < 0.05$ . Higher right medial frontal gyrus (rMFG) activation occurred during CRT performance subsequent to music listening,  $t = 5.95, p < 0.001$ . The present findings will be related to previous research implicating (i) rMFG in visual stimuli localisation (Talati & Hirsch, 2005), and (ii) the NAc in emotional responses to music (e.g., Menon & Levitin, 2005).

**Paper 4. Use of Music Interventions with Elite Athletes**Peter C. Terry<sup>1</sup> & Costas I. Karageorghis<sup>2</sup><sup>1</sup>*University of Southern Queensland, Australia*<sup>2</sup>*Brunel University*

Music has been shown to be an effective intervention to achieve a range of desirable psychological and performance effects among athletes; including enhanced mood, arousal control, dissociation, reduced perceived exertion, flow, extended work output, improved skill acquisition, and enhanced performance. This presentation provides examples of applied music interventions, and associated contextual information, across a range of sports for a variety of purposes. General examples include the synchronization of activities to music in order to capitalise on the well-established ergogenic effect, and using music asynchronously to intensify responses to relaxation or imagery techniques. Specific examples of music interventions with elite performers include (a) providing inspiration to bobsleigh and shooting medallists at the 1998 and 2000 Olympic Games, respectively; (b) implementing pre-event arousal control strategies with boxing and rowing medallists at the 2000 Olympic Games; (c) team cohesion strategies during different phases of a national hockey championships; (d) maintaining motivation and a desirable mindset during successful rehabilitation from chronic fatigue syndrome of a world champion marathon canoeist; and (e) as an adjunct to audio-visual entrainment, also known as brainwave training, during the trap shooting event at the 2006 Asian Games.

**Friday 7/9/2007****11:30-12:50****SYMPOSIUM 27****Why do people engage in high-risk sports? Beyond sensation seeking**Organizer/ Chair: **Tim Woodman**, *University of Wales Bangor, UK*Discussant: **Lew Hardy or Tim Woodman**, *University of Wales Bangor, UK*

"Extreme" or "high-risk" sports (e.g., skydiving, mountaineering) have typically been investigated within a sensation-seeking framework (Zuckerman, 1983). This framework is based upon a physiological, somewhat deterministic, view of the individual. The aim of this symposium is to elaborate on some of the more psychological motives for engaging in high-risk sports. The first speaker (Woodman) will elaborate on the main theoretical underpinnings (e.g., personality, emotional regulation) of this line of research. The remainder of the symposium comprises empirical studies that adopt personality, emotional regulation, and control stances to explain the motives for engaging in different high-risk sports. Specifically, the second speaker (Michel) will examine the relationships between personality and emotional regulation variables in samples of bungee and base jumpers. The third speaker (Le Scanff) will examine the psychological characteristics of mountain guides who have had accidents and those who have not. The fourth speaker (Cazenave) will examine the time course of anxiety during a parachute jump and how this is moderated by emotional difficulties (alexithymia). The final speaker (Barlow) will explain the emotional characteristics of serious mountaineers with particular reference to interpersonal control as a motive for engagement in this activity.

**Paper 1. Why do people engage in high-risk activities? An emotional control model**Tim Woodman<sup>1</sup> & Christine Le Scanff<sup>2</sup><sup>1</sup>*University of Wales, Bangor, UK*<sup>2</sup>*University of Paris-Sud, Orsay, France*

According to Zuckerman's (1983) sensation seeking framework, people with a habitually low level of catecholamine (e.g., adrenaline, dopamine) engage in excitement-inducing activities in order to raise this level of catecholamine. In other words, the person engages in the high-risk activity for the thrill and "adrenaline hit" that these procure. Although research suggests that this view has some validity, we argue that it is simplistic. For example, there are other, more psychological, reasons that people might engage in these activities. Further, high-risk sports and "thrill" are not always associated. A theoretical framework that appears particularly promising for examining the motives for engagement in high-risk sports is that of emotional regulation. This is based upon a multifaceted theoretical framework, including Fenichel's (1939) counter-phobic model and Taylor and Hamilton's (1997) compensation-escape model (itself based upon Carver & Scheier, 1981, and Duval & Wicklund, 1972). According to this theoretical stance, people will engage in a high-risk activity in order both to distance themselves from internal negative affect and to experience emotions of which the source is external and more controllable. In experiencing these externally-originated emotions, they are able to gain control over the source of the emotion (e.g., fear) and are likely to experience a subsequent well-being (as the fear has been overcome, for example). However, as the source of the emotional difficulty has not been addressed, high-risk sportspeople are likely to repeat the activity, as it provides them with a continued sense of renewed emotional control.

**Paper 2. Personality and emotional self-regulation in high-risk sports: Studies of bungee jumpers and base jumpers****Grégory Michel<sup>1</sup>, Diane Purper-Ouakil<sup>2</sup>, Cindy Delpouve<sup>3</sup>, Marie-Chistine Mouren<sup>2</sup>, & Joel Swendsen<sup>4</sup>**<sup>1</sup>*PT Université de Bordeaux 2, France & INSERM U669 Paris, France*<sup>2</sup>*Hôpital Robert Debré Paris et INSERM U669 Paris, France*<sup>3</sup>*Université Bordeaux 2, France*<sup>4</sup>*CNRS UMR 5231, Bordeaux, France*

We examined the relationships between personality, emotional factors, and extreme sports in two populations: bungee jumpers ( $n = 80$  men and women) and base jumpers ( $n = 11$  men). The first study examined sensation seeking and anhedonia in relation to bungee jumping-specific variables (e.g., motivation, numbers of jumps). Participants completed scales of sensation seeking (SSS) and anhedonia (PAS & SAS). The jumpers (men and women) reported higher scores than control subjects in Thrill and Adventure Seeking. Physical

anhedonia was positively correlated with the number of jumps in women but not in men, which suggests that, for women, bungee jumping may be linked with a need to compensate for emotional difficulties. In men, the frequency of bungee jumping was related to the use of psychoactive substances, which suggests that bungee jumping might be a means of seeking stimulation as part of an addictive mechanism. The second study examined personality disorders and emotional factors in base jumping. Several questionnaires were completed: measures of high-risk activities, sensation seeking (SSS), personality disorders (IPDE), anxiety (STAI), and depression (HAD). Base jumpers had higher scores in Thrill and Adventure Seeking, more accidents and practiced more high-risk sports than control subjects. Further, base jumpers had higher levels of personality disorders such as borderline, histrionic and narcissistic personality. Apart from borderline personality there were no significant differences between control and base jumpers on emotional factors. The results suggest that the model of emotional self-regulation seems to be especially associated with borderline personality which is an important factor of addictive behaviour.

### **Paper 3. Psychological difficulties and accidents in mountaineers**

Christine Le Scanff<sup>1</sup>, Carole Castanier<sup>1</sup>, & Tim Woodman<sup>2</sup>

<sup>1</sup>*University of Paris-Sud, Orsay, France*

<sup>2</sup>*University of Wales, Bangor, UK*

Research investigating the relationship between psychological variables and accidents in high-risk environments has largely been confined to the sensation-seeking framework. The aim of the present study was to understand in more detail the psychological functioning of injured persons in a population of mountaineers. 143 male mountain guides ( $M = 28.73$  years;  $SD = 5.02$ ) from the French National Ski and Mountaineering School took part in the study. Two groups were formed according to whether or not they had had an accident that had resulted in injury (injured group:  $n = 68$ ; non-injured group:  $n = 75$ ). All participants completed four self-evaluation questionnaires: the Sensation Seeking Scale (Zuckerman et al., 1978), the NEOPI-R (Costa & McCrae, 1992), the Positive and Negative Emotionality Inventory (Pelissolo et al., in press) and the Risk and Excitement Inventory (Taylor & Hamilton, 1997). In line with previous research, injured guides were higher in sensation seeking than non-injured guides. Moreover, injured guides had a specific profile that seems to indicate psychological difficulties. Specifically, they were significantly more neurotic, reported more negative affects, and were less conscientious than their non-injured counterparts. This relatively ill-adapted psychological functioning was associated with a significantly higher escape-type motivation for sensation seeking behavior. Escape-type motivation is operationalized as the diversion of one's attention from one's ill-being in order to limit the impact of negative affects; it is characterized by limited control over the risk-taking activity that, in the end, proves destructive (Taylor & Hamilton, 1997).

### **Paper 4. Skydiving: The rise and fall of alexithymic women's anxiety and self-esteem**

Nicolas Cazenave<sup>1</sup>, Tim Woodman<sup>2</sup>, Christine Le Scanff<sup>1</sup>

<sup>1</sup>*Université de Paris XI-Orsay, France*

<sup>2</sup>*University of Wales Bangor, UK*

The purpose of the present study was to investigate fluctuations in anxiety and self-esteem through the practicing of a high-risk sport, and whether such fluctuations would be moderated by alexithymia. After initial measurements of alexithymia (TAS-20) and sensation seeking (SSS-V), we measured the state anxiety (STAI) and self-esteem (PSI-6) of 59 (26 alexithymic; 33 non-alexithymic) female parachutists before and after they performed their jump. The alexithymic women had significantly higher anxiety and lower self-esteem than the non-alexithymic women. Further, the fluctuations in the alexithymic women's anxiety and self-esteem were significantly greater than the non-alexithymic women's. Follow-up tests revealed that alexithymic women's anxiety and self-esteem significantly fluctuated pre- to post-skydive; no significant fluctuations were revealed for the non-alexithymic women. Interestingly, the SSS-V did not discriminate between these two groups. The discussion focuses in part upon how the engagement in a high-risk sport such as skydiving might lead to dependence for alexithymic women given the emotional benefits they derive from such an activity. This would point to a potential link between risk-taking sports and addiction. We encourage future researchers to use longer-term longitudinal methodologies to test this speculation.

### **Paper 5. “Because it’s there”? A re-examination of the motives for participation in serious mountaineering**

Barlow, M., Hardy, L., & Woodman, T.  
*University of Wales, Bangor, UK*

Most research on risk-taking sport focuses on sports that can be done without extensive planning (cf. Breivik, 1998). However, Woodman et al. (2004) examined participants from a Trans-Atlantic rowing race in order to determine the motives for participation in a high-risk activity that did require extensive planning. The present study is a re-examination of their work examining 24 male mountaineers using measures of sensation seeking, alexithymia, and efficacy of interpersonal relationships. As mountaineers spend a lot of time away from home, we also investigated two control groups: high time away controls (HTC; individuals who had spent >40 days away from home/loving partner the previous year with at least one period >21 days); and low time away controls (LTC; individuals who had spent <40 days away from home/loving partner the previous year with no period >14 days). All participants completed the TAS-20 (Bagby et al., 1992), the SSS-V (Zuckerman, 1983), and a modified spheres of control measure (Paulhus & Christie, 1981). Mountaineers reported significantly higher difficulty in describing feelings than both control groups. Both mountaineers and HTC demonstrated higher sensation seeking than LTC. Finally, mountaineers had significantly lower perceptions of efficacy within loving-partner relationships than both HTC and LTC. These data suggest that the underlying motive for engaging in pre-planned risk-taking sports is not simply a sensation seeking drive. Rather, in line with Carver and Scheier’s (1981) control theory, one of the mountaineers’ drives seems to be a compensation for a lack of personal efficacy in personal relationships with a more fulfilling relationship with mountaineering.

#### **SYMPOSIUM 28**

#### **Translating Evidence to Practice: Real World Evaluation of Walking Programmes based in the Community**

Organizer/ Chair: **Afroditi Stathi**, *London Sport Institute, Middlesex University*

Discussant: **Kenneth R. Fox**, *Department of Exercise, Nutrition, and Health Sciences  
University of Bristol*

The effective implementation of evidence based interventions that are designed and tested under research environments is both challenging and unpredictable when the programmes are delivered in real world settings. This symposium focuses on recent efforts to promote active lifestyles through community-based programmes. Qualitative and quantitative data from walking programmes are presented. The first paper presents the impact of a pedometer-based programme onto walking levels of Greek older adults. The health behaviour strategies employed and the impact of the built and social environment are explored. The second paper provides a qualitative evaluation of a school walking programme based on the teachers’ and students’ experiences and views. Issues regarding the mixed-methods evaluation of this project are discussed. The third paper explores the physical activity levels of adult women in Greece and determines the number of steps taken by women who participate in low, moderate or vigorous physical activity. The fourth paper presents the effectiveness of a community initiative in reducing social exclusion and improving health through increased walking. A combination of accelerometry, questionnaires, interview data and observations were used to evaluate this initiative. The fifth paper explores the physical activity patterns in different age groups of elderly people in Greece and discusses methodological issues of direct and indirect assessment methods of physical activity. Common themes across the papers will be explored in relation to the implications for promoting active living in the community. The ultimate purpose of physical activity intervention research should be its successful translation to effective and sustainable community programmes.

#### **Paper 1. Encouraging Walking Among Community Dwelling Older Adults**

Stathi, A.<sup>1</sup>, Theodorakis Y.<sup>2</sup>, & Digelidis, N.<sup>2</sup>

<sup>1</sup>*London Sport Institute, Middlesex University, UK*

<sup>2</sup>*Dept of Physical Education and Sport Science, University of Thessaly, Greece*

This study examined the effectiveness of a pedometer-based intervention in encouraging walking in Greek older adults. A mixed methods approach was used to evaluate this intervention. Quantitative data included the monitoring of step counts for 5 weeks and measures of weight, %fat, body mass index, resting heart rate, resting systolic and diastolic blood pressure, waist-to-hip ratio and well-being. Qualitative data included individual

and group interviews focusing on the strategies employed to increase daily walking, the environmental influences and the perceived benefits of participation in the intervention. Twenty-eight volunteers (18 women) were recruited from two day centres for older people; ages - mean $\pm$ SD - averaged 68.07 $\pm$ 6.25 years. ANOVA identified a main effect of time on number of weekly steps taken ( $F[4,135]=2.454$ ,  $p<.05$ ). The post-hoc analysis revealed that the number of steps in week 4 increased from baseline (48,065 $\pm$ 18,750 to 69,363 $\pm$ 32,210,  $p<.05$ ). Significant changes were observed in %fat (34.66% $\pm$ 8.17 to 32.50% $\pm$ 8.47,  $p<.01$ ) and resting systolic blood pressure (145.3mmHg $\pm$ 16.6 to 134.4mmHg $\pm$ 19.8,  $p<.05$ ). Statistically significant differences were observed between the baseline and post-intervention data for, physical, mental and social well-being ( $p<.01$ ). Participants reported that the daily use of pedometers, the weekly group discussions, the recording of daily steps count on provided cards and the individual goal-setting motivated them to increase their walking levels. Weather conditions, fear of walking alone, traffic problems and lack of pavements were the main barriers to walking. During a short period of time participants increased their walking levels and reported improved well-being. The use of pedometers helped participants to quantify their daily activities and to employ simple strategies to incorporate more physical activity to their lifestyle.

### **Paper 2. Evaluation of the 'Schools on the Move' project: Interpretative Accounts on Procedures, Practices and Success**

Dagkas, S.<sup>1</sup>, Stathi, A.<sup>2</sup>, Nordin, S.<sup>2</sup>, & Riddoch, C.<sup>3</sup>

<sup>1</sup>*School of Education, University of Birmingham, UK*

<sup>2</sup>*London Sport Institute, Middlesex University, UK*

<sup>3</sup>*The School for Health, Bath University, UK*

This study examined the effectiveness of the 'Schools on the Move' project in increasing physical activity (PA) levels, walking in particular, in young people and in raising awareness and knowledge of the role of PA in maintaining health and well-being. A mixture of methods were used both quantitative (pedometer counts) and qualitative (individual and group interviews). Baseline step data were collected from 1966 children (44.2% boys, 55.8% girls). Individual face to face interviews were conducted with 14 teachers and focus groups interviews were carried out with 50 students (28 girls and 22 boys). The semi-structured interviews explored the experiences of participants and the effect of the project on their knowledge and understanding of PA, healthy living and healthy lifestyles. Data analysis was based on inductive and deductive procedures. Step counts increased steadily from an average of 8355 steps at baseline to an average of 13939 in week 23 ( $t(-2.19) = p<.05$ ). The interview data suggested that the pedometers were viewed by the participants as a motivational tool with many students reporting a whole family approach to activity as an outcome of this project. Both teachers and students expressed strong intentions to maintain the increased activity levels. Support provided from the project in the form of materials, information packages and seminars helped teachers and students as well as schools to refine guidelines and strategies to increase awareness of healthy lifestyles and participation in PA.

### **Paper 3. Physical Activity Levels and Number of Steps of Adult Women**

Michalopoulou M.<sup>1</sup>, Exarchopoulou S.<sup>1</sup>, Ageloussis N.<sup>1</sup>, Zisi V.<sup>2</sup> & Argiropoulou E. Ch.<sup>1</sup>

<sup>1</sup>*Dept of Physical Education and Sport Science, Democritus University of Thrace, Greece*

<sup>2</sup>*Dept of Physical Education and Sport Science, University of Thessaly, Greece*

The aim of the present study was to determine physical activity levels of adult women in Greece and determine the number of steps taken by women that are assigned at three different levels of physical activity (low physical activity level, moderate physical activity level and high physical activity level). Participants in this study were 150 women aged 34.9  $\pm$  7.5 years who volunteered to participate in this study. Physical activity levels were determined with the long self – administered version of the International Physical Activity Questionnaire (Craig et al., 2003). Steps taken for the period of one week, the same week that data was collected with IPAQ were recorded with the use of the pedometer SW-200 Digiwalker by Yamax. One way Analysis of Variance revealed a significant effect for the factor "level of physical activity" ( $F_{(2,148)} = 32,243$ ,  $p = .000$ ), on the number of steps/day taken. Post hoc Bonferroni test revealed a significant difference between the number of steps taken by the high physical activity group (8.844) and the low physical activity group (5.183) ( $p = .000$ ) and the number of steps taken by the high physical activity group and the moderate physical activity group (6.430) ( $p = .000$ ). Additionally according to Pearson correlation ( $r$ ) the number of steps/day was significantly correlated with total physical activity score ( $r = .50$ ,  $p = .01$ ). In conclusion the number of steps/day by the participants in this study in relation to their level of physical activity were significantly different between the different levels but lower in relation to the number of step/day suggested by other studies.

#### **Paper 4. Effectiveness of the Walking the way to Health Initiative in Improvement of Social Exclusion and Health**

Davis, M.G.,<sup>1</sup> & McKenna, J.<sup>2</sup>

<sup>1</sup> *Department of Exercise, Nutrition, and Health Sciences, University of Bristol*

<sup>2</sup> *Carnegie Faculty of Sport and Education, Leeds Metropolitan University*

The Walking the way to Health Initiative (WHI) aims to increase physical activity (PA) levels, through walking. This case study assessed the effectiveness of the WHI initiative, in reducing social exclusion and improving health through increased walking. Questionnaires (n=308), focus groups and interviews (n=13), observation documentation and accelerometry (n=22) provided data. Over 25 months, 6576 walking episodes were provided within 656 led walks. Participants were predominantly female (75%) with a mean age of 57.4±16.1 years. One third lived alone, 32.6% reported current health problems and 46.8% reported poor access to leisure facilities. Accelerometry determined that harder rated walks only made significant contributions to PA with 53.8% of participants estimated to achieve over 30 minutes walking at ≥3 mph, easier walks made no such contribution. Most walkers (68.8%) reported doing more walking than at joining WHI, especially at lower intensities. Two thirds (67.9%) of those expecting improvements in pre-existing health concerns reported improved asthma, joint problems and mental health. Psychological well-being was enhanced for 36% of respondents. Qualitative data showed that walks improved social contact, companionship, personal security and health, while reducing individual's sense of loneliness. The scheme improved access to the local environment, green open spaces, and provided learning and discovery experiences. Participants reported improved quality of life, health, social connectedness, access to previously inaccessible places while offering escape from local environments and routines. The scheme provided PA especially suited to older females, those with lower functional ability, and those with poorer physical and mental health.

#### **Paper 5. Physical Activity Patterns in Greek Elderly People: Questionnaire versus Pedometer Assessment**

Zisi, V., Skondras, G., Hasandra, M., Akritidou, A., & Theodorakis, Y.

*Department of Physical Education and Sport Science, University of Thessaly, Greece*

The main purpose of this study was to explore the physical activity patterns in different age groups of elderly people in Greece. It was also examined the outcome differences when using indirect and direct methods of assessment. Participants were 150 persons (35 men and 115 women) aged 58 – 84 years, assigned in three age groups: middle age 58 – 64 yrs (M=60.66, SD=2.07), young old 65 – 74 yrs (M=68.84, SD=2.77) and old 75 – 84 yrs (M=77.50, SD=2.72). Physical activity was assessed using pedometers SW-200 and by the Physical Activity Scale for the Elderly (PASE) questionnaire. Both instruments were used to measure physical activity for the same period of seven consecutive days. One way ANOVA revealed a significant difference of the steps taken per week between middle aged and young old (M=48170.27 vs M=32317.96,  $p<.05$ ). The differences among age groups in PASE total score however, were marginally significant ( $p=.058$ ). Significant difference between middle aged and young old were noted only for the partial PASE housework score (M=78.91 vs M=52.02,  $p<.05$ ). All correlations between number of steps counted by pedometers and PASE partial scores were weak in all three age groups. The only one significant correlation noted was in old group, between number of steps and total PASE score ( $r=.34$ ,  $p<.05$ ). The above results indicate that advancing age is associated with lower housework activity, while walking is a strong determinant of physical activity in old Greeks. The method of physical activity assessment however, strongly influences the measurement outcomes, a finding that might not attributed to the type of assessment (direct – indirect) but rather to the instrument used.

### **SYMPOSIUM 29**

#### **The motivational climate in the physical domain: New findings and new directions for future research**

Organizer/ Chair: **Jaume Cruz**, *Universitat Autònoma de Barcelona*

**Joan L Duda**, *University of Birmingham*

Discussant: **Joan L Duda**, *University of Birmingham*

The symposium participants have been doing work on the nature and correlates of the motivational climate in sport and PE for many years. In their presentations, research conducted in a variety of European countries will be highlighted which suggests that the perceived motivational climate in the physical domain is relevant to variability in achievement behaviour and processes as well as participants' well being and moral functioning.

Throughout the symposium, various theoretical issues will be brought up for discussion. The studies reviewed point to the appeal of considering variability in the motivational climate (grounded in achievement goal frameworks; Ames, 1992, Nicholls, 1989) in complement with constructs embedded in other frameworks (e.g, Self Determination Theory; Deci & Ryan, 1985, 2000 or the Sport Commitment Model, Scanlan et al., 1993). Data will be shared which has examined the psychological mechanisms by which the climate can influence the quality of engagement. Evidence will also be provided regarding cross-context effects of the coach-created coach climate to motivational dynamics in the classroom. Besides conceptual concerns and new directions, methodological considerations will also be raised including the adequacy of our assessment tools in this area and the need to consider potential group- and individual-level effects of the motivational climate. Finally, implications of the extensive work on the motivational climate for coach education and the structuring of youth sport activities are proposed.

### **Paper 1. The effect of sport context in sport commitment**

Cruz, J.<sup>1</sup>, Torregrosa, M.<sup>1</sup>, Sousa, C.<sup>1</sup>, Viladrich, C.<sup>1</sup>, Villamarin, F.<sup>1</sup>, & Garcia-Mas, A.<sup>2</sup>

<sup>1</sup> *Universitat Autònoma de Barcelona*

<sup>2</sup> *Universitat de les Illes Balears, Spain*

The sport context is a key element in the socialisation processes linked to sport engagement. An important aspect of the sport context is the motivational climate operating. Numerous studies have examined the relationships between the motivational climate and athletes' motivation, goal orientations, sport enjoyment, sportpersonship attitudes, and perceived ability. However, limited work has determined the interplay between the motivational climates and significant other influences operating and young athletes' sport investment. The purpose of this study was to analyze the relationship of the perceived coach created motivational climate and parental involvement to youth soccer players' sport commitment. A sample of 893 soccer players (14 - 16 years) enrolled in two elite leagues completed the Motivational Climate in Sport Questionnaire (PMCSQ-1) (Walling, Duda & Chi 1993), the Parental Involvement in Sport Questionnaire (PISQ) (Lee & Mclean, 1997), and the Sport Commitment Questionnaire (SCQ) (Scanlan, Simons, Carpetenter, Schmidt & Keeler, 1993). Perceptions of a task-involving climate and praise and understanding from parents positively predicted commitment. Perceptions of an ego involving climate and parents' directive behaviours did not relate to commitment. More work is needed on the assessment and implications of the motivational climate and parental behaviours on young athletes' commitment across different sports and different competitive levels. The relationship between commitment and drop out should be examined. Applied longitudinal interventions with coaches and parents are needed which entail a modification of the motivational climates manifested in youth sport and analysis of their effects on young athletes' commitment and drop-out.

### **Paper 2. Motivational climate, psychological mechanisms and well-being in young athletes**

Isabel Balaguer<sup>1</sup>, Joan Duda<sup>2</sup>, Isabel Castillo<sup>1</sup>, Marisol Alvarez<sup>1</sup>

<sup>1</sup> *University of Valencia, Department of Social Psychology, Valencia, Spain*

<sup>2</sup> *University of Birmingham, School of Sport and Exercise Sciences, Birmingham UK*

Recent research focused on the relationship of motivational climate to variation in well-being among young Spanish athletes as well as the psychological mechanisms underlying this relationship will be presented. Our work is grounded in two contemporary theories of motivation, namely the achievement goal frameworks (AGT; Nicholls, 1989) and Self Determination Theory (SDT; Deci & Ryan, 1985, 2000) and pulls especially from the Basic Needs mini-theory of SDT. Across two samples varying in the sport involved, gender and age, the hypothesized mediational role of need satisfaction in accounting for the link between perceptions of the coach-created motivational climate and an indicator of eudaimonic well-being was examined. A multi-section questionnaire was administered to 94 young elite female tennis players ( $M$  age = 11.07  $\pm$  .65) and 370 young male soccer players ( $M$  age = 14.77  $\pm$  .72 years). Hierarchical Multiple Regression and Structural Equation Modeling analyses respectively showed athletes' perceptions of a coach-induced task-involving climate predicted their satisfaction of the needs for autonomy, competence and relatedness. In turn, basic need satisfaction predicted greater subjective vitality. In the group of girls, overall basic need satisfaction partially mediated the relationship from task climate to well being. In the boys, more specifically perceived autonomy and competence emerged as partial mediators. These results suggest that sport involvement needs to be more task-involving if we hope to enhance young people's welfare via athletic participation. The findings also point to the importance, to our understanding of quality sport engagement, of integrating constructs from different models of motivational processes.

**Paper 3. Effects of motivational climate in youth sport on achievement goals and behaviors in school**Athanasios G. Papaioannou<sup>1</sup>, George Ampatzoglou<sup>2</sup>, Periklis Kalogiannis<sup>2</sup>, & Alexandros Sagovits<sup>2</sup><sup>1</sup> *University of Thessaly, Greece*<sup>2</sup> *Democritus University of Thrace, Greece*

There is no extensive research on the connection of motivational climate in youth sport with motivational climate, achievement goals and behaviors in academic settings. This is a 3-year longitudinal study involving 580 athletes who completed the following instruments once per year: motivational climate and achievement goals in sport and Greek language classes, academic grades, preparation for school and satisfaction in Greek language classes. Results from causal modeling revealed that perceptions of the coaches' emphasis on mastery had positive effects on academic grades and preparation for school in subsequent years. These effects were mediated by mastery goals in language classes. Perceptions of the motivational climate in sport were both cause and an effect of the perceptions of motivational climate in school. Perceived motivational climate in sport had no effect on satisfaction in Greek language classes in the ensuing years. These findings indicate that perceived motivational climate in youth sport has an impact on achievement goals and perceptions of motivational climate in school. Although school climate and goals are the major determinants of achievement behaviors in school, the importance of motivational climate in sport for athletes' academic performance should not be underestimated.

**Paper 4. Is the motivational climate a shared or an individual variable?: The level of analysis question in climate research**

Philippe Sarrazin, David Trouilloud, &amp; Jean-Philippe Heuzé

*Laboratoire Sport et Environnement Social, Université Grenoble 1, France*

Current research on the perceived motivational climate present a paradox: this concept assumes a psychological environment that is shared by a social group (e.g., team or class). However, most studies in the physical domain have focused on the concomitants of the motivational climate at the individual level (e.g., player or student), without taking into account group membership. Theoretically, referring to an over-riding "climate" is improper if there is little or no agreement among participants in the same group regarding their environment. However, researchers tend to interpret their findings as if such perceptions were consistent within the sampled groups without checking the degree of agreement. At a methodological level, it is incorrect to consider athletes who are members of different sport teams as one large group (Duda, 2001). Treating the individual as the unit of analysis, when there is a hierarchically nested design, increases the likelihood of Type I errors. If researchers want to analyse their data at the athlete-level, they should at least try to have these data be independent of team membership (e.g., Heuzé et al., 2006 ; Sarrazin et al., 2001). Preferably, hierarchical linear modeling should be utilized which simultaneously tests the effects of individual- and group-level variables (e.g., Papaioannou et al., 2004; Trouilloud et al., 2006). For example, using a 1-year longitudinal design with 421 students and 22 teachers, Trouilloud et al. (2006) found that students' subsequent perceived competence was predicted by the students' perceptions of their teacher's motivational climate both at the individual and the class level.

**Paper 5. Motivational climate and coaching behaviours: Lessons learned from Norwegian studies**

Glyn C. Roberts and Yngvar Ommundsen

*Norwegian University of Sport Science, Oslo, Norway*

In Norway, the mass media and some sport organisations responsible for elite sport have recently advocated early specialised training for young athletes. Further, intense competition and selection procedures based on performance levels at an early stage are advocated to pick the best athletes when young and prepare them for future competition. The philosophy is to stimulate ego involvement in sport for young people. As such, this position is at odds with research in sport psychology, including recent Norwegian research findings that allow us to make two important conclusions. First, ego involvement is more likely to lead to maladaptive achievement behavior, especially when participants perceived competence to be low, are concerned with failure, or invested in protecting self worth. However, ego involved goals are not always negative; in some situations for some people they are positive. Second, task/mastery involvement is more adaptive and seems better able to foster young peoples' psychosocial development through sport, as well as develop elite performance in the long term. When participants perceive mastery criteria to be operative in the sport context, motivation is optimized, participants are invested in the task, persist longer, performance, satisfaction and enjoyment are enhanced, peer relationships are fostered, cheating is lessened, burn out and dropout are reduced and athletes feel more positively about themselves. Being task involved has been consistently associated with desirable cognitive, affective and behavioural responses. In our presentation, we will illustrate the importance of task/mastery involvement for children in sport using our research findings from Norway.



**Friday 7/9/2007****14:00-15:20****SYMPOSIUM 30****Narrative and its potential contribution to sport and health psychology**Organizer/Chair: **Brett Smith**, *University of Exeter*Discussant: **Michele Crossley**, *Liverpool John Moores University*

In recent years, researchers in sport and health psychology have become increasingly interested in narrative forms of inquiry. Indeed, it is argued that human life and how we experience it is storied. Thus, narratives are potentially of some importance to psychologists who as a profession are often in the business of dealing with people and their 'experiences'. For example, across a range of settings psychologists are witnesses to stories of flow, stories of retirement and injury, and stories about 'good' and 'bad' applied practice. Accordingly, across numerous areas of sport and health psychology, 'subjects', clients, practitioners and researchers swim in a sea of stories that they read or listen to. As such, psychology has something to gain from engaging with narrative. In this symposium, we aim gain a deeper understanding of narrative in sport and health psychology via engaging with current theory, research and practice that critically considers narratives to be both personal and cultural. In doing so, it seeks to develop a bridge between various disciplines and different cultures. To set a context for dialogue, Smith untangles some of the theoretical threads and coils that make up the web of narrative inquiry. Sarah Partington highlights the importance of stories in the experience of flow, while Douglas and Carless explore the complexities surrounding women's narratives of retirement from professional sport. Complimenting the previous authors who operate as storyanalysts, Liz Partington then investigates athlete's experiences of injury. Finally, Gilbourne explores the idea that sport and health psychologists are storytellers and how we write matters.

**Paper 1. Meeting narrative: Exploring theory and method**

Brett Smith

*University of Exeter*

With a view to stimulating dialogue and setting a context, in this paper I seek to make better sense of the field of narrative inquiry and expand our understanding on this way of knowing in the domain of sport and health psychology. To do so, some guiding theoretical assumptions of narrative inquiry are first illuminated. Next, a range of theoretical tensions and differences embedded within it are highlighted. Painting with broad strokes, narrative analysis is then considered and two contrasting standpoints toward how researchers might analyse and work with stories is offered. These are a story analyst who conducts an analysis of narratives and a storyteller who shows stories. The paper closes by suggesting that researchers might consider using a variety of analyses in order to assist us to understand the complexities of the psychological world in diverse ways.

**Paper 2. Narrative practice within a sporting subculture: The construction of flow narratives in university rugby**

Sarah Partington

*Northumbria University*

Scholars have now begun to take seriously the view that people structure experience through stories and that sporting experiences such as flow are actively constructed, shared and communicated to others via the process of story telling. This acceptance of story telling has focused attention on the way personal and cultural realities are constructed through narrative. Telling a story is mediated by access to and selection of narrative topics, plots and metaphors. As such storytelling is a relational process that is shaped by narrative resources and auspices available within the culture or subculture within which the teller resides. Accordingly, it is likely that different articulations of flow experiences exist between different groups, sports and individuals. Sparkes and Partington (2003) have suggested that to gain an understanding of the contextual nature of flow and to further knowledge of narrative practices in action, researchers should explore how the articulation of the flow experience, as part of personal storytelling, is routinely practiced within different sporting subcultures. More specifically there is a need for a focus upon what forms the practice takes, how it is learned and how it is practiced in relation to people who occupy different social categories. The current study addresses these questions, with data provided from an interview-based study of a University rugby club. The findings suggest that flow narratives in university rugby are shaped by historical traditions and notions of masculinity. Flow narratives were found to differ for individuals within the subculture dependent upon gender, playing position and seniority.

**Paper 3. Women's narratives of retirement from professional sport**

Kitrina Douglas &amp; David Carless

*University of Bristol & Leeds Metropolitan University*

Retirement from elite sport is potentially traumatic particularly for professional athletes who lose not only their sport but also their way of earning a living. Although considerable research has explored men's retirement experiences, less research has focused on the experiences of those in professional sports and very few studies have explored retirement of women in professional sport. Using an interpretive life history approach we interviewed six professional women golfers on the European Tour over a seven year period both prior to and following their retirement. Through a narrative analysis of life history data, we explored their retirement experiences within the theoretical framework of three previously identified narrative types: performance, discovery, and relational (Douglas & Carless, 2006). Our findings suggest that women who subscribe to the discovery narrative experienced retirement positively in line with their expectation that retirement would bring opportunities and time to discover a new life away from professional golf. Conversely, women who subscribe to the performance narrative expected retirement to bring loss, to be "like losing a limb." For these women, retirement was a more complex process often characterized by considerable suffering, trauma, and depression. It was only by abandoning the values of the performance narrative that some performance-focused women were able to successfully adapt to life after golf. We conclude by suggesting that awareness of the different narrative types that women draw upon to make sense of their lives in sport can help psychologists provide more personally relevant and effective support programmes prior to and following retirement.

**Paper 4. Narrative in sports injury: The stories of university athletes' chronic and acute injuries**

Elizabeth Partington

*Northumbria University*

Injury is the antithesis of what it means to be an athlete, yet injury is a reality that most athletes face. If we are to be in a position to help athletes to successfully negotiate the injury experience then we must gain greater insight into the actual injury experiences of athletes. Injury can be viewed as a "biographical disruption" (Brock and Kleiber, 1994) that separates the person of the present from the person of the past, and the imagined person of the future. To re-create the sense of coherence, the story must be re-written to accommodate the interruption. Sparkes (1996) drawing upon the work of Denzin (1989) defines such moments of biographical disruption as 'major epiphanies' or turning points in people's lives. The individual must create a new life map by repairing the narrative wreckage, and this they accomplish by telling their stories. Following the suggestion by Young and White (2000) that it is imperative that we hear the voices of athletes in our research, the current study adopts a narrative approach to understanding the injury stories recounted by athletes at a university teaching college. Data collection consisted of interviews, participant observation and archive work. Interview transcripts were subjected to paradigmatic and structural analysis. Analysis revealed that the dominant script for the injury experience at this college was based upon the medical model of injury, exhibiting a strong 'comeback' theme. Alternate storylines exhibiting themes of vulnerability and self-change were available, however, narrative silence surrounded them.

**Paper 5. Self-narrative: Illustrations of different genre and explorations of the underlying rationale for writing**

David Gilbourne

*Liverpool John Moores University*

Sparkes (2002) suggested that a research text can extend beyond, what he termed, the scientific and realist tale. His reviews of confessional tales, auto-ethnographic and other self-narrative forms such as poetry, music and ethno-drama invited others to embrace the possibilities offered by these new forms of writing and reading. For example, a confessional tale might be written by a researcher or applied practitioner, (a sport psychologist say), who wish to share aspects of their experiences. Though confessional tales foreground the author's voice, autoethnographic and other self-narrative texts seem, almost in hierarchical terms, to require something more personalised, more evocative, more convoluted and multi-layered than a confessional tale reasonably offer. Indeed these more private representations of the self invoke a form of writing that might move and challenge both author and reader alike. In the presentation and to develop and progress these ideas further, brief illustrations from the present author's own self-narrative writing act as a foundation point for the presentation. More specifically, segments from an applied confessional tale, an auto-biographical paper and from a self-narrative dramatic text are considered alongside the respective factors that underpinned the writing of these different forms of narrative. Finally connections

between the rationale for writing and the style of the end product are suggested. Retirement from elite sport is potentially traumatic particularly for professional athletes who lose not only their sport but also their way of earning a living. Although considerable research has explored men's retirement experiences, less research has focused on the experiences of those in professional sports and very few studies have explored retirement of women in professional sport. Using an interpretive life history approach we interviewed six professional women golfers on the European Tour over a seven year period both prior to and following their retirement. Through a narrative analysis of life history data, we explored their retirement experiences within the theoretical framework of three previously identified narrative types: performance, discovery, and relational (Douglas & Carless, 2006). Our findings suggest that women who subscribe to the discovery narrative experienced retirement positively in line with their expectation that retirement would bring opportunities and time to discover a new life away from professional golf. Conversely, women who subscribe to the performance narrative expected retirement to bring loss, to be "like losing a limb." For these women, retirement was a more complex process often characterised by considerable suffering, trauma, and depression. It was only by abandoning the values of the performance narrative that some performance-focussed women were able to successfully adapt to life after golf. We conclude by suggesting that awareness of the different narrative types that women draw upon to make sense of their lives in sport Retirement from elite sport is potentially traumatic particularly for professional athletes who lose not only their sport but also their way of earning a living. Although considerable research has explored men's retirement experiences, less research has focused on the experiences of those in professional sports and very few studies have explored retirement of women in professional sport. Using an interpretive life history approach we interviewed six professional women golfers on the European Tour over a seven year period both prior to and following their retirement. Through a narrative analysis of life history data, we explored their retirement experiences within the theoretical framework of three previously identified narrative types: performance, discovery, and relational (Douglas & Carless, 2006). Our findings suggest that women who subscribe to the discovery narrative experienced retirement positively in line with their expectation that retirement would bring opportunities and time to discover a new life away from professional golf. Conversely, women who subscribe to the performance narrative expected retirement to bring loss, to be "like losing a limb." For these women, retirement was a more complex process often characterised by considerable suffering, trauma, and depression. It was only by abandoning the values of the performance narrative that some performance-focussed women were able to successfully adapt to life after golf. We conclude by suggesting that awareness of the different narrative types that women draw upon to make sense of their lives in sport can help psychologists provide more personally relevant and effective support programmes prior to and following retirement. Liverpool John Moores University With a view to stimulating dialogue and setting a context, in this paper I seek to make better sense of the field of narrative inquiry and expand our understanding on this way of knowing in the domain of sport and health psychology. To do so, some guiding theoretical assumptions of narrative inquiry are first illuminated. Next, a range of theoretical tensions and differences embedded within it are highlighted. Painting with broad strokes, narrative analysis is then considered and two contrasting standpoints toward how reserachers might analyse and work with stories is offered. These are a story analyst who conducts an analysis of narratives and a storyteller who shows stories. The paper closes by suggesting that researchers might consider using a variety of analyses in order to assist us to understand the complexities of the psychological world in diverse ways.

### **SYMPOSIUM 31**

#### **European perspectives on behaviour change in exercise and health:**

##### **A Self-determination Theory approach**

Organizer/ Chair: **Emmanouil M. Georgiadis**, *Greek Police Officers School*

Discussant: **Symeon Vlachopoulos**, *Aristotle University of Thessaloniki*

This symposium presents how the theoretical constructs of Self-determination Theory (SDT, Deci & Ryan, 1985) can help explain behavioural change across different domains in exercise and health psychology. Four papers are presented: The first paper, examines the utility of SDT in influencing pupils' physical activity intentions and behaviour during leisure-time. The second paper, explores the ability of SDT constructs to predict weight and negative affect among overweight and obese individuals during a 12-week exercise on prescription programme. The third paper is an experimental study examining the urges to smoke in response to a smoking cue along with the examination of the smoking behaviour based on the premises of SDT. Finally, the forth study aims to look psychological change through the perspectives of SDT, helping in this way everyday counseling practice. Final discussion, aims to explore the views presented and also to highlight any new ideas may help the advancement of SDT standpoints in exercise and health psychology.

### **Paper 1. Effects of an intervention based on self determination theory on physical activity participation**

Nikos, L. D. Chatzisarantis<sup>1</sup> & Martin, S. Hagger<sup>2</sup>

<sup>1</sup>*University of Plymouth*

<sup>2</sup>*University of Nottingham*

The present study examined utility of an intervention based on self-determination theory in influencing physical activity intentions and behavior during leisure-time. Participants comprised 150 pupils who were randomly selected from 8 schools (Male = 71, Female = 79, Age = 15.03, SD = .40). The intervention program aimed to enhance pupils' perceptions of autonomous motivation, perceptions of autonomy support, physical activity intentions, and behavior by facilitating an autonomous interpersonal orientation among physical education teachers. The data were analyzed using multivariate analyses of variance and path analysis. Consistent with self-determination theory, results indicated that pupils who interacted with autonomy supportive teachers were more likely to perceive their teachers as autonomy supportive, adopted a more autonomous motivational orientation during physical education, and reported stronger intentions to exercise during leisure-time than pupils in the control condition who did not receive the intervention. Results also indicated that autonomous motivation mediated the effects of the intervention program on intentions and behaviour. In addition, intentions mediated the effects of autonomous motivation on physical activity behaviour. It is concluded that self-determination theory provides a useful framework for the development of school-based interventions that ultimately influence leisure-time physical activity participation.

### **Paper 2. Predicting weight and negative affect among overweight and obese individuals referred to an exercise on prescription scheme: A Self-Determination Theory perspective**

Jemma K. Edmunds<sup>1</sup>, Nikos Ntoumanis<sup>2</sup>, & Joan L. Duda<sup>2</sup>

<sup>1</sup>*Coventry University*

<sup>2</sup>*University of Birmingham*

**Introduction:** This study examined whether theoretical constructs proposed by Self-Determination Theory (SDT; Deci & Ryan, 1985) predict weight and negative affect among overweight and obese individuals. **Methods:** Participants ( $N = 48$ , 83% female) were overweight and obese ( $M$  weight = 105.70kg,  $SD = 21.69$ ) individuals ( $M$  age = 44.98 years,  $SD = 14.61$ ) referred to a 12-week exercise on prescription programme. At baseline, 4 and 12 weeks, participants completed measures of weight loss-specific psychological need satisfaction and motivational regulations, and general negative affect. Participants' weight was measured at baseline. Self-reported weight was provided at 4 and 12 weeks. **Results:** Introjected regulation was a positive predictor of weight at 12 weeks, whereas identified regulation and autonomy and relatedness need satisfaction were negative predictors. The effects of identified regulation, autonomy and relatedness on weight varied over time; they were greatest at 4 weeks and weakest at 12 weeks. Integrated regulation was a negative predictor of negative affect at 12 weeks only. Negative affect was also negatively predicted by identified regulation and competence whose effects varied over time. The effect for competence was greatest at 4 weeks and weakest at 12 weeks. The effect of identified regulation only approached significance at 12 weeks. **Discussion:** The findings of this study provide support for the propositions of SDT. Higher levels of psychological need satisfaction and more autonomous forms of motivation predicted lower body weight and lower negative affect at 12 weeks. Higher introjected regulation was associated with greater weight at this time-point. Interaction effects revealed that the effects of adaptive SDT variables on weight increased from baseline to 4 weeks but then decreased at 12 weeks. Potential explanations for these findings and their practical implications will be discussed.

### **Paper 3. Effects of walking on urges to smoke during a smoking cue, and *ad libitum* smoking**

Magdalena Katomeri

*University of Plymouth*

Research has demonstrated a positive effect of walking on urges to smoke, responses to a smoking cue (following stress), and on ad libitum smoking (Katomeri & Taylor, 2005) following a two hours smoking abstinence. This study aimed to examine the effects of a 15 min walk on urges to smoke in response to a smoking cue (with no prior smoking abstinence and with no prior stressor). 17 males and 13 females were recruited. Smokers either walked briskly on a treadmill or were seated for 15 min, in a counterbalanced within-subject design. After treatment, subjects rested for 10 minutes and then were only allowed to handle a lit cigarette. Urges to smoke were measured through indicators of anticipation of positive affect through smoking, and anticipation of relief from negative affect through smoking (Tiffany and Drobes, 1991). The questionnaire was administered pre-,

mid-, and post-treatment, and pre and post handling the lit cigarette. A two-way fully repeated analysis of variance (ANOVA) revealed a significant overall interaction effect for time by condition for anticipatory positive affect,  $F(4) = 11.29$ ,  $P < 0.05$ , and anticipatory relief from negative affect,  $F(4) = 4.46$ ,  $P < 0.05$ . Planned contrasts revealed that for both factors, at each time point compared to baseline, the exercise group had significantly lower scores than the control condition. A self-paced 15 min walk had a rapid and large positive effect on urge to smoke, and in the exercise group did provide protection against the presence of a lit cigarette. The autonomy and the controlling agents of smoking are discussed within the premises of Self-Determination Theory (SDT; Deci & Ryan, 1985).

#### **Paper 4. The role of autonomy in psychological change: An applied perspective**

Emmanouil M. Georgiadis

*Greek Police Officers School*

Being appropriately related to one's own environment is an important initial motive to start attending sessions of psychological counseling. Communicating own needs while dealing with the needs of the others, in most cases requires multilevel change as social environment creates conflicts that need to be solved for one to live a more fulfilled life. In this direction, solutions entail change and every change needs to assimilate a person's expectations, aspirations and needs. Psychological change is often experienced like freeing oneself from a self-imposed prison cell. To change means to risk changing from something familiar to something unfamiliar. This is why it involves great resistance and postponement, rarely happens as a 'major break-through' but rather, it proceeds in small increments. The aim of this paper is to look psychological change through the perspectives of Self-determination Theory (SDT; Deci and Ryan, 1985), helping in this way everyday counseling practice. Based on the Organismic Integration of human nature, people's tendency is to move toward greater coherence and integrity in the organization of their inner world or else greater coherence and harmony within. As people are inherently motivated to operate within their environment adaptively in terms of bringing about effects and to learn and grow, there are certain prerequisites for this process to take place. Eight fundamental processes are proposed as the ingredients of a more successful route towards change in the application of exercise and sport psychology. These processes do not aim to be used as techniques playing the role of an external agent that catalyses more effectively change, but rather as motives for self-advancement and personal exploration. They are offered as practices that may help individuals to make a true choice of change.

### **SYMPOSIUM 32**

#### **Learning to regulate feel to maximize performance and well-being**

Organizer/ Chair: **Natalie Durand-Bush**, *University of Ottawa*

Discussant: **Kelly Doell**, *University of Ottawa*

The purpose of this symposium is to present recent research on the concept of feel in different domains including health / nutrition, medicine, and sport / coaching. Little to no attention has been devoted to the role of feel in the process of achieving high levels of well-being and performance (Fredrickson, 2001). Unlike popular belief, feel is a subjective experience not limited to emotional states (Damasio, 1994). Research discussed in this symposium will show how feel can be experienced not only emotionally but also physically, cognitively, socially, and spiritually (Doell et al., 2006). It will highlight the need to study the concept of feel as a multidimensional experience that is unique to every individual and varies over time as awareness and learning take place. The first presentation addresses the process of using feel to make health behaviour changes leading to improved fitness and nutrition. In the second presentation, the enhanced performance process of medical students will be discussed in light of the feel based intervention in which they engaged with a trained sport psychology consultant. The third presentation will highlight how Olympic coaches learn to pay attention to how they feel in stressful environments and use various strategies to regulate ideal states to prevent burnout. Finally, in the fourth presentation, it will be demonstrated how a longitudinal intervention based study with a volleyball team led the head coach to learn to observe and nurture feel within his team, improving performance and coaching. Practical strategies and limitations in addressing the process of feel in consulting, coaching, and research will be discussed.

**Paper 1. The feel of food and fitness: A resonance-based intervention beyond performance**

Kelly Doell &amp; Natalie Durand-Bush

*University of Ottawa*

A resonance-based intervention (RBI) helps each participant to identify preparation strategies, obstacles, and revisiting activities to regulate how they want to feel. In the past, RBIs have focused primarily on performance-related contexts such as athletics (Doell, Durand-Bush, & Newburg, 2006), cycling (Faubert & Durand-Bush, 2005), and rock-climbing (Arcand, Durand-Bush, & Miall, 2006). However, the resonance performance model (RPM), the foundation for RBIs, has been described as having holistic qualities that reach beyond these performance contexts and may influence the person in other domains (Newburg, Kimiciek, Durand-Bush, & Doell, 2002; Doell et al., 2006). In turn, this qualitative case study's purpose was to explore the influences that an RBI might have on another important aspect of daily living; health. Specifically, a RBI was applied in an attempt to enhance physical activity and diet. A six month emergent intervention design with a 30 year old woman that included 8 consultations focused on co-constructing the ideal feel of her fitness routine and diet. The results showed several positive changes that the participant linked to the intervention process. This included a more internal locus of control, a heightened sense of subjective well-being, and steady weight-loss. This presentation will focus on the details of the emergent intervention structure, perceived outcomes described by the participant, and key intervention delivery leverage points for these changes. Suggestions for conducting resonance-based consultations in health and wellness contexts will be discussed in addition to ideas for further applied research.

**Paper 2. Medical students as performers: Exploring their process through feel**

Christopher Simon &amp; Natalie Durand-Bush

*University of Ottawa*

The present study focused on medical students' performance and how it is affected by feel; a subjective experience that can be experienced in various ways, including cognitively, physically, and emotionally (Damasio, 1994). Feel is a central component of resonance, a process that allows individuals to feel the way they want in their performance environment and daily lives (Newburg, Kimiciek, Durand-Bush, & Doell, 2002). Prior to this study, no research specifically examined the influence of feel on the performance of medical students and existing literature on resonance has primarily focused on athletics (Doell, Durand-Bush, & Newburg, 2006). Therefore, the purpose of this multiple case study was to explore if and how four medical students could reach optimal performance by learning to identify and regulate how they feel as they participated in a 12-week resonance intervention involving multiple, individualized, semi-structured interviews (Ivey & Ivey, 2003). Grounded in the constructivist paradigm, the participants' stories were qualitatively analyzed using the narrative approach (Polkinghorne, 1995). Results indicate that the medical students used both qualitative and quantitative indicators to define and examine their optimal levels of performance. They learned to pay attention to and regulate feel, which led them to appreciate and attune to its emotional, cognitive, and physical components. In-turn, their experiences were reciprocated in their performance and everyday lives. Results of this study foster awareness of the influence that feel may have on optimal performance within the medical community.

**Paper 3. What do you want to feel as a head coach?**

Göran Kenttä &amp; Carolina Lundqvist

*The Swedish School of Sport and Health Sciences*

Competitive sport at the international level takes place in a highly stressful context with sometimes unrealistic performance expectations. Consequently, a need for sport psychology services often aimed at performance enhancement and psychological well-being for athletes has been acknowledged. In contrast, similar efforts directed towards coaches and their individual needs are rare despite research reporting a prevalence of burnout among coaches at all levels (Giges, Petitpas, & Vernacchia, 2004). The purpose of this study was to survey Swedish Olympic coaches for their strategies used to enhance well-being and coaching performance in an attempt to prevent burnout. Six female and 31 male coaches with a mean age of 43 years (27-61 years) responded to a questionnaire specifically developed for this study. Responses to the open-ended questions were categorised by content. Coaches described their inner emotional, mental, and physical states when feeling extremely well and being "on top" as coaches and human beings. The following categories related to "feel" emerged: emotional feel (e.g. joyful, happy), social feel (e.g., in harmony with the team and significant others.), physical feel (e.g., relaxed, rested, energized, fit), and cognitive feel (e.g., mentally fit, engaged, challenged,

secure, at peace). Mental preparation and proactive planning was the most frequently employed strategy to feel the way they want and achieve optimal states. Taking care of themselves, having a balanced life, and assuring that their family felt good were also important for them to reach their desired states. Implications for elite coaches will be discussed.

**Paper 4. Using feel to enhance a volleyball team's performance: A coach's learning process**

Bettina Callary & Natalie Durand-Bush

*University of Ottawa*

Can coaches learn to maximize the performance and well-being of their team through an intervention aimed at regulating how they feel? Coaches' learning can be likened to a "changing of perceptions," as they learn from different sources that change their cognitive structure (Werthner & Trudel, 2006). Resonance is a process that allows individuals to feel in harmony with their environment and increase their performance and well-being as they collect data that enable them to manage how they feel physically, emotionally, cognitively, or spiritually on a daily basis (Arcand et al., 2006). In this study, the Resonance Performance Model (Newburg, 2005) and Moon's network view of learning (Werthner & Trudel, 2006) were used to qualitatively determine if and how a coach can learn to develop and sustain the team's resonance process over time by participating in a resonance-based intervention mediated by a sport psychology consultant. The study lasted 20 weeks and included a pre-intervention observation phase, an intervention phase consisting of four feel-based team sessions, and a post-intervention phase to determine if the strategies developed were carried through after the consultant left. The intervention was successful in helping the athletes and coach learn to regulate how they feel, take ownership of their training and competitions, and design their life to feel good on a daily basis. The coach gained a deeper understanding of how his athletes want to feel to perform and through ongoing observation and reflection, maximized his coaching.

**Saturday 8/9/2007****11:30-12:50****SYMPOSIUM 33****Social relationships and well-being in youth sport and physical activity**

Organizer/ Chair: **Alan L. Smith**, *Purdue University*  
**Sophia Jowett**, *Loughborough University*  
 Discussant: **Sophia Jowett**, *Loughborough University*

The contributors to this symposium will overview cutting-edge research on social relationships and well-being in youth sport and physical activity settings. Particular emphasis will be placed on peers as social agents of import in the physical domain. The symposium objectives will be to: (a) share current research that shows links between social relationships in the physical domain and a variety of markers of psychosocial functioning, and (b) foster discussion among contributors and attendees about where we should focus our future research energies. The first paper will address why culture must be considered as we seek to understand social relationships and the physical self. The physical self is central to motivational processes and is intimately linked to global markers of well-being such as self-esteem. The second paper will address the interface of motivational climate and various markers of young people's well-being, including the quality of their relationships with friends, perceptions of peer acceptance, perceptions of bullying, affect, and loneliness. The third paper will build from the second, prospectively examining the link of motivational climate to peer constructs and additionally considering motivational regulation and intention to drop out of sport. Collectively, the social, affective, and motivational constructs examined in the second and third papers are key markers of the quality of young people's organized sport experiences. The fourth paper will provide a review and synthesis of research linking peers with youth physical activity behaviour, which is widely regarded as a meaningful contributor to physical and psychological well-being of young people.

**Paper 1. Social relationships and the physical self in sport and exercise: Intersections with culture**

Peter R.E. Crocker & Subha Ramanathan  
*University of British Columbia, Canada*

This presentation will discuss issues related to the interaction of cultural values, social relationships, and the physical self in sport and exercise settings. The self has both attentional and self-regulative properties that have strong implications for understanding motivational behaviour (Leary, 2001). The physical self, which is associated with sport and exercise behaviour, develops through multiple processes. An individual's relationship with the social world is paramount. Social comparison with peers and evaluative feedback from significant others are important mechanisms that can maintain, enhance, or even diminish physical self-perceptions. Culture can shape how an individual interprets the meaning of the body, the perceived purpose of sport and exercise, and how significant others model and encourage involvement in sport and exercise. Many "western" countries are composed of multicultural populations. Thus many youth and adults are confronted with multiple cultural identities that create conflicting cultural expectations from significant others (peers and adults). The presentation will present recent work from our own research lab (Ramanathan & Crocker, 2006), as well as consider emerging empirical research from cultural sport and exercise psychology (e.g., Fleming et al., 2006; Schinke et al., 2007). We will consider how cultural values related to family obligations, masculinity, respect for elders, independence and dependence on social groups, and spirituality involve social relationships and the construction of the physical self in sport and exercise. We will also discuss how individuals attempt to manage the potentially conflicting expectations about sport and exercise behaviour that can arise in multicultural societies.

**Paper 2. Motivational outcomes in sport: The relationship of achievement goals on peer relationships, empowerment, affect, loneliness, and bullying**

Glyn C. Roberts, Marit Sorensen, Yngvar Ommundsen, Blake Miller, Mari-Kristin Sisjord, & Kari Fasting  
*Norwegian University of Sport Science, Norway*

The most interesting aspect of the recent work in motivation with achievement goal theory has been the attention paid to important outcome variables, for example peer relationships, cheating, overtraining and burn-out. The present study investigates the effect of the motivational climate on important facets of peer interaction in the sport context. The quality of peer relationships is an understudied facet of the competitive sport experience of youths, even though we have evidence that interaction with peers is important for young people's psychological well being, and that peer relationships contribute to the quality of the sport experience. We studied 1514 male and female participants of youth club sports in the Oslo area of Norway. We used questionnaires to measure the perception of the motivational climate, and measures of the quality



of peer relationships: peer conflict, friendship, peer acceptance, loneliness, perception of bullying, affect and whether participants felt empowered by the sport experience. We used canonical correlations to determine the relationship of the motivational climate to these outcome variables. Two meaningful functions emerged. The performance climate was meaningfully related to peer conflict, to negative affect, to loneliness, and to the perception of being bullied. The mastery climate was meaningfully related to positive friendship and social acceptance, to positive affect, and to being empowered. The evidence is suggestive that the motivational climate created by the coach affects the quality of peer relationships in sport. The findings demonstrate the importance of the coach being mastery oriented in terms of their coaching style to facilitate peer interaction in sport.

**Paper 3. Motivational climate, peer relations, motivation and dropout from sport: A prospective analysis**

Yngvar Ommundsen, Glyn C Roberts, Blake W Miller, Mari Kristin Sisjord, & Marit Sørensen

*Norwegian University of Sport Science, Norway*

Motivational climates influence young peoples' sport experiences and behaviour. We prospectively examined the role of motivational climates on young peoples' peer relations, motivation and dropout from organized sport. 698 young people (girls  $N=253$ ) and boys (445) involved in organized sport and who provided follow-up data through coaches on dropout ( $N=111$ ) versus still participating ( $N=587$ ) were included in the study. Data on motivational climates were collected early in the season and late in the season on peer relations, motivational regulation and intention to drop out. To illustrate one consistent pattern of results; canonical correlation analysis (Wilks' lambda = .90,  $F(14,1344) = 5.36$ ,  $P < .001$ ) revealed that a predominantly performance oriented climate early in the season was associated in a linear fashion with reduced peer acceptance, friend companionship and intrinsic motivation as well as with enhanced conflict with peers, amotivation and intention to drop out at the end of the season. Moreover, a predominantly performance oriented climate as perceived early in the season predicted enhanced dropout from sport at follow up. Results suggest that a motivational climate in which young sport people perceive the coach as mainly valuing social comparison and emphasizing superiority may lead to a reduction in the quality of peer relations, reduced intrinsically regulated sport motivation, and may lead to enhanced likelihood to drop out from sport.

**Paper 4. A review and synthesis of research on peers and youth physical activity behaviour**

Alan L. Smith\*, Meghan H. McDonough, Stacey A. Wisdom, & Sarah Ullrich-French

*\*Purdue University, USA*

Considerable attention has been devoted to understanding determinants of youth physical activity behaviour, which is known to protect against the onset of disease and promote well-being (Biddle et al., 2004). Social agents are conspicuous among potential determinants, and peers in particular would seem to have an important influence on health behaviours of young people as they move into later childhood and adolescence (Smith, 2003). Physical activity research rarely targets peers as facilitators of, or barriers to, youth physical activity behaviour directly; however, a number of physical activity investigations have included peer constructs (e.g., peer support for activity) within larger designs and a few recent studies have more closely examined peer relationships in youth physical activity contexts. We will share findings of a recent review of those investigations incorporating peer constructs as potential correlates of youth physical activity (Smith & McDonough, in press). Also, we will overview published and ongoing cross-sectional and longitudinal research efforts of our laboratory where we have explored peer relationship constructs as predictors of motivation and behaviour in general youth physical activity and organized sport settings. Our research suggests that specific friendships and the larger peer group together are important contributors to youth physical activity motivation and behaviour. These findings and our literature review suggest that future work grounded in social relationships theory, targeting psychological closeness with peers, and attending to constellations of social relationships has the greatest potential to meaningfully enhance our understanding of peer influence on youth physical activity behaviour.

**SYMPOSIUM 34**

**WomenSport International Symposium on Sexual harassment and abuse in sport: new data and explanations**

Organizer/ Chair: **Kari Fasting**, *Norwegian School of Sport Sciences*

Discussant: **Guylaine Demers**, *Université Laval*

Research studies on sexual harassment in sport have advanced considerably in recent years, drawing on both sociological and psychological perspectives. Despite this, the theme is still relatively new to the sport sciences and it might be argued that prevention and policy developments have occurred on a relatively thin base of empirical data and theoretical explanations. In this regard, much more knowledge is required to reinforce the

case for prevention work. In addition, there have been no previous comparative research studies across different countries. The papers here go some way to redress these imbalances. Fasting will set the scene by describing and problematising comparative data from a project based in three European countries. Chroni uses data from the same project but examines the different forms of sexual harassment experienced in these European countries. Using the same dataset again, Sveta investigates links between autocratic coaching behaviour and sexual harassment experiences, drawing out implications for coach education. Finally, Bishopp presents a MultiDimensional scaling analysis of 159 media reports of sexually abusive behaviour in sport from across the world in order to examine links between perpetrator strategies inside and outside sport. The discussion will focus on the implications of the data presented here for sport psychology practitioners and consultants. In particular, the issues will be set in the context of recent statements from the IOC Medical Commission about the importance of preventing harassment and abuse of athletes.

**Paper 1. The experiences of male sexual harassment among female sport students in the Czech Republic, Greece and Norway**

Kari Fasting<sup>1</sup>, Stiliani Chroni<sup>2</sup>, & Nada Knorre<sup>3</sup>

<sup>1</sup>*Norwegian School of Sport Sciences*

<sup>2</sup>*University of Thessaly*

<sup>3</sup>*Czech Olympic Committee*

Most knowledge about women's experiences of sexual harassment comes from research that has taken place in the workplace or in higher education. Over the last years studies have revealed that sexual harassment also occurs in sport. The questions asked in this paper are: How much sexual harassing behaviour is experienced by Czech, Greek and Norwegian female sports students inside and outside sport? What is the amount of sexual harassment in sport compared to that in education? Are there differences between the three countries concerning these questions? The samples were recruited from three universities in the Czech Republic (n = 214), from five universities in Greece (n = 212), and from four universities and colleges in Norway (n = 193). Sexual harassment was measured through three questions based on a former Norwegian study by Fasting, Brackenridge and Sundgot-Borgen (2000). The findings show that the Czech and Greek students had experienced more sexual harassment (75 and 72%) than had the Norwegian students (53%). Common for all three countries was that the students had experienced sexual harassment more often outside sport than in a sport setting. When sport was compared with education there was no difference for the Norwegian students. Among the Greek and Czech students there was a tendency that they had experienced more sexual harassment from someone at a school/university than from someone in sport. These findings will be discussed in relation to cultural differences between the three countries, and with reference to Pierre Bourdieu's concepts of symbolic power and violence.

**Paper 2. Forms of sexual harassment experienced by female sport students in the Czech Republic, Greece, and Norway**

Stiliani Chroni<sup>1</sup>, Kari Fasting<sup>2</sup>, & Nada Knorre<sup>3</sup>

<sup>1</sup>*University of Thessaly*

<sup>2</sup>*Norwegian School of Sport Sciences*

<sup>3</sup>*Czech Olympic Committee*

Common for all definitions of sexual harassment is that the behaviour is unwelcome and unwanted. What is experienced as sexual harassment will therefore vary in relation to gender, culture and the context in which the behaviour take place. The present paper attempts to explore the forms of sexual harassment experienced by Czech, Greek and Norwegian female sports students from men inside and outside sport. The 619 participants were sport students, enrolled in three universities in the Czech Republic (n = 214), five universities in Greece (n = 212), and four colleges in Norway (n = 193). Based on a former Norwegian study by Fasting, Brackenridge and Sundgot-Borgen (2000), sexual harassment was assessed through self-reported experiences on three forms of sexual harassment: unwanted physical contact, repeated unwanted sexually suggestive behaviors, and ridiculing of sport and/or self. The findings showed that the forms of sexual harassment experienced differed among the countries. Czech and Greek students had experienced more of repeated unwanted sexually suggestive behaviors (63% and 59%), than any other form of sexual harassment. The Norwegian students' percentage of repeated unwanted sexually suggestive behaviors was 26%. Ridiculing experiences ranged from 26 to 40% and unwanted physical contact from 34 to 43% for the three countries. Overall for all three countries the experiences of sexual harassment forms were higher from men outside sport than inside sport. The findings will be discussed in relation to the anti-sexual harassment legislation and policies that exist inside and outside sport in the three European countries.

**Paper 3. Autocratic coaching behavior and experiences of sexual harassment among sports students in three different European countries**Trond Sveta Sand<sup>1</sup>, Kari Fasting<sup>1</sup>, Stilian Chroni<sup>2</sup>, & Nada Knorre<sup>3</sup><sup>1</sup>*Norwegian School of Sport Sciences*<sup>2</sup>*University of Thessaly*<sup>3</sup>*Czech Olympic Committee*

Over the last decade, sexual harassment has been discovered as a serious issue in sport. Although most research to date has focused on coaches as perpetrators, relatively little is known about the characteristics of the harassing coach. Research on sexual exploitation of female athletes indicates that autocratic coaching behavior, combined with different kinds of power exerted by coaches, can in itself be regarded as a risk factor for sexual harassment. In this paper we therefore explore if there is any relationship between experiences of sexual harassment among female sport students from three European countries and their experiences of autocratic coaching behavior. The participants were sport students, enrolled in three universities in the Czech Republic, five universities in Greece, and four universities and colleges in Norway, who had been coached by both female and male coaches (N=410). The method of data gathering was the use of questionnaire and the experiences of autocratic coaching behavior were measured by four different questions. Sexual harassment was measured through three questions based on a former study by Fasting, Brackenridge and Sundgot-Borgen (2000). Athletes who reported experience of sexual harassment had a tendency to report a higher experience of autocratic coaching behavior than athletes who had no experience of sexual harassment. Students who had experienced 3-4 forms of autocratic coaching behavior had experienced sexual harassment more often than those who had experienced 1-2 forms. The findings will be discussed in relation to different leadership styles and coach education.

**Paper 4. Playing Away: Exploring the Behavioural Characteristics of Sexual Abusers in Sport**Daz Bishopp<sup>1</sup>, Celia Brackenridge<sup>2</sup>, & James Tapp<sup>3</sup><sup>1</sup>*Broadmoor Hospital*<sup>2</sup>*Brunel University*<sup>3</sup>*West London Mental Health Trust*

Most research on sexual abuse has been conducted within family settings. In recent years, following several high profile convictions and scandals, research into sexual abuse has also encompassed institutional and community settings such as sport and the church. Research into sexual abuse in sport, for example, began with both prevalence studies and qualitative analyses of the processes and experiences of athlete sexual abuse. This paper reports on an analysis of 159 cases of criminally defined sexual abuse, reported in the print media over a period of 15 years. The main aim of the study was to identify the nature of sex offending in sport focusing on the behaviours and locations of offences. The data were analysed using multidimensional scaling (MDS), as a data reduction method, in order to identify the underlying themes within the abuse and explore the inter-relationships of behaviour, victim and context variables. The findings indicate that there are specific themes that can be identified within the perpetrator strategies that include 'intimate', 'aggressive', and 'dominant' modes of interaction. The same patterns that are described here within the specific context of sport are consistent with themes that emerge from similar behavioural analyses of rapists and child molester groups. These patterns show a correspondence to a broader behavioural model – the interpersonal circumplex. It might also be suggested that the strategies adopted to effect abuse reflect underlying motivational and dispositional characteristics of individual perpetrators. The question remains as to whether there is sufficient knowledge of such abuse to implement screening measures that could prevent it happening in the future.

**Saturday 8/9/2007****14:00-15:20****SYMPOSIUM 35****What is the influence of knowledge on player's behaviour?**Organizer/ Chair- Discussant: **Hubert Ripoll**, *Université de la Méditerranée, Marseille, France***Duarte Araújo**, *Technical University of Lisbon, Faculty of Human Kinetics, Portugal*

This symposium addresses the question of how we acquire knowledge about the world and how this knowledge influences our action. More precisely, for a theoretical and applied questioning in sport psychology, how

knowledge constrains (i.e., channels) the expert player's behaviour. Obviously no single or simple answer to such a complex problem can be given. Ecological and information-processing theories have attempted to answer to this problem with relative degrees of success. Briefly, the information processing approach assumes that knowledge is stored in memory under the form of symbols and is activated by the intermediary of representations. The ecological approach assumes that knowledge about the world is actualized through the complex and ever-changing relationship of person-as-knower to the environment-as-known. Are these explanations exclusive each other or partially compatible? Are both empirically demonstrable? This is the concern of the symposium.

### **Paper 1. Some Constraints on Pattern Recognition Skill in Soccer**

North, J.S & Williams, A.M.

*Liverpool John Moores University, UK*

Performers develop a broad knowledge of domain specific playing patterns as a function of deliberate practice within their domain. The recognition paradigm is used to assess the ability to identify these patterns (e.g., Williams, Hodges, North, & Barton, 2006) and has been reported to be a predictor of anticipation skill in soccer (Williams & Davids, 1995). In this paper we present experiments designed to identify the specific conditions that underpin skilled recognition in soccer and in doing so identify the unique constraints governing recognition within this domain (see Vicente & Wang, 1998). In Experiment 1, a recognition paradigm was employed with sequences temporally occluded during recognition so as to assess the critical time period for information extraction. It appears that structure emerges as brief isolated incidents in the few seconds preceding an attacking event. Williams et al. (2006) have previously presented evidence that skilled soccer players encode patterns of play as relational information. In Experiment 2, a recognition paradigm was employed using static and dynamic images to examine whether skilled players perceive the relational information as a function of players' positions at a critical point in time or through their relative movements over time. Findings indicate that skilled players perceive relational information as a function of relative motion between features. The findings support the interactive encoding model (Dittrich, 1999). In conclusion, skilled soccer players' superior recognition is a result of identifying structure by picking up the relative motion between features that emerges in the immediate moments preceding an attacking event.

### **Paper 2. Knowledge as heuristics in sport behavior – Explaining the influence of knowledge on athletes' behavior from a bounded rationality perspective**

Markus Raab, Nele Tielemann, Andre Arnold, Hilke Zastrow, Klaus Gärtner, Christian Lempertz, & Jörn Köppen  
*University of Flensburg, Germany*

In sports an athlete has limited time, limited knowledge and limited resources to make little movements that make a large difference and may decide games, distribution of million dollars and glory in return. The limitations of the human actor result in a bounded rationality perspective that explains why players using less information perform better. We describe how knowledge is used to explain overt behavior such as the myriad decisions and resulting moves athletes have to consider during a match in ball games or alike. The perspective that is taken here is neither purely information-processing nor ecological because it combines the benefits of using representations of knowledge as cues that can be used to behave in an adaptive way. These cues serve as information to build heuristics that are rules of thumb, such as playmakers who allocate balls more often to the player who is currently hot. Heuristics have three building blocks that are a search rule (what information is taken into account), a stop rule (when to stop information search) and a decision rule (what option to choose). In sports a fourth building block is added that refers to the execution of the movement. A research program resulting in theoretically driven experiments that develop heuristics in the context of basketball, handball and volleyball for decisions of athletes, coaches and spectators alike is presented. Finally, the benefits and pitfalls of describing knowledge as heuristics from a bounded rationality perspective are highlighted and compared to other approaches in this field.

### **Paper 3. On the primacy of the dynamics of perception and action**

Peter J. Beek

*Faculty of Human Movement Sciences, Vrije Universiteit, Amsterdam*

Central to the symposium theme is the dichotomy between information processing and ecological approaches to perceiving, acting and knowing, in particular the necessity to invoke the notion of internal representations in theoretical accounts of (expert) sport performances. In this portrayal of the problem, two concepts are opposed that are essentially devoid of dynamics, namely, internal representations and invariants specifying properties

of the actor-environment system. My perspective on these matters is that, while internal representations are inevitable in any viable account of intelligent behavior, expert or otherwise, the essential question is how such knowledge representations come about and evolve through interactions with the environment. The notion of representation should not be restricted or reduced to symbolic structures that are frozen in time and stripped from their dynamical content and context. Instead, I will argue that the dynamic transactions between perception and action in the environment play an essential role in the formation of representations, which, once formed, may constrain the dynamics of perceiving and acting, that is, the pick-up of information and the planning and execution of movements. Within this context, I will discuss the notion that self-organization processes are primary and may form and shape internal representations, which itself may have self-organizing features, culminating in a form of “secondary self-organization” (Meijer, 1988), which, in turn, may constrain the primary self-organization of perception-action couplings.

#### **Paper 4. The influence of verbal and non-verbal informational constraints on knowledge manifestations in sport**

Araújo Duarte<sup>1</sup>, Cordovil de Matos Rita<sup>1,2</sup>, & Davids Keith<sup>3</sup>

<sup>1</sup>*Faculty of Human Kinetics/Technical University of Lisbon*

<sup>2</sup>*Lusófona University of Humanities and Technologies*

<sup>3</sup>*Queensland University of Technology*

The ecological approach proposes that knowing is a process which resides neither wholly within the performer as an effect or response, nor wholly within the performance context as a cause or stimulus; rather, knowledge is actualized through the complex and ever-changing performer-environment relationship and stands astride the physical and psychological domains. In sport, instructions and verbalizations to athletes particularise this relationship. Athlete knowledge emerges from experience with the affordances of the environment, which is based on perception but enables athletes to develop patterns of thought that go well beyond perception. Knowledge that coaches may transmit to performers is indirect, since instead of being derived through direct experience by the performer in the environment, this knowledge is verbally communicated to the performer. Therefore, coaches have to be directly aware of the performance environment before they can capture it indirectly in words. The same problem arises when researchers attempt to “extract” knowledge from participants by means of verbalizations. To exemplify these arguments we describe two experiments on effects of non-verbal and verbal constraints on knowledge manifestations in basketball. Attacker-defender dyads performed 1 v 1 subphases of a basketball game. In experiment 1 selected instructions (neutral, risk taking or conservative) were manipulated to observe effects on emergent behaviour of the dyadic system. In experiment 2 body-scaling of participants was manipulated by creating dyads with different height relations. Results indicated that both instructions and height had significant effects on the dynamics of decision-making in dyads.

#### **Paper 5. Do categories stored in memory of expert collective game players modulate visual information processing?**

Hubert Ripoll<sup>1</sup> & Eric Laurent<sup>2</sup>

<sup>1</sup>*Université de la Méditerranée, Marseille, France*

<sup>2</sup>*Cabinet «Ergos Performance Humaine», La Garde, France*

Playing collective games requires the learning of general rules and knowledge about collective tactical organisations. This knowledge develops under the effect of instruction delivered by coaches, and with practice. Tactical knowledge has two different formats (Ripoll, 2004): 1) a conceptual format, expressing a general organization generally described by a numerical expression (4-3-3, 4-4-2, 3-5-2... in football or 1-3-1, 2-1-2... in basketball), 2) a perceptual format, under the form of physical sensitized structures related to the tactical organization mentioned above. Different characteristics are related to these two types of processing: 1) indirect, time consuming, attentionally costly, for the conceptual knowledge, and 2) direct, rapid, and not attentionally costly, for the perceptual processing. This means that an expert could be perceptually sensitive to a category, and could automatically activate a solution adapted to this one. The influence of categories on information processing has been tested in a series of experiment (Laurent, 2003), in which expert and non-expert basketball players had to carry out same-different judgments between two schematic, identical or different, basketball configurations. Results suggest that in experts, visual search organization is tightly coupled to categorical information stored in memory. Therefore, the influence of categorical background on performance is embodied in a specific visual search, which is the critical interface between expert knowledge and the external world. This confirms that the processing of the visual information is performed by the means of a strong coupling between perceptual sensitization and relevant, categorical collective organizations structures shared by expert players.

**SYMPOSIUM 36****Passion in Sport: Theory and Research**

Organizer/Chair: **Robert J. Vallerand**, *Université du Québec à Montréal*

*Laboratoire de Recherche sur le Comportement Social*

Discussant: **Joan L. Duda**, *University of Birmingham*

Passion. For centuries, philosophers, writers, and the lay public have been trying to better understand this elusive concept. Surprisingly, very little has been done in this area from a psychological perspective. In this symposium, we present recent research conducted in sport derived from the Dualistic Passion Model (Vallerand et al., 2003). This model defines passion as a strong inclination toward a self-defining activity that people like, find important, and in which they invest time and energy. We further posit that there are two types of passions: obsessive and harmonious. Obsessive passion represents an uncontrollable urge to engage in the activity, thereby leading to conflict with other aspects of the person's self and to maladaptive consequences. On the other hand, Harmonious passion refers to a tendency that leads individuals to choose to engage in the activity and that leads to adaptive outcomes. The present symposium contains four presentations that provide new findings on the Dualistic Passion Model. Research reveals that the model is supported with athletes and coaches (Dr. Robert Vallerand), young athletes (Dr. Pierre-Nicolas Lemyre), referees (Dr. Philippe Brunel), and sport fans (Dr. Nikos Ntoumanis) with respect to a number of cognitive, affective, and behavioral outcomes. Implications for future research on the passion concept are proposed by the presenters. Finally, a discussion (Dr. Joan Duda) follows the four presentations.

**Paper 1. Passion in Sport: A Look at Athletes and Coaches**

Robert J. Vallerand & Éric Donahue

*Laboratoire de Recherche sur le Comportement Social, Université du Québec à Montréal*

The purpose of this presentation is to show the applicability of the passion model (Vallerand et al., 2003) to the realm of sport and exercise. Passion is defined as a strong inclination toward a self-defining activity that people like, that they find important, and in which they invest a lot of time and energy. Two types of passion are proposed: obsessive and harmonious. Obsessive passion refers to a controlled internalization of an activity in one's identity that creates an uncontrollable internal urge to engage in the activity that the person likes. On the other hand, harmonious passion refers to an autonomous internalization that leads individuals to choose to engage in the activity that they like. Harmonious passion promotes healthy adaptation whereas obsessive passion leads to less adaptive outcomes. Results from a series of studies in a sport setting with athletes and coaches reveal that harmonious passion is conducive to more more adaptive outcomes such as positive affect and subjective well-being, more adaptive coping strategies, better relationships, and to some extent performance. These studies support the role of passion in sport and pave the way to new research.

**Paper 2. Passion and the motivational patterns of youth football players**

Lemyre, P-N & Roberts, G. C., Ommundsen, Y., & Abrahamsen F.

*Norwegian University of Sport and Physical Education*

Recent research investigating passion in sport participants (see Vallerand et al., 2006) reveals that harmonious and obsessive passions represent a great source of motivation for sport involvement. However, while harmonious passion has been associated with adaptive achievement striving, obsessive passion has been linked to maladaptive achievement outcomes such as increased stress and negative affect, interpersonal conflicts and unhealthy sport persistence. The present study was designed to examine the contribution of two types of passion (Vallerand et al., 2003) in predicting the perfectionist dispositions, the achievement goals as well as the perception of the team motivational climate of youth elite soccer players. Participants were 283 competitive football players ( $M=177$ ;  $F=106$ ; 12-16 y/o) competing in the Norway Cup International Football Tournament. Findings revealed that young football players demonstrating high levels of obsessive passion for their sport reported having high personal standards as well as feeling concerned about making mistakes when playing football, these athletes were high in ego orientation and perceived the team motivational climate as being performance oriented. When athletes balanced their obsessive passion with a high sense of harmonious passion, they expressed being simultaneously high in task and ego orientation, they also felt they had high personal standards when playing football and perceived the team climate as being mastery oriented. The findings support a dualistic model of passion in sports (Vallerand et al., 2006). Harmonious and obsessive passion yields qualitatively different motivational patterns in youth football participants.

**Paper 3. On the Relative role of Harmonious and Obsessive Passion in Referees' Psychological Well-being**

Philippe Brunel &amp; Joéline Andrianarisoa

*Université de Limoges*

Vallerand et al. (2003) developed a Dualistic Model of Passion for different activities. Two different types of passion arise as a result of an internalization process when an activity is highly valued and meaningful. First, when an activity is internalized in the self in a controlled fashion, this leads to obsessive passion (OP). Although the person likes the activity, he/she is more prone to experience negative affects during and once the activity is finished. Second, when an individual has freely accepted the activity as important but without any contingencies attached to it, an autonomous internalization occurs and individuals develop harmonious passion (HP). Consequently, he/she is more inclined to experience positive emotions during and once the activity is finished. The purpose of these studies was to explore the relative role of passion on psychological well being (PWB) with referees. Study one was conducted with 125 handball referees ( $M=33.3$ ,  $SD 8.62$ ). They were requested to complete the passion scale, activity valuation scale and Ryff's PSW Inventory. Partial correlation revealed that HP, when controlling for OP, is positively linked to all dimensions, while OP is negatively related to Autonomy, Environmental Mastery and Personal Growth. Study 2 conducted with 352 rugby referees ( $M=38.26$ ,  $SD=8.76$ ) was a replication with a computation of a PWB index. SEM indicated that both passions are positively predicted by activity valuation and that HP positively predicted PWB while OP negatively predicted PWB. The present findings support the hypotheses that HP, relative to OP, is more adaptive with respect to affective experiences.

**Paper 4. You'll never walk alone: Passion in Soccer Fans**Ntoumanis, N.<sup>1</sup>, Vallerand, R. J.<sup>2</sup>, & Philippe, F.<sup>2</sup><sup>1</sup>*University of Birmingham*<sup>2</sup>*Université du Québec à Montréal*

The purpose of the present research was to test the applicability of the Dualistic Model of Passion (Vallerand et al., 2003) to being a sport fan. To this end, three studies were conducted. Study 1 sought to assess the role of harmonious and obsessive passion in a variety of adaptive (e.g., celebrate the team's victory) and maladaptive behaviors (e.g., risking to lose one's job to go to the team's game), as well as in life satisfaction, while controlling for sport team identification (Wann & Branscombe, 1993). Study 2 ascertained the role of passion in the affective life of fans during the 2006 World Soccer Cup, in their psychological health (self-esteem and life satisfaction), as well as in the public display of adaptive (celebrating their team victory in the streets), and maladaptive behaviors (making fun of fans of the opposing team). Finally, Study 3 sought to determine the role of obsessive passion with soccer in creating conflict with one's spouse, that in turn undermines the satisfaction of the relationship. Overall, in line with past research on passion, the results of all three studies provided overwhelming support for Dualistic Model of Passion in that harmonious passion predicted the adaptive outcomes, while obsessive passion mainly predicted the maladaptive outcomes. The conceptual and applied implications of the findings will be discussed.

**Paper 5. Passion in Sport: A Discussion**

Joan Duda

*University of Birmingham***Saturday 8/9/2007****15:30-16:50****SYMPOSIUM 37****Motivational climate interventions: What have we learned till now?**Organizer/ Chair: **Nikolaos Digelidis**, *University of Thessaly, Department of Physical Education and Sport Science*Discussant: **John R. Todorovich**, *University of West Florida, Division of Health, Leisure, and Exercise Science, University*

This symposium will deal with motivational climate issues concerning the application of the TARGET principles in different countries, in sport and physical education. The discussion will also aim in exchanging experience and bringing light into issues concerning interventions' design and implementation.

**Paper 1. Motivational climate interventions - A short review of used teaching methods**

Timo Jaakkola

*University of Jyväskylä, Finland*

Several interventions have been implemented in order to alter motivational climate in physical activity settings. Many of these involve short-term interventions concentrating on only a small number of practice sessions. Findings generated from these studies support the results of cross-sectional studies indicating that task-involving motivational climate is associated with adaptive cognitive, affective, and behavioural responses, whereas, ego-involving climate is linked with maladaptive ones. Research investigations incorporating long-term interventions have also been conducted in relation to motivational climate with intervention periods ranging from two weeks to one academic year. These interventions have been implemented in different cultures and they have revealed that fostering task-involving motivational climate has led to positive outcomes. These include, for example, task orientation, intrinsic motivation, perceived competence, enjoyment, attitudes towards healthy eating and effort. In the field of motivational climate interventions a lot of teaching methods have also been developed and used to emphasise task-involving motivational climate. These methods have included, for example, increasing students' autonomy, using practice, inclusion, and reciprocal teaching styles and different goal setting programs, analysing teaching behaviour from videotape. Additionally, the interventions have incorporated different thematic task-involving values such as concentrating on own development, co-operative learning and student's important role. Subsequently, many interventions have been adapted straight from Epstein's TARGET model. The review of used intervention methods reveals that there is a lack of knowledge to show how different treatments of motivational climate affect students' motor skills or vice versa, how teaching motor skills influence the climate.

**Paper 2. Effects of a mastery Intervention programme in Sport and PE**

Kevin Morgan &amp; Kieran Kingston

*WIC, UK*

The purpose of this study was to examine the effects of a mastery intervention programme on the teaching behaviours that influence motivational climate and students' motivational responses in a Higher Education Undergraduate soccer module. Two Higher Education lecturers and a total of 36 students participated in the study. A six stage mastery intervention program based on Ames (1992) TARGET structures was implemented. The two HE lecturers (a control group and an intervention group) were each filmed on three separate occasions throughout the module and their teaching behaviors were assessed through an observational measure of TARGET (Morgan, et al., 2005). Participating students' pre and post-intervention perceptions of the teaching behaviours, perceptions of the motivational climate (TIMPECQ, Papaioannou, 1998), intrinsic motivation (IMI, McAuley, et al., 1987) and motivation to participate in sport (SMS, Vallerand, 1997) were also measured. Finally, focus groups were conducted to further assess students' perception of the teaching behaviours and their motivational responses. Pre to post-intervention behavioural analysis of the TARGET behaviours revealed higher levels of student goal setting, multidimensional and differentiated tasks, private and public mastery feedback, self-evaluation, mixed ability co-operative groups and flexible time in the intervention group, compared to the control group. Two-way mixed design ANOVAs revealed that the intervention group had higher perceptions of self-referenced goals, public and private mastery feedback, intrinsic motivation for stimulation and perceived competence in comparison to the control group as a result of the intervention. Focus groups supported the observational and questionnaire data and gave greater insight into the motivational effects of the TARGET structures.

**Paper 3. Motivational Climate as Antecedent of Enjoyment in School PE**

Markus Soini, Jarmo Liukkonen, &amp; Timo Jaakkola

*University of Jyväskylä, Finland*

School PE plays an important role in the socialization process into a physically active lifestyle. There is insufficient knowledge about the components of psychological climate affecting pupils' enjoyment in PE. Motivational climate in PE may emphasize task involvement, ego involvement, autonomy, and social relatedness. The purpose of the study was to analyze the associations of motivational climate and enjoyment. The participants of the study were 4397 ninth grade pupils (2594 girls, 1803 boys). The variables of the study were task involving climate, ego involving climate, autonomy, and social relatedness. The Motivational Climate in School Physical Education Scale (MCSPES) [1] and the Sport Enjoyment Scale [2] were used. Task involving climate (boys 0.66/girls 0.64), social relatedness (0.50/0.50), and autonomy (0.38/0.39) climate dimensions correlated positively with enjoyment. Also PE mark correlated positively with students' enjoyment (0.52/0.49). The combination of low task involving climate and high ego involving climate showed to be detrimental for enjoyment, especially in the student group with low PE mark.



#### **Paper 4. Influence of Manipulated Motivational Climates on Early Adolescent Skill Learning in Physical Education**

John R. Todorovich

*University of West Florida, USA*

Sport pedagogy researchers have successfully manipulated the motivational climate in physical education settings to influence student achievement goal involvement (e.g., Todorovich & Curtner-Smith 2002, 2003). Manipulation of the motivational climate was achieved using Ames' (1992) TARGET approach for influencing the motivational climate in school settings based on the things that teachers say and do. Unfortunately, while researchers are learning much about influencing student motivational beliefs and behaviors by using these TARGET structures, little is known about the effects of using these strategies on student skill learning. The purpose of this study was to analyze student skill learning while participating within either a 10-lesson field hockey mastery- or performance-involving instructional unit. Participants consisted of fifty-four 11-13 year old early adolescent pupils enrolled in a physical education program in the southeastern United States. Each child was randomly assigned to either a mastery- or performance-involving experimental group. Both units of instruction were designed with the same learning objectives and content scope and sequence; however, the motivational climates were manipulated using the TARGET structures to be either a mastery- or performance-involving motivational climate. The objective climates were verified using the Physical Education Climate Assessment Instrument (PECAI; Curtner-Smith & Todorovich, 2002). Student performance on four field-hockey skills taught during each unit was analyzed using a scored rubric analysis system idiosyncratic to each skill. Results revealed no differences on pupil's first attempts at the skill between groups; however, students in the performance-involving group scored significantly better on two of the four skills after 10 lessons.

#### **Paper 5. Motivational climate, intrinsic-extrinsic motivation and teaching styles: the reciprocal and the self-check style**

Dimitrios Mizios & Nikolaos Digelidis

*University of Thessaly, Greece*

The purpose of the present study was to investigate the differences between junior high school students concerning intrinsic – extrinsic motivation, lesson satisfaction, autonomy and their performance in three basketball skills: chest - pass, dribbling, and jump shout. One hundred and six junior high school students (57 boys and 49 girls) aged 12 years old ( $M = 12.03 \pm .21$ ) participated in this survey which was held through motor tests and questionnaires, distributed three times. Four groups of students were assigned to two teaching styles: the reciprocal and the self – check style. Pretest took place at the beginning of the practice phase and post tests immediately after the completion of the practice phase and the inversion of the experimental groups to control and opposite. All scales had acceptable levels of internal consistency. Multivariate analysis of variance and repeated measures were used in order to examine differences concerning gender and style. The results showed that students who were exercised with the two teaching styles intervention program, demonstrated significant improvement in all three basketball skills in comparison with the control groups in both parts of the study. Self – check style group had higher scores compared with reciprocal style group concerning satisfaction, autonomy, intrinsic motivation and identified regulation. Both genders improved their performances in all basketball skills. Therefore, the indications are that the more productive teaching styles not only improve students' performance in basketball skills, but also can have a positive influence on self – determination and children's motivation towards PE. Results are discussed according to the theory of self – determination and evaluated in connection with self – regulation during learning process.

### **SYMPOSIUM 38**

#### **Research Quality in Sport & Exercise Psychology**

Organizer/Chair: **Mike Weed**, *Canterbury Christ Church University, UK*

Discussant: **Adrian Taylor**, *Exeter University, UK*

Research quality in sport and exercise psychology can be considered at micro- and macro-levels. At the micro-level, such considerations can be considered "immanent-essentialist" (Apthorpe & Gasper, 1982): immanent in being concerned with whether research meets its own stated goals and essentialist in considering the way research has been conducted. Such micro-level immanent-essentialist considerations tend to be the issues that peer-review processes are concerned with and are those more regularly associated with research quality such as validity and

reliability. However, there is a broader macro-level dimension. At this macro-level, research quality considerations can be considered “transcendent-instrumentalist”: transcendent in being concerned with expectations and goals beyond the immediate research project and instrumentalist in being about the contribution the research makes. Consequently, macro-level research quality concerns the appropriateness of research methodology and method to research questions and, indeed, the significance of research questions themselves, as well as the contribution research makes to bodies of knowledge in particular fields. This symposium considers the way in which these issues are addressed in sport and exercise psychology. At the micro-level, alternatives for reliability and validity in qualitative research are considered (Smith), while a discussion of meta-analysis (Chatzisarantis) links research quality concerns at the individual study micro-level with macro-level concerns in relation to developing bodies of knowledge. The need for grounded theorists to pay greater attention to macro- research quality concerns is discussed (Weed), prior to a consideration of how assumptions made in constructing research questions in sport and exercise psychology impact upon macro-level research quality (Hagger).

### **Paper 1. Research Quality and Judgment Criteria in Qualitative Research: Exploring Problems and Possibilities**

Smith, B.M.

*Qualitative Research Unit, School of Sport & Health Sciences, Exeter University, UK*

Qualitative research within sport, exercise, and health psychology is growing. However, the nature and quality of this qualitative research is open to question. To explore this debate the issue of validity is critically discussed. First, the criteria that are typically presented as a strong indicator of ‘good quality’ research are highlighted. These criteria can be termed (quasi-)foundational in nature and often include member checks and triangulation as outlined by Lincoln and Guba (1985). The problems and implications of such (quasi-)foundational criteria are then highlighted. It is argued that they have become a standard against which to make judgment in sport, exercise, and health psychology, yet are practically dubious and intellectually restrictive. They are also philosophically problematic in claiming a foundational way of sorting out trustworthy interpretations from untrustworthy ones can be established *or* that personal experience can be ‘got at’ and there is a reality out there, external to the researcher, awaiting discovery through the appropriate use of techniques and foundational criteria. Finally, it is suggested that sport and exercise psychologists learn to judge qualitative research in different but appropriate ways. As part of this, an appreciation for (non-)foundational criteria is called for. These criteria for making judgments are emerging, part of an on-going list, and guiding ideals rather than a touchstone that can be employed to distinguish the good from the bad, the correct from the incorrect.

### **Paper 2. Linking Research Quality at the Micro- and Macro-Levels: Meta Analysis**

Chatzisarantis, N.L.D.

*School of Psychology, University of Plymouth, UK*

Many sport and exercise psychologists rely on singles studies, averaged study results and/or narrative reviews of literature to evaluate scientific evidence and draw conclusions about events. For example when evaluating the effects of intentions on physical activity participation, researchers may collect the correlations between intention and physical activity participation across a number of studies and then use the average value of these correlations as an indication of the intention-behaviour relationship. This paper explains why such a practice can be problematic. Based on principles underlying meta-analytic techniques, it is argued that, because the size of the correlation and its significance value are influenced by sample size and reliability, correlations derived from single studies with divergent sample sizes are not comparable and therefore cannot be averaged. In addition, because significance tests of correlations are also influenced by sample size, reviews of literature that draw conclusions on the basis of a count of significant results are also unreliable. This paper recommends ways to overcome such limitations by using meta-analytic techniques. In particular, the presentation explains how meta-analytic techniques make results from single studies more comparable. Finally, principles underlying meta-analytic techniques and how meta-analysis can help evaluate research quality at the micro- and macro-level are explained.

### **Paper 3. Macro-Level Research Quality Issues in the Application of Grounded Theory in Sport & Exercise Psychology**

Weed, M.E.

*Department of Sport Science, Tourism & Leisure, Canterbury Christ Church University, UK*

There are many studies in sport and exercise psychology that claim to be “grounded theory”. However, many of these have simply “borrowed” aspects of the grounded theory approach (most often the iterative

approach to analysis) for more generic qualitative studies. This misrepresentation has implications for macro-level considerations of research quality relating to the appropriate use of the approach. Grounded theory is a research approach that has implications for reviewing literature, using extant theory, data collection, data analysis and representation, and this paper highlights some key examples of the appropriate use of the approach in sport and exercise psychology. Following this, the contested nature of the ontology and epistemology that underpins grounded theory is highlighted. Current debate focuses on the extent to which it represents a realist approach (either positivist or post-positivist) or whether a constructivist revision is required. The implications of this ontological and epistemological debate for the extent to which grounded theorists may move from substantive theory to a more generic formal theory (a fundamental consideration in macro-level research quality) will be discussed. Specifically, the implications of the ontology and epistemology of grounded theory for the contribution grounded theory approaches may make to corpuses of knowledge and for its appropriate application to particular research issues is discussed. In conclusion, the paper suggests that sport and exercise psychologists using grounded theory may best secure the macro-level research quality of the approach by reference to the stratified ontology of critical realism and an interpretivist epistemology.

**Paper 4. Assumptions in sport and exercise psychology: Impact upon research quality at the macro-level**  
Hagger, M.S.

*Risk Analysis, Social Processes, and Health Group, School of Psychology, University of Nottingham, University Park, Nottingham*

A frequent addendum to many research reports in sport and exercise psychology is an acknowledgement of limitations. Few researchers give extensive consideration to these limitations and journal editors often make the inclusion of 'limitations sections' a requirement without consideration of their meaning to the quality of the research at the macro level. Readers may also treat limitations sections in the same manner, dismissing them as troublesome caveats imposed by editors. Limitations sections often outline the assumptions that relate to research interpretation. These are likely to be central to the reader's evaluation of the overall quality of the research and the measure of its contribution to the sport and exercise psychology literature. This paper will outline how assumptions affect the quality and interpretation of research in sport and exercise psychology. It will identify some common assumptions relating to the development of theory, validity of measures, and treatment and interpretation of observations. A central theme to this discussion is the assumption that observations at a given level reflect real effects. Sufficient 'ontic depth' is required to evaluate the impact of observed data with respect to these assumptions. Some of the theoretical assumptions researchers often make such as defining behaviours, evaluating questionnaire validity, and generalising research findings will be outlined. It will conclude that research quality can only be evaluated with due consideration of the common assumptions that limit empirical investigation in sport and exercise psychology and to dismiss them limits the impact of research and hinders progress in sport and exercise psychology.

**SYMPOSIUM 39**

**Interpersonal relationship in sport**

Organizer/Chair- Discussant: **Roberta Antonini Philippe**, *Swiss Federal Institute of Sports Magglingen*

The athletic dyad is an interpersonal relationship, specific and important in sport psychology. Some sport psychologist agrees that the coach-athlete relationship is crucial to the achievement of a successful performance and interpersonal satisfaction. The parental support appears as well as an important factor for the development of the dyad. Therefore, more research on relationship between these two protagonists of the performance is needed. Regarding this need, the present symposium comprises four studies: The first study (Antonini Philippe) focuses on a qualitative analysis in a particular coach-athlete relationship, composed of father (coach) and son (athlete) showing the importance of the human dimension of the dyad. Secondly, in Serpa, Barreiros, Gouveia, Cavalleri-Serpa & Santos's study, the parental relationship assume an importance in talented athletes. The authors discuss the results on the basis of positive relational pattern which may influence the psychological adaptation to sport. Huguet highlights a case study with a tennis player using a psychoanalytic approach and showing that the concept of transference is an essential aspect the relationship. Finally, Wand & Alfermann present a coach leadership behavior in youth soccer, as seen by coaches and by athletes with a different cultural background. In conclusion, the present symposium shows different approaches to determinants of the athletic relationship.

**Paper 1. Father coach and son athlete – what kind of relationship does this add up to?**

Roberta Antonini Philippe

*Swiss Federal Institute of Sports Magglingen, Switzerland*

Athletes and their coaches develop a primarily professional relationship with the aim of enhancing performance. Nevertheless the quality of this relationship has an impact on the athlete's private life, too (Antonini Philippe & Seiler, 2006). The study examined the athletic relationship between tandems linked also by family bonds and sought to explore the quality and the impact of the coach-athlete relationship using the three interpersonal constructs of closeness, co-orientation, and complementarity (Jowett & Meek, 2000) as a framework. The participants were four male ski coaches (fathers) and four ski athletes (sons). Following a semi-structured interview, the responses of the athletes were analysed. The results show that the family-related emotions have a major influence on the quality of the relationship in the sports field, and this in turn has a major impact on the athlete's performance. Given the very special nature of the relationship, the formulation of objectives and their attainment becomes highly significant. Further indispensable "success" factors are trust, respect, affection, communication, focus, acceptance, and respect of roles. The analysis has thus also shed light on the nature of the family relationship, highlighting the impact of this relationship on the athlete's performance and on the personal development of both the protagonists. The study concludes, in agreement with Antonini Philippe & Seiler (2006), that the human skills of the coach are of greater importance than his purely technical and tactical skill set.

**Paper 2. Talents in sport and parental influence**

Sidónio Serpa, André Barreiros, Esmeralda Gouveia, Filipa Cavalleri-Serpa, &amp; Miguel Santos

*Technical University of Lisbon, Faculty of Human Kinetics, Portugal*

Talent detection and selection have been main goals of sport professionals. Current literature on sport psychology suggests that the psychological characteristics of sport talents are related to state and social aspects rather than to trait variables. Also, it is reported that the most successful athletes receive higher levels of parental support than the less successful ones, and that adjusted perfectionism is important for the athletes' adaptation to competition which may be influenced by their parents' behaviours. The aim of this research was to study the parental psychological influence in talented athletes and it was focused on the athletes' perception of their parents' support, as well as on the parents' related variables of perfectionism. Three studies were developed comparing talented to non-talented athletes: study 1 included 211 young male soccer players aged from 15 to 19; study 2, included 47 male and female judo players aged from 15 to 18; and study 3 included 45 male and female athletes from several sports, aged from 15 to 26. The used tools were the Portuguese versions of the Questionnaire of Parental Support-EMBU (Perris, Jacobson, Lindstrom, Knorrning & Perris, 1980) and of the Multidimensional Perfectionism Scale (parents' related scales)-MPS (Frost, Marten, Lahart & Rosenblate, 1990). General results suggest that talented athletes receive higher emotional support and lower rejection and overprotection (EMBU) from their parents as compared to the non-talented athletes. Moreover, they also perceive lower parental criticism and expectations (MPS). Thus, we may conclude that the talented athletes' parents tend to have a more positive relational pattern which may influence the athletes' psychological adaptation to sport situations.

**Paper 3. Analysis of transference in the coach-athlete relationship in tennis**

Sophie Huguet

*University of Bedfordshire, Great Britain*

The coach-athlete relationship is a common topic of research in sport psychology. Few researchers, however, have focused on individual aspects of this relationship and investigated in-depth the originality of each coach-athlete interaction. The purpose of the present study is to highlight a case study of a tennis player using a psychoanalytical approach. The psychodynamic point of view introduces the concept of transference as an essential aspect of every human relationship. In a sport context, an athlete may direct affection or feelings to a coach as a result of transference. The participant is Juliette (her name was changed to assure confidentiality), a 23 years old female tennis player who plays professionally and is ranked around 250 WTA. Four interviews were carried out following a clinical method and were transcribed verbatim. We used direct interpretation to highlight Juliette's subjective history into a case study. This case study describes how previous relationships with significant others (family) can be transferred into a new relationship with coaches, who can be seen as an important figure. Indeed Juliette's desire to play tennis has always been dictated by her mother. She constantly failed her relationships with coaches as her demand could not be fulfilled as she expected a love relationship with her coaches. But she thought she was searching for love but in fact she was looking for somebody who could tell her what to desire in her life. It demonstrates how players may repeat some aspects of relationships with coaches without acknowledging the unconscious process at stake.

**Paper 4. Coaches' Behaviour toward Chinese and German Adolescent Soccer Players**

Xinsheng Wang &amp; Dorothee Alfermann

*Faculty of Sport Science, University of Leipzig, Germany*

Among all of the individual and social factors, coaches' behaviour is considered as one of the most important influencing factor in successful sport career development of athletes. Based on the talent development model of Benjamin Bloom, we investigated coaches who worked with athletes of the developmental phase. The main objectives were 1) to compare the coaches from China and Germany and 2) to analyse the relationship of coaches' behaviour to athletes' skill development. In total, 85 male coaches of adolescent soccer players participated in the study (47 from Germany, 38 from China). They were between 17 and 60 years old ( $M = 41.3$ ;  $SD = 9.8$ ). A German and a Chinese version of the Leadership Scale for Sports (LSS) and the Perceived Motivational Climate Questionnaire (PMCQ) were administered to the coaches. The subscales all show acceptable internal consistency in both languages. The results reveal that Chinese coaches rate themselves as enforcing a considerably higher Performance Climate ( $\eta^2 = 0.48$ ) and giving slightly more Positive Feedback ( $\eta^2 = 0.05$ ) than the German coaches. The relationship to skill development remains spurious. The results are discussed considering the different cultural background of the coaches of both nations.

**Saturday 8/9/2007****17:00-18:20****SYMPOSIUM 40****Recent Developments in Stress and Anxiety Research in Sport**Organizer/ Chair: **David Fletcher**, *University of Essex*Discussant: **Tim Woodman**, *University of Wales, Bangor*

The study of stress and anxiety in sport has been and continues to be a major area of research inquiry in sport psychology (Fletcher, Hanton, & Mellalieu, 2006; Mellalieu, Hanton, & Fletcher, 2006; Woodman & Hardy, 2001). The purpose of this symposium is to provide an update of recent developments in the following areas: the relationship between anxiety and performance; athletes' directional interpretations of anxiety-related symptoms; the frequency of anxious thoughts and feelings preceding competition; and performers' experiences of organizational stress in sport. More specifically, in the first presentation, Davis and Woodman consider the theory of ironic effects and report their research findings examining the predictions of the theory. In the second presentation, Mellalieu, Fletcher and Thomas provide the latest findings from research examining the factors that determine performers' directional interpretations of competitive anxiety. In the third presentation, Thomas, Mellalieu and Fletcher reflect upon the recent revitalization of research examining the frequency with which performers experience symptoms of anxiety. In the fourth presentation, Fletcher, Thomas and Mellalieu discuss recent findings from a research programme investigating stress in organizational contexts. Collectively, these presentations seek to communicate the latest scientific information relating to performers' experiences of stress, their anxiety-related responses, and how such symptoms affect athletic performance. The symposium will close with a general discussion on the issues raised, with a particular focus on how stress researchers can better embrace the diversity of European cultures within their work and promote interdisciplinary approaches that are required to further advance this area of research.

**Paper 1. Recent Developments in the Anxiety-Performance Relationship**

Paul Davis &amp; Tim Woodman

*University of Wales, Bangor*

Recent research has tested a number of theories that describe the anxiety-performance relationship. However, research testing Wegner's (1989) theory of ironic effects has received limited attention in sport psychology (Woodman & Hardy, 2001). In mainstream psychology, the role of coping styles in the incidence of ironic errors has been a focus of research (e.g., Barnier, et al., 2004; Geraerts et al., 2006). Results from a study conducted by Davis and Woodman (2004) in golf revealed a significant interaction between coping style and anxiety conditions, indicating that repressive participants incurred significantly more ironic errors than low and 'truly' high anxious participants. However methodological limitations may have misidentified some random performance error as ironic. In 2006 Davis, Woodman and Friel, examined the influence of time pressure on the incidence of ironic errors, whilst manipulating the size of the target zones to control for random errors. Results revealed a significant interaction between time pressure and target zones, indicating an increase in ironic errors as time pressure increased. However, a significant three-way interaction between time pressure, target zones and size of target zones demonstrated there was not a significant difference

between random error and ironic error when the size of the target zones was controlled for. Contrary to the results of Davis et al., (2006), a similar study conducted by Woodman and Jess (2006) in field hockey supported ironic effects theory. Theoretical and applied implications of research examining the anxiety-performance relationship will be discussed along with considerations for future research.

### **Paper 2. Recent Developments in Anxiety Direction Research**

Stephen D. Mellalieu<sup>1</sup>, David Fletcher<sup>2</sup>, & Owen Thomas<sup>3</sup>

<sup>1</sup>*Swansea University*

<sup>2</sup>*University of Essex*

<sup>3</sup>*University of Wales Institute, Cardiff*

The topic of competitive anxiety has enjoyed a large prominence in the sport psychology literature, and is often cited as one of the most studied areas in the discipline (Biddle, 1997; Jones, 1995; Woodman & Hardy, 2001). A number of reviews have been published that have periodically provided both a comprehensive and contemporary review of the literature (e.g., Hardy, Jones, & Gould, 1996; Jones, 1995; Woodman & Hardy, 2001). Since anxiety is a negative emotion, researchers have historically tended to focus on the potentially negative effects on performance. However, a theme that emerges from some of the reviews (e.g., Jones, 1995; Woodman & Hardy, 2001) is that, under some circumstances, anxiety can have positive consequences in performance environments. Despite acknowledging the importance of the benefits of anxiety in sport, until recently there has been limited focus upon this area (cf. Mellalieu, Hanton, & Fletcher, 2006). Consequently, we aim to explore in greater detail the mechanisms by which such a negative emotional response might have a positive effect on a performer's psychological state and subsequent athletic performance. Specifically, we discuss the recent advances in the study of performers' directional interpretations of symptoms associated with the competitive anxiety response. Here, we discuss the mechanisms underlying the concept of direction, its context in the competitive stress process, and recent findings regarding factors such as self-confidence (Mellalieu, Neil, & Hanton, 2006) and competitive experience (Hanton et al., 2007) that contribute to the positive consequences elite performers derive from their symptom interpretations.

### **Paper 3. Recent Developments in Anxiety Frequency Research**

Owen Thomas<sup>1</sup>, Stephen D. Mellalieu<sup>2</sup>, & David Fletcher<sup>3</sup>

<sup>1</sup>*University of Wales Institute, Cardiff*

<sup>2</sup>*Swansea University*

<sup>3</sup>*University of Essex*

In addition to introducing the notion of direction, Jones (1995) also highlighted the need to consider the dimension of frequency of intrusions. However, unlike the plethora of studies that have investigated direction, research examining the frequency of intrusions has remained relatively sparse. Rationale for the frequency of intrusions dimension focused on Lazarus' (Lazarus & Folkman, 1984; Lazarus, 1999) view that responses to stressors should be considered as products over time in research designs that foster a temporal approach. As such, the dimension was defined as the amount of time athletes spent thinking about, attending to or experiencing symptoms associated with competitive anxiety (Thomas et al., 2004; in press a). The primary author has conducted an ongoing research programme that has supplemented the initial work of Swain and Jones (1993) and indicated that: Frequency of intrusion responses are more sensitive to temporal fluctuations than responses of competitive anxiety intensity during the time preceding competition (Hanton et al., 2004; Thomas et al., 2004) and that athletes with facilitative interpretations of anxiety symptoms show differential frequency of intrusion responses during the time preceding competition than athletes with debilitating interpretations (Thomas et al., 2004, in press a). This symposium session will summarise these findings and provide an insight into the authors' ongoing work regarding intervention effects (Thomas et al., in press a, b), the problematic rhetoric associated with Swain and Jones' (1993) original conceptualisation of frequency of "intrusions", and consider issues of measurement accuracy between competitive anxiety responses of intensity versus frequency of intrusions.

### **Paper 4. Recent Developments in Organizational Stress Research**

David Fletcher<sup>1</sup>, Owen Thomas<sup>2</sup>, & Stephen D. Mellalieu<sup>3</sup>

<sup>1</sup>*University of Essex*

<sup>2</sup>*University of Wales Institute, Cardiff*

<sup>3</sup>*Swansea University*

Research examining organizational stress in competitive sport has gathered momentum over the past few years. Following a number of initial calls for investigation (viz. Hardy & Jones, 1994; Hardy, Jones, & Gould,

1996; Jones, 1995), Woodman and Hardy (2001) conducted the first study specifically designed to explore this emerging area of sport psychology. Their work, together with Fletcher and Hanton's (2003; Hanton, Fletcher, & Coughlan, 2005), helped identify a range of environmental demands encountered by elite performers operating within sport organizations. Most recently, reflection and consolidation has occurred in papers that reviewed the literature on organizational stress in the fields of mainstream and sport psychology (see Fletcher, Hanton, & Mellalieu, 2006; Hanton & Fletcher, 2005). This presentation provides an update on organizational stress research developments since the publication of these papers. The first line of inquiry has focused on the development of a conceptual framework of organizational stressors that also incorporates the experiences of nonelite performers (Fletcher, Hanton, Mellalieu, & Neil, 2007). Other studies have emphasized the importance of distinguishing between subjective and objective stressors in organizational contexts (Fletcher & Hanton, 2007a) and identified the range of emotions that performers experience and express in response to such demands (Fletcher & Hanton, 2007b; Fletcher, Hanton, & Wagstaff, 2007). This growing body of work has established that organizational stress is a phenomenon not limited to business, medical and educational settings, but is also highly relevant in athletes' preparation for and performance in competitions.

## SYMPOSIUM 41

### Team and group development – a relational perspective

Organizer/ Chair: **Taru Lintunen & Reinhard Stelter**, *Department of Physical Education, University of Jyväskylä*

Discussant: **Reinhard Stelter**, *Department of Exercise and Sport Sciences, University of Copenhagen*

Traditionally, team development is seen from a perspective, where the individual is the pivotal point and source towards change, which is not the best and most far-seeing approach towards team development. A relational focus on what happens *between* people, on how people shape their social reality together. The point of departure is a theoretical lecture that describes the change from an ego-centered towards a socio-centered perspective. Other papers of this symposium are examples of empirical studies with socio-centered perspective.

#### **Paper 1. A relational perspective toward teams and groups – a theoretical outline**

Reinhard Stelter

*Department of Exercise and Sport Sciences, University of Copenhagen*

A new and different approach towards the understanding of team development and group formation processes will be presented – an understanding that is oriented towards community building and team or group resources. While traditional conceptions of how a team is built are often based on the individual and his/her attempt to become part of the group, the new so-called socio-centered approaches are based on common practice, social negotiation, situated learning, social discourses and narratives as factors that develop social communities without being preoccupied with the individual's standpoint in the group at the same time. The aim here is to enlarge the framework of the more classical and individual oriented approaches towards team development (e.g. role theory) and supplement with the *socio-centered* perspective in which the individual is always seen embedded in the social and cultural realm, and where orientation toward action, immediate involvement in tasks, common practice and the co-creation of meaning as an integration of practice and speech acts are the focal points in understanding group processes and team development. The theoretical basis builds on an integration of a community-oriented position (Wenger, 1998) with a social constructionist and narrative approach (White, 1990) to understanding and interpreting group dynamics and team development.

#### **Paper 2. A case study of taking responsibility in an ice hockey team**

Olli Salmi<sup>1,2</sup>, Esa Rovio<sup>3</sup>, & Taru Lintunen<sup>1</sup>

<sup>1</sup>*University of Jyväskylä, Faculty of Sport and Health Sciences, Jyväskylä, Finland* <sup>2</sup>*LIKES Research Center, Jyväskylä, Finland*

<sup>3</sup>*Finnish Society of Sport Sciences*

The aim of this study was to demonstrate, through one case, attributional retraining in developing group dynamics. The participants were 16–18-year-old members of a junior league ice hockey team, consisting of 24 players and four coaches. The principal researcher of this study was also the head coach of the ice hockey team in this qualitative case and ethnographic study. The data was derived from observations made by the

principal researcher. One of the main themes produced by abductive analysis was attributional retraining. In the beginning of the season the players behaved passively. In addition, they often pretended to agree with others even if they had different opinion. The group was characterised by dependency. Performance was not at the optimal level. The players attributed their poor performance to the causes one cannot control, such as mood, others' actions and luck. The coaches started attributional retraining by asking the players to reconsider the explanations from the point of view of self-control. This helped and the players started to realise that there are factors that they are directly responsible for. In addition, they began to work out problems, like psychological safety. The group reached ability to better co-operation. This study showed that attributional retraining helped to create positive group development. The dependent decision-making developed into the autonomous group work. Players started to perceive themselves as the initiators of their own actions.

### **Paper 3. Talent development environment in sport: An explorative case study based on the system's theory framework**

Kristoffer Henriksen<sup>1</sup>, Kirsten Kaya Roessler<sup>2</sup>, & Natalia Stambulova<sup>3</sup>

<sup>1</sup>*University of Southern Denmark*

<sup>2</sup>*University of Southern Denmark*

<sup>3</sup>*Halmstad University, Sweden*

This paper aims at presenting a holistic description of environmental conditions and psychosocial competencies associated with successful talent development in sport. Most of the research conducted on psychological aspects of athletic talent development has been retrospective and accepted an athlete-centred approach (Bloom, 1985; Ericsson, 1996; see Durand-Bush & Salmela, 2001 for review) This study shifts its focus from an individual athlete to all kinds of psychosocial environmental conditions working as resources and/or barriers for the athletic talent development. The system's theory (Patton & McMahon, 2006) is used as a theoretical framework for this multi-case study. It emphasizes the wholeness of intra-individual and contextual influences on a person and interrelations between these influences. A talented athlete is seen as fully embedded into this context. The project is supposed to compare four athletic environments (sport clubs in Denmark and Sweden) renowned for successful athletic talent development. This paper will focus on the results of the first case study where the research methodology is going to be tested. The study has a qualitative and explorative nature seeking to develop and refine hypothesis on optimal talent development environments. Methods of data collection include interviewing of club administrators, coaches, young prospect athletes, their parents, and also observations of daily life in the environments to obtain systematic and detailed knowledge of athletic talent development as it occurs in the real world.

### **Paper 4. How do they do it – the building of team in sport and elsewhere? Results from a research**

Anders Halling

*Department of Sports and Biomechanics, University of Southern Denmark*

Community building or team development is a common thing in almost all team sports at a certain level. In order to learn from this practical work around the team we asked 8 top-elite Scandinavian coaches about their teamwork in Soccer, Team handball and Volleyball. The coaches were very experienced and they have all themselves been playing the ballgame before being coaches. Beside that none of them had any specific education into developing team. The results of interviews showed that the coaches agreed on 5 theses about team development: As an outset there must be a certain team system or playing philosophy in which the players believe, accept and find their position. The coaches stress this very strongly and many of have a sort of religious feeling about this. Secondly every player needs to have a personal goal to achieve and these goals should be surrounded by a team goal. Thirdly the focus is on establishing a common practise or a social code within the team. This is about constructing a team community including values, social climate in and around the team and handling of conflicts. The fourth element – developing a natural hierarchy in the team - is in close connection with the former. The main point is to grab the paradox of having a well-defined role in the team and on the other hand developing a dynamic hierarchy. The fifth element is to create a learning environment within the team where all members at different positions can prosper from being in the team and attribute to it. At the end it seems that developing teams is all about creating meaning together – and hereby also manage to win games.



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# **ORAL PRESENTATIONS ABSTRACTS**



**Tuesday 4/9/2007****14:00-15:20****SESSION 1. Issues in sport psychology I**

Chair: Marit Sørensen

**Paper 1. "Three System Approach" - the relationship of diagnostic instruments measurements on different levels**

Thomas Finkenzeller\* &amp; Günter Amesberger

*\*Department of Sport Science, Sport Psychology, University of Salzburg*

Psychological assessment is a central component of applied sport psychology (Taylor & Wilson, 2005). Questionnaires, performance and stress tests assessing physiological reactions usually are applied separately. Nevertheless the three-system approach promotes the integration of physiological data with verbal reports and overt behaviour (Hugdahl, 1995). There is evidence of convergent validity between psychophysiology and mood states from previous research (Thayer, 1970; Matthews et al., 1990). However, little is known about the relationship between physiological reactivity, performance and mental skills assessed by a questionnaire. The aim of this exploratory study was to investigate whether subjective and behavioural variables related to physiological responses. A range of psychophysiological data was collected (EEG, ECG, EMG, skin conductance level (SCL), respiratory rate, skin temperature) and correlated on the one hand with a mental skills questionnaire and on the other hand with performance data obtained by a reaction, attention and perception test. The results revealed positive and negative correlations up to 0.5 probability level that are partially in close relationship with sport psychology concepts. Multivariate statistics will be reported. In terms of further validation, group differences between athletes on different levels will be discussed.

**Paper 2. What contributes to empowerment for boys and girls within the sport context?**Marit Sørensen, Glyn C. Roberts, Kari Fasting, Blake W. Miller, Yngvar Ommundsen, & Mari Kristin Sisjord  
*The Norwegian School of Sport Sciences, Norway*

Empowerment is the process by which individuals develop skills and abilities to gain control over their lives and to take action to improve their life situation. In an empowerment perspective the concern is to facilitate and free resources to develop self-corrective capacities (Rappaport, 1987). Organized youth sport may be one context in which young people's empowerment may be fuelled. The relationship between the perception of autonomy support by the coach, achievement goal orientations, perceived ability in sport, friend companionship, perceived peer acceptance, and affect early in the season and the perception of empowerment through the sport context late in the season were measured by questionnaires. Participants in the study were 1,294 male (n = 787) and female (n = 507) members of youth sport clubs in the Oslo area of Norway. Regression analyses revealed that for the girls, positive affect and autonomy support from the coach were the strongest predictors of empowerment, but also perceived ability, task orientation and peer acceptance contributed to explain 24% of the variation in empowerment. For the boys, autonomy support was the strongest predictor. Perceived autonomy support from the coach together with task orientation, peer acceptance, ego orientation and perceived ability explained 28% of the variance in empowerment among boys. The findings demonstrate different relationships between the contextual influences and psychological outcomes among boys and girls, nevertheless revealing that autonomy support seems important in order to stimulate a sense of empowerment for both genders.

**Paper 3. The Role of psychological dimensions on athletic performance**

Sophia Kalamara\* &amp; Ioannis Tsaousis

*\*University of Aegean, Rhodes, Crece*

The aim of the present study was the investigation of the role that psychological variables play on the athletic performance. Particularly, we were interested in investigating whether personality dimensions (i.e. extraversion, openness to experiences, agreeableness, conscientiousness, and neuroticism), emotional intelligence (i.e. expression & perception of emotions, use of emotions, understanding of emotions, and control of emotions), and the core self-evaluations construct, affect and to what extent athletic performance. A total of 223 Greek track-en-field athletes (103 men, 120 women) from 20 different sport evens participated in this study. The sample was drawn via random sampling and was based on census research (of 1660 individuals). We used 176 levels (strata) ensuring 88% representativeness and 100% participation of the 27 regional Greek Athletic Unions with the 126 bigger athletics associations taken

part to this research project. In order to overcome the problem of the different metric system that it is used by each event, we developed a common metric system based on the national record for each event. The results revealed that the "Use of Emotions" and the "Core Self-evaluations" constructs are the best predictors of athletic performance, explaining approximately 10 % of the explained variance. These two psychological constructs were also found to be differentiated according to the athletic status (currently competitive athletes, athletes in temporary competitive pause, and athletes in permanent competitive pause) of the athlete. Further analysis showed that specific personality variables such as Neuroticism, affect athletic performance at different age groups. In particular, young athletes (17-19) high on Neuroticism had lower athletic performance contrary to the mature athletes (> 24 years) who were also high on Neuroticism. Finally, it was found that women were less represented in all athletic categories, and that they were retiring earlier than their men counterparts (by 13 years). The findings will be discussed in the context of the importance of psychology on athletics, while implications for trainers as well as athletics researchers will be discussed.

#### **Paper 4. Cognitive appraisal and characteristics of elite athletes for intensive training**

Yan Feng

*Physical Education College of Zheng-zhou University, Zheng-zhou city, China*

Cognitive psychology suggests that cognitive appraisal causes to an individual to either experience stress or not. However, What constitutes elite athletes' cognitive appraisal during intensive training? What is the characteristic? Which aspects are supplied for basis about the characteristics? The paper studied these problems. A total of 101 elite athletes who were promoted to the national grade 1, participated in this study (56 males and 65 females). Among them were 61 fitness and 40 skilled athletes. A twenty-item statement test was used. The procedure included: (1) answering the questionnaire, (2) coding and grade, and (3) data processing. The results indicated the features of cognitive appraisal and characteristics of elite athletes' for intensive training. Athletes participating in conditioning games exhibit greater tendency for positive appraisal than those participating in skilled games. Furthermore, male athletes exhibit greater tendency for positive appraisal than female ones. Cognitive appraisal and characteristics of elite athletes indicate what they wrote extensively in meaning assessment. The emotion assessment reflects their self-contradictory mental state, since they recognize the importance but are also frightened and even dislike it. Some athletes think intensive training is the main reason for injury and sickness. Some athletes dislike intensive training but feel they are helpless and compelled to participate. Fitness athletes seem to have greater tendency to positive assessment than skilling athletes. There is significant distinction based on gender; male athletes seem to have greater tendency to positive assessment than female athletes

**Tuesday: 4/9/2007: 14:00-15:20**

#### **SESSION 2. Exercise Psychology**

Chair: Symeon P. Vlachopoulos

#### **Paper 1. Change of strategy in random number generation induced by an acute bout of aerobic exercise**

Audiffren, M.\*, Tomporowski, P., & Zagrodnik, J.

*\*Sport Sciences Faculty, University of Poitiers, France*

It is now clearly established that acute bouts of moderate aerobic steady-state exercise, performed for periods of up to 60 minutes, facilitate information processing (Tomporowski, 2003; for a review). In spite of this consensus, the nature of the cognitive processes facilitated by exercise remains to be addressed. The purpose of this study was to determine if a 35 min exercise at an intensity of 90% of the participants' ventilatory threshold facilitates specific executive processes. The Random Number Generation (RNG) test was selected as cognitive task because (a) it has been associated with executive control (Baddeley, 1996), (b) it taps two components of the executive functions (Miyake et al., 2000), "Inhibiting" and "Updating of working memory", and (c) it provides several indexes of performance allowing to separate these two functions (Towse & Neil, 1998). Sixteen young adult volunteers, recruited through classes in the Department of Kinesiology of the University of Georgia, participated in this experiment. Each participant completed 3 sessions: (1) a practice session, (2) an exercise session, and (3) a rest session. During the exercise session, they performed the RNG test nine times: one time before, five times during, and 3 times after exercise. The rest session was conducted using the same protocol, with the exception that participants sat on the cycle ergometer but did not exercise. Rest and exercise

sessions were counterbalanced across participants. Results showed that only “Inhibiting” indexes are affected by exercise and suggested that participants chose an easier strategy during exercise by comparison to rest.

**Paper 2. The effects of moderate and vigorous intensity exercise on desire to smoke, withdrawal symptoms and mood in abstaining young adult smokers**

Emma S. Everson\*, Amanda J. Daley, & Michael Ussher

*\*University of Exeter, UK*

Previous research has reported reductions in desire to smoke and tobacco withdrawal symptoms following exercise; however, no research has been conducted among younger smokers, who are an intervention priority, and studies have thus far failed to consider whether the dose of exercise influences the potential for exercise to reduce cigarette cravings. The present study investigated the effects of short bouts of moderate and vigorous intensity exercise on strength of desire to smoke, withdrawal symptoms and mood in temporarily abstinent young adult smokers. Following overnight abstinence from smoking, 45 regular smokers aged 18-25 years were assigned to 10 min of either (i) moderate intensity cycle ergometry ( $n = 15$ ), (ii), vigorous intensity cycle ergometry ( $n = 15$ ), or (iii) passive waiting. A single strength of desire to smoke item, the Mood and Physical Symptoms Scale (MPSS), and the Subjective Exercise Experiences Scale (SEES) were administered at baseline, 5 min during, 5 min after and 30 min after all conditions. Both moderate and vigorous intensity exercise were beneficial in alleviating the desire to smoke, but only moderate intensity exercise appeared to reduce withdrawal symptoms and improve mood during exercise. Vigorous intensity exercise was associated with adverse mood outcomes. Thus, moderate intensity exercise appears to be preferential for young adult smokers, however further studies are needed to test this supposition in more detail.

**Paper 3. Factor structure and external validity of the translated exercise identity scale among Greek individuals**

Symeon P. Vlachopoulos\*, Maria Kaperoni, Frederiki Moustaka, & Dean Anderson

*\*Aristotle University Of Thessaloniki, Department Of Physical Education And Sport Science At Serres, Greece*

The Exercise Identity Scale (EIS: Anderson & Cychosz, 1994) was developed to measure the salience of a person's identification with exercise as an integral part of the concept of self. The present study reported on the evaluation of the psychometric properties of the translated EIS based on responses obtained from 647 Greek individuals, of whom 324 were obtained within fitness centers and 323 outside fitness centers. To analyze the data, confirmatory factor analysis was used to test for the hypothesized single-factor structure of responses derived from the translated scale using EQS for windows. All factor loadings were freely estimated, the factor variance was fixed to unity, and the item residual covariances were fixed to zero. The criteria used to assess model fit were the chi-square statistic ( $X^2$ ), the Non-normed Fit Index, the Comparative Fit Index, the Root Mean Squared Error of Approximation and its accompanying RMSEA 90% CI. The overall fit indexes indicated a good fit of the model to the data:  $X^2 = 189.44$ ,  $df = 27$ ,  $p < .001$ , NNFI = .949, CFI = .962, RMSEA = .097, 90% CI = .084 - .110. Item loadings ranged between .731 and .849 whereas the Cronbach's alpha was .94. Further, exercise identity was positively and significantly correlated with attitude toward exercise, exercise enjoyment, exercise self-efficacy, and exercise intention among exercise participants. Overall, the data supported select psychometric properties of the translated EIS into Greek.

**Paper 4. “Effect of the disconnected values model on wellness program outcomes: The role of applied exercise psychology”**

Mark H. Anshel

*Middle Tennessee State University, Tennessee, USA*

One component of applied exercise psychology is examining the effect of cognitive-behavioral interventions on improving fitness and other selected measures of health. Sadly, most interventions have been less than successful in promoting exercise adherence and developing healthy habits. New approaches are needed to overcome the limitations of selected models and theories on which many interventions are based. The purpose of this “action” study – a research method that does not include a control group, and relies on pre-post intervention comparisons - was to examine the efficacy of a new intervention - the Disconnected Values Model (DVM) - on selected measures of fitness, blood lipids (reflecting changes in eating patterns), and exercise adherence. The primary focus of the DVM is to identify disconnects between a person's unhealthy habits (e.g., lack of exercise) and his or her values (e.g., family, health, faith, job performance), then to develop a self-regulation action plan that replaces poor habits with “positive” (healthy) routines. Full-time male ( $n = 39$ ) and

female ( $n = 64$ ) faculty and staff ( $N = 103$ ) from a university in the southeastern U.S. participated in a 10-week intervention that was intended to improve eating patterns and maintain a pattern of regular exercise. Results indicated significant improvements on all five measures of fitness, and on four of five lipids values (all  $p$ 's  $< .001$ ). Exercise adherence reached 83% for cardiovascular exercise and 74% for strength conditioning. The current results have implications for sport psychology consultants who may use the DVM in exercise settings in promoting effective wellness programs.

**Paper 5. Motivational preferences in recreational skiing among the young and the elderly**

Małgorzata Walczak

*University School of Physical Education, Psychology Department, Poland*

The study attempted to examine selected aspects of motivation of young and elderly people for participating in recreational skiing activities (Hirvensalo et al. 1998, Winiarski 1995). The aim of the research was to establish a hierarchy of motives for selection of skiing as a form of active leisure by young and elderly people. Recreational skiing is commonly regarded as a "sport for life" (Ekkehart U. 2000); however, motives for undertaking it differ and can be modified to a large extent depending on one's period of life. The study was carried out on a group of young ( $n = 60$ ;  $x = 20$  years of age) and a group of elderly participants ( $n = 64$ ;  $x = 57$  years of age). A standardized questionnaire of motivation (Winiarski 1991) was applied in the study, concerning the following categories: activity-oriented, cathartic, health-related, emotional, social, ambitious and cognitive. It was assumed that motivational preferences were being reevaluated with age, and the knowledge of these processes could constitute a useful basis for appropriate adjustment of programs of recreational motor activity for the young and the elderly in order to make them develop a sense of much better life quality (Lindner & Kerr, 2000). The preliminary results showed that motivational dispositions of the young people to undertake recreational skiing activities are, first of all, social and emotional, followed by cognitive and ambitious. The leading motives among the elderly are activity-oriented and social and – to a smaller extent – cathartic and cognitive (Walczak 2003).

**Tuesday 4/9/2007**

**14:00-15:20**

**SESSION 3. Measuring and predicting physical activity and related outcomes**

Chair: Maria Hasandra

**Paper 1. Validation of a training diary for measuring youth physical activity**

Jenny Isberg

*Department of Health Sciences, Örebro University, Sweden*

One of the pressing questions in studies of physical activity among youngsters is whether it is possible to develop psychometrically sound instruments to tap youngsters' physical activities in their every day life. Diaries seem to be applicable for that purpose and they are used in many different areas and designs. One of the problems of using diaries or self-reported measures among younger people is that they tend to show low reliability and unknown validity (Bratteby, Sandhagen, Fan, & Samuelson, 1997, Baranowski, 1988, & Treuth, Sherwood, Baranowski, Butte, Jacobs, McClanahan, Gao, Rochon, Zhou, Robinson, Pruitt, Haskell, & Obarzanek, 2004). The purpose of the present study was to report on the validity of a diary method where youths wrote down their planned physical activity, physical activity actually undertaken, their feelings, and their reflections. The diary also contained a heading for their teacher's feedback and reflections. Comparisons were made between the diary and an already validated instrument to tap physical activity. At the same time as the participants wrote in the diary they wore an accelerometer (activity monitor), RT3. The question was if this type of training diary can be considered an acceptable instrument to measure students' physical activity. The sample constituted of 63 gymnasium students (16-20 years old), 31 girls and 32 boys. The associations between the accelerometer counts and the activities that the student wrote in the diary were high, all above  $r=.94$ . The conclusion is that self-report measures can be used in a valid way to tap the physical activity of young people.

**Paper 2. Exercise motivation and subjective well-being: A study with the self-determination theory**

Palmeira A.\*, Teixeira P., Silva M., Martins S., Nunes P., Pinto C., Pombo R., &amp; Krug P.

*\*Universidade Lusófona de Humanidades e Tecnologias, Lisboa, Portugal*

Regular exercise is consistently associated with improved subjective well-being (SWB), but are these psychological benefits similar in individuals with different exercise motivations? We analyzed the association between motivational constructs from Self-Determination Theory (SDT) and SWB, adjusting for weekly exercise participation. The sample included a convenient sample of 715 subjects (458 women, 27.3±9.0 years). Self-report questionnaires were used to collect: a) exercise level (assessed with one single item); b) depressive symptoms, anxiety, and stress (DASS, Lovibond & Lovibond, 1995); and c) exercise motivation (BREQ-2, Markland et al, 2004). Internal consistency ranged from .65 <  $\alpha$  < .88. Subjects were grouped in sedentary (19.5%), insufficiently (34.2%, 1-2/w), sufficiently (41.6%, 3-6/w) and extremely active (4.8%, >6/w). The sufficiently active group had lower levels of amotivation, depressive symptoms, stress and anxiety, and higher values of self-regulated exercise motivation types (all  $p$ 's < .05), comparing with the sedentary group. To predict SWB variables hierarchical multiple regression was used, forcing exercise frequency in the first step and SDT variables in the second step (stepwise). All models were significant: stress was predicted by 7.1% (introjected,  $sr^2 = 6.6\%$ ); 12.7% for depression (introjected  $sr^2 = 7.1\%$  and amotivation  $sr^2 = 4.4\%$ ); and 15.0% for anxiety (introjected  $sr^2 = 6.3\%$ , amotivation  $sr^2 = 2.1\%$  and external  $sr^2 = 0.8\%$ ). Results show exercise motivation is associated with SWB, independent of exercise level. Thus, they support SDT assertions regarding the importance of self-regulated motivation as nurturing more positive consequences in the physical and mental health domain. Assuring that people take on physical activity that they can self-regulate in an autonomous fashion may be a key factor for psychological well-being.

**Paper 3. What motivates adults to participate in leisure physical activity?**

Sami Kalaja\* &amp; Jarmo Liukkonen

*\*Department of Sport Sciences, University of Jyväskylä, Finland*

Sedentary lifestyle is a serious health problem. Thus, there is a need to increase knowledge about participation motivation in adult population. The aim of the study was to analyze reasons for participation in private fitness clubs. The participants were 764 club members in Finland. The Recreational Exercise Motivation Measure [1] was used. Four dimensions with seven sub-dimensions were revealed. "Intrinsic motivation" consisted of sub-dimensions of enjoyment and task orientation, "Social motivation" consisted of social relatedness and ego orientation, "Body-Mind wellbeing" consisted of appearance, mental wellbeing and physical wellbeing sub-dimensions. "Others' expectations" was an independent dimension. The highest motivation scores were for physical fitness and enjoyment. The lowest scores were in ego-orientation and others' expectations. Females scored higher than males in enjoyment ( $p = .000$ ), physical fitness ( $p = .007$ ), and mental wellbeing ( $p = .003$ ). Males scored higher in ego-orientation ( $p = .000$ ). Age correlated positively with psychological ( $p < .05$ ) and physical wellbeing ( $p < .01$ ) as well as with others' expectations ( $p < .01$ ), whereas it had a negative association with appearance ( $p < .01$ ). Self-assessed prediction of future participation after five years correlated positively with motivational variables of enjoyment ( $p < .01$ ), mental wellbeing ( $p < .01$ ), and physical wellbeing ( $p < .01$ ). The level of physical fitness correlated positively with enjoyment ( $p < .01$ ), task orientation ( $p < .01$ ), and social relatedness ( $p < .01$ ).

**Paper 4. A study of development and associations of health, physical activity and positive emotional and behavioural factors in a rural Mid-Norwegian adolescent population in 1996, 2001, and 2006; Findings in the 2006 data collection**

Geir Arild Espnes\*, Unni Karin Moksnes, &amp; Jan Erik Ingebrigtsen

*\*Psychosomatic research group from the Norwegian University of Science and Technology, Department of Social Work and health Science and The Sør-Trøndelag University College, Department of Nursing, Norway*

For many years the health issues connected to physical training, physical activity and physical exercise were dominated by research on its effect on development or treatment of, or rehabilitation after disease, illness or ailments. It seems that recent research is in transition. Because, even if there has been an interest in sport psychology for health protective factors for years, there has now also become a growing interest in general and health psychology for research on positive health determinants. The present study is part of a large data collection in 1996, 2001 and 2006 on health issues (psychological, physiological and exercise) in an adolescent population ( $n = \text{app } 2,500$ ) in junior and senior high schools (aged between 12-20) in Mid-Norway. This

presentation contains results from the 2006 data collection with a total of 1,863 adolescents participating in the study. Mean age for the total group was 14.5 years ( $SD = 1.82$ ). The mean age for the boys and the girls were respectively 14.4 years ( $SD = 1.7$ ) and 14.6 years ( $SD = 1.89$ ). The results contains analyses of associations and difference between age groups and sex on psychological (emotional and behavioural) factors considered to be associated with positive health development (humour, social network, positive self-image, coherence with family, feeling of happiness), physical exercise/physical activity and the adolescents own perceived health. Preliminary analysis shows a strong correlation between perceived health and physical exercise for boys and girls respectively ( $r = .40, p < .001$  and  $r = .38, p < .001$ ). When analyzing incidence of ailments symptoms and associations with physical training, a weak, but significant negative association was found. There is a low but significant positive correlation between perceived health and positive self image. When analyzing social support and social network we found an unexpected negative association with perceived health, the main negative component stemming from the connection with the family. This needs to be further analyzed. As expected, when analyzing the association between happiness and perceived health, a significant, positive association was found. When controlling this with a symptoms incidence index, the same pattern emerged. The less happy exhibit the more symptoms of ailments. As obvious from above, the data supports an overall, positive impact from emotional and behavioral factors on perceived health and a symptoms index.

#### **Paper 5. Who is more sedentary in East Europe?**

Istvan Soos\*, Stuart Biddle, Pal Hamar, Iosif Sandor, Jaromir Simonek, Istvan Karsai

\**University of Sunderland, UK*

Limited data is available of East European Youngsters' sedentary behaviours. All Hungary, Romania and Slovakia joined the EU, however the cultural, and socioeconomic status (SES) differences still exist in people's lifestyle, which influence the health and quality of life (Dolmann et al, 2005). In this study, cultural differences and SES differences were investigated in sedentary behaviours' in young people. Ecological momentary assessment, a free time diary was employed for data collection ( $n=623$ ) amongst 13-18 year old students. A three-way mixed ANOVA was used for analysis  $2 \times 3 \times 3$  (type of behaviour\*SES\*country). In the within subject analysis, the main effect of behaviour was significant ( $F_{(1,559)}=804.370, p=0.001$ ). The behaviour by SES interaction was significant ( $F_{(2,559)}=3.479, p=0.032$ ), and the behaviour by country interaction was significant ( $F_{(2,559)}=5.532, p=0.004$ ). In the between subject analysis, the main effect of SES was not significant ( $F_{(2,559)}=0.474, p=0.623$ ), the main effect of country was significant ( $F_{(2,559)}=15.185, p=0.001$ ), however the SES by country interaction was not significant ( $F_{(4,559)}=2.201, p=0.068$ ). Slovakian students spent significantly more time with both sedentary pursuits and physical activity, than Hungarian and Romanian counterparts. It doesn't show SES differences, but cultural differences. It is also concluded that sedentary behaviours don't compete with physical activity in youth. However, further investigation is needed to reveal the time trends, as well as age and gender differences.

**Tuesday 4/9/2007**

**15:30-16:50**

#### **SESSION 4. Performance Enhancement**

Chair: Antonis Hatzigeorgiadis

#### **Paper 1. The effects of a PST program on performance of Iranian female shooters**

Shamsi Sanati Monfared

*Iranian Research Institute for P.E and Sport Science, Tehran- Iran*

The choice of the best psychological skill training (PST) regimen with the greatest effects on performance enhancement has long been questioned by those involved in competitive sport (Ahshell & Payne, 2006). The variety of instruments continues to grow as the field develops. In this study, a PST package including goal setting, relaxation, imagery, concentration, positive self-talk and self-confidence was used over a six-week period. Subjects were 12 elite women shooters from Tehran, aged between 16 to 22 years and selected based on their performance achievements. Results showed significant improvement in shooters' performance due to these interventions ( $\alpha = 5\%, p = .017$ ). Qualitative analyses of the athletes' perceptions and further interviews also supported their improvements in their psychological skill levels. A key point in adopting this PST program was its ability to be easily taught and practiced. There was also the introduction of NLP training in the PST program and because of its simplicity and the rapid changes it provoked, the participants were receptive. It can generally be concluded that using a PST program including relaxation, imagery, concentration, goal setting,

self-confidence and positive self talk over six weeks resulted in positive results on the performance of the Iranian women shooters.

**Paper 2. Effectiveness of a self-talk intervention program on free-throwing performance in wheel-chair basketball players**

Thomas Harmpalis, Antonis Hatzigeorgiadis, & Yannis Theodorakis

*University of Thessaly, Greece*

The purpose of the present study was to examine the effectiveness of a self-talk intervention program on free-throw shooting in male wheel-chair basketball players. Athletes from two first-division teams participated in the study; one team served as the intervention team ( $n = 10$ ) and the other as control team ( $n = 10$ ). Before the onset of the interventions free throwing performance was assessed for the two teams. The intervention lasted two weeks. During this period both teams practiced free throws at the end of their training (three times per week – 4 sets of 5 throws). The intervention team's practice included self-talk, whereas the control teams' practice did not. After the conclusion of the intervention free throwing performance was tested again for the two teams. Independent samples t-test revealed that there were no performance differences between the two teams for the pre-intervention assessment,  $t(18) = -.05, p = .96$ . Two-way (time x team) mixed model ANOVA was calculated to test for difference in performance changes between the pre- and post-intervention performance for the two teams. The results revealed a significant time x team interaction,  $F(1, 18) = 8.05, p < .05$ . Paired samples t-tests revealed that performance of the control team remained unchanged,  $t(9) = 0.49, p = .64$ , while performance of the intervention team improved significantly,  $t(9) = -3.30, p < .01$ . The results suggest that self-talk can be an effective intervention strategy for enhancing free-throwing performance in experienced male wheel-chair basketball players.

**Paper 3. The road to Fuji: Reflections of a 'novice' sport psychologist**

Menelaos G. Siafakas

*Bell College, Scotland*

There seems to be a lack of defined pathways that assist in the development of sports psychology practitioners. There is also considerable debate on the role of counseling skills training within that development. This presentation will examine a sport psychology program delivered to the Netball Scotland's National Squad during their preparation year towards the rescheduled World Championships in New Zealand. The focus of the presentation will be on a) the use of counseling skills: core conditions, listening skills, and in specific the relevance of Yalom's therapeutic factors to group sport psychology programs b) the importance of working with the coach, not just the squad, and c) an account of the lessons learnt from this experience. The presentation will describe the content of the sessions with the squad and examine the particular issues of working with a national squad. The effectiveness of the interim program will then be examined by the use of self-reflection, feedback from the team, feedback from the coach, as well as pre- and post- program questionnaires. Suggestions will be made in terms of the practical implications of this experience. Also, specific suggestions will be made in terms of the development of sport psychology practitioners and the role counseling/therapy training has to play in that process.

**Paper 4. Five steps of interactive teaching**

Indira Mandzuka

*Faculty of Sports and Physical Education, University of Sarajevo*

As comparative method of teaching/learning in process of transition 5 steps of interactive teaching is used as simplest way of achieving good results immediately. Starting from comparative theories of learning of one student to feedback that comes right away as indicator for teacher/coach of his/her quality of work. That includes perceptual, behavioral skills as part of psychology needed as precondition for athletes. This lecture explains role of neurolinguistic approach, attending skills, transition process, synergy of basic human needs, energies and communications as a key role in process of building mature athlete.



**Tuesday 4/9/2007****15:30-16:50****SESSION 5. Health – related correlates of physical activity**

Chair: Michele Crossley

**Paper 1. The connection between stress and physical activity in an adolescent population in Norway**

Unni Karin Moksnes\* &amp; Geir Arild Espnes

*\*Sør Trøndelag University College, School of Nursing, Norway*

Physical activity has been widely recognised to have a stress lowering effect on individuals (eg. Kouvonen et al. 2005). Physical activity has been shown to have effect on symptoms of high stress levels like high systolic blood pressure and hypertension, also in young boys (Guerra et al. 2002), and high rest heart rate. Most of this knowledge stems from symptom treatment of adult male populations. This knowledge has also been transferred to populations of females and young people. The effect on stress from physical training to these groups are more uncertain, since there is not a large body of evidence to draw on, and for females it has been shown through the last years that causes for stress and the mechanisms for stress release is less understood, and certainly not the same as for males (e.g. Taylor et al. 2000). In present research the stress and physical activity levels in a rural adolescent population (age 12-20 years) were investigated to scrutinize eventual associations. To reveal stress levels in the adolescent population the international Australian Adolescent Stress Questionnaire (ASQ) (Byrne, Davenport, Mazanov 2006) has been employed. The scale has been validated for use in Norwegian populations. The level and type of physical activity is part of a ten year follow up study, the Rural Youth Study (eg. Hendry et al. 2003). The data collection process ended in December 2006. The paper will present results from the study on possible associations between stress levels and physical activity in this adolescent population. A total of 1,863 adolescents participated in the study. Mean age for the total group was 14.5 years ( $SD = 1.82$ ). The mean age for the boys and the girls were respectively 14.4 years ( $SD = 1.7$ ) and 14.6 years ( $SD = 1.89$ ). The preliminary analysis shows a significant difference between boys and girls in how often they are participating in physical training, with boys training more than girls. The stress instrument identified eight different stress factors among the adolescents (stress of teacher interaction, stress of school environment, stress of home situation/parents, stress of school/leisure conflict, stress of romantic relationships, stress of financial pressure, stress of peer pressure, stress of future uncertainty). In all eight factors females reported higher level of stress than boys. There is a significant negative correlation between level of physical training and stress level in both males and females. This may support a hypothesis of a stress lowering effect from physical activity in the adolescent group.

**Paper 2. Correlates of physical activity and health benefits in young Norwegian children**

Ingunn Fjørtoft\* &amp; Kari Aasen Gundersen

*\*Telemark University College, Faculty of Arts, Folk Culture and Teacher Education, Norway*

Being outdoors is the strongest correlate of physical activity in preschool children. Given the opportunity, children have a natural drive to be active and play freely. Physical activity is the number one remedy for a healthy lifestyle throughout the lifespan and giving children healthy habits in early years certainly will give a positive pay off in adulthood. Studies on Norwegian children in free play and physical activity in outdoor environments have proved positive correlates to several life style related health benefits. In one study eighty school children were followed closely from grade 1 (6 years old) to grade 4 (9 years old) in order to describe children's everyday life that promote physical activity, and to study possible consequences of physical activity for children's development. Another study described intervention effects from playing in different outdoor environments on 6 year old children's play behaviour and the effects on physical activity levels and motor development. Methods applied were motor fitness testing (KTK and EUROFIT) activity monitoring by accelerometers (CSA), heart rate monitoring (Polar) and children's movement tracking by GPS monitoring. The results from these studies show that high levels of physical activity is associated with high scores on motor fitness tests and lower BMI. High diversity in outdoor play opportunities was associated with improved motor skills acquisition and activity preferences in boys and girls. Outdoor play opportunities, and natural environments in particular, seem to be strong correlates to physical activity, motor development and indirect health benefits in young children.

**Paper 3. The relationship between physical activity and social anxiety: Cross-sectional results of a school-based activity program ("Kinder-Sportstudie KISS")**

Tim Hartmann\*, Lukas Zahner, Susi Kriemler, & Uwe Pühse

*\*Institute of Exercise and Health Sciences, University of Basel, Switzerland*

The potential benefits of physical activity (PA) are various. From a preventive point of view an implementation of PA in childhood is said to play a crucial role. With this in mind the "Kinder-Sportstudie KISS" conducts a school-based activity program with Swiss children aged 6-13 years. The authors, adopting a randomized controlled 1-year-trial, aim to improve PA and fitness as well as medical and psychosocial health. Among several psychosocial measures particular attention is paid to social anxiety. The study sample consists of 16 intervention classes (N=300) and 11 control classes (N = 235). All participants completed a self-report questionnaire, the SASC-R-D (Social Anxiety Scale for Children – Revised). PA was assessed by an accelerometer, which was constantly worn over 7 days and by a questionnaire, composed of several validated questionnaires. The cross-sectional results taken at baseline reveal that social anxiety is inversely correlated with PA. On the other hand a positive correlation between social anxiety and the children's BMI was obtained. Furthermore the results of analyses of variance (ANOVA) support the hypothesis that physically active children suffer less from social anxiety than their inactive peers. In conclusion, inactivity and social anxiety seem to be strongly related in childhood. However looking at these findings, further research will have to examine the principles of cause and effect, allowing specialists to make more practical recommendations. Concerning this matter the authors of the present study expect additional knowledge attained by their longitudinal data.

**Paper 4. Effects of psycho-training and movement therapy by people with overweight**

Milada Krejci

*University of South Bohemia, Faculty of Education, Czech Republic*

The proposed research study is an attempt to examine positive influences of self-control and self-esteem on overweight control through psycho-training and intervention of movement therapy. Obesity and overweight is a chronic disorder, which could be reason of the other disorders in adult age (like diabetes, coronary heart disease, hypertension, disorders or psychic diseases). Obesity is the second most often reason of death. Psycho-training produces changes on a physical level that brings about changes in the psyche or in interpersonal relations, e.g., relief of unnecessary physical tension and social adaptation, and also changes in self-concept. A total of 120 individuals (60 males, 60 females) participated in anthropomorphize and psychological tests under supervision of medical doctors and psychologists – weight, BMI, movement motivation, analysis of diet, self-concept. Under supervision of medical doctors and psychologists were watched all changes in test factors. The experimental sample participants were organized in 4 small groups (about 12- persons) and absolved an intervention movement therapy on base of yoga techniques. The training was provided for half of the year. Once a week the training was together in sport centre, in other days of the week the participants practiced alone at home. It was used somatic and mental techniques and methods – relaxation and stretching exercises, breathing exercises, and mental techniques – concentration techniques, self-analysis. Exercises should be motivating. These strategies were the main point of proposed research. Regularly in the middle of period and in the end we made the control of all factors, biofeedback, weight changes, attitude changes and changes in self-control. The data were analyzed by the computer software SPSS - ANOVA 2x2. This program can be used in clinical praxis and in health education and in sport management as well. Key moment is the original and untraditional methodology in problem of weight control. It is hoped that the proposed study will stimulate a more consistent inclusion of self-control and self-esteem development in the overweight prevention on all levels.

**Tuesday 4/9/2007**

**15:30-16:50**

**SESSION 6. Examining adults physical activity**

Chair: Maria Michalopoulou

**Paper 1. Amotivation, reasons for not exercising and conditions for change in a sample of older Greek adults**

Cecilie Thøgersen-Ntoumani\*, Nikos Ntoumanis, & Nikitas Nikitaras

*\*University of Birmingham, UK*

An abundance of research has examined reasons for exercising, but less is known about why people choose not to exercise. Drawing from previous research by Vanden Auweele, Rzewnicki, and Van Mele (1997) with middle-

aged Belgian adults, the purpose of this study was to examine typologies of physically inactive individuals which were constructed based on certain reasons for not exercising and conditions that might lead them to change. Male ( $n=90$ ) and female ( $n=98$ ) sedentary Greek older adults ( $M$  age = 70.20;  $SD$  = 3.66) completed questionnaires measuring reasons for not exercising, conditions for change, resistance to change, physical self-worth, attitudes to exercise, barrier efficacy, and amotivation to exercise. Hierarchical cluster analyses were carried out to examine the number of clusters. For males, two clusters emerged; 'the approachable' ( $n=40$ ) and 'the opposed' ( $n=42$ ). Three clusters emerged for the females; 'the unconcerned' ( $n=14$ ), 'the approachable' ( $n=38$ ), and 'the opposed' ( $n=34$ ). MANOVA tests showed that for males 'the approachable' had significantly more positive attitudes, lower amotivation, and higher barrier efficacy than 'the opposed'. For females, 'the unconcerned' had the most positive attitudes, lowest amotivation, and highest barrier efficacy. Further, 'the approachable' had more positive attitudes and higher barrier efficacy than 'the opposed'. The results suggest that physically inactive older adults are a heterogeneous group with regard to their reasons for physical inactivity, and the conditions they believe are necessary to change their behavior. Future physical activity interventions should target those older adults who are more amenable to change.

### **Paper 2. Sedentary lifestyle as a mediator in the relationship between wellbeing and BMI in adolescents**

Jeroen Meganck\*, An Victoir, Els Dezeure, & Jan Vinck

*\*Hasselt University, Belgium*

In a sample of Flemish secondary school students ( $N = 1762$ ), Body Mass Index (BMI) was related to students' self-reported sedentary hobbies, a composite measure of TV viewing and computer use. Such links are often explained by (a) the low energy expenditure level of these activities and (b) TV viewers' exposure to commercials on unhealthy foods and soft drinks. However, it is rarely investigated whether sedentary hobbies could act as a mediator between wellbeing and BMI, an association that is also often observed ( $r = .25, p < .001$  in this sample). An in-depth analysis of the TV viewing behaviour showed that overweight students did not enjoy watching commercials about candy and cookies as much as normal weight students did ( $\chi^2(4) = 14.96, p < .01$ ), but no other differences were found, hence we had no indication of "overexposure" to commercials in the overweight students. Regression analyses showed that students who felt unhappy or discontent were more likely to spend a considerable time watching TV or using the computer, and that this lifestyle component is indeed an important mediator of the relationship between wellbeing and BMI (Sobel test ratio  $-2.99, p < .01$ ). When both the index of wellbeing and all relevant lifestyle factors were entered as predictors of BMI, all variables contributed significantly to the model ( $Adj. R^2 = .09, F(6, 1713) = 28.14; p < .001$ ). These results indicate that the interplay between proximal (energy balance behaviours) and distal (wellbeing) variables may be a crucial factor in explaining overweight in secondary school students.

### **Paper 3. Physical activity of levels and number of steps of adult women**

Michalopoulou M.\*, Ageloussis N., Zisi V., & Argiropoulou E.Ch.

*\*Dept of Physical Education and Sport Science Democritus University of Thrace, Greece*

The aim of the present study was to determine physical activity levels of adult women in Greece and determine the number of steps taken by women that are assigned at three different levels of physical activity (low physical activity level, moderate physical activity level and high physical activity level). Participants in this study were 150 women aged  $34.9 \pm 7.5$  years who volunteered to participate in this study. Physical activity levels were determined with the long self-administered version of the International Physical Activity Questionnaire (Craig et al., 2003). Steps taken for the period of one week, the same week that data was collected with IPAQ were recorded with the use of the pedometer SW-200 Digiwalker by Yamax. One way Analysis of Variance revealed a significant effect for the factor "level of physical activity" ( $F(2,148) = 32.243, p = .000$ ), on the number of steps/day taken. Post hoc Bonferroni test revealed a significant difference between the number of steps taken by the high physical activity group (8.844) and the low physical activity group (5.183) ( $p = .000$ ) and the number of steps taken by the high physical activity group and the moderate physical activity group (6.430) ( $p = .000$ ). Additionally according to Pearson correlation ( $r$ ) the number of steps/day was significantly correlated with total physical activity score ( $r = .50, p = .01$ ). In conclusion the number of steps/day by the participants in this study in relation to their level of physical activity were significantly different between the different levels but lower in relation to the number of step/day suggested by other studies.

**Tuesday 4/9/2007****15:30-16:50****SESSION 7. Anxiety and stress in sport and exercise**

Chair: Vasilios Kakkos

**Paper 1. Perceived chronic stress in children's competitive sports**

Karen Hoffmann\* &amp; Alfred Richartz

*\*University of Leipzig, Faculty of Sport Science, Germany*

Much research has been conducted in recent years regarding the chances and risks for adolescents in competitive sports. However, similar research involving children is limited. Hence, the present study aims to examine chronic stress among children in competitive sports. The focus thereby lies on stresses and strains that arise from training sessions. Using the Cognitive Motivational Theory (Lazarus, 1991) the role of social support, the children's self-concept and the amount of training hours per week in relationship to the perceived chronic stress in training sessions is analyzed. The empirical research comprises a longitudinal survey with two points of measurement of 364 children (162 boys) aged 7 to 12 ( $M=9.11$ ,  $SD=.99$ ) and active in competitive sports (gymnastics, springboard diving, modern rhythmic gymnastics, swimming). The data was collected using the questionnaire 'Strains and Resources among children in competitive sports' (BRiL-K) which was designed specifically for the project. Results from the construction of the measuring instrument indicate two sport related stress areas (overwork in training; dissatisfaction with training) in addition to nine general stress areas. The scores for the sport scales are situated in the bottom third of all stress scales, meaning that children perceive comparatively low stress in training sessions. However, the stress they perceive is affected by different factors, whose relationship to the stress scales was analyzed using multiple regression analyses. The social support of the trainer, the children's self-concept and the training hours ( $t_1$ ) affect overwork and dissatisfaction in training sessions ( $t_2$ ).

**Paper 2. Acute anxiety responses to qigong exercise of varying durations**

Mattias Johansson\* &amp; Peter Hassmén

*\*Department of Health Sciences, Orebro University, Sweden*

A reduction in state anxiety usually accompanies a single bout of exercise regardless of duration. Qigong, a mind-body technique, combining low-intensity exercise with concentration, has also been found to reduce state anxiety. Whether the anxiety reducing effects of qigong exercise is also independent of length of session has not yet been studied. The aim of the present study was therefore to compare the anxiolytic responses to qigong exercise of two different durations (30 and 60 min.). Forty-seven regular qigong exercisers (x men & y women) performed both 30 and 60 min. of qigong exercise on two consecutive days in a balanced crossover design. The State form of the State and Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) was employed before and immediately after the two conditions. A  $2 \times 2$  Within-Subjects repeated measures ANOVA (Qigong 30 & 60 min) displayed a significant Time effect ( $F = 75.8$ ,  $p < .001$ ), but no significant effects for Condition or Time x Condition interaction. The results of this study show that qigong exercise for 30 min. is sufficient to reduce state anxiety with no further reduction after 60 min. Future studies should include even shorter durations (e.g., 15 min.) to see if also this yields anxiety reductions.

**Paper 3. The differences between anxiety and self-confidence in relation to individual and team sports college athletes**

Liga Geme

*University of Latvia*

This study was designed to determine the differences between individual and team college athletes with regard to competitive anxiety and self-confidence. An additional study was conducted to determine similarities between competitive anxiety and self-confidence in individual and team athletes. A Competitive state anxiety questionnaire (*Competitive State Anxiety Inventory - 2; CSAI-2*) was first time implemented in Latvia by me and used as a test for athletes. CSAI-2 was distributed before a game and was used to establish the valid participants as well as competitive anxiety and self-confidence of the athletes. In this study were also handed out before practice the self-evaluation questionnaire by Spielberg (*State-Trait Anxiety Inventory; STAI*) to determine the anxiety as a state-trait and the self-evaluation scale by Rosenberg (M.Rosenberg) to state the

self-confidence. The findings of the study were that cognitive and somatic competitive anxiety are significantly higher between the individual athletes, but self-confidence is significantly higher between team athletes which is consistent with the findings in similar research conducted earlier. The study showed that there was significant relevance between cognitive and somatic competitive anxiety as well self-confidence. Anxiety as a trait was an important covariate in somatic competitive anxiety between individual and team athletes, and it was significantly higher between individual athletes. This suggests that characteristics such as responsibility and anxiety between individual and social loafing between team athletes possibly play the major role creating the differences in competitive anxiety and self-confidence.

**Paper 4. Psychometric study of the Spanish version of the Precompetitive Anxiety Questionnaire CSAI-2R**

Graciela Lois\*, Elena M. Andrade, & Constantino Arce

*\*University of Santiago de Compostela, Spain*

This work deals with the Spanish adaptation of the Competitive Anxiety Inventory CSAI-2R, reviewed recently. Translation of the scale was conducted, and its psychometric properties analyzed with data from a sample of 149 athletes. Data were confirmed with a confirmatory factor analysis, according to the implemented procedure in LISREL8.72 program. The estimation method was Maximum Likelihood. The results evidenced a CSAI-2R form with 16 items assessing the three hypothesized subscales of anxiety: Somatic anxiety, Cognitive anxiety, and Self-confidence. Overall fit of the model was good with a value of .97 for Comparative and Non-Normed Fit Indexes, and .045 for Root Mean Square Error of Approximation. Cronbach alpha coefficients for the factors ranged from .79 to .83. It is concluded that this version shows adequate properties, in terms of dimensionality and internal consistency. Guidelines are also provide for future research on its validity as measure of state anxiety in competitive situations and on its incorporation in more comprehensive models to understand better the sport performance.

**Paper 5. The Management of Directional Trait Anxiety in Competitive Sport with Rational Emotive Behaviour Therapy**

Chris Larner\*, Tony Morris, & Daryl Marchant

*\*Victoria University of Technology, Australia*

Jones et al. (2001) showed that anxiety direction (facilitative/debilitative interpretation) is characteristically dispositional, implying that interventions changing trait anxiety direction should impact on state anxiety direction and performance. In a meta-analysis of clinical research, Jorm (1999) reported that Rational Emotive Behaviour Therapy (REBT) had the largest effect size for modifying trait anxiety intensity. We examined the efficacy of a REBT intervention for managing trait and state anxiety direction, and its impact on performance. We recruited 60 skilled ten-pin bowlers (44 male; 16 female) with a mean age of 18 years, who were experiencing debilitating directional anxiety. We measures trait and state anxiety intensity and direction, using the CTAI-2-D and the MRF-L-D respectively, and rational and irrational thoughts, using the SGABS. We recorded bowling performance across ten games. The REBT intervention ( $n=25$ ) focused on changing participants' interpretations of competition circumstances, cognitions, behaviours, and feelings by disputation of underlying beliefs. A relaxation and imagery intervention ( $n=15$ ) focused primarily on rehearsal of alternate physiological and mental states during competition and a placebo intervention ( $n=15$ ) emphasized general attention and reflective counselling. Two-way mixed-design ANOVAs showed that the REBT intervention reduced irrational thinking significantly more than the other interventions, so the intervention worked as intended. REBT significantly moderated negative directional interpretations of trait and state anxiety symptoms, and REBT improved performance to a greater extent than the traditional relaxation and imagery intervention and the placebo control condition. We discuss the implications of these results for theory and for the effective and efficient management of anxiety in sport.

**Wednesday 5/9/2007****08:30-09:50****SESSION 8. Provision of psychological services**

Chair: Maria Psychountaki

**Paper 1. Integrated mental training (IMT) for sport and life**Lars-Eric Uneståhl  
*Örebro University, Sweden*

The presentation gives a short background to IMT, mentions some of the main principles and gives an overview of the research conducted on the effects of IMT on sport and life. IMT is a systematic and long-term training of mental processes with the main goal to develop skills and attitudes leading to Peak Performances and Wellness. IMT was based on research about alternative states of consciousness, alternative systems of control and body-mind connections. IMT was introduced in sport and stage performance during the 70's, in health and education during the 80's and in business and public administration during the 90's. It has been used by more than 2.5 million Swedes. The most common applications today besides sport are personal growth, stress management, school and work performance and various behavior and health problems).

**Paper 2. Systematic sport psychological consulting for young elite athletes**Franziska Wenholt\* & Anne-Marie Elbe  
*\*University of Potsdam, Germany*

The demand for sport psychological consulting is steadily increasing in Germany. However, the main focus lies on adult top athletes. Athletes and coaches most frequently contact consultants when a decrease of performance or a crisis occurs and expect a fast solution to the problem or an immediate increase in performance. Unfortunately these athletes often lack mental strategies to solve such problems and do not expect that acquiring appropriate mental skills takes time and energy. Therefore it is necessary to establish performance enhancing strategies at a younger age. We will present a systematic model of sport psychological consulting based on Beckmann (2004). The basis of this model is an extensive assessment of sport specific personality factors relevant to the problem or sport performance in general. Furthermore, at the basic level, it entails a systematic training of mental skills and a regular monitoring of stress and recovery levels (Kellmann, 2002) as well as competitive state anxiety (Ehrlenspiel, 2005). The application of this model to a context of athletes attending an elite sport school in Potsdam, Germany will be shown and the advantages and limitations of sport psychological consultations in youth sport will be discussed.

**Paper 3. Evaluation of an inter-disciplinary sports science intervention (SSI) to the Great Britain under 16 korfbal team preparing for the Youth World Cup (YWC)**Beale, J.T.\*, Johnstone, J., & Williamson, A  
*\*University of East London*

Korfbal is a mixed gender invasion game with the objective to score points through shooting a ball into a free standing basket. This paper aims to gain a qualitative appreciation of the recipients' perspective of an inter-disciplinary SSI. The evaluation is a qualitative assessment after a proposition by Biddle *et al* (2001) that more diverse methods such as qualitative research is required within the sports science domain. The 3 month SSI provided evidence based support to enhance performance through utilising the areas of psychology, nutrition and physiology. The SSI, adapting methods from Halliwell *et al*, (2003) worked with the squad 8 times over the time period to achieve the objective in the lead up to and during the YWC. Post YWC Interpretive Phenomenological Analysis (IPA) (Smith, 1997) was conducted on a representative sample (n = 4) of the squad. Interviews were transcribed and analysed independently by 2 of the authors before coming to agreement on the themes, clusters and master themes. IPA analysis identified 2 master themes, *empowerment* and *improved performance*. Master themes were identified through 9 clusters. Empowerment master themes were derived from, education, learning, knowledge and engagement clusters. Improved performance were derived from, coach reinforcement, outcomes, coach endorsement, general effectiveness and effectiveness. Results from the IPA suggest that the intervention had a direct positive impact on performance over the intervention period, thus suggesting this form of analysis can be applied to assess an inter-disciplinary SSI. Further qualitative research on the recipients of such interventions is necessary to gain a wider appreciation of athletes and coaches perceptions of SSIs.

**Paper 4. Risk of Harm in Sport Psychology - Can We Engage in Difficult Conversations?**

Anne Muscat\* &amp; Louise Roberts

*\*University of British Columbia*

In the rapidly evolving field of sport psychology, practitioners approach professional practice from varying backgrounds (e.g., mental skills trainers, counseling psychologists, clinical psychologists). When sport psychology practitioners with contrasting ethical codes and obligations attempt to work together, resolution of differences may be problematic. Guidelines are needed to assist practitioners in navigating difficult ethical conversations that may arise. Sport psychology teams are multidisciplinary in a further sense in that not all team members are mental health professionals but may be coaches, trainers, and nutritionists (Brown & Cogan, 2006). Members of these Performance Enhancement Teams (P.E.T.s) may have different understandings of ethical practice, which makes resolution of ethical concerns even more challenging for psychologists (Farres et al., 2005). Furthermore, only 64.4% of sport psychology programs require training in ethics (Watson, Zizzi, & Etzel, 2006). I will present examples of "risks of harm," unique to sport psychology, that arise from these professional differences. For example, given that elite level athletes have a short window of opportunity (e.g., Olympics), failures to coordinate intervention plans or deliver competent services can have a lasting impact. Additionally, determining who is the client (athlete vs. coach) is a unique ethical dilemma in sport (Farres et al., 2005; Muscat, 2004; Brown & Cogan, 2006). In these difficult conversations, we cannot use the psychology code as a common frame of reference because not everyone on a P.E.T. is a mental health professional. However, the core principles of beneficence/nonmaleficence can help team members conceptualize "client welfare" in ways that promote ethical practice consistent with the psychology codes (Kitchener, 2000). Drawing on my experiences on sport P.E.T.s with elite athletes and researching ethical practices in sport psychology, I will discuss how sport psychologists can be proactive in responding to such ethical concerns.

**Paper 5. Testing sport specific motivation and volition**

Anne-Marie Elbe\*, Franziska Wenhöld, Jürgen Beckmann, &amp; Felix Ehrlenspiel

*\*University of Copenhagen, Denmark*

Research conducted in the area of sport psychological diagnostics indicated that there is a general lack of sport specific questionnaires in German. Furthermore, the few existing measures lack sufficient assessment of the test control criteria, documentation and / or norms. The German Federal Institute for Sport Science set itself the goal to improve the research in this field and therefore financially supported three projects developing and testing sport specific diagnostic instruments in the past 3 years. Our projects' aim was to develop, test and establish norms for four instruments assessing sport specific motivational and volitional aspects. We will present these instruments that measure achievement motives, action control and volitional personality skills and report on the test control criteria, the establishment of norms on these tests and their implementation into sport psychological consultancy. We will further report on the status of the translation of these questionnaires into English.

**Wednesday 5/9/2007****08:30-09:50****SESSION 9. Performance Enhancement**

Chair: Taru Lintunen

**Paper 1. The effect of mental cognition and intervening of elite athletes for the intensive training's appraisal**

Yan Feng

*Physical Education College of Zheng-zhou University, Zheng-zhou city, China*

The cognitive appraisal of intensive training may affect the intensive training attitude and behavior of elite athletes. What knowledge establishes the rational belief of elite athletes for intensive training? This paper performs a research on the question; it aims to provide the research for elite athlete's quality of intensive training and their psychological diathesis. A total of 101 elite athletes promoted to the national grade 1 participated in this study (56 males and 65 females). Among the participants were 61 fitness and 40 skilled athletes. A twenty-item statement test was used. *b* The cognition and intervention included motif by <A mental powerhouse> of psychoeducational lectures, (1) Frustration and Crisis (2) Goal and Responsibility (3) Dedication and Diligence

and (4) psychological preparing and adjusting of precipitation. The procedure included: (1) First questionnaire during February and March 2004. (2) Cognition and intervening. The series of psychoeducational lectures once every week during November and December 2004. (3) Second questionnaire in December 2004. (4) Coding and grade. (5) Processing data. Decreased items include emotion's self-appraising and negative appraising. Increased items include meaning assessment of the society and positive appraising. The gap between the male and female reduced. Mental cognition and intervening for intensive training of elite athletes improves understanding for the meaning of intensive training, and also raise positive appraising of female athletes. In conclusion, (1) The motif by <A mental powerhouse> of psychoeducational lectures is effective to improve the cognitive appraising for intensive training of athletes; (2) They are good effects by vivid and vigorous ways of mental cognition and intervening for athletes.

### **Paper 2. A season long case study of self-regulation skills and success in elite sport competitions**

Harald Barkhoff\*, Elaine M. Heiby, & Ian S. Pagano

*\*University of Hawaii at Hilo, Hilo, USA*

The purpose of this case study is to investigate whether the use of self-regulation skills prior to a competition partly accounts for differences in performance between a successful elite roller skater classified as a "competitor type" and an unsuccessful elite roller skater classified as a "training champion". The two skaters completed a 56-item self-regulation questionnaire before five and nine competitions respectively during a six months championship season. The results indicated that the successful competitor type skater reported a significantly *lower* level of volitional inhibition – self-control, a significantly *higher* level of self-discipline, a significantly *higher* level of life demands, and a significantly *higher* level of threats than the unsuccessful training champion. Additionally, for both skaters general self-regulation competency and self-discipline were *higher* during the earlier events than during the later events. The results support the future investigation of the effect of self-regulation skills upon elite sports performance.

### **Paper 3. Anxiety induction and precision of the kick in soccer penalties**

Tiziano Agostini\*, Alessandra Galmonte, Giovanni Righi, Alberto Pin, Bruno Bianchi, & Alice Gherzil

*\*Department of psychology, University of Trieste, Mind in Sport Lab, Italy*

The aim of the research was to investigate the relationship between the precision of the kick and the anxiety level in a team of female soccer players asked to perform a series of penalty kicks. Ten amateur athletes participated to the experiment. Five of them were trained to kick penalties, the remaining 5 were not. The experiment was run in a real soccer field. The goal was divided in 8 equal sectors. The task was to kick in each sector a number of penalties in 2 different experimental conditions: "No anxiety condition" and "anxiety condition". In the "no anxiety condition" the players had to perform the task in a normal training session, while in the "anxiety condition" they had to perform it in the presence of a talent selector who was actually a collaborator of the tester. The dependent variable was the precision of the penalty kick. For each athlete, we measured also the heart rate during the entire performance and the state anxiety just before the beginning of the trials. We found that penalty kickers were more accurate in the "anxiety condition" [ $F_{(1,8)} = 5.647; p < .05$ ]. Furthermore, a t-test revealed a tendency to significance ( $p = .7$ ) in the heart rate between the two conditions. Since the penalty kickers had higher heart rates in the "anxiety condition" it seems that players who have been selected to kick penalties are able use this extra physiological activation due to anxiety to improve the precision level of their performance.

### **Paper 4. Arousal-performance coupling; A new explanation for the relationship of arousal and performance**

Ahmadreza Movahedi\*, Mahmood Sheikh, Fazlolah Bagherzadeh, & Rasool Hemayattalab

*\*University of Isfahan, Iran*

The connection between performance and arousal has widely been discussed and since 1908 many theories such as Inverted-U, The Multidimensional Theory of Anxiety, and the Catastrophe Model have been developed. The descriptions of all theories are fundamentally in conflict with each other. In this study the authors proposed a new explanation for the connection between performance and arousal. The study included 37 healthy physical education male students that were divided into two groups randomly: High Arousal Group and Low Arousal Group. To manipulate level of arousal some motivational variables and psyching up strategies such as pep talk, task importance, goal setting, audience attendance, rewards were used. Heart rate count and SCAT were used to monitor the level of arousal. The experimental task was the basketball free throw. The performances



were measured according to AAHPERD basketball test. At their determined and given arousal level, the two groups exercised the task for 18 sessions. Following training, acquisition test and 10 days later, retention test were taken in the two arousal level for both groups. Both groups showed similar progression in learning the task but the two groups did their best in their own experienced arousal level and their performance dropped significantly when they were tested in an arousal level which was different from what was experienced during learning the task. The performance of the task couples with the arousal level of the learners during learning. The findings of this study suggest a new theory or explanation for the relationship between performance and arousal. The authors called this explanation arousal - performance coupling.

**Wednesday 5/9/2007**

**11:30-12:50**

**SESSION 10. Teaching in physical education**

Chair: Jaume Cruz

**Paper 1. Physical educators' task goals construct**

Triadafilos Christodoulidis\* & Athanasios Papaioannou

*\*Democritus University of Thrace, Greece*

Aim of this study was the establishment of a measure assessing physical educators' goals with regard to their job's task, i.e. their pupils' improvement. Based on the theoretical framework of achievement goals theory, a construct was developed consisting of 10 items. 149 physical educators of public and private schools answered voluntarily the anonymous questionnaires during the academic year. An exploratory factor analysis revealed the existence of one factor consisting of 9 items (one item was excluded), explaining variance totally, with loadings > .61 except of one (.54). Reliability of the factor was found to be satisfactory ( $\alpha$  Cronbach = .85). The instrument correlated to other factors examined by the same study and was found to exhibit a positive relationship only to the personal development goal generally in life, to the personal development goal in work, and to the perception that work enhances the goal for personal development. In consistency with prior relevant research these findings provide support to the instrument's internal and external validity. Physical educators' orientation to personal development is strongly related to goal setting for developing pupils' skills.

**Paper 2. A study on construct of teaching practice scale of health and physical education learning field for the elementary school teachers in Taiwan**

Pan, Yi-Hsiang

*Natioanl Sun Yat-Sen University*

The purpose of the study was to conduct "Teaching Practice Scale of Health and Physical Education Learning Field for the Elementary School Teachers in Taiwan". This scale both based on teaching practice theory of O'Neill (1988) and Huang (1994), and it had four dimensions including teaching preparation, teaching content, teaching strategy and teaching evaluation. The study both used methods of exploratory and confirmatory factor analysis to test the construct validity, and Cronbach's  $\alpha$  coefficient of internal consistency was used to test the reliability. The research objects were health and physical education learning field teachers for the elementary schools in Taiwan. Both stratified random sampling and cluster sampling were used to sample objects for the study. The first stage sampled 300 teachers, and 251 valid scales (83.7%) were returned, later used exploration factor analysis to get 70.07% of total variance on construct validity. The Cronbach's  $\alpha$  coefficient of sumscales reliability was .95, and subscales were between .83 and .95. The second stage sampled 400 teachers and 318 valid scales (79.5%) were returned, later used confirmatory factor analysis to test construct validity. The result showed that the fit index could be accepted  $\chi^2_{(203)} = 90.19, p > .05, RMSEA = .04, GFI = .98, AGFI = .97, NFI = .93, CFI = .99, RMR = .04, SRMR = .03, ECVI = .96 (.91 \sim .99)$ . The Cronbach's  $\alpha$  coefficient of sumscales reliability was .95, and subscales were between .82 and .91. The conclusion of the study indicates that the scale has good reliability and validity, and it can be used by health and physical education teachers in Taiwan.

**Paper 3. Evaluation of physical education pre-service teachers' performance**

Konstantinos Tzavidas\*, Andreas Avgerinos, &amp; Efthimios Kioumourtzoglou

*\*Department of Physical Education & Sports Science, Democritus University of Thrace, Greece*

Nowadays teachers' knowledge and practical skills play a decisive role on students' academic achievement. The purpose of this study was to investigate the impact of a nine-week training programme on physical education pre-service teachers' (PT's) teaching performance. Thirty (N = 30) randomly selected PT's, aged 21 yrs-old ( $SD \pm 7$ ) from the Department of Physical Education and Sports Science-Democritus University of Thrace, participated voluntarily in this study. They were involved in a two-hour per week training programme which consisted of theoretical and practical sessions, seminars, workshops and the use of the new technologies on a weekly basis (multi-media applications, e-class and distance learning). Each participant's teaching performance was evaluated twice throughout videotaping, at the beginning and the end of the training programme. A modification of *Teacher Performance Appraisal Instrument – Revised* (TPAI-R, 2000) was used to analyze physical education PT's teaching behavior. Content validity, internal consistency, as well as internal and external reliability of the new instrument were standardized. Descriptive statistics and t-test paired samples were used for statistical analyses. The analysis of the practical lessons revealed a significant improvement in physical education PT's teaching performance in the end of the programme ( $p < .05$ ). In particular, PTs demonstrated a high performance in terms of the "management of the instructional time", "management of students' behavior" and "facilitating instruction". Moreover, they showed an accepted performance in terms of "instructional presentation", "instructional monitoring" and "instructional feedback". These findings supported the notion that this particular training programme can improve PT's teaching performance contributing in an effective teaching.

**Paper 4. The course as important structural unit in the system of teaching practiced in the rhythmical gymnastics**

Tsopani, D.\*, Dallas, G., &amp; Tasika, N.

*\*National & Kapodistrian University of Athens, Faculty of Physical Education and Sport Science, Department of Gymnastics and Dance, Greece*

Rhythmic Gymnastics is a sport that requires increased coordination of body movements and apparatus. The current teaching system of this sport in TEFAA is materialized by completing the teaching of one apparatus and then teaching the next, without taking into consideration the principles of special training. Because of this has been proposed the teaching of one system that would be based on these principles. The aim of this study is to examine which of those two teaching systems, the current (CTS) and the proposed (PTS), is more effective in the learning dexterities of rhythmic gymnastics. Eighty-four female students of TEFAA Athens, ages of 19-20 years participated voluntarily and were separated with draw in two groups. All the exercises of apparatus (ribbon, rope, ball, clubs and hoop) were evaluated by two teachers of TEFAA were also official judges of this sport. The time duration of this interventionist program was nine weeks. The statistical analysis showed: a) both teaching systems were effective, b) PTS is more effective in exercises where the parameters of implementation of exercise are not altered (form, level), and c) in skills where exists transfer of learning from previous kinetic situations or in skills where does not exist change of body position but only apparatus, both systems are equally effective. Deductively the PTS is more effective in the learning of dexterities of rhythmic gymnastics specifically in the cases where is required increased co-ordination of movements of body and apparatus.

**Paper 5. When Students Learn Better: Physical Education Teachers and Their Students Perceptions Employing the Cognitive Learning Instructional Model**

Marina I. Salvara\*, József Bognár, &amp; Balázs Fügedi

*\*Faculty of Primary Education, University of Athens, Greece*

This study purpose was to investigate Physical Education (PE) teachers and their students perceptions about 'when students learn better' employing the Cognitive Learning Instructional Model (CLIM). The main contextual elements of CLIM are: patterning of the prototype (PE teacher demonstrates and explains), top-down approach of the model ('do what I do', 'do with me', 'do it yourself'), self-regulating learning (includes actions of non-motor self-regulating thought (loud speech) and silent self-regulation (inner speech)), motor control (demands overall planning: 'what to do', 'how', etc.), and self-evaluation (on the basis of predetermined criteria). Thirty-two PE teachers completed 25-hour Teaching Theory and Practice (TTP) sessions, performed by the first author, on CLIM (Vygotsky's theory) (Collins et al., 1991). TTP sessions were part of the Pythagoras Research Program 'Teaching as a Profession' of the University of Athens. The main objective of the TTP was to have teachers create lesson plans appropriate for elementary school students and prepare to implement those

in field teaching. In the corresponding field research, teachers taught the CLIM for a two-month period to 456 fifth and sixth grade students. Data were collected having teachers and their students complete a Questionnaire for Learning Assessment (QFLA) having a 5-point Likert Scale. Findings revealed that both teachers and their students perceived highly the contribution of CLIM in learning. However, significant differences were presented between the two groups. That is, teachers sometimes inaccurately interpreted student perceived learning. This study adds richness and depth to the teacher and student perceptions on learning using cognitive learning theory. Finally, the examination of instruction from both teachers and students sides, adds insight in didactics, as it is identified that perceived knowledge intervenes on how decision-making processes and structure of achievement affect learning (Schunk & Zimmerman, 1998).

**Wednesday 5/9/2007**

**11:30-12:50**

**SESSION 11. Exercise and Mental Illnesses**

Chair: George Doganis

**Paper 1. Movement Therapy in Schizophrenia Treatment**

Špůrková Alena\*, Hátlová Běla, & Adámková Milena

*\*Charles University in Prague, Faculty of Physical Education and Sports, Department of Education, Psychology and Didactics, Czech Republic*

Main goal of this study is verifying the suitability of adding integrating, activating, concentrating, and communication kinesiotherapeutical programs as support methods to standard treatment of patients diagnosed with schizophrenia. Character of the study is randomised controlled experiment with double blind evaluation before and after intervention by movement programs. Psychic state of patients is evaluated using standardized psychiatric scale "Brief Psychiatric Rating Scale" (BPRS, Gorham Overall). Type subsequent care on patients within their hospitalization longer than 1 year. 152 patients (83 men and 69 women) diagnosed with schizophrenia. Participation of patients in each program showed significant improvement of their psychic state: lowering global problems (global score:  $p < .001$ ), lowering problems in anxiety-depression syndrome (ANDP:  $p < .001$ ) and in hostility-suspiciousness syndrome (HOST:  $p < .001$ ). Changes in thought disturbance are not significant. There is quite high attendance, activity and acceptance of programs by majority of patients.

**Paper 2. Narrative, identity, and recovery from serious mental illness: A life history of a runner with schizophrenia**

David Carless\* & Kitrina Douglas

*\*Leeds Metropolitan University, UK*

There is continuing research interest in the mental health benefits of physical activity and researchers have typically focussed on the potential role of physical activity in alleviating the symptoms of mental illness. In this paper I take a different tack to explore how exercise contributed to one man's progress towards recovery from serious mental illness in a more holistic sense. To do so, I draw on interpretive life history data concerning the experiences of a runner named Ben who had been diagnosed with schizophrenia. Data were gathered over a six month period through (i) a series of interviews with Ben and mental health professionals who work with him, (ii) participant observation, and (iii) analysis of Ben's medical records. Through a narrative analysis I explored the narrative types Ben drew upon when describing different stages of his life and illness in the hope of better understanding the relationships between identity, exercise, and the possibility of recovery. Findings suggest that the occurrence of serious mental illness not only directly affected Ben's physical activity involvement but also profoundly disrupted his athletic identity, removing agency, coherence, and continuity from his life story. By returning to physical activity, Ben regained his athletic identity and reinstated some degree of narrative agency, coherence, and continuity. I conclude that the contribution of physical activity to recovery from mental illness appears to be intricately tied to its personal value, purpose, and meaning.

### **Paper 3. Exercise obsession: The influence of perceived effects and intensity of exercise on depression and self-confidence of exercise participants**

Parastatidou Irene & Doganis Georgios

*Aristotle University of Thessaloniki, Greece*

The purpose of this study was to examine the influence of the perceived effects and intensity of exercise on exercisers' depression and self-confidence, prior to the beginning, during and after the cessation of systematic exercise. 379 people, exercising in gyms of eastern Thessaloniki, volunteered to participate in the study by completing three questionnaires measuring depression, confidence and perceived effects of exercise in three different periods. First, depression and self-confidence questionnaires were administered to all participants who were instructed to describe how they felt, prior to exercise initiation (T1). At second and third stage, all three questionnaires were administered to the participants and regarded their feelings during the period of systematic exercise (T2) and after its cessation (T3), respectively. T-tests (repeated measures) showed differences for depression between T1-T2 ( $t = 6.117, p < .001$ ) and T1-T3 ( $t = -31.334, p < .001$ ) and for self-confidence between T1-T2 ( $t = -12.287, p < .001$ ), T2-T3 ( $t = 1.866, p < .05$ ) and T1-T3 ( $t = -3.156, p < .01$ ). These differences were diminished when perceived exercise effects and exercise intensity were estimated as mediators (one-way repeated measures ANCOVA). Specifically, in depression, there was a strong mediating role of perceived exercise effects ( $F = 3575, p < .05$ ) and intensity of exercise (months of exercise  $F = 3.753, p < .05$ ). Moreover, in self-confidence, there was a strong mediating role of perceived exercise effects ( $F = 5.706, p < .05$ ) and intensity of exercise (months of exercise  $F = 4.737, p < .05$ ). In conclusion, it seems that the perceived effects of exercise affect the exercisers' depression and self-confidence more than exercise participation itself.

### **Paper 4. The relationship between exercise stage of change and depression levels in people with Coronary Heart Disease (CHD): A follow-up study**

Michelle C. Rogerson\* & Tony Morris

*\*Victoria University, Victoria, Australia*

Although research has shown that physical activity can be effective in reducing depression levels in people with coronary heart disease (CHD; e.g., Dugmore et al., 1999), many people with CHD are not engaging in sufficient levels to experience these positive effects. This research examined, over time, the relationship between perceived exercise stage of change and depression, in people with CHD. We recruited 45 participants (32 males, 13 females) with a mean age of 65.3 years who had experienced a cardiac event and been referred to cardiac rehabilitation at a hospital in Melbourne, Australia. We sent participants two questionnaire packages: the first, 1 to 9 months post-cardiac event; the second approximately 6 to 9 months later. The packages comprised a demographic questionnaire (first package only), Cardiac Depression Scale (CDS), and the Scottish Physical Activity Questionnaire (SPAQ). We classified participants, by exercise stage of change on the SPAQ, as non-active (pre-contemplation, contemplation, or preparation stages) or active (action or maintenance stages). Results showed that neither participants' physical activity levels nor depression scores changed significantly over the 6 - 9 month period. We found that 34% ( $n = 15$ ) were still experiencing at least moderate depression at follow-up. Results indicated that participants who were classified as non-active were significantly more depressed ( $M = 106.6$ ) than those who were active (mean = 71.7,  $p < .01$ ). These findings highlight the need to further explore the experiences of people with CHD and depression with respect to physical activity, and to develop interventions to increase physical activity in this population.

**Wednesday 5/9/2007**

**14:00-15:20**

#### **SESSION 12. Interventions in physical education**

Chair: Nikolaos Diggelidis

### **Paper 1. A physical activity and health related education intervention and its effects on the self-perception and intrinsic motivation levels of 8-12 year old girls**

Máire Ryan\* & Ciara Losty

*\*Waterford Institute of Technology, Waterford, Ireland*

*Objectives:* To examine the effects of a 3-month physical activity (PA) and health related education (HRE) programme on self-perceptions, intrinsic motivation and physical fitness levels of 8 - 12 year old primary school

girls. *Method:* 150 girls from two all-girl primary schools were used. One school was used as the intervention group and was offered the PA and HRE programmes and the other continued on with their regular physical education (PE) classes, acting as the control. The intervention group was offered the PA programme twice a week for 10 weeks. It consisted of 30-min exercise sessions based on the Irish Heart Foundation's (1996) Action for Life programme and a HRE programme once a week lasting 30-min which covered topics such as motivation, goal setting, self-monitoring etc. Seventy five participants in the intervention group and seventy five participants in the control group completed all six sub-domains of the Self-Perception Profile for Children (SPPC) (Harter, 1985) and the four sub-domains of the Intrinsic Motivation Inventory (IMI) (Ryan, 1982) at pre and post-test and, in addition, physical fitness was measured by way of four components of the YMCA fitness tests. *Results and conclusions:* Statistical analyses indicated that participation in the 3-month intervention programme in PA and HRE resulted in significant increases in relevant domains of self-perception (athletic competence ( $p = .000$ ), physical appearance ( $p = .025$ ) and global self-worth ( $p = .000$ ) and intrinsic motivation (interest/enjoyment ( $p = .016$ ) and perceived competence ( $p = .017$ ) and significant increases in all physical fitness test scores administered. Results for the control group revealed no such significant increases.

### **Paper 2. A longitudinal intervention using the stages of change in Greek Lyceum students before and after graduation**

Nikolaos Tzormpatzakis\* & Mike Sleep

\**University of Hull*

The Stages of Change model was employed in order to study physical activity behaviour of young people. The aim of the study was to test the model in Greek young people and design an intervention that would help them become more active. The research questionnaires were tested and found to be valid and reliable for the investigated population. A longitudinal intervention study was conducted in 7 Lyceum schools in the area of Heraklion, Crete, Greece, between 2005 and 2007. Seven hundred students from the 2<sup>nd</sup> grade of Lyceum were selected for the beginning of the study. They were divided into an intervention and control group. The intervention group received a printed leaflet for three months in order to help the students' progress to a more active stage of change. A series of four measurements took place. Pre-, post-intervention, one year after the intervention and two years after when the students have graduated from school. The results showed that the intervention had some positive effects in the participants' Stages of Change. Actually it helped more students to progress to a more active stage of change and less to regress to a less active stage of change. Valuable information were also collected for the applicability of the model in Greek young people and for the enhancement of the design of the intervention in order to have even more positive results in the future.

### **Paper 3. Fair-play in physical education classes: A preliminary investigation on the role of demographic and motivational variables**

Mary Hassandra, Antonis Hatzigeorgiadis, Yannis Theodorakis, & Marios Goudas

*University of Thessaly, Greece*

The purpose of the present study was to examine fair-play behaviours in a physical education context in relation to demographic characteristics, goal orientations and motivational climate. Participants were 113 students ( $M$  age =  $11.56 \pm 0.52$  years). Students completed the Task and Ego Orientation in Sport Questionnaire, the Learning and Performance Oriented Physical Education Classes Questionnaire, and the Fair-Play in Physical Education Questionnaire, which assesses four fair-play dimensions; respect for team-mates, respect for conventions, gamesmanship, and cheating. Two-way MANOVA was calculated to test for differences in fair play behaviours between sex and athletic status (athletes–non-athletes). The results revealed a significant main effect of gender on cheating,  $F(1,104) = 8.16, p < .05$ , with boys scoring higher than girls, and a significant interaction between sex and athletic status on respect for conventions,  $F(1, 104) = 7.81, p < .01$ , and gamesmanship,  $F(1, 104) = 6.76, p < .05$ . Further examination of the interaction revealed that among non-athletes, girls scored higher on respect for conventions ( $p < .05$ ) and lower on gamesmanship ( $p < .01$ ) than boys, whereas no significant differences emerged among athletes. Correlations were calculated to test relationships between goal orientations, motivational climate and fair-play dimensions. The results revealed that task orientation was positively related to respect for team-mates and respect for conventions; mastery climate was positively related to respect for conventions and negatively related to cheating; performance climate was positively related to gamesmanship and cheating, and negatively related to respect for team-mates.

**Paper 4. The effects of ten weeks physical fitness program on basic motor skill development of fifth grade elementary school boy students**

Hossein Sepasi

*College of Education, Shahid Chamran University, Iran*

The main purpose of this study was to investigate the effect of ten weeks selected physical fitness program on perceptual motor skill development of fifth grade elementary school boy students. It was also of interest to find out how much the program itself could improve the physical fitness of the children. The subjects of this study consisted of 48 elementary school boy students which equally assigned in two experimental and control groups. A two-group pre-test post-test design was used to compare the effects of independent variables on motor skill development of experimental and control groups. The Burininks-Oseretesky scale (short form) selected as an instrument to measure the perceptual motor skill development of the subjects. This instrument is very well constructed and consisted of eight sub-scales and intends to measure running speed and agility, eye-hand coordination and static and dynamic balance of the subjects between the ages of 4.5 -14.5. Burininks-Oseretesky believed that perceptual motor development of children is a function of performances of gross, fine- gross and fine muscles of the body, all of which are involved in performing speed and agility, eye-hand coordination and static and dynamic skills. To study the effect of ten weeks training program on perceptual motor skill development of the subjects, selected physical fitness tests were also used. The main hypothesis compared the effects of selected physical fitness program on perceptual motor skill development between the experimental and control groups. The results of this study showed that selected training programs caused children in the experimental group to improve their running speed and agility, eye-hand coordination and static and dynamic balance skills. The calculated statistics showed that the mean differences between the pre and post-test of two groups in all sub-scales (gross, fine- gross and fine motor skills) were significant at the .05 probability level. Also, the selected physical fitness program caused students in experimental group to improve their endurance of the abdominal muscles, endurance of the girdle muscles and endurance of the cardio reparatory muscles. Since height, weight and age might be considered as extraneous variables, and may affect the results, through an analysis of covariance their effects were controlled. The resulting of MANOVA indicated that the *F*'s were significant and they meant that by controlling the extraneous variables the differences between the subjects in all sub-scales still remain. Base on the finding of this study, it was therefore recommended that elementary school physical education teachers should advance their knowledge and understanding in the field of motor skill learning at early age and provide enriched situation in which children can improve their physical fitness and movement skills.

**Paper 5. Analysing the effect of directed stimulation in a compulsory school by measuring physical activity in short and long term**

Hedén, A.\* & Isberg, L.

*\*Dept of Physical Education and Health Örebro University, Sweden*

In 2000 Molnar and Livingstone stated that type and quality of activity for health benefits must be identified (Molnar & Livingstone 2000). Zask et al (2001) found that moderate to vigorous physical activity was higher during recess. They also found higher activity levels in small schools. Pangrazi (2000) recommended 30–60 min of daily activity witch this study can monitor over 3 seasons and 3 years. Maclett et al (2003) found that 90% of 6 and 8 year children reached a 60min level of activity on weekdays but only 50% on weekends. Many children reached their 60min due to walking to school. This study monitors both school activity and leisure time. Active parts in the activity profile at the research school includes extra recess time are also monitored. The purpose of the study is by measuring physical activity evaluate the effect of directed stimulation in a compulsory school in short and long term. The activity is measured in form of volume and intensity during 3 seasons over 3 years with accelerometer type RT3 from StayHealthy Inc. Eurofitness test, video recordings, interviews and observations measure the effect of the activity. The activity, its form and extent is accounted. Accelerometer activity is accounted and related to BMI, time of day and amplitude (power) and compared with school day and after school day. Important activators are identified and analyzed.

**Wednesday 5/9/2007****14:00-15:20****SESSION 13. Health Benefits of exercise for clinical patients**

Chair: Haralanbos Tzorbatzoudis

**Paper 1. Movement Therapy in Alzheimer's Disease**

Hátlová Běla\* &amp; Suchá Jitka

*\*Charles University in Prague, Faculty of Physical Education and Sports, Department of Education, Psychology and Didactics, Czech Republic*

The theme of this study is verifying the suitability of the special kineziotherapeutical program for seniors with dementia and to formulate specifics of used approaches. This kineziotherapeutical program was realized with the 10 patients with Alzheimer's dementia who took part in everyday kineziotherapy in the daily centre. Character of the study is randomized controlled experiment with double blind evaluation before and after intervention by movement programs. The course of disease, their behavior etc. is described together with the results of tests: Mini-Mental State Examination (MMSE) after Folstein, Clock test and Behavioral Pathology in Alzheimer's Disease Rating Scale – BEHAVE-AD which are evaluated. We make use of integrative character based exercises accompanied by one own somatic scheme recognition, its integrative character and possibilities. Small objects manipulation exercises, manipulation tasks solving, nonverbal communicative programs, easy collaboration type of communicative exercises and verbal communication. The exercise creates a part of treatment program 3 times a week. Exercise unit length is 30 minutes on the beginning to 60 minutes later. The stabilization of disabilities was observed with the patients who were able to actively participate in the program. Even a passive participation in the program had a positive influence on patients.

**Paper 2. A qualitative study of the facilitators and barriers to physical activity for people with depression and coronary heart disease**

Michelle C. Rogerson\* &amp; Tony Morris

*\*Victoria University, Australia*

Physical activity has been shown to be effective in reducing depression levels in people with coronary heart disease (CHD; e.g., Dugmore et al., 1999), however, many people with CHD are not engaging in sufficient levels to experience these positive effects. There have been very few (if any) qualitative investigations into physical activity experiences of people with both depression and CHD. The aim of this research was to explore, using qualitative methods, the barriers and facilitators that influence participation in physical activity for people with depression and CHD. Participants were 15 people who had experienced a cardiac event in the previous 12 months, had scored in the moderate range of depression on the Cardiac Depression Scale (CDS), and had been referred to CR programs in the Western Health region of Melbourne, Australia. We interviewed participants in-depth about their experiences with physical activity, depression, and heart disease. We audiotaped the interviews, transcribed the tapes verbatim, and content analysed the interview data for common themes. The main facilitators to being physically active were having a reason for exercising, psychological and physical well-being, the role of others, enjoyment of exercise, and using strategies, and the barriers were negative perceptions of factors associated with exercise, perceived and actual physical restrictions, lack of motivation, change to way of life, depression/low mood, lack of social support, and effects of past behaviours. Based on participants' comments, we suggest how these findings could help people with depression and CHD continue to engage in adequate levels of physical activity.

**Paper 3. Revalidation after cancer: A new start? Results of a longitudinal and multidimensional rehabilitation program for cancer survivors, a pilot study**

Charlier, C.\*, Mebis, J., Claes, G., Van Hoof, E., &amp; Wijmans, M

*\*University of Hasselt, Belgium*

Occupational disability (OD), frequently associated with chronic fatigue syndrome (CFS), creates a social and economic problem. This article examines all three variables defining OD (exercise stress test, neurocognitive assessment, the functional status) and the value of these assessment tools for the prediction of OD. The subjects performed a standardized exercise stress test, neurocognitive assessment, and paper and pencil test concerning their functional status. Correlation and regression analyses were used, as well as Bonferroni

corrections. All three variables are examined separately in order to avoid Type I errors and power analyses are included to calculate Type II errors. Although one could criticize this differentiation in one scientific manuscript, these three variables are related when considering occupational disability. Results: Approximately 40% of our patients were currently disabled. Functional status could be predicted by both an exercise stress test and complex cognitive activities. Moreover, current employment rate and the score on the AMA-scale of impairments could be predicted by this functional status. Our results validate meta-analyses that are already available and address the gaps in research of OD in CFS. We suggest the inclusion of an exercise test and neurocognitive testing in the assessment of OD. Although the AMA-scale of impairment should not be used as the sole criterion for the assessment of OD, it seems a valid tool in CFS.

#### **Paper 4. The role of exercise and physical activity in buffering stress-induced health complaints in adolescence**

Markus Gerber

*Institute of Exercise and Health Sciences, University of Basel, Switzerland*

Stress and psychosomatic complaints are frequent problems, which jeopardize the immediate well-being and the long-term development of children and adolescents. Therefore, this study examines the role of school-related stress, exercise and physical activity in the development of subjective health complaints during adolescence. Moreover, the stress-buffering hypothesis is analyzed for two rather objective outcome variables (periods of sickness, visits to the doctor). The sample consists of Swiss adolescents from elementary schools in the region of Basel ( $N = 407$ ;  $M = 14.01$  years,  $SD = 1.38$ ). The subjects (213 boys, 194 girls) completed a self-report questionnaire during a physical education lesson. The cross-sectional results demonstrate that school-related stress is inversely correlated with physical health. Both boys and girls who perceive high levels of stress report significantly more complaints, periods of sickness and doctoral visits (the latter solely for boys). On the contrary, physical activity and exercise are largely unrelated with the level of perceived stress and physical health. Furthermore, the results of several analyses of covariance (ANCOVA) controlling for students' socio-demographic characteristics do not support the hypothesis that exercise and physical activity provide benefits to adolescents under periods of high stress. These findings provide evidence that school-related stress has debilitating effects on adolescents' health regardless whether they are engaged in exercise and physical activity. This is also true if sport club membership, participation in competitive sports and self-esteem – as a more general resource – are used to calculate the two-way-interaction effects. Similarly, no significant three-way-interactions could be found between stress, activity involvement and self-esteem on any of the health indicators.

**Wednesday 5/9/2007**

**14:00-15:20**

#### **SESSION 14. Achievement Goals research in sport and physical education**

Chair: Alan Smith

#### **Paper 1. Multiple achievement goals as predictors of achievement-related processes associated with a sport competition**

Chiao-Lin Nien\* & Joan L. Duda

*\*School of Sport and Exercise Sciences, The University of Birmingham, UK*

Drawing from the work of McGregor and Elliot (2002, p381-395, 94[2], JEP) in the academic domain, this short term longitudinal study examined the relationship of mastery-approach, mastery-avoidance, performance-approach and performance-avoidance goals to self-reported achievement-relevant processes and responses prior to an important football game. Participants were 109 young male elite football players from a football academy in the UK. Data were collected pre-season (achievement goals), and one week and right before the 1st home game (challenge/threat appraisals of upcoming game, performance expectations, reported effort exerted in and time spent training, individual/team expectations, perceived readiness for game). Path analyses results showed that mastery-approach goal predicted positively achievement-related processes at both one week and right before game. Performance-approach goal was a positive predictor of threat appraisals right before the game. Both avoidance goals did not predict any processes neither post game variables. The theoretical implications of these findings are discussed. From an applied standpoint, the results point to the advantages of building and maintaining a strong mastery approach goal perspective in young football academy players.



**Paper 2. Task and ego-orientation in young sporters: A Five-Factor Model perspective**

Filip De Fruyt\* &amp; Jeroen Meganck

*\*Ghent University, Belgium*

The concepts of task and ego-orientation and different aspects of motivation are examined in a sample of young sporters (N= 108; 46% female, mean age 14 years and 8 months, ranging from 12 to 18) enrolled in top sport schools for secondary education. Individuals provided self-descriptions on the Hierarchical Personality Inventory for Children (HiPIC; Mervielde & De Fruyt), the Leuvense Motivatie Vragenlijst voor Competitiesport (LMVC; Vanden Auweele, De Cuyper, & Boen, 2004), and the Task and Ego Orientation in Sports Questionnaire (TEOSQ; Duda & Nicholls, 1992). The dimensions of Task and Ego-orientation were independent, with the Task-orientation dimension related to Conscientiousness, Extraversion, Benevolence, and Imagination, and the Ego-orientation dimension associated with only the Imagination factor. Also the LMVC subscales were substantially correlated with personality traits. Gender and age differences were also examined. A model will be proposed to develop coaching trajectories for young top sporters, taking into account their personality traits and motivational factors.

**Paper 3. Approach and avoidance achievement goals, appraisals of sport competition and the psychological welfare of junior elite soccer players: A longitudinal analysis**

James W Adie\*, Joan L Duda, &amp; Nikos Ntoumanis

*\*University of Birmingham, UK*

Grounded in the 2x2 achievement goal framework (Elliot & McGregor, 2001) and Cognitive Motivational Relational Theory (CMRT; Lazarus, 1999), the study examined the relationship of mastery and performance approach and avoidance goals and appraisals of sport competition (degree deemed threatening and challenging) to mood and contingent self-worth at two points during a competitive season (T1: beginning of the season; T2: mid-season). Ninety-two youth male soccer players ( $M_{age} = 13.85$ ;  $SD = 1.99$ ; range = 12-18 years) responded to the Achievement Goal Questionnaire for Sport (Conroy, Elliot & Hofer, 2003), an adapted measure of threat/challenge construal (McGregor & Elliot, 2002), the contingent self-worth in sport scale (Reinboth & Duda, 2004) and a measure of positive and negative affect (Diener & Emmons, 1984). Affect and contingent self-worth were also collected midway through the season. Multiple regression analyses revealed mastery approach goals linked positively to rating sport competition as a challenge, and negatively to appraising competition as a threat. Contingent self worth at Time 1 was positively predicted by mastery avoidance and performance approach goals. Neither achievement goals nor appraisals of sports competition explained significant variance in contingent self worth at T2. Appraising sport competition as a challenge positively predicted pleasant affect both at Time 1 and Time 2. Achievement goals and appraisals did not account for any significant variance in negative affect at the beginning or half-way through the season. Further data collected at the end of the season (T3) will also be analysed as part of this study.

**Paper 4. Moral competence and atmosphere in different types of sports: Relationships among moral, personal and motivational variables**

Katerina Mouratidou\*, Athina Mouratidou, Athina Arampatzi, &amp; Dimitrios Chatzopoulos

*\*Department of Physical Education and Sport Sciences at Serres, Aristotle University of Thessaloniki, Greece*

During the last decades, the question of whether sports “build” character is heavily emphasized. The aim of the present study was to investigate whether the level of physical contact that characterizes a sport, such as football, handball, or tennis, affect the moral judgment of athletes. Other purposes were to investigate if athletes’ moral competence is affected by their self-perception of sport ability, their gender and the moral atmosphere, which is represented on achievement goal orientations of the athletes as well as on athletes’ perception of their coaches’ goal orientation. The sample comprised 170 adolescent athletes from three different sports: tennis (n = 59), football (n = 58) and handball (n= 53). Participants completed three questionnaires: the Moral Judgment Test (MJT; Lind, 1978) assessing players’ moral competence, the Task and Ego Orientation in Sports Questionnaire (TEOSQ; Duda & Nicholls, 1992) assessing players’ goal orientations, and the same questionnaire adapted to assess players’ perceived goal orientations of their coaches (TEOSQ-PPC). Also, players’ perceived sport ability as well as demographic data was reported. The results revealed that tennis athletes, as compared with football and handball athletes, scored significantly higher in MJT C-index (Moral Competence Index). The gender of the athletes did not have a significant effect on C-index. Furthermore, significant correlations were found between moral competence index and players’ perceived ability, their goal orientations and their perceptions that their coaches were task orientated. Overall it seems that sole participation in athletics is not by itself a sufficient and necessary condition for building character.

**Wednesday 5/9/2007****14:00-15:20****SESSION 15. Examining emotions in sport and exercise I**

Chair: Maria Kavusanou

**Paper 1. Effects of cognitive and perceived teacher-related factors on student emotions in physical education**

Georgia Stephanou

*University of Western Macedonia, Florina, Greece*

This study, based on Pekrun's socio-cognitive model of academic emotions, aimed at investigating (a) students' emotions in physical education instructions, (b) effects of students' cognitive (ability self-perceptions, perceived difficulty, task-value) and perceived teacher-related (support, enthusiasm of teaching, task-value) factors in the formation of the same emotions, (c) the role of cognitive factors in the impact of the perceived teacher-related factors on students' experienced emotions in physical education classes. The participants ( $n = 400$  students, from 4th to 9th grades, both gender) completed the scales at the middle of a school year. The results showed that (a) the students experienced a variety of emotions, and a variation of intensity of emotions, in the physical education classes, (b) the primary school students, compared to secondary school students, felt better in the classes, (c) students' cognitive (mainly, ability self-perception) factors, and their perceptions of teacher-related (mainly, support, and enthusiasm of teaching) factors influenced their emotional experience during instruction, and (d) cognitive factors mediated the effects of perceived teacher-factors on a number of student emotions. The findings are discussed for their implications into education and future research.

**Paper 2. Emotional and cognitive processes during trapshooting performance**

Luis Calmeiro\* &amp; Gershon Tenenbaum

*\*University of Abertay Dundee, Scotland*

The purpose of this study is to describe the emotion-cognition link during actual trapshooting competitions, utilizing an ideographic and longitudinal approach. Three main questions are addressed: (a) How do athletes' affective states fluctuate during performance? (b) how do athletes appraise and cope with different performance states? (c) how do cognitive-emotional processes differ in elite and non-elite athletes? Two elite and four non-elite trapshooters were followed throughout two competitions. To measure emotional states, athletes answered the Affect Grid after each shot (200-300 shots). Retrospective recalls were conducted immediately after each set (8-12 sets) to ascertain thought sequences during critical and non-critical performance periods. Probabilities of pairs of thought-sequences occurring were calculated. More skilled athletes showed a more stable pattern of affective states. Athletes perceived more threat when experiencing critical performance periods, during which they utilized more emotional-focused coping associated with negative emotions. Withdrawal was utilized under conditions of decreased likelihood of personal goal attainment, and was associated with negative emotions. Problem-focused coping was utilized more often during non-critical than during critical periods, and was associated with feelings of control and confidence. Compared with non-elite athletes, elite athletes were more likely to deal with threat appraisals by using a variety of emotion-focused coping and problem-focused coping. Elite athletes also had more sequences of problem-focused coping followed by emotion-focused coping than non-elite athletes. This study is among the first to utilize verbal reports to determine probabilities of thought-sequences during an actual competition.

**Paper 3. Using musically-elicited emotions to manipulate marathon pacing**

Daniel T. Bishop

*Brunel University, West London, UK*

Music can elicit changes in affective state (Gabrielsson, 2001) and these changes are often accompanied by endocrine responses that influence the fight-flight mechanism (Blood & Zatorre, 2001; Menon & Levitin, 2005). The objective of this study was to examine the effects of altering the emotional content of a personally selected music playlist on marathon pacing across two marathon events (M1 & M2), using an idiographic single-subject design. A 31 year-old male competitive recreational marathon runner selected a playlist of personally emotive music. The participant provided reasons for selection, and recorded his emotional responses to each track using the Affect Grid (Russell, Weiss, & Mendelsohn, 1989). The participant ran M1 while listening to the playlist,

and quantitative and qualitative data were subsequently obtained. For M2, tracks were reordered such that the first 30 mins of the race comprised relatively low-arousing tracks, in an attempt to moderate the participant's typically fast start. Tracks throughout the remainder of M2 were selected to fluctuate in pleasantness and arousal potential. A paired-samples *t* test revealed a significant difference in the rate of slowing throughout M1 and M2,  $t(2) = 5.74, p < 0.05$ , the participant demonstrating comparatively even pacing in M2; qualitative data indicated fluctuating emotional responses as possible causes. These findings were discussed with respect to contemporary music emotion research (e.g., Thompson, 2007) and music in sport research (e.g., Karageorghis, Jones, & Low, 2006). Future investigation of this phenomenon should combine hormonal and affective data to elucidate the underlying mechanisms of such emotional responses.

#### **Paper 4. Top results in sports – rationality or intuition and emotions**

Kjell-Åge Gotvassli

*Nord – Trøndelag University College, Norway*

The study supports that most of the concept “knowledge based elite sport” is based up on a technical – rational understanding of knowledge creation. But there is also a raising interest in the use of tacit knowledge incorporated in each athlete's daily “work”. Learning as it is described in the community of practice literature does happen, but the importance of interacting with material artifacts are more important than both Nonaka and Lave and Wenger describes. Most of the knowledge shared between athletes is know-what but the most valuable knowledge is said to be know-how. This type of knowledge is also often “tailor maid” to just one athlete, one technique, one body and one mind. So attempting to use precise the same knowledge for some other athlete can be dysfunctional. One of the most important findings in this study is that the elements in the learning network often is under constant flux and not arranged in a hierarchical order. The learning network is always emergent and dynamic. The athlete's own experience and the connections between body, emotion and intuition are shown to be a crucial part of the organizational learning that takes place. These findings stress the importance of the role of trainers and leaders to be a “bricoleur” and not an “ingenieur”, and also the importance of both reflection on action and reflection in action. Overall, it is suggested that development of elite sports results is more than biomechanics and computer models of the mind – it must also incorporate the athletes own mind body connection and intuition.

**Wednesday 5/9/2007**

**15.30-16.50**

#### **SESSION 16. Self – perceptions**

Chair: Ken Fox

#### **Paper 1. Perceived learning environment in physical education as a predictor of physical self-perception**

F. Hülya Aşçı, Bengü Güven, & Emine Çağlar

*Başkent University Sport Sciences Department, Ankara, Turkey*

The purpose of this study was to investigate whether the perceptions of learning environment in physical education class are related to domain specific physical self-perception and global self-worth. A total of 325 female (Mage=12.35, SD=1.18) and 310 male (Mage=12.33, SD=1.19) secondary school students voluntarily participated in this study. The Physical Education Learning Environment Scale (PELES) and Children and Youth Physical Self-Perception Profile (CY-PSPP) were administered to 635 secondary school students for measuring perceived physical education learning environment and sub-domain and domain specific self-perceptions. Stepwise Multiple Regression procedure was used to determine whether perceived learning environment might predict physical self-perception and global self-worth. Results of Multiple Regression Analyses indicated that, perceived threat and perceived competitiveness were significantly and negatively related to all sub-domains of physical self-perception (range from  $R = 0.37$  body attractiveness to  $R = 0.53$  sport competence;  $p < .01$ ) for secondary school students. The perceived threat and competitiveness variables predicted a greater proportion of the variance in all sub-domains of physical self-perception (range from  $R^2 = 14\%$  body attractiveness to  $R^2 = 28\%$  sport competence). On the other hand, results indicated that only perceived threat was significantly and negatively correlated with global self-worth ( $R = 0.32$ ;  $p < .01$ ) and was the most important predictor of it ( $R^2 = 10\%$ ). In summary, perceived learning environment is a valid predictor of physical self and global self-worth. Perceived threat and competitiveness were the best predictors of student's self-perceptions and these variables have negative contribution to self in psychomotor domain.

**Paper 2. Are self-perceptions and social physique anxiety associated with physical activity and a range of unhealthy behaviours in Greek adolescents?**

Cecilie Thøgersen-Ntoumani\* & Vassilis Barkoukis

*\*University of Birmingham, United Kingdom*

The purpose of this study was to examine whether self-esteem, physical self-esteem and social physique anxiety significantly predicted a range of unhealthy and healthy behaviours in Greek adolescents, when controlling for gender and Body Mass Index (BMI). Participants were 290 ( $n=117$  males and  $n=171$  females) Greek adolescents between the ages of 13 to 15. They responded to questionnaires assessing self-esteem, physical self-esteem, social physique anxiety, healthy and unhealthy dieting behaviours engaged in in the past six months, smoking for weight control, motivation to eat (compliance and coping), and physical activity. The study adopted a binary logistic regression analysis and multiple hierarchical regression analyses. Only BMI significantly predicted engaging in one or more unhealthy dieting behaviours ( $B = -.16$ ). Further, self-esteem ( $\beta = -.48$ ) and physical self-esteem ( $\beta = .33$ ) significantly predicted smoking for weight control. In addition, BMI ( $\beta = -.17$ ) and social physique anxiety ( $\beta = .24$ ) predicted compliance to eat, and social physique anxiety predicted eating to cope with negative feelings ( $\beta = .21$ ). Gender ( $\beta = -.26$ ), BMI ( $\beta = -.22$ ), self-esteem ( $\beta = .21$ ) and social physique anxiety ( $\beta = .20$ ) predicted physical activity. The results suggest that leaner adolescents are more likely to engage in unhealthy dieting behaviours, having high self-esteem is associated with a more healthy profile, and social physique anxiety is positively associated with maladaptive motivation to eat. Unexpectedly, having high physical self-esteem is associated with smoking for weight control, and high social physique anxiety might prompt Greek adolescents to be physically active.

**Paper 3. Introducing the Physical Self-Perception Profile – Revised: Psychometric examination in three samples from Great Britain, Sweden and Turkey**

Magnus Lindwall\*, Martin Hagger, & Hulya Asci

*\*Centre of Sport and Health Research, School of Social and Health Sciences, Halmstad University, Sweden*

Although the Physical Self-Perception Profile (PSPP) has demonstrated strong psychometric properties in several different cultures and languages, the accompanying Perceived Importance Profile, comprised of only two items per subscale, has been identified as psychometrically less reliable. Due to this criticism, a revised version of the Physical Self-Perception Profile (PSPP-R) was developed. The PSPP-R comprises of 30 items measuring the five subscales of the original PSPP (sport competence, physical conditioning, body attractiveness, physical strength, and physical self-worth) and 30 items measuring the importance of each subscale item. In total, the instrument encompasses 60 items, tapping 10 factors, using a four-point Likert scales. The purpose of the present study was to investigate the psychometric properties of the newly developed PSPP-R. The hypothesized a priori model was tested, using confirmatory factor analyses, in three samples from Great Britain ( $n=599$ ), Sweden ( $n=456$ ), and Turkey ( $n=609$ ). The EQS computer program and robust maximum likelihood method was used for all analyses. According to the various fit indices, the model demonstrated acceptable fit in all three samples. Moreover, internal consistency and composite scale reliability measures were satisfactory. The PSPP-R needs to be further investigated in different samples from different cultures and countries. However, the analyses in the present study show that the instrument, at this stage, is psychometrically sound and may be used as a valid and reliable measure of the multidimensional concept of physical self perception as well as the perceived importance of these subscale domains in future studies.

**Paper 4. Maturation differences in physical self-perceptions and the relationship with physical activity in early adolescent girls**

Ann-Marie Knowles\*, Ailsa Niven, Samantha Fawcner, Claire Stephenson, & Joan Henretty

*\*Teenactive Research Group, Heriot Watt University, Edinburgh, Scotland, UK*

Physical activity (PA) in girls drops considerably from age 10-15 years, and this increase in inactivity appears to track into adulthood (Gordon-Larsen et al., 2004). Therefore, it is important to understand why there is a decrease in PA as girls become older so that appropriate interventions can be developed. Biddle et al (2005) highlighted that physical self-perceptions are key correlates of PA in this group; however there is limited research examining the influence of maturation on this relationship. This cross-sectional study examined the relationship between physical self-perceptions, maturation and PA in early adolescent girls ( $n = 208$ ; mean age =  $11.83 \pm 0.39$  years). Participants completed the Physical Activity Questionnaire for Older Children (Crocker et al., 1997), the Children's Physical Self-Perception Profile (Whitehead, 1995) and the Pubertal Development Scale (Petersen et al., 1988). Results indicated that the girls were moderately active and all physical self-

perceptions were significantly and moderately correlated with PA. Consistent with previous research, regression analysis showed that perceptions of sport competence and strength were the biggest predictors of PA. There were no differences in PA between maturation stages, although girls at early maturation exhibited significantly more positive perceptions of body attractiveness and physical self-worth than girls at mid-maturation. These findings could suggest that decreases in physical self-perceptions due to maturation may help explain the subsequent decrease in PA evident in girls as they mature.

**Wednesday 5/9/2007**

**15:30-16:50**

**SESSION 17. Examining students' physical activity, performance and attitudes in physical education**

Chair: Athanasios Papaioannou

**Paper 1. The impact of Values-Expectancy model on the prediction of physical education performance for new-immigrants students**

Abderrazzak Boukraa, Marei Salama-Younes, & Charles Roncin

*University Rennes 2, France*

The essential objective of this research is to test the impact of the values-expectancy model on the Physical Education success for new-arrival students. We propose an adapted model in PE, inspired from Eccles and her colleague's model (Eccles & Wigfield, 2002). The authors proposed that both the expectancy of success and the task value are mediated by the perceived ability to predict the performance. We presume, from this model, the contextualisation of the perceived ability in a specific sport activity. Our results show clearly that contextualised perceived ability is a better predictor of performance than general perceived ability.

**Paper 2. Physical activity levels of Greek primary school children: Gender differences, rural versus urban areas and the effect of television watching**

Dimitrios Rousis & Georgios Loizou

*Brunel University, UK*

Physical activity (PA) promotes both mental and physical health and improves the quality of life. Despite the well documented benefits of regular participation in PA, children have adopted a sedentary lifestyle and their activity levels are below the recommended ones. The normative literature explored PA levels of Greek children but it has not yet assessed the primary school age group. This study examined the: PA levels of Greek children, gender differences in PA, relationship between hours of television watching and PA, as well as PA levels of children living in rural and urban areas. Children ( $N=187$ ) aged 11-12 years ( $M=11.53$ ,  $SD=0.50$ ) participated in the study. Data were collected using the Physical Activity and Lifestyle Questionnaire (PALQ; Avgerinos, Argiropoulou, Almond, & Michalopoulou, 2000). Furthermore, children reported the daily hours of watching television, playing video games-computer, and sleep using a structured diary. MANOVA and Pearson product moment correlation coefficient were used to examine the differences between the groups (gender, age, schools) and the relationship between the hours of watching television and PA levels accordingly. The results revealed that 86.1% of children meet the recommended PA levels. Moreover, there was a significant difference in PA levels between boys and girls (Pillai's Trace=.19;  $F_{(4, 172)}=10.17$ ,  $p=.000$ ;  $\eta_p^2=.19$ ) and between children from urban and rural areas (Pillai's Trace=.18;  $F_{(8, 346)}=4.37$ ,  $p=.000$ ;  $\eta_p^2=.92$ ). Finally, there was no significant relationship between the hours of television watching and PA ( $r=-.02$ ,  $p>.05$ ). In conclusion Greek children are physically active, with boys and rural areas children showing higher PA levels.

**Paper 3. Predicting physical activity behaviors in school-aged children**

Prapavessis, H.\*, Foley, L. S., Burke, S. M., McGowan, E., Maddison, R., & Gillanders, L.

*\*The University of Western Ontario, Canada*

Two studies were conducted to test the utility of integrating two models in predicting physical activity behavior—the Theory of Planned Behavior (TPB) and Self-Efficacy Theory. In study 1 645 (male = 347) New Zealand children aged between 11 and 13 years old completed measures corresponding to the integrated model and a self-reported measure of physical activity (PA) one week later. Using hierarchical regression analysis, goal intention was entered in Step 1 and was a significant predictor of PA ( $p < .001$ ), accounting for 13.5% of the variance. Step 2 revealed that perceived behavior control (PBC) contributed significantly to the prediction of behavior ( $R^2\Delta = .01$ ,

$p < .01$ ), and the inclusion of task and barrier efficacy in Step 3 also resulted in a significant increase in the amount of explained variance ( $R^2\Delta = .16, p < .001$ ). When all variables were considered together [goal intention ( $\beta = .12, p < .05$ ); PBC ( $\beta = .03, p > .05$ ); task efficacy ( $\beta = .16, p < .01$ ); barrier efficacy ( $\beta = .35, p < .001$ )], task and barrier efficacy emerged as the two strongest predictors of subjectively measured PA behavior. The purpose of study 2 was to test the utility of task and barrier self-efficacy in predicting objectively measured PA behavior. Canadian children aged between 11 and 13 years old ( $N = 67, 62.7\%$  female) completed measures representing the two self-efficacy variables. The following week, children identified as 'higher' ( $n = 11$ ) and 'lower' ( $n = 7$ ) with regard to both task and barrier efficacy were asked to wear an Actical® monitor on their hip for 7 full days. All data collected from the Actical® were interpreted in terms of Activity Energy Expenditure [the number of kilocalories expended per minute per kilogram of subject weight]. ANOVA results showed that children with higher efficacy were significantly more physical active than their lower efficacious counterparts  $F(1,16) = 7.23, p < .05$ ; partial  $\eta^2 = .31$ ). Findings from these two studies provide support for the use of self-efficacy interventions as a potentially useful means of increasing physical activity levels among school-aged children.

#### **Paper 4. A social and emotional intelligence measure of physical education class in Greece**

Vasilis Siskos & Athanasios Papaioannou  
*University of Thessaly, Greece*

The measure of Parker and Bar-On EQ-i:YV (2000) is the youth version of EQ-I (Bar-On, 1997), an instrument which is designed to evaluate Bar-On's model of social and emotional competences. It is suitable for children and adolescents from 7 to 18 years old and includes four social/emotional intelligence (EI) factors, Adaptability, Stress Management, Intrapersonal and Interpersonal and two other factors, General Mood and Positive Impression. The purpose of the present study was to adapt EQ-i:YV in Greek language and to investigate its relations with classroom climate, students' perceptions of teacher's goal orientations, students' self-esteem and their feelings in Physical Education (PE) class in Greek schools. Three pilot studies ( $N=511, N=504$  and  $N=342$ ), in elementary (6<sup>th</sup> grade), junior high and high school (aged 12-16 years), were used for this purpose. Exploratory factor analysis revealed 5 factors of EI, Adaptability, Stress Management, Intrapersonal, Respect and Empathy and one other factor, the General Mood. The fact that the loadings of the above factors varied from .55 to .86 and their alpha coefficients varied from .58 to .78, indicate that the EQ-i:YV with some modifications would be a valid and reliable instrument in Greek language. A correlation analysis showed statistically significant relations of EQ-i:YV factors with perceptions of a caring and friendly class climate, perceptions of PE teacher's emphasis on mastery, students' self-esteem and positive feelings in PE.

**Wednesday 5/9/2007**

**15:30-16:50**

#### **SESSION 18. Examining emotions in sport and exercise II**

Chair: Stuart Biddle

#### **Paper 1. Height-induced manipulation of emotions impairs the performance of an acrobatic element on the balance beam**

Cottyn Jorge, De Clercq Dirk, Crombez Geert, & Lenoir Matthieu  
*Ghent University, Department of Movement and Sport Sciences, Belgium*

The performance of difficult elements on the balance beam can be impaired by changing levels of emotions. In order to investigate the underlying mechanisms, a continuous, multidimensional measurement of emotions is necessary during the routine. Fourteen female sub elite gymnasts performed three attempts of a compulsory routine on a balance beam at three different heights: the normal competition height (1.25 m), a lower height (0.20 m), and a higher height (1.70 m). Heart rate (HR) and retrospective self report of facilitative ( $RS^+$ ) and debilitating ( $RS^-$ ) emotions were continuously measured during the routine. Performance (PS) was scored according to the FIG-rules by 5 judges. In this paper, only the acrobatic element was studied. The data were analyzed with 3 (heights) x 3 (attempts) ANOVA for repeated measures. HR ( $F_{2,14} = 10.77, p < 0.001$ ) and  $RS^-$  ( $F_{2,14} = 5.06, p = 0.02$ ) increased significantly with increasing height, while no significant changes were found for  $RS^+$  ( $F_{2,14} = 1.88, NS$ ). The performance of the acrobatic element was significantly worse only in the most challenging condition, that is, the first attempt on the highest balance beam. Further analysis revealed that this performance decrement was associated with an increase in heart rate. This finding indicates that emotions, measured continuously during the routine, can impair balance beam performance but that the gymnasts are able to adapt very quickly to this challenging condition.

**Paper 2. Effect of emotions on working memory and game involvement in basketball players**

Mark A. Uphill\*, Ryan Groom, &amp; Marc V. Jones

*\*Canterbury Christ Church University, Kent, England*

Although athletes' emotional states are associated with performance (Hanin 2000), less is known about *how* a range of emotions influence sport performance. Using behavioural data, this study examined the impact of emotions (anger, anxiety, embarrassment, excitement and happiness) upon working memory and game involvement in 6 university women basketball players (Age:  $M = 20.0 \text{ yrs} \pm 1.6$ ). At 6 competitive home matches, players' basketball performance was videotaped, digitised, and using behavioural analysis software (Observer Video-Pro 4.0<sup>®</sup>), coded for specific behaviours on a minute-by-minute basis. For each minute, successful game behaviours, unsuccessful game behaviours, and an index of working memory (successful passes + assists) were recorded. Immediately after each game, players reported (a) if they had experienced the selected emotions (b) the intensity of experienced emotions on a Likert scale ranging from 0 (not at all) to 4 (extremely), and (c) the eliciting incident and approximate time at which each emotion occurred. Players' scores were standardised (Z-scores) and performance in the two-minute period after each emotion was compared to that of their 'unemotional' baseline. Compared to baseline performance, there was (a) more unsuccessful game behaviours when angry ( $t(1246) = -5.35, p < .001$ ), and embarrassed ( $t(1242) = -3.772, p < .001$ ), (b), greater successful game involvement when happy ( $t(1248) = -3.73, p = .006$ ), and (c) less successful passes and assists when angry ( $t(1246) = 2.04, p = .05$ ). Results suggest that happiness positively affects, and anger and embarrassment negatively affect, basketball performance, by influencing players' game involvement and/or working memory.

**Paper 3. The exercise-affect relationship: A measurement and methodological analysis**

Susan Backhouse\*, Panteleimon Ekkekakis, Stuart Biddle, &amp; Clyde Williams

*\*Carnegie Research Institute*

The message that emanates from textbooks and research papers is that exercise *invariably* 'makes you feel good'. Despite such assertions, many people still avoid continued exercise participation and given the complex and multifaceted relationship between exercise and affect, this presents a paradox worthy of discussion. Therefore, the purpose of this paper is to consider the generality of the conclusion that exercise makes people feel better by illustrating that (a) negative affective changes can occur during exercise, (b) measurement approaches can fail to assess potentially relevant negative affective states, (c) examining only changes from pre- to post-exercise may miss negative changes during exercise, and (d) analysing changes at the level of group aggregates might conceal divergent patterns at the level of individuals or subgroups. Data from several studies will be presented to illustrate these points and highlight the importance of methodology and measurement when examining such complex and multifaceted relationships.

**Paper 4. Elite athletes' perceptions of the impact of emotions on performance: A qualitative study**

Mark A. Uphill\* &amp; Marc V. Jones

*\*Canterbury Christ Church University, Kent, England*

Although athletes' emotional states are associated with sport performance (Hanin & Syrjä, 1995), *how* a range of positively and negatively toned emotions influence sport performance remains largely unexplored. In this qualitative study, data was derived from interviews with 12 current international standard athletes aged between 19 and 37 years ( $M = 27.0$ ;  $SD = 6.0$ ) representing a range of individual and team sports. A semi-structured interview guide was comprised partly of lead questions (e.g., how did feeling [emotion] influence performance) and elaboration probes (e.g., tell me about your behaviours when feeling [emotion]) concerning the performance consequences associated with 8 of Lazarus' 15 discrete emotions. Using hierarchical inductive analysis of transcribed interview data, athletes reported performance changes to be associated with all 8 emotions (anger, anxiety, guilt, happiness, pride, relief, sadness, and shame). Of the processes by which emotions were perceived to influence performance, 32% of the raw data themes were indicative of attentional change (e.g., 'my focus went'), 28% illustrated changes in physiological parameters (e.g., 'makes me feel more tense'), 18% were associated with alterations in motivation (e.g., 'want to make amends'), and a further 17% were related to changes in decision making (e.g., 'just shy away from something'). In some instances the same emotion was associated with improvements or impairments in a particular process (i.e., anger may enhance or impair concentration). To explain this observation, Eysenck and Calvo's (1992) processing efficiency theory could perhaps be adapted to a range of emotions.

**Wednesday 5/9/2007****17:00-18:20****SESSION 19. Exercise and health – related issues in various contexts**

Chair: Evangelos Bebetos

**Paper 1. Psychological profile of obese children and adolescents attending a sport-based treatment program**

Goldzweig G.\*, Nemet D., Elyakim A., Tsung A., &amp; Lahak O.

*\*The academic college of Tel-aviv Jaffa, Israel*

The purpose of current study was to assess the psychological and behavioral characteristics associated with child obesity and to identify factors contributing to the adherence of these children to a sport-based treatment program. Participants were 33 Overweight children ( $\geq 85$ th BMI percentile, aged 6-16 years, 11 boys, 22 girls) who attended a 12-week sport-based pediatric obesity treatment program at "Meir" Hospital. The program included a 2 hours per week supervised exercising, a monthly meeting with a dietician and meetings with a psychologist. These children were compared to a group of 18 children suffering from type 1 diabetes mellitus (age 6-16, 8 girls, 10 boys) that were also required to adhere to dietary treatment and exercise routine. The parents completed the Child Behavior Check List questionnaire and the children completed a body image, illness perception and adherence questionnaires. The obese children were found to have significantly more behavioral problems, lower body image and less accurate illness perception than the children with diabetes. Significant correlations were found between behavioral problems and adherence within the diabetes group only. Illness perception factors were found to be significantly correlated with adherence in both groups. Although preliminary and based on a small sample the results suggest that although diabetes is defined as chronic illness while obesity is not necessarily chronic, diabetes is associated with a better psychological profile. We also suggest the reframing the illness perception of the obese children may result with a better adherence to the sport-based program.

**Paper 2. Prediction of exercise behavior in addictive persons: An application of the Theory of Planned Behavior**

Joanna Savidis &amp; Haralambos Tsorbatzoudis

*Department of Physical Education and Sport Science- Aristotle University of Thessaloniki, Greece*

The aim of the present study was to examine the prediction of exercise behavior on substance abusers in recovery using the Theory of Planned Behavior. Participants were 201 members of self-help groups in Melbourne-Australia. They completed a questionnaire including the Theory of Planned Behavior variables and the Leisure-time Exercise Questionnaire (Godin & Shephard, 1985). Hierarchical regression analysis showed that attitudes toward exercise and perceived behavioral control were significant predictors of intention to exercise (59%). Furthermore, intention and perceived behavioral control predicted a small part of exercise behavior (17%). The present results indicated that the Theory of Planned Behavior provides a useful framework to study exercise behavior in addictive persons.

**Paper 3. Exercise therapy as a treatment for psychopathology in obese and morbidly obese adolescents: Randomised controlled trial**

Amanda J. Daley\*, Robert J. Copeland, Neil P. Wright, Andrea Roalfe, &amp; Jerry KH Wales

*\*University of Birmingham, UK*

As obesity rates are rapidly increasing and obesity has been linked with psychopathology in adolescents seeking treatment, it is important that interventions are evaluated to address these issues. We conducted a proof of concept RCT to investigate the effects of a supervised exercise therapy intervention upon psychopathology related outcomes in obese adolescents. The participant sample consisted of 81 adolescents aged 11-16 years who had been referred to a children's hospital for evaluation of obesity or responded to a community advert. Participants were randomised to exercise therapy, an equal contact exercise-placebo intervention or usual care. Intervention participants attended three one-to-one sessions per week over eight weeks and then completed a home programme for a further six weeks. Outcomes included self-perceptions, depression, physical activity, aerobic fitness and BMI. A total of 18/81 (22%) participants were categorised as morbidly obese (BMI  $>3.5$  SDS, adult equivalent BMI of  $\geq 40$ ) 63 were obese. At baseline 30.3% of participants had a depression (CDI) score  $\geq 13$ , and 27% reported recent suicidal ideation. Repeated measures mixed analysis of covariance (controlling for baseline scores) revealed significant changes in PSW ( $P=0.02$ ), associated measures of self-esteem ( $P<0.05$ ) and



physical activity ( $P=0.002$ ) over time; consistently favouring exercise therapy. There were no significant changes in BMI. Findings confirm psychopathology as a serious health concern in obese adolescents. Our study is the first RCT to demonstrate that a brief supervised exercise therapy intervention has potential to significantly improve psychopathology related outcomes and increase physical activity in obese adolescents, relative to usual care.

**Paper 4. Do violent and non-violent adolescents have the same sport background?**

Moesch, K. \*, Birrer, D., Schmid, J., & Seiler, R.

*\*Federal Institute of Sport Magglingen, Switzerland*

The relationship between sport engagement and violent behavior in adolescents has been reported as controversial (e.g. Brettschneider, Brandl-Bredenbeck & Hofmann, 2005; Willi & Hornung, 2002). This study aims to examine the sport background of adolescents with different characteristics in violence. Furthermore, differences and similarities in psychosocial and psychological characteristics are investigated. The sample consisted of 1664 Swiss adolescents. Data was gathered through a self-report questionnaire. All variables were assessed with validated questionnaires. An in-depth data cleaning as well as exploratory and confirmatory factor analysis were conducted. The main analysis consisted of cluster analysis with the three variables attitudes towards violence, physical and psychological violence, and was followed by group comparisons. Clusters of adolescents with different extents in violence were found. Preliminary analysis show that the most violent adolescents are less active in sports, are predominantly males and do perceive significantly more stress than the non-violent adolescents. More detailed analyses will be presented. It seems that groups of adolescents with different characteristics in violence exist. These groups should be considered in greater detail in order to better understand the mechanism of youth violence and a possible contribution of sport involvement towards violence reduction

**Paper 5. The association between pedometer measured walking levels and the constructs of the Transtheoretical Model of Behaviour Change, mood, and quality of life**

Graham Baker\*, Ruth Lowry, Claire Fitzsimons, Myra Nimmo, Annemarie Wright, Rebecca Shaw, & Nanette Mutrie

*\*University of Strathclyde, Glasgow*

Walking has been specifically recommended as the most likely mode of physical activity (PA) to increase physical activity levels in sedentary populations. The Walking for Well-being in the West (WWW) study is designed to promote walking in a West of Scotland community using a combination of pedometer based walking programmes and PA counselling. Evidence is lacking on the association between pedometer step-counts and psychological variables of behaviour change. The aim of this manuscript is to present participants' baseline step-counts and their association with the four constructs of the Transtheoretical Model of Behaviour Change (TTM) (stage of change, processes of change, decisional balance and self-efficacy (Marcus & Simkin 1994)), mood (PANAS, (Watson et al 1988)) and quality of life (Euroqol (Euroqol Group 1990)). Participants ( $N=78$ : 62 women, 16 men, aged 49.2 years [SD 8.7, range 26-64]) were volunteers who responded to a community advertising campaign. Participants wore a sealed pedometer (Omron HJ-109) for seven days (except when sleeping, showering or engaging in structured sport/exercise) whilst walking normal levels. At seven days, participants completed questionnaires measuring the four constructs of the TTM model, mood and quality of life. Preliminary analysis determined that 22 participants were in the stage of contemplation (inactive but intending to change in the next 6 months) and 56 participants were in preparation (active, but not regularly). An independent samples t-test found no significant difference between contemplators (6.933) and preparers (6.729) in terms of average daily step-counts [ $t(76) = 0.241, p = .810$ ]. Full statistical analysis will be reported.

**Wednesday 5/9/2007**

**17:00-18:20**

**SESSION 20. Gender issues in sport psychology**

Chair: Stilian Chroni

**Paper 1. The impact of a sport-related context on the gender-related self knowledge**

Maike Tietjens\* & Norbert Hagemann

*\*Department of Sport psychology, University of Muenster, Germany*

On the basis of information theory all incoming information are classified into typical masculine and typical feminine. Also sports can be identified as typical masculine or feminine. This study examines the impact of

a sport-related context on the gender-related self knowledge. It is a replication of Hannover's study (1997). Sport students ( $N = 220$ ) of the University of Muenster were tested, who participated during term 2005/2006 in gymnastic/dance, soccer, hockey or seminar classes. To test the impact a  $2$  (sex)  $\times$   $4$  (context)  $\times$   $2$  (adjective) repeated factor analysis of variance on the last factor was accomplished. Using the program e-prime a choice-reaction-experiment was realized. Reaction-time and agreement-rate were collected. The adjective were withdrawn from the German version of Bem's Inventory (Bem, 1974; Schneider-Düker & Kohler, 1988). Women (men) affirmed to more expressive (instrumental) adjectives and in a shorter reaction-time than men (women). An impact of the sport-related context couldn't be found. Explanations are discussed.

### **Paper 2. Gender differences in stress and coping in soccer: Validity of the 'situational hypothesis'**

Mariana Kaiseler\*, Remco Polman, & Adam Nicholls

*\*The University of Hull, Department of Sport, Health & Exercise Science*

The aim of the present study was to investigate the validity of the 'situational hypothesis' which suggest that when males and females experience the same stressor at a similar intensity gender differences in coping should disappear. Participants were 123 male and 76 female competitive soccer players (mean age 20.14 years  $SD$  3.59) who completed the MCOPE in response to 3 stressors commonly encountered in competitive soccer. In addition they rated their stress intensity when encountered this stressor by dissecting a 10 cm analogue scale. First, participants were categorized on the intensity of stress experienced (high, medium, low). MANOVA (gender (2)  $\times$  stress category (3)  $\times$  scales of MCOPE (12) revealed significant main effect for gender for all 3 scenarios, stress effects for scenario 1 and 2 and an interaction effect for scenario 3. On all scenarios females scored higher on self-blame, wishful thinking and increasing effort. In addition, females scored higher on humor in scenario 1 and suppression of competing activities on scenario 3. In scenario 1 higher levels of stress was associated with increased venting of emotions and medium stress with less active planning. In scenario 2 low stress was associated with more seeking of emotional social support and humor and less increasing effort whereas high stress was associated with more venting of emotions. There was an interaction effect for self-blame in scenario 3. Results did not support the situational hypothesis indicating that gender differences in coping when experiencing the same level of stress are more likely the result of socialization processes.

### **Paper 3. Gender differences in stress and coping in sport**

Adam Nicholls\*, Remco Polman, Andy Levy, Jaimy Taylor, & Mariana Kaiseler

*\*Leeds Metropolitan University*

Existing research provides only equivocal support for the notion that men and women exhibit different coping behaviours. The purposes of this paper were to examine stressors, coping, and coping effectiveness among athletes as a function of gender. Method: 749 (455 M, 294 F) undergraduate athletes ( $M$  age = 19.75 years,  $SD$  = 2.33) completed open-ended concept maps in which they reported stressors, coping strategies, and coping effectiveness. Concepts maps were transcribed verbatim and analysed using inductive and deductive procedure. The Chi-square statistic was used to compare differences for gender. Males reported more stressors relating to injury and errors than females, whereas women reported communication and team-mate stressors more than males. To cope with these stressors, males used more blocking, whereas females used the problem focused strategies planning, technique orientated coping (e.g., attempts to change technique), and communication more often than the males. This research found contradictory evidence to previous findings which suggest that males use more problem-focused coping and females more emotion-focused coping. Gender differences might only be limited to one or two coping categories within problem- and emotion-focused dimensions. In addition, the method used in the present study provided participants with more freedom of expression in comparison to questionnaire studies in which responses are limited. Future research should investigate coping responses to specific stressors as well as the intensity of the stressor as a function of gender, which may hold the key to discovering more about coping and gender.

### **Paper 4. Gender and grade differences in self-reported aggression of high school students**

Haralambos Tsorbatzoudis

*Department of Physical Education and Sport Science, Aristotle University of Thessaloniki*

The aim of the study was to examine gender and grade differences in self reported aggression. The sample of the study consisted of 658 high school students (321 boys and 337 girls), with an age range from 13 to 17 years ( $M = 15.3$ ,  $SD = 1.5$ ). The students completed the Aggression Questionnaire (Buss & Perry, 1992) adapted in Greek. Regarding gender, the overall correct identification rate in the discriminant analysis showed that 73.3%

of the cases were correctly classified. Additionally, the results indicated that physical aggression declined with age, and that, compared to boys, girls of higher grades apply more indirect forms of aggression, such as anger and hostility. The findings of the study provide important information regarding the expression of aggressive behavior during adolescence.

**Wednesday 5/9/2007**

**17:00-18:20**

**SESSION 21. Imagery for performance enhancement I**

Chair: Paul Holmes

**Paper 1. Temporal equivalence of imagined and physical movement patterns: The influence of task complexity**

Jon Finn\*, Helen Alfano, & Paul Holmes

*\*Carnegie Research Institute, Leeds Metropolitan University, UK*

Temporal functional equivalence (FE) may exist between imagined and physical performance of the same task (Papaxanthis et al., 2002). The effect of task complexity on temporal equivalence has also provided support for FE, leading to suggestions that imagined and physical actions are governed by similar amplitude-accuracy relationships such as Fitts' Law (Decety & Jeannerod, 1996). An increased understanding of FE has implications for imagery's use and efficacy within motor skill development and sporting performance. Therefore, the aim of this study was to investigate the effect of task complexity on physical and mental movement times of the same task. A 3 x 2 (Difficulty [Simple, Intermediate, Complex] x Procedure [Physical and Imagery]) experimental design was utilized. In the first stage, thirty nine participants (mean age = 22.1 ± 3.6 years) performed five random sets of three different tapping tasks (15 trials) of varying complexity whilst being filmed. Participants were instructed to perform the tasks as quickly and as accurately as possible. In the second stage, participants observed themselves performing the task and then imagined performing the task under the same conditions as the first stage. Images were controlled for perspective, agency and modality and full manipulation debriefs were conducted. Statistical analysis revealed no significant difference between the two conditions, but a significant difference between the times taken to complete the simple and intermediate tasks, and the complex task ( $p < 0.01$ ) was found. These findings are in agreement with previous research and indicate that a complexity-moderated temporal equivalence may exist between both physical and imagined actions.

**Paper 2. The effect of contextual interference in imagery on performance and learning of the selected soccer skills**

Nemat A. Nemati\* & Masoumeh Shojaei

*\*Islamic Azad University Damghan Branch of Iran*

The purpose of this study was to investigate the effect of contextual interference in imagery on performance and learning of soccer pass, dribbling, and shoot skills. 45 novice male soccer players in high school with intermediate imagery ability were randomly selected and matched in 3 groups based on their proficiency on the selected skills: 1) random imagery and physical practice, 2) blocked imagery and physical practice, and 3) physical practice (control). The physical practice of all groups was the same as three blocks of each skill. The group 1 and 2 performed 50min physical practice and 10min imagery, but the group 3 had 60min physical practice. The participants practiced 20 sessions. The accuracy of the skills was measured in the last session of acquisition stage, retention and transfer tests that performed 7 days after last session. Data were analyzed by 3\*4 repeated measures ANOVA. The result indicated significant main effects and interaction of group and test. According to the post hoc tests, performance of all groups in the last session, retention and transfer tests was significantly better than pretest ( $p < .05$ ). The performance of group 2 in the last session was significantly better than the group 1 and 3 ( $p < .05$ ). The performance of group 1 in retention and transfer tests was significantly better than other groups ( $p < .05$ ). Therefore, we can generalize the effect of contextual interference in physical practice on performance and learning to the imagery in soccer.

**Paper 3. The experience of imagery, self-efficacy and performance**

Francesca Vitali\* &amp; Stefano Del Veneziano

*\*University of Genoa, Faculty of Medicine, Course of Bachelor in Sport Sciences, Italy*

Dual sports represent a third sport category that includes several disciplines. This third sport category is different from both group and individual sports. Although there are not so many specific literature references dealing with dual sports, certainly they include a large number of disciplines, practiced at recreational or professional levels from couples of athletes homogenous or heterogeneous for gender. The purpose of this study was to examine whether a relationship exists between performance, self-efficacy and the use of pre-competition imagery by athletes involved in dual sports. Several recent studies were conducted following this hypothesis, but they examined athletes involved in individual sports. Our contribution focused the attention on dual sports and in particular we considered several sports based on serial motor abilities and contacts between athletes forming the couples (e.g. sport dance, artistic roller and ice-skating). According with Martin and co-workers' model of imagery use in sport, we hypothesized that self-efficacy would be positively related to pre-competition imagery use and that pre-competition imagery use would be predictive of performance. Consistently with Bandura, we hypothesized that self-efficacy would predict performance, but that the relationship between self-efficacy and performance would be mediated by imagery use. A modified version of the Sport Imagery Questionnaire was administered to 65 couples of athletes. Quantitative analyses measured similarities and differences in couples, providing important suggestions supplying information to develop the knowledge of imagery use in dual sports, useful to support interventions in this field.

**Paper 4. A descriptive study of awareness and usage of imagery among elite track and field female athletes**

Mehdi Kasbparast Jui Ray\*, Masoumeh Shojaei, &amp; Foruzan Abdolali

*\*Faculty of Physical Education and Sport Sciences, Islamic Azad University, Karaj branch*

Imagery is an important part of mental skills used by elite athlete for valuable results in training and competition (Bani, 1991). It seems that combined mental and physical practice is most effective, because, some studies indicate imagery is prevalence among elite athlete that obtained success via imagery (Boyd & Munroe, 2003). The purpose of the present study was to examine the familiarity of elite female athlete in track and field about importance, types, methods, and advantage of imagery. Participants were 110 Iranian elite female track and field athletes (100m, 200m, 400m, 800m, 1500m, 3000m, 100m and 400m hurdles, shot put, discus, long jump, high jump and triple jump). The survey was performed by using the awareness and usage of imagery questionnaires. The data were analyzed by descriptive statistics. It seems there is no adequate information about imagery and its importance and effectiveness among athlete and coaches. Awareness of suitable place, time and duration for imagery will be useful. As Bani mentioned combined imagery and physical training will give better results than physical training alone. Therefore, it is necessary to promote the use of imagery for athlete by coaches and trainers.

**Paper 5. Imagery experiences in tennis: A comparison of professional and promising players**

Fredrik Weibull

*Centre for Sport and Health Research, University of Halmstad, Sweden*

The objectives of this study were: (1) to examine tennis players' understanding of the concept of *imagery*; (2) to compare how professional and promising tennis players experience imagery in terms of contexts, purposes (practice, competitions, outside practice/competitions), content, frequency and perceived effects and (3) to identify tennis players' perceived needs related to imagery training. Four professional and eleven promising players took part in this study. The instrument Individual Profile of Imagery Experiences in Tennis was specially developed for this study and inspired by different imagery models (e.g., Morris, Spittle & Watt, 2005 and Munroe, Giacobbi, Hall & Wienberg, 2000). The data were analysed through categorisation of the tennis players' imagery experiences. The patterns identified were based on the imagery content, i.e., on *what* the players imagined. Results showed that the tennis players had a correct but limited understanding of imagery that differed from individual to individual. Some imagery patterns were completely individual and others were shared. Both differences and similarities were found in how professional and promising players used imagery. Most imagery patterns were used for multiple reasons. Most of the promising and all of the professional tennis players experienced involuntary imagery with perceived negative/very negative effects on their tennis performance. Fourteen tennis players expressed a will to improve their imagery use and/or ability. The results are discussed in relation to existing imagery models (e.g., Martin, Moritz & Hall, 1999) and research.

**Thursday 6/9/2007****08:30-09:50****SESSION 22. Imagery for performance enhancement II**

Chair: George Grouios

**Paper 1. Interactive effects of different visual imagery perspectives and narcissism on motor performance**

Ross Roberts\*, Nichola Callow, Lew Hardy, &amp; Tim Woodman

*\*School of Sport, Health and Exercise Sciences, University of Wales, Bangor, UK*

Previous research (e.g., Hardy & Callow, 1999) has identified that task characteristics moderate the efficacy of different visual imagery perspectives on performance. However, the effect of personality characteristics has yet to be examined in the imagery perspective – performance relationship. Therefore, the present study examined the interactive effects of the personality variable of narcissism and different visual imagery perspectives on performance. Forty-seven males were administered the Narcissism Personality Inventory (Raskin & Hall, 1979) and then performed a golf putting task using either internal visual imagery (IVI) or external visual imagery (EVI). The task was completed under three conditions; practice, low self-enhancement (SE) opportunity, and high SE opportunity. Performance was assessed by; the number of putts holed in the low and high SE conditions, mean radial error (MRE), and variable error (VE). High and low narcissist groups were formed based on a median split of narcissism scores. Results were analysed using separate three-factor (imagery x narcissism x self-enhancement) repeated measures ANOVAs. There was no interaction for putts holed; however significant three-factor interactions were obtained for MRE and VE. Follow-up tests for MRE indicated that high narcissists using EVI improved performance across SE conditions, whereas low narcissists using EVI and high narcissists using IVI did not. Low narcissists using IVI improved, albeit non-significantly. For VE, follow-up tests failed to clarify the nature of the interaction. Results are discussed in terms of the importance of examining personality characteristics as well as task characteristics when examining the effects of different visual imagery perspectives on performance.

**Paper 2. Investigating the relationship between exercise imagery, leisure-time exercise behaviour, and self-efficacy**

Jennifer Cumming

*University of Birmingham, UK*

A two-prong approach was taken to examine the applied model of imagery use (Martin et al., 1999) within an exercise setting. Firstly, the types of imagery which significantly predicted exercise behaviour and self-efficacy was determined. Secondly, whether ease of imaging moderated the relationship between imagery frequency and these exercise-related outcomes was examined. One hundred and sixty-two participants ( $M_{age} = 23.84$ ;  $SD = 7.09$ ; 97 female, 65 male) completed the Exercise Imagery Inventory (EII; Giacobbi et al., 2005), the Leisure-Time Exercise Questionnaire (Godin & Shephard, 1985), and an exercise self-efficacy scale (Rodgers & Sullivan, 2001) directly following an exercise session. The EII was also modified to include two rating scales of visual and kinesthetic imagery ability that were combined to form an ease of imaging dimension. The results showed that appearance-health imagery significantly predicted exercise behaviour and coping efficacy, and technique imagery significantly predicted task efficacy (all  $p < .001$ ). Furthermore, exercisers' abilities to create appearance-health images moderated the relationship between imagery frequency and leisure-time exercise, coping efficacy, and scheduling efficacy (all  $p < .05$ ). These findings reinforce Hall's (2001) suggestion that the applied model of imagery use may have some value in exercise settings. Relationships did emerge between different types of imagery and exercise-related correlates that suggest a useful direction for future research and applied work. More specifically, appearance-health and technique imagery may lead to an increase in exercise behaviour and self-efficacy beliefs. Furthermore, imagery ability moderated the relationship between appearance-health imagery use and exercise-related outcomes.

### **Paper 3. Visual, kinesthetic and temporal mental imagery: Efficiency for retention and transfer of an open motor skill by future military officers**

Khaled Taktek\*, Bob St-John, Nathaniel Zinsser, George Corbari, Dan Smith, & Sandi Miller

*\*Laurentian University School of Education, Canada*

This article is intended to (a) compare the effects of mental imagery associated with physical practice and specific physical practice on the learning and transfer of an open motor skill by future military officers; (b) identify the mental imagery parameter (kinesthetic, visual or temporal) which is most efficient for military rifle marksmanship; and (c) determine the relationship between movement image vividness and motor performance. Seventy students from the United States Military Academy, between the age of 18 and 22 years old, participated in this study. They were classified as being either high-vivid or low-vivid imagers based on the Vividness of Movement Imagery Questionnaire (Isaac, Marks, & Russel, 1986), and were proportionately distributed across seven experimental groups. The experimental setting consisted of twelve rifle-based shooting stations. The protocol required each participant to shoot a moving target. Performance, as measured by the number of points, was recorded during different experimental phases (pre-test, treatment, post-test and transfer test). The results demonstrated that performance obtained by each group using mental imagery (visual, temporal or kinesthetic) combined with physical practice was equivalent to that produced by the specific physical practice. Furthermore, some of the former groups showed significantly superior performance than the latter during the transfer of an open motor skill. These results may be explained by the link between mental imagery and the hypotheses of psycho-neuromuscular (Carpenter, 1894); bio-informational (Lang, 1977, 1979); Triple Code Model (Ahsen, 1984; Taktek & Hochman, 2004); symbolic learning (Decety, 1989); and/or psychological skill (Paivio, 1985; Taktek, Salmoni, & Rigal, 2004).

### **Paper 4. The relationship between imagery ability and imagery use among athletes**

Melanie Gregg\*, Craig Hall, Erin McGowan, & Nathan Hall

*\*University of East London*

Mental imagery serves various functions in sport. Paivio and his colleagues (1985; 1998) outlined both the cognitive and motivational functions of imagery use. Each function operates at a general and specific level. Imagery ability refers to the quality of an individual's imagery. Better imagers use imagery more often, and as a result of engaging in imagery more frequently, imagery ability improves. Visual and kinaesthetic imagery abilities have been shown to predict the use of cognitive specific imagery among athletes (Gregg et al., 2005). However, they failed to predict the use of motivational functions of imagery use. Using the Motivational Imagery Ability Measure for Sport (MIAMS; Gregg & Hall, 2006) to measure motivational general-mastery and motivational general-arousal imagery ability the present study predicted the use of these functions of imagery. A sample of 433 male and female athletes from a variety of sports ( $n = 45$ ), participating at recreational to internationally competitive levels, from Britain and Canada, volunteered to participate in the study. Path analysis was employed to represent the relationships among the variables. The athletes completed an adapted version of the movement imagery questionnaire-revised (Hall & Martin, 1997), the MIAMS, and the sport imagery questionnaire (Hall et al., 1998). The data showed a reasonable fit to the path diagram, with acceptable fit indices of CFI = .95 and RFI = .92. The study provides support for previous research showing that imagery ability influences the use of cognitive imagery and expands the literature by demonstrating that motivational imagery abilities influence the use of motivational functions of imagery.

### **Paper 5. Mental imagery use by children and its influence on motor skills learning and performance enhancement**

Khaled Taktek

*Laurentian University School of Education, Canada*

The main purposes of this study were (a) to compare the effects of mental imagery and specific physical practice on the acquisition of a closed motor skill by children; (b) to determine the mental imagery (visual, kinesthetic, or temporal), which is the most efficient for motor skills and performance enhancement; (c) verify if, as proposed by Piaget and also Piaget and Inhelder, the children at the concrete operational stage (7-8 to 11-12) are able to represent time, force and space parameters and display anticipatory, notably kinetic, images through their own body movements; (d) compare gender motor performances; and (e) determine the relationship between movement image vividness and motor performance. The participants were children between 8 and 10 years old, all of whom were right-handed, and were divided into different experimental conditions. Participants were required to propel a miniature vehicle, with their non-dominant hand, to reach a target distance. Performances,

as measured by Absolute Error (AE), for the temporal and spatial objectives were recorded during different experimental phases (pre-test, treatment, post-test and transfer). The results revealed that performances of mental imagery associated with physical practice were occasionally equivalent to, and at times significantly better than, those observed under the physical-practice-only condition. These results are discussed in light of Piaget's developmental theory and Ahsen's (1984) Triple Code Model as an active mental imagery strategy intended for motor skills and performance enhancement (Taktek, 2006; Taktek, & Rigal, 2005).

**Thursday 6/9/2007**

**08:30-09:50**

**SESSION 23. Soccer related psychological research I**

Chair: John H. Salmela

**Paper 1. Supporters' perception of home atmosphere: A study of committed football fans in the English premier league**

Stephanie Charleston

*University of Sunderland, UK*

Research indicates that professional football teams in the UK win a significantly higher percentage of games at home (e.g. Bray, Law & Foyle, 2003; Courneya & Carron, 1992). However, little contemporary research has been conducted regarding how physical aspects of the stadium converge with social aspects of attending matches to create the atmosphere at home. This descriptive study focused on fans perceptions of key physical and social elements of 'home atmosphere.' Web survey respondents (n= 512) who were supporters of one English Premier League team ranked various factors for relative importance in the creation of atmosphere at their home ground. These included stadium size, noise level, position of seating within the ground, quality of the facilities, and the social meanings of supporting the club. The most important factors were crowd noise and size. The results will be discussed in the context of theories from social psychology, with a brief discussion of the relevance to understanding home advantage.

**Paper 2. Self-reported self-efficacy and behavioral observations in Italian football officers**

Caterina Grano & Fabio Lucidi

*Department of Psychology, University of Rome "La Sapienza", Italy*

The aim of the study is to evaluate if self-reported self-efficacy predicts football officials' performance, judged by outside observers. At the beginning of the football championship season 146 Italian football's officials between 16 and 30 years old ( $M=20.2\pm 2.8$ ) completed a 13-item self-efficacy scale for officiating. Participants have been followed for one year by outside observers who rated several aspects of their performance. This is a standard procedure for football's officials. Specifically, athletic, technical, behavioural and disciplinary performance scores were recorded. Several observations were collected for each official during the season. After an exploratory analysis of the self-efficacy scale, a structural equation model was run. In this model self-efficacy items were considered as indicators of a self-efficacy latent variable which have been considered as independent in the model. For each aspect of the performance (athletic, technical, behavioural and disciplinary) rated by the outside observers, it was calculated a mean of the observations. These means served as indicators of the latent variable "outside observations" which has been considered as a dependent variable in the model. Results indicated that the model fit adequately the data (CFI= .93; NNFI=.92; RMSEA=.06; CI= .051-.08). Findings indicated that self-efficacy can predict outside observers' rates. Implications for intervention are considered.

**Paper 3. When superstars fail: The paradoxical effects of skill in football penalty shootouts**

Geir Jordet

*University of Groningen, Netherlands*

Competitive pressure has been empirically shown to be the central success factor in football (soccer) penalty shootouts; the higher the pressure, the fewer goals scored (Jordet et al., 2007). One known source of performance pressure is public expectancy of success (e.g., Baumeister et al., 1985). The present study was conducted to test the extent to which public performance expectancies affect football players at the highest

possible level of play. Match-record and video analyses were done with 51 penalty shootouts (502 shots) taken in the World Cup, European Championships, Copa America, and finals in the UEFA Champions League. The results first showed that forwards (who typically are specialized and experienced goal scorers) scored significantly more goals than defenders (typically less experienced goal scorers), suggesting that skills have a positive impact on performance in these events. However, forwards exhibited significantly more avoidance pre-shot looking strategies than the other players, suggesting that forwards experienced higher performance pressure. Further, players who had received an official international award (e.g., “Player of the year”) from one of three major international football federations (i.e., FIFA, UEFA, and CONMEBOL) were operationally defined as “Superstars”. The results showed that the superstars ( $n=19$ ) scored surprisingly few goals (53%) and significantly fewer goals than players who had excellent, but yet to be publicly recognized skills (i.e., players who first received a similar award later in their career [ $n=17$ , 94% goals]). The results are discussed based on known effects of private and public expectations.

#### **Paper 4. Elite football players in Norway: Common characteristics or not?**

Unni Segberg & Rune Høigaard

*Agder University College, Norway*

In order to develop football players' skills, possessing more knowledge about elite players' backgrounds, lifestyles, activities and motivation, may be important. The aim of this study is to describe some characteristics. 248 male football players (age  $23.10 \pm 6.1$ ) from fifteen different teams in first and second leagues participated in the study. Among these players, 75% of their siblings, 68% of their mothers and 32% of their fathers had been athletically active. Fifteen percent of the mothers had played sport at a high level. All of the players reported about a very high activity level in their childhoods and at age 8, 95% had been members of an athletics club. From the ages of 5 until 14, more than 75% participated in one or more athletic activities in addition to football. In addition to their organized practice sessions, at the age of eleven, 84% of the players reported that they played unorganized football more than 7 hours weekly. The players' ambitions were high; 50% wanted to be players on the international level, 30% had ambitions of playing in the Norwegian Premier League. In general, these players perceived their own football skills as being far above average from an early age. The main reason for participating in football was both high ambition and a love of the sport. Moreover, at the age of six, 56% reported that friendships was an important reason for participating in football, and at the age of seventeen, 20% reported developing and maintaining friendships as being an important reason for their participation.

#### **Paper 5. Penalty kick: The best action time**

Alessandra Galmonte\*, Bruno Bianchi, Alice Gherzil, Alberto Pin, Giovanni Righi, & Tiziano Agostini

*\*Department of Psychology, University of Trieste, Mind in Sport Lab, Italy*

For a soccer goalkeeper defending against a penalty kick it is very important to choose the right time of her/his motor action. Goalkeepers usually try to make a save by moving their legs before the kicker hits the ball. In a preliminary experiment, it has been found that goalkeepers' performance improves as the temporal gap between their action (anticipation), and the penalty kickers' action on the ball gets shorter. In order to investigate the possibility to induce goalkeepers to start the save at their best time, twenty goalkeepers have been tested. The experimental variable was the temporal gap between an acoustic stimulus signaling the goalkeeper to start her/his motor action and the start of the penalty kick, and it had three anticipation levels with respect to the contact between the kicker foot and the ball: Equal to the reaction time (RT) of the goalkeeper, RT plus 300 ms, and RT plus 600 ms. Results showed a difference in goalkeepers' performance: The number of saves almost doubled when an acoustic stimulus induced them to move when the temporal gap separating the kicker from the ball was equal to the goalkeepers reaction time ( $F_{2,19}=8.5$ ,  $p<.005$ ). To conclude, from our results, it seems that finding the best timing for each goalkeeper can help to improve the probability to make a save.



**Thursday 6/9/2007****11:30-12:50****SESSION 24. Achievement motivation in sport and physical education**

Chair: Glyn Roberts

**Paper 1. Effects of trichotomous achievement goals on intrinsic motivation and performance**

Rebecca L. Morris\* &amp; Maria Kavussanu

*\*University of Derby, UK*

The current experiment examined the effects of trichotomous achievement goals on two indicators of intrinsic motivation (enjoyment and free-choice behavior) and performance for a golf-putting task. Male ( $n = 39$ ) and female ( $n = 63$ ) novice golfers were blocked on gender and randomly assigned to one of 3 goal conditions: Mastery, performance-approach (PAP) or performance-avoidance (PAV). Prior to the experimental manipulation, dispositional goals were assessed and participants performed 10 golf putts. Performance on these putts, self-reported enjoyment, and free-choice behavior (amount of practice in a free-choice period) were measured. Then, the 3 goal manipulations were administered through PowerPoint presentations. The mastery condition emphasized task mastery and learning, while the PAP condition highlighted normative comparisons and out-performing others. In the PAV condition, participants were instructed to avoid other-referenced incompetence. After receiving the manipulation, participants performed 2 blocks of 20 putts. Performance on these putts was measured. At the end of this task, enjoyment and free-choice behavior were again assessed. Simultaneous regression analyses revealed that PAV goal participants practiced for longer than PAP goal participants, who practiced for less time than mastery goal participants. Moderated hierarchical regressions indicated that dispositional PAV goal positively predicted enjoyment in participants assigned to the PAP condition, but not in participants assigned to the other conditions. These findings highlight the importance of examining the direct effects of assigned goals on intrinsic motivation as well as their interaction with dispositional goals. The manipulated goals did not have a significant effect on performance.

**Paper 2. The comparison of the motivational traits of Iranian elite soccer players in different ages and playing positions**

Masoumeh Shojaei

*School of Physical Education, Al-Zahra University, Iran*

It is generally accepted that a competitive mindset is advantageous for success in sports. Motivation is one of the most important psychological traits and has considerable implications on sport programs for which appropriate selection of athletes or motivational attributes are deemed essential for optimal performance. Yet, limited studies have been directed toward defining the competitive specific motivational profile of elite soccer players. Exploring the psychological nature of elite players may contribute to either the appropriate selection of athletes or, more importantly, the development of specific training methods designed to take advantage of motivational attributes deemed essential for optimal performance. Therefore, the purpose of this study was to describe Iranian elite male soccer players' motivational characteristics and investigate the effect of age and the position played on their competitive motivation. 60 soccer players of senior, youth U-19 and U-23 national teams who were selected purposively completed the sports attitude inventory. The data were grouped by age and primary position played and analyzed by MANOVA. The statistical analysis indicated a significant effect by age ( $p < 0.05$ ), but not by playing position ( $p > 0.05$ ). According to the results of post hoc tests, players of senior national team were more motivated to avoid failure than youth U 19 national team players ( $p < 0.05$ ). The fact that older players of senior national team scored higher on the motivation to avoid failure subscale than younger players indicated that those players may have had a tendency to be more sensitive to what adults thought than the younger players.

**Paper 3. Changes in approach-avoidance achievement motivation in physical education across the primary-secondary school transition**

Victoria Warburton\* &amp; Christopher Spray

*\*Loughborough University, UK*

The purpose of the present study was to determine whether student's approach-avoidance achievement goals in PE changed systematically over the course of one year and to examine the influence of perceived competence and implicit theories of ability as predictors of these changes. One hundred and forty students ( $M$  age = 11.37

years,  $SD = .28$ ) from schools in East England completed a questionnaire assessing entity and incremental beliefs, perceived competence and approach-avoidance achievement goals in PE on four occasions (wave 1 in primary school, waves 2-4 during secondary school). Multilevel analyses revealed significant decreases in Mastery approach (MAp), Performance approach (PAp) and Performance avoidance (PAv) goals, incremental and entity beliefs and perceived competence over time. At the start of the study, students high in perceived competence reported significantly greater adoption of MAp, PAp and PAv goals than those low in perceived competence. Students reporting high entity beliefs endorsed PAp goals more than those with low entity beliefs. A significant effect on the rate of change in achievement goals was found for entity beliefs on PAv goals and perceptions of competence relating to self-improvement and incremental beliefs on MAp goals. Specifically, students high in incremental beliefs or perceived competence evidenced a linear increase in MAp goals, whereas a decline was observed in over time among students low in incremental beliefs or perceived competence. On the other hand, concern with avoiding demonstrating norm-referent incompetence in PE remained stable for students with strong entity beliefs, but declined over time among students with low entity scores.

#### **Paper 4. Achievement motivation and intensity of effort regulation during a 90 min soccer match**

Tor Oskar Thomassen & Hallgeir Halvari  
*Finnmark University College, Norway*

We tested an achievement motivation and an achievement goal process model in relation to effort intensity during a 90 min soccer match. The motive to achieve success (Time 1) and the mastery goal (Time 1), respectively, was expected to be positively associated (regression analyses) with first period playing time of moderate heart rate (HR) intensity at Time 2 (relative to individual HR-maximum), which would in turn be positively associated with second period playing time with moderate HR-intensity (Time 3). We also tested whether first period playing time of moderate HR-intensity would mediate (regression analyses with Sobels test) the effect of the motive to achieve success (achievement motivation model) and the mastery goal (achievement goal model), respectively, on second period playing time of moderate HR-intensity. Finally, we tested the fit of the measurement and structural achievement motivation and achievement goal models, and examined the mediations, with structural equation modelling. Results supported all these predictions. A hierarchical achievement motivation model with the mastery goal mediating between the motive to achieve success and playing time of moderate HR-intensity received no support. The relations between the motive to avoid failure and the performance-avoidance goal, respectively, and playing time of moderate HR-intensity were curve-linear. Low avoidance scores were associated with longest playing time of moderate HR-intensity, whereas moderate avoidance scores accounted for the shortest time of moderate HR-intensity, and high avoidance scores were related to moderate playing time of moderate HR-intensity.

**Thursday 6/9/2007**

**11:30-12:50**

#### **SESSION 25. Motivational concomitants in sport and physical education**

Chair: Nektarios Stavrou

#### **Paper 1. Integrity and autonomy of self and sport achievement**

Marija Sreckov  
*Institute of Psychiatry, Clinical Centre of Serbia, Belgrade*

The purpose of this study was to explore the, until now insufficiently researched, relations between developmental maturity of Self concept and sport efficiency. Kernberg's psychoanalytic cognitive synthesis seemed to be particularly useful and served as theoretical frame reference. In this theoretical paradigm Self has status of the structure which incorporates significant Ego functions and presents their superior organizer, therefore it is the most important determinant for Ego stability, integrity and flexibility, as well as for the development of higher level of Ego functioning. Failure in forming the identity (i.e. stabile Self-concept) is expressed through: diffuse identity, oscillations in self-esteem, different signs of ego weaknesses (p.e. difficulties in tolerance of anxiety and impulse control), and through disintegrated Super-ego (p.e. sadistic self-criticism). Therefore, self-esteem, self-criticism, neuroticism and addiction were chosen as indicators of integrity and autonomy of Self. Athletes' efficiency was assessed upon parameters which considered wide range of characteristics outstanding for their importance in practical work with athletes (in the course of training and competition). The sample was consisted

of 80 members of a national karate team, both male and female. Instruments: DSQ (Blatt and associates), Questionnaire of self cognition (Opacic, 1995), NEO-PI-R, Scale for sports efficiency assessment (Ignjatovic & Karanjac, M). Results revealed significant and positive relation exists between stability of Self concept (high level of developmental maturity) and athletes' efficiency. Accordingly, integrated and autonomous Self implies stable self-esteem, low level of self-criticism, absence of dependency on others and low level of neuroticism, and as such, it highly correlates with being successful in various sport situations. Besides, low level of self-esteem together with sadistic self-criticism and self-punishment, as well as with high dependence on others' support and opinion, show high negative correlation with sportsmen efficiency. These results give important implications to psychologists and trainers in practical work with adolescent athletes.

**Paper 2. The motivating role of competence feedback in physical education: Evidence for an integrated motivational model from an experimental study**

Athanasios A. Mouratidis, Maarten Vansteenkiste, & Willy Lens

*University of Leuven*

Self-determination theory (Deci & Ryan, 2000) posits, and research in sport and physical education contexts has verified, that satisfaction of the need for competence enhances intrinsic motivation. Few experimental studies however, have examined so far - within the broader perspective of self-determination theory - the effects of competence support on aspects' of students' motivation in physical education settings. Even fewer have examined these relations using an ecologically valid task in a field study. The present experimental study investigated the effect of competence support feedback on students' subjective vitality and future time behavioral intentions in a natural occurring physical education setting. Two hundred twenty-two secondary school students were randomly assigned to an either a competence-support feedback condition or to a non-competence-support feedback condition and performed a shuttle run task for three times. Results showed that students receiving competence support feedback reported significantly higher subjective vitality and they were more likely to partake in similar activities than students assigned to the no-competence support feedback condition. Structural equation modeling analysis favored a model ( $S-B \chi^2 [321] = 360.46, p = .064, CFI = .975, SRMR = .064, RMSEA = .028$  CI-90% .000 - .042) in which feedback significantly influenced post-task perceptions of competence ( $\beta = .59$ ), after controlling for the effect of pre-task perceived competence on post-task perceived competence ( $\beta = .54, p < .001$ ) (see figure 1). Also, competence valuation positively predicted autonomous motivation ( $\beta = .61, p < .001$ ). Autonomous motivation was predicted from post-task perceived competence ( $\beta = .28, p < .001$ ) and positively predicted both subjective vitality ( $\beta = .65, p < .001$ ) and behavioral intentions ( $\beta = .72, p < .001$ ). These results suggest also that perceived competence and autonomous motivation serve as intervening variables in the relationship between manipulated feedback and vitality and intentions to persist. The discussion focuses on the motivating role of competence feedback in physical education settings.

**Paper 3. Examining the relation of flow experience and motivation**

Nectarios Stavrou, Maria Psychountaki, & Yannis Zervas

*Department of Physical Education and Sport Science, University of Athens, Greece*

The term "flow experience" has been used in psychology in order to describe an intrinsically rewarding experience that people feel during an activity. The purpose of the present study was to examine (a) the relation between flow experience and motivation, and (b) the differences among the states of the orthogonal model of flow theory in motivation. Three hundred and seventy three athletes (160 men, 113 women) volunteered to participate in the present study. Athletes' age ranged from 16 to 35 years ( $M = 19.47, SD = 3.81$ ), and their competitive experience from 2 to 15 years ( $M = 6.22, SD = 3.60$ ). Up to one hour after a competition, the athletes completed the Flow State Scale (FSS; Jackson & Marsh, 1996), the Intrinsic Motivation Inventory (IMI; McAuley, Duncan, & Tammen, 1989), as well as, two scales measuring the challenge of the game and the skills of the athlete based on how they felt during the competition. With regard to the orthogonal model of flow theory the athletes were divided into four quadrants (median splits of challenge and skills) named apathy, anxiety, relaxation, and flow. Positive correlations were revealed among FSS subscales and challenge/skill ratings with interest-enjoyment, perceived competence, effort-importance, and negative correlations with tension-pressure subscale. In addition, MANOVA results indicated significant differences among the four flow states in the IMI subscales. The athletes in the flow and relaxation states indicated, compared to the apathy and anxiety states, significant higher mean values in the interest-enjoyment, perceived competence, effort-importance factors of IMI, and lower values tension-pressure subscale.

**Paper 4. Cognitive dissonance from an ethnomethodological perspective: Exploring mount Everest climbers narratives of experience**

Shaunna Burke\*, Natalie Durand-Bush, & Raymond Leblanc

*\*University of Ottawa*

The purpose of this study was to explore how Mount Everest climbers experienced cognitive dissonance in their natural setting. Aronson's (1968, 1992) self-consistency revision of Festinger's (1957) original cognitive dissonance theory and the Resonance Performance Model (Newburg, Kimiecik, Durand-Bush, & Doell, 2002) were used as conceptual guides. The research methodology included an ethnomethodological (Grafinkel, 1967) narrative (Sparkes, 2002) multiple case study (Yin, 1994) approach involving multiple in-depth interviews captured on video and participant observation captured by field notes. Six climbers attempting to scale Mount Everest comprised the case studies. Data were collected over an entire climbing season and one month after the participants returned home from the mountain. The results showed that the cognitive dissonance experienced by all of the six participants occurred when their self-concept was involved. That is, any time the climbers acted in a way that threatened an important element of their self-concept they experienced feelings of psychological discomfort and attempted to reduce their cognitive dissonance through a process of self-justification. This process of reducing cognitive dissonance involved retrospectively reconstructing reality in a way that restored the climber's pre-formed notion of self. Various core principals that characterize the ethnomethodological school of thought including the documentary method, reflexivity, indexicality, and membership will be highlighted to depict how the climbers experienced cognitive dissonance. Realist tales (Sparkes, 2002) and a visual representation of the data will be used to provide a rich and personal illustration of the process of cognitive dissonance and the feelings associated with it.

**Thursday 6/9/2007**

**11:30-12:50**

**SESSION 26. Ageing, physical activity and well - being**

Chair: Vasiliki Zisi

**Paper 1. Analyses of the effects of a psychological intervention program on the levels of stress, anxiety and depression of elderly physically active individuals**

Amparo Liliame\* & Samulski Dietmar

*\*Federal University of Minas Gerais, Brazil*

World Health Organization defines the term Quality of Life (QL) as a search for harmony on the physical, psychological and social aspects. It is the absence of certain symptoms and/or behaviors that can interfere on the adaptation of a person to a new situation. This adaptation process happens in a more abrupt way when comparing elderly with youths. The aim of this study was to analyze the effects of a psychological intervention program on the QL of elderly physically active individuals, through the levels of stress, depression and anxiety. The study also compared the results with groups of sedentary people. The Beck Inventory was utilized for depression and anxiety. An inventory of stress symptoms was also used. The psychological program was elaborated according to the test results and consisted of 18 sessions, when the tests were reapplied. The sample was composed of 60 voluntary people distributed in experimental, control and placebo group. Significant improvement was found on the active group that received psychological support. On the placebo and control group (both active) that had no psychological support the alterations were low. On the sedentary group and on the group without intervention there were no significant alterations on the results. We can conclude that the regular practice of physical activity combined with psychological support brings important benefits for the QL of elderly people more than when worked separated. The results confirm the need of a permanent program utilizing a bio-psycho-social approach.

**Paper 2. Can physical activity reduce vulnerability of older women to anhedonia ?**

Danthois Aurélien\* & Bertsch Jean

*\*UFR STAPS de l'Université de PARIS-Sud Orsay, France*

Anhedonia is a notion which belongs to psychopathological domain and refers to the loss of capacity to experience pleasure. This work, based on a theoretical import from pathological to normal, looks for precisely stating the effects of a physical activity program on this capacity by older people. In effect, actual scientific

studies nourish the hypothesis of a vulnerability of this population due to the evolution of their cognitive working. One explanatory way of this phenomenon is supported by the notion of perception of control: the greater the difference between perceived control and desired control, the more the negative affects (Conway, Vickers, French, 1992). The aim of the study was to examine whether physical activity, by acting on specific cognitive functions or on using of complex competence, reduce vulnerability of older people to affective dulling. During the experimental phase a program of physical activity has been proposed to 48 women old of at least 75 years during 20 weeks. Women had to complete the Physical Anhedonia Scale of Chapman and Chapman and the Hierarchic Scale of Control for Older People of Alaphilippe and Chasseigne. The results of the study will be presented and discussed.

### **Paper 3. Psychosocial factors and adapted physical activity for elders: Three experiences of a wide field of intervention**

Emilia Tasso\* & Francesca Vitali

*\*University of Genoa, Faculty of Medicine, Course of Bachelor in Sport Sciences, Italy*

Health is intended as a state of complete physical, mental, social wellness (W.H.O., 2002). In industrial countries ageing boom has produced a real emergency. One of the future challenges is to reduce disability's impact during last years of life. Adapted Physical Activity (A.P.A.) is one means of achieving this goal (De Pauw, 2000). From a psycho-social perspective, we discuss three studies carried out in the field of A.P.A. for elders. The first study refers to a longitudinal program, *Home-care Service for old people*. We examined 9 subjects (M=2, F=7), whose age varied from 69 and 94 years (medium age: 78 years) who took part in the program from 2003 to 2006. The second study refers to a *Service of A.P.A. for old religious people*. We studied 7 subjects (F=100%) whose age varied between 78 and 98 years (medium age = 89 years). The third A.P.A. study was conducted in a Nursing Home for people suffering from psychiatric diseases. We investigate 10 subjects (M= 1, F=9) who participated to the program in 2006 – 2007, whose age varied from 68 to 87 years (medium age: 83 years). We analyze several psychosocial factors as perception of wellbeing/discomfort, self-efficacy, self-esteem and perception of social support which are related to some physical abilities and functionalities that A.P.A. program stimulates. Important suggestions emerged, providing information that could advance the theoretical debate on adapted physical activity and with regard to the relationship between physical activity and ageing (Shephard, 1997), useful to support interventions in this field.

### **Paper 4. Physical, emotional and social aspects of quality of life with physical activity of the elderly**

Luci Fuscaldi Teixeira-Salmela\*, Christina D.C.M. Faria, Fátima R. de Paula Goulart, & Janine G. Cassiano

*\*Department of Physical Therapy, Universidade Federal de Minas Gerais, Brazil*

Exercise has been shown to provide consistent physical and psychological benefits when performed on a regular basis. While short-term psychological benefits have been well outlined, some doubts still exist regarding its chronic psychological effects. The aim of this study was to examine the short- and long-term effects of exercise on quality of life (QL) with three groups of community-dwelling elderly: 23 healthy (63.8 ± 8.4 yrs.), 22 stroke victims (67,7 ± 12 yrs.), and 18 Parkinsonians (60 ± 10.4 yrs.). Measures of QL, determined by the Nottingham Health Profile (NHP), were obtained for all groups at baseline and at post-training, while follow-up assessments were obtained for the healthy and stroke groups, after three months and one year following completion of the intervention. The moderate intensity conditioning and strengthening program was conducted over three weekly sessions of 10 weeks except for the healthy group, who exercised twice weekly. Repeated measures ANOVA revealed significant effects of the program for the overall NHP scores and gains were more evident for the energy levels (EL), emotional reactions (ER), and physical ability (PA) with all gains stable at follow-up ( $p < 0.01$ ). The findings indicated that training resulted in consistent and positive short- and long-term effects on QL independent of the group. The significant improvements observed for the EL, ER, and PA appeared to have sufficiently enhanced the perceptions of QL. Low perceptions of QL were most associated with depression, physical dependence and lack of vitality.

### **Paper 5. The effects of physical activity and exercise on ageing and longevity**

Habib A. Rabbani

*Sainte Anne Hospital University, Paris*

The purpose of this research was to investigate the effects of physical activity on aging, one of the principal sub-themes of the Congress. The importance of physical activity on the daily lives of older adults and aged people will be discussed. We have tried to present the psychological and psycho-social role of physical activity

on mental health and longevity. The physical and psychological benefits of physical exercises for elderly – as noted also elsewhere (Rabbani, 2001, Livingston G. et al, 1990) especially after early retirement, have been demonstrated in this research. The trend for physical activity for all ages, including older people, began around the eighteenth century. At the beginning, under the influence of a number of psychologists, physical activity and health sport have been introduced into the “sport sciences”. Working in this area ultimately became the special field of practice, we call “Gerontological sport in medical science” (GSMS). We don’t deny that physical activity, and sports go back many centuries, with ancient Greek physicians (Hippocrates, 400 B.C), ancient Egypt also in Rome; and later with several physicians in France, Spain, England, Persia, India, and other countries around the world, recommending physical activity for older people. The somatic and psychological effects of regular exercise and activity in winter and summer games, and also massage (“Moshtemal” in Persian language), have been also studied in this research. Our research showed that many activities can improve the physical and mental conditions of older people who have been sedentary, in their life. Thus, many of the physical activities mentioned above can be considered as a therapy. These kinds of treatments in ageing are not a new phenomenon: Ayurveda and Dhan Vantari in India, Asclepides in Rome, Avicenna (Ebne Sina) in Persia et al prescribed exercises and massage in ageing. We will remark that later, Christobal Mendez in Spain, Ambroise Paré et al in France followed Avicenna and others. They referred to the recommendations of mentioned physicians and advocated physical activities for older. In conclusion, physical and mental activities in one side, nutrition and a favourable environment in the daily life of older people on the other side, can slow down the detrimental effects of ageing and help to raise the longevity.

**Thursday 6/9/2007**

**11:30-12:50**

**SESSION 27. Exercise Motivation and Interventions**

Chair: Hülya Aşçı

**Paper 1. External validity of the Amotivation toward Exercise Scale among inactive older individuals**

Maria A. Gigoudi & Symeon P. Vlachopoulos

*Aristotle University Of Thessaloniki, Department Of Physical Education And Sport Science At Serres, Greece*

The present study examined the external validity of the Amotivation Toward Exercise Scale among 250 inactive older individuals ranging in age from 64 to 84 years ( $M = 70.06$ ,  $SD = 4.72$ ). The ATES represents a taxonomy of reasons for non-exercise participation. After obtaining support for the factorial dimensionality of the scale linear regressions were computed between the four ATES subscales of outcome, capacity, effort, and value amotivation beliefs and the variables of exercise perceived competence, attitude toward exercise participation, and intention for future exercise involvement. The results supported the initial hypotheses. Specifically, outcome beliefs negatively predicted attitude toward exercise and intention for exercise involvement. Capacity beliefs negatively predicted exercise perceived competence and attitude toward exercise. Effort beliefs negatively predicted intention to exercise in the future. Value beliefs negatively predicted attitude toward exercise. The obtained beta regression coefficients provided promising initial support for the external validity of the ATES subscale responses obtained from a sample of inactive older individuals using the personal face-to-face method of scale administration.

**Paper 3. The effectiveness of a primary care based adapted motivational interviewing intervention on physical activity, healthy eating and CHD risk factors**

Hardcastle, S. J.\*, Taylor, A.H., Bailey, M., & Castle, R.

*\*University of Brighton, UK*

The research studied the impact of an Adapted Motivational Interviewing (AMI) intervention on physical activity (PA), diet and CHD risk factors amongst patients at risk for CHD. Three-hundred and fifty-eight patients were randomized into an intervention group that received standard exercise and nutrition information plus up to five face-to-face counselling sessions with a Physical Activity Specialist and Registered Dietician over a 6-month period or to a control group (CG) that only received the standard information. The primary outcomes were weekly PA, weight, body mass index (BMI), blood pressure, cholesterol and healthy eating markers. Three sets of analyses were conducted: intent-to-treat (ITT), on-treatment and one on counselling attendance. The ITT analysis revealed significantly greater reductions in bodyweight ( $t=2.01$ ) and DBP ( $t=3.05$ ) for the counselling group versus the CG and a significant improvement in combined PA ( $t=-1.95$ ) and walking

( $t=-2.72$ ). For those who completed the study ( $n=218$ ), the counselling group significantly increased their walking compared to controls ( $t=-2.42$ ). The counselling group also made significant improvements on the following outcomes in comparison to the CG (weight:  $t=2.13$ , DBP:  $t=3.89$ , Cholesterol:  $t=2.18$ , LDL:  $t=2.46$ ). Those who attended more counselling sessions made significant improvements in bodyweight ( $t=2.24$ ), SBP ( $t=2.80$ ), cholesterol ( $t=2.12$ ), HDL and triglycerides ( $t=2.41$  &  $t=2.42$ ). High attendees lost significantly more weight ( $1.13\text{kg} \pm 0.09\text{kg}$ ) compared to low attendees ( $t=1.24$ ). The study provides support for AMI to facilitate behaviour change and modify CHD risk factors. This is one of the first studies to demonstrate that more sessions of counselling can lead to greater health gain over 6-months.

**Paper 4. A 7-week randomized controlled trial investigating the influence of 30 minutes of moderate intensity bi-weekly work-based lunchtime walking on trait anxiety and coping resources in sedentary university employees**

Ailsa Niven\*, Juliet Balfour, & Gemma Ryde

\*Heriot Watt University, Edinburgh, Scotland, UK

Previous research suggests that chronic physical activity can lead to reductions in trait anxiety (Taylor, 2000), however there is limited understanding of the mechanisms influencing this relationship. This study examined the effects of a bi-weekly work-based lunchtime walking program on trait anxiety in sedentary employees. Consistent with Lazarus & Folkman's (1984) stress and coping model we hypothesized that a decrease in anxiety may be due to an exercise-induced increase in coping resources. Six men and nineteen women (mean age  $46.5 \pm 8.7$  years) completed the Trait Anxiety Inventory (TAI; Spielberger, 1993) and the Coping Resources Inventory (CRI; Marting & Hammer, 2004). Subsequently participants were randomly assigned to a 7-week 'walking bus' program that included 30 minute lunchtime walks at moderate intensity twice a week ( $n = 13$ ) or a control ( $n = 12$ ) condition. At 7-weeks the TAI and CRI were re-assessed and the walking group completed additional open-ended questions related to their experience. Results indicated a significant interaction effect for group and time for the trait anxiety ( $F_{1,23} = 6.05, P = .022, \eta_p^2 = .21$ ). There were no significant interaction effects for the measures of coping resources, although the responses to the open-ended questions highlighted the benefits of the program. The findings indicate that a 7-week program of bi-weekly walking results in greater improvements in trait anxiety than no physical activity. However, the findings do not support the role of physical activity-induced enhanced coping resources as an explanation for decreased anxiety, although participant's comments indicate further research would be useful.

**Thursday: 6/9/2007: 14:00-15:20**

**SESSION 28. Issues in sport psychology II**

Chair: Erwin Apitzsch

**Paper 1. Can higher cognitive impairment associated with the lateral prefrontal cortex in experienced climbers account for a high frequency of mountain accidents?**

Robert Anderson

University of Bedfordshire, UK

To date, no experimental research has examined the role that higher cognition plays in the cause of mountain accidents. However, a small body of research suggests that this may be a worthwhile area of study. For example, Sharp (2001) identified that 29.3% of accidents involving experienced climbers were due to navigation errors. Similarly, Dietrich and Sparling (2004) reported neuropsychological findings that linked higher cognitive functioning to the activation of the lateral prefrontal cortex. A further study by Dietrich (2003) supported the hypofrontal hypothesis, finding that sustained physical exercise maybe the mechanism that impairs higher cognitive functioning. Based upon Dietrich's (2003) conclusions, the present study examined the influence of sustained physical exercise on the performance of cognitive tasks of varying complexity. Twenty-two participants were randomly assigned to exercise and control groups and performance was compared on three levels of a cognitive task (normal, higher simple and higher complex), repeated on six occasions. A  $2 \times 3 \times 6$  ANOVA indicated a significant exercise group by cognitive task interaction for the type of cognitive task ( $F_{2,40} = 5.426, p = .008$ ) with an effect size  $\text{Eta}^2 = 0.21$  and a power value of 0.82. The exercise group made fewer errors on simple and complex higher cognitive tasks but had greater error on a normal cognitive task when compared to a sedentary group. The results are consistent with the findings of Dietrich and Sparling (2004) and Dietrich (2003) indicating impaired performance on complex navigation skills due to sustained physical activity.

**Paper 2. Changing low frustration tolerance: A case study of a Hong Kong Olympic medallist**

Gangyan Si

*Hong Kong Sports Institute*

The purpose of this article was to evaluate the effectiveness of psychological intervention of Rational Emotive Behavior Therapy (REBT) and mental skills training in changing an Olympian's (L) low frustration tolerance (LFT), especially during major international competitions. In successfully changing his problem, his performance was expected to improve also. Multiple methods were used for the evaluation. Self-evaluation and the coach's evaluation by the Goal Attainment Scale (GAS), verbal feedback of L, his coach and partner, and videotape analysis were used for the evaluation at different points in time. Results were consistent and positive in attesting to the effectiveness of psychological intervention in changing L's LFT behaviors. Using REBT in this study, sport-related irrational beliefs and behaviors of L were identified. This is crucial for changing the low frustration tolerance of the athlete. The processes of disputing and restructuring L's irrational beliefs were gradual, with fluctuations at times during parts of the action/maintenance stage. Overall, however, the changes had been positive and carried out in the right direction. It was interesting to note that his beliefs about technique training were corrected at a slightly slower pace as the other irrational beliefs. But once the former was resolved, the change process was able to move faster. The resolution of his main problem also facilitated the enhancement of his performance at the 2004 Olympic Games. According to L and his coach, the double's achievement was partly attributed to psychological intervention introduced about 10 months prior to the Games.

**Paper 3. Mental skill differences between medal winners and non-medal winners of Iranian athletes at the Asian Games**

Fatolla Mosayebi\*, Shamsi S. Monfared, &amp; John H. Salmela

*\*NOC of the Islamic Republic of Iran*

Durand Bush, Salmela and Green-Demers (2002) were able to show that the OMSAT differentiated between international and national Canadian athletes on all scales of the OMSAT, which measures a broad range of mental skills in sport. Subsequently, Monfared, Mosayebi and Salmela (2007) used the Persian version of the OMSAT and found that selected and non-selected athletes international Iranian athletes for the Asian Games, differed only on the reactions to stress and refocusing scales. This indicated that mental skills, although fewer in number, still were an essential component for success, even at the international level. To further refine this analysis, this study considered whether Iranian medalists and non-medalists could be differentiated using the OMSAT assessment of their mental skills. The OMSAT was administered to 32 Iranian medal winners and 38 non-medalists in different sports who participated in the Asian Games. The statistical analyses revealed that there were significant differences between medalists and non-medalists only in their reactions to stress in sport ( $p=0.012$ ). This demonstrated that there is a decrease in the number of mental skill components which differentiate between, not only national and international, selected and non-selected athletes, but also between winners and the runners-ups. This clearly indicates a hierarchy of the mental skills which play an essential role in success in sport at different levels of expertise, with reactions to stress appearing to be the most important.

**Paper 4. Referees' psychological demands: Identification and suggestions**

Dimitrios Rousis &amp; Georgios Loizou

*Brunel University, UK*

The psychological skills are more important than physical demands and affect the quality of the athletic competition (Weinberg & Richardson, 1990; Ollis, Macpherson & Collins, 2006). Despite the fact that a plethora of literature deals with players' psychological skills, research related to referees lacks behind. To overcome this void, the current paper will identify possible psychological skills required to improve a referee's performance. Mental aspects to maintain high level of psychological functioning include: Game strategy, flow, imagery, and selective attention (Doron, 2000). Game strategy includes pre-game preparation, analysis of previous performances, and knowledge of the teams playing. Furthermore, post-game evaluation could be valuable since feedback is vital in order to improve a referee's skills (Weinberg & Richardson, 1990). Through video analysis possible areas of improvement can be identified (Collina, 2003). Moreover, flow can be achieved through familiarization with the game's environment, using video and by constructive communication with the players. Open and honest communication leads to an improved relationship and greater understanding (Baker, 2004). Postures, gestures, facial expression, eye contact and voice's tone affect communication. Effective communication can be learned and determined using many self-test techniques (Grunska, 1999). Imagery occurs in the mind creating a vivid picture of a real experience. Imagery can be used to control emotional responses, improve concentration, and



build confidence. Furthermore, goal setting can be used to determined referees' accomplishments and improve effort by providing feedback (Cale & Forzoni, 2004). The current paper will discuss possible psychological and practical interventions to improve referees' psychological health, and game performance.

**Paper 5. Can mental training enhance the learning effect after differential training? A Tennis Serve Task**

Wolfgang I. Schöllhorn, Mira Oehlenberg, & Maren Michelbrink

*Institute of Sport Science, Department Training Science, Muenster, Germany*

The concept of mental training is mainly based on the assumption that a cognitive representation of a particular movement is developed during the acquisition and learning process that can be improved by mentally reviewing special key points of the to-be-learned pattern. Unlike, differential training (Schöllhorn 2000) is based on systems dynamic and has been shown to be superior in the progression of skill improvements during a retention phase that demonstrates learning (Schöllhorn et al. 2006, Humpert & Schöllhorn 2006). The aim of this study to investigate possibilities of enhancing the learning effect after differential training. Using a pre- and post-retention-test-design, 30 male and female tennis novices (average age: 23.7y) had to learn to serve on a tennis court into a 0.8x0.8m<sup>2</sup> target space from left and right side. Distances between hitting point and target space were measured. After the pretest 6 training sessions with differential training served for equalising three matched samples with respect to knowledge/level: A 'mental-group' with 6 mental training-sessions, a 'reading-group' with additional tennis literature, and a 'control-group'. Three weeks later, the retention test was absolved. From post- to retention-test the control- and the reading-group increased performance. The control group improved the most. During the same period the mental-group decreased the performance which was significantly in comparison to the control-group ( $p = .04$ ). The disadvantages of the mental training group may lead to rethink traditional understanding of cognition of motor learning and provide further arguments for the training of adaptational processes according to differential learning theory (Schöllhorn et al 2006).

**Thursday 6/9/2007**

**14:00-15:20**

**SESSION 29. Motivational climate in sport**

Chair: Yngvar Ommundsen

**Paper 1. Motivational climate, need satisfaction, regulation of motivation and subjective vitality: A study of young soccer players**

Yngvar Ommundsen\*, Glyn C. Roberts, Pierre-Nicolas Lemyre, & Frank Abrahamsen

*\*Norwegian School of Sport Sciences, Oslo, Norway*

We investigated the role of motivational climates, perceived competence, autonomy and social relatedness on young soccer players' motivational regulation as well as the role of these factors in predicting subjective vitality in soccer. Participants were 283 experienced young players (aged 12-16 years; Boys  $n= 177$ ,  $[M = 13.9, SD = 2.9]$ ; Girls  $n= 106$   $[M= 14.4, SD = 2.1]$  taking part in the Norway Cup international youth soccer tournament in 2004. Multiple regression analysis revealed that intrinsically regulated motivation as measured by the relative autonomy index (RAI) was positively and genuinely predicted by a mastery climate, by perceived competence, by perceived autonomy, as well as by perceived relatedness, accounting for 22% of the variance in RAI. Path analyses further revealed that perceived competence (Sobel's test;  $z = 2.23, p < .01$ ), perceived autonomy (Sobel's test;  $z = 3.66, p < .001$ ) and perceived relatedness (Sobel's test;  $z = 3.03, p = .001$ ) significantly and partially mediated these relationships. 38% of the variance in the players' subjective vitality was explained by the total predictor set. A mastery climate, perceived autonomy, and intrinsically regulated motivation all genuinely and positively predicted increased subjective vitality in soccer. Further, in a separate regression, perceived competence, autonomy and relatedness were shown to fuel subjective vitality, accounting for 24 % of the variance. Findings illustrate the value of blending tenets of AGT and SDT theory by showing that psychological mediators may act as mechanisms by which contextual factors influence young athletes' motivation and affect in sport.

**Paper 2. Seasonal change in perceived motivational climate and performance anxiety in female and male elite handball teams**

Frank Eirik Abrahamsen\*, Glyn C. Roberts, Anne Marte Pensgaard, & Lars Tore Ronglan

*\*Norwegian Olympic Center, Oslo*

Few longitudinal studies have investigated how changes in athletes' perceptions of the motivational climate extant in the team, affect perceived athletic ability and performance anxiety. There is a need to address this scarcity in research, especially with elite athletes. Thus, the present longitudinal study with elite female and male handball players served three purposes: (1) We predicted, and found, that female athletes would report higher levels of performance anxiety than males; (2) We examined whether there were gender differences in changes in perceptions of the motivational climate, performance anxiety and perceived athletic ability during the season. This was not supported in the findings, because the changes during the season were similar for female and male athletes alike. (3) We examined whether any changes in perceptions of the team environment during the season affected female and male athletes' anxiety levels and perceptions of athletic ability differently. This was partially supported. For females, not males, the reduction in mastery climate perceptions during the season mirrored a decrease in perceived ability. Also, a decrease in perceived ability over the season significantly predicted an increase in performance worry, but again only for the female players. Potential implications of the findings and future research are outlined.

**Paper 3. Motivational climate and social relationships of children: The effect of parental motivational climate on social relationships and sport involvement of boys and girls**

Marit Sørensen & Glyn C. Roberts

*The Norwegian School of Sport Sciences, Norway*

The effect of the motivational climate created by parents on the life of children is an understudied topic. The present study investigated the impact of parental motivational climate on peer and family relationships and sport involvement for boys and girls. The study was part of a health investigation made by The National Institute of Public Health. Participants were 2964 girls and boys 15 years of age in two counties in Norway (69.7% of the total population). Data for this study were collected by questionnaires. Canonical correlations demonstrated that for boys, two meaningful functions emerged. The first was a mastery and performance home climate, positively associated with their own ego and task orientation, the number of hours engaged in sport/exercise, and their liking for sports. The second function was a performance climate, positively associated with ego orientation, and negatively associated with empathy to others. For girls, two meaningful functions emerged. The first was a mastery and performance home environment, positively associated with ego and task orientations, with positive family relationships, empathy, the number of hours engaged in sport and liking sports. The performance climate was positively associated with ego orientation, and negatively associated with family relationships and empathy. Two conclusions may be drawn: First, the criteria of success and failure that parents impart in the home have an effect on the social relationships of their children, and their likelihood to engage in sport/exercise. The more mastery oriented the perceived climate is in the home, the more positive are social relationships, and the more likely children will engage in sport. Second, these relationships are stronger for girls than boys.

**Paper 4. Links between perceived coach motivational climate, goal orientation and burnout among elite adolescent athletes**

Gauthier Sandrine & Guillet Emma

*Centre de Recherche et d'Innovation sur le Sport – EA647, Université Claude Bernard Lyon, France*

The purpose of the study is to examine the impact of psychological variables, particularly, the perceived motivational climate and achievement goals, on the sport burnout (i.e., syndrome of emotional and physical exhaustion, reduced accomplishment and devaluation). A theoretical model based on the Self Determination theory (Deci & Ryan, 1991) and the cognitive-affective model of stress and burnout (Smith, 1986) is proposed to analyse the phenomenon. This model postulates that the perceived motivational climate induced by the coach (support, control, task and ego) and the goal orientation (performance-avoidance, performance-approach and mastery goals) are antecedents of some forms of motivation (intrinsic, extrinsic, amotivation). The least self-determined forms of motivation might lead to the most negatives consequences, particularly, on anxiety, self-confidence and vitality perceptions. At the end, these perceptions may be linked to burnout. This study will be carried on 200 elite adolescents athletes (aged from 14-16 years, who train approximately 13 hours per week) The athletes will complete a questionnaire which measures: (a) motivational climate, (b) goal orientation,

(c) situational motivation, (d) states of vitality, anxiety and self-confidence, and (e) burnout. We hypothesise that the results of causal path analysis will show that the control perceived motivational climate and ego and avoidance orientations lead to the less self-determinate forms of motivation, which increases anxiety, and decreases self-confidence and vitality. We will support that low self-confidence, vitality and high anxiety rates are associated to burnout and have consequences on the athlete behaviour.

**Paper 5. Causal relationships of students' perceived physical ability with exercise participation, and satisfaction in sport and physical education lessons: A longitudinal study**

Perikles Kalogiannis\*, Athanasios Papaioannou, Giorgos Ampatzoglou, & Alexandros Sagovits

\**Democritus University of Thrace*

The aim of the present study was to investigate the causal relationship of students' perceived physical ability with sport and exercise participation, and satisfaction in sport and physical education lessons. A longitudinal study was conducted involving 1508 (559 boys and 994 girls) Greek students who completed questionnaires on three continuous academic years (T1, T2 and T3), once a year, measuring perceived physical ability, frequency of sport and exercise, and satisfaction in sport and physical education lessons. At T1 677 students were in the sixth and 831 students were in eleventh grades. The data were analyzed using structural equation models. Results indicated reciprocal effects between perceived physical ability, exercise participation and satisfaction in sport and physical education lessons. All results are in accordance with those of similar studies, support the positive role of perceived physical ability for exercise involvement, and provide support for the reciprocal effects model which consider self concept both as cause and outcome of behaviours and satisfaction in specific domains.

**Thursday 6/9/2007**

**14:00-15:20**

**SESSION 30. Coaching – related issues I**

Chair: Sophia Jowett

**Paper 1. Transition into new coach-performer dyads**

Christopher Sellars

*University of Huddersfield, UK*

Pocswardowski *et al.*, (2006) have called for diversifying approaches to research on coach- athlete relationships. The formation of such relationships requires further understanding. Transitions in sport have become a popular topic in the past decade. Numerous sport transitions have been explored (see Lavalle *et al.*, 2004), but that of forming a new coach- performer dyad has received little attention, despite its obvious significance for future performance and training group dynamics. The aim of the present study is therefore to examine the subjective experiences of coaches and athletes recently forming new coaching dyads. A purposive sample of 3 elite (2 international, 1 national) track athletes and their 3 “new| coaches who met relevant inclusion criteria (Patton, 1190) were interviewed using semi- structured interviews. Transcribed raw data were subjected to inductive and deductive content analyses (Weber, 1985) and grounded theory (Glaser & Strauss, 1967) to identify raw and subsequently higher- order themes. The perceived challenges faced by coaches and athletes are examined independently and then contrasted: likewise the copying mechanisms employed. Results are presented via a number of hierarchical content tree diagrams that reveal coaches and athletes find their transition challenging: for the coach primarily in terms of integrating the new athlete into the squad, understanding the athlete's individual sport needs and developing a personal rapport with the athlete. The latter is critical for the athletes, as does adapting to the new training regime and being patient with the new regimen. These results are discussed in relation to the existing and future transitions literature, nuances of this specific sport and their implications for applied sport psychology practitioners.

**Paper 2. A tool to facilitate coaches' interventions**

Josean Arruza\*, Gloria Balague, & Silvia Arribas

\**UPV/EHU (University of Basque Country), Spain*

The presentation will describe a tool that facilitates coaches' interventions by allowing them to monitor several dimensions of the athlete's level of functioning. The tool is a web-based program that allows for interaction of sport psychologist, coach and athlete. This program was born after 20 years of combined experience in

research and applied interventions with coaches and athletes. Goals are to evaluate psycho-social skills of the athletes, monitor changes during practice and competition, to intervene as early as possible and help prevent psychological deterioration. Ten assessment questionnaires are included, as well as a virtual library of 12 basic performance topics. This instrument is currently being tested with elite level athletes and coaches in the basque country. Preliminary results show an increase in the athlete's involvement, increased communication between coach-athlete and the possibility of consulting with athletes/coaches who are training or competing far away. A demonstration of the tool, its questionnaires, graphs, and different ways of using the information will be presented during the session.

**Paper 3. A seminal examination of the interaction between female coaches and male athletes from three competitive levels: Unique interviews**

Matthew J. Wilson\* & Lindsey C. Blom

*\*The University of Southern Mississippi*

Although Title IX has been credited with changing the landscape of interscholastic and intercollegiate female sport participation, it has also impacted the coaching profession. Research indicates that as of 2004, only 44.1% of female athletic teams had female coaches, while only 2% of men's teams had female coaches (Carpenter & Acosta, 2005). A dearth of research has been conducted on the before mentioned 2 percent. Therefore, this study offers insight into the psychological and sociological issues surrounding the unusual dyad involving a female head coach and male athlete. Interviews were conducted with three women: 1) a former head coach in a United States men's professional league (American Basketball Association), 2) a former collegiate men's soccer coach, and 3) a current high school boys' basketball coach. These interviews were supplemented with information from former players or news articles. Researchers coded transcripts and articles, organized data into categories, and identified central themes. Consistent themes regarding coach characteristics included having a strong male coach influence throughout playing experience, lacking confidence upon initially accepting the position, and developing coaching styles that involved discipline, structure and intensity. In exploring the coaching environment, common themes emerged regarding the challenges in dealing with player egos and doubt expressed by fans, players' parents, or media. Insight into this unique dyad can be used to develop effective coaching practices, understand obstacles and barriers to increasing the number of women coaching men's teams, and help match coaches with teams.

**Paper 4. Factorial validity of a long version of the Coach-Athlete Relationship Questionnaire (CART-Q): Coaches' perceptions**

Daniel J. A. Rhind\* & Sophia Jowett

*\*Loughborough University, United Kingdom*

The coach-athlete relationship has been viewed as instrumental for coaches and athletes' performance success and satisfaction. Jowett and Ntoumanis (2004) developed and validated a measure that aims to assess coaches' and athletes' perceptions of relationship quality. The development of the 11-item Coach-Athlete Relationship Questionnaire (CART-Q) was based on the model known as the 3 Cs; this model incorporates the interpersonal constructs of closeness, commitment and complementarity (e.g., Jowett, 2005, 2007). *Closeness* refers to the affective meanings that the coach and athlete associate with their relationship (e.g. liking, trust and respect). *Commitment* relates to the members' intentions to maintain the relationship and *Complementarity* concerns the members' co-operative and corresponding behaviours of affiliation (e.g. an athlete's friendly and responsive behaviour during training attracts friendly and responsive behaviour from their coach). The paper will present a study conducted to develop and validate a longer version of the CART-Q. The CART-Q long version was administered to a sample of 220 male and female coaches who were recruited from a wide range of team (e.g., rugby, football) and individual (e.g., swimming, athletics) sports. Participants' coaching experience was wide-ranging (ranging from a year to several years) and performance levels included Recreational, University, Club, Regional, National and International. Data were analyzed using descriptive and inferential statistics. Confirmatory Factor Analysis was used to test whether the data collected on the longer version of the CART-Q fits the 3 Cs model. The results will be discussed and future research directions will be provided.

**Thursday 6/9/2007****15:30-16:50****SESSION 31. Soccer related psychological research II**

Chair: Sandy Wolfson

**Paper 1. Results of a seasonal-period psychological skills training in football young-players**

Godoy-Izquierdo, D.\*, Vélez, M., &amp; Godoy, J.

*\*Depto. Personalidad, Evaluación y Tratamiento Psicológico, Facultad de Psicología. Universidad de Granada, Spain*

Athletes' performance is the result of the integration of acquired physical, technical, tactical and psychological skills. Several studies have shown the direct relationship between psychological skills and performance. The main aim of this study was to examine the effects derived of a multi-component intervention on athletes' control and use of a number of trained psychological skills. Ten football young-players aged 16 to 18 yr ( $M = 17.65 \pm .54$ ) participated in the study. A questionnaire for the assessment of psychological skills (CHPCDC, Godoy-Izquierdo et al., 2001, 2006) was administered before and after a seasonal-period psychological training. This instrument assesses 21 variables, behaviours and skills in young athletes. Skills trained were self-confidence, use of self-talk, competitive motivation and fair-play. Players were adhered to a psychological training programme during 1 season, with 20 1/week 45-min sessions. Differences were found in post-intervention measurement showed significant changes in trained variables ( $p < .05$ ), changes which were supported by moderate effect sizes. Other non-trained but related skills were also improved (NS). Results indicated relevant changes in athletes' level of control and use of several psychological skills after a training period and by using self-reported strategies. These results were obtained despite the brevity and specificity of the programme, pointing out the suitability of including psychological training in order to complete the formation process of young athletes.

**Paper 2. Home advantage in the last ten years in Portuguese First League Football**

Silvério, J.\*, Tendais, I., Almeida, G., &amp; Smith, A.

*\*Psychology Department – Minho University, Portugal*

Home advantage, defined as the "consistent finding that home teams in sport competition win over 50% of the games played under a balanced home and away schedule", is one of the most well documented phenomena in sport psychology literature. Home advantage has been demonstrated in all team sports although to a different degree. However, research on the factors or causes that determine home advantage has been less elucidative. The results obtained have been conflicting and equivocal. Courneya and Carron (1992) identified four game location factors – crowd, travel, familiarity and rules – that presumably influenced critical psychological states and behaviours which have a positive impact on the performance of athletes and at the end on the results of competitions. This model has further been validated in a study done by Bray and Widmeyer (2000). We discuss and analyse the existing studies in what concerns nine factors: crowd support, game importance, learning and familiarity, travel, rules, official bias, special tactics, psychological and biological. The purpose of our study was to examine all seasons (ten) since the victory means three points in the Portuguese first league football in order to see if there was home advantage. In ten seasons in the Portuguese League the overall home advantage varies between 60 and 66%. When we look individually at the teams there are some important differences that we emphasize. We also discuss the differences in home advantage between the old stadiums and the new ones that the teams build for the Euro 2004 played in Portugal.

**Paper 3. A pilot study of the Spanish adaptation of MSCCI for its use in young soccer players**

Eva M., García-Quinteiro\*, Elena M. Andrade, &amp; Rodríguez Mauro

*\*University of Santiago de Compostela, Spain*

This paper describes the development of a Spanish adaptation of the Multidimensional Sport Cohesion Instrument (MSCCI), and reports the results of its administration to a sample of 173 soccer players. The MSCCI (Yukelson, Weinberg, & Jackson, 1984) is composed of 22 items representing four dimensions of cohesion: attraction to the group, unity of purpose, quality of teamwork, and valued roles. Its Spanish form is the result of a joint work with experts which combined forward and backward translation procedures. Data gathered with this Spanish version were first subjected to exploratory factor analysis using the principal-axis method and oblique rotation. Four significant primary factors were obtained which allowed to explain 42.40% of the common variance. The second-order factor analyses pointed to the existence of one higher order factor of

cohesion. Twenty of the initial 22 items showed significant correlations with this general latent factor. Based on these results, a new stage of research has recently started with the purpose of studying both the factorial validity of the instrument and its convergence with other multidimensional measures of sport cohesion like the Group Environment Questionnaire (Carron, Brawley, & Widmeyer, 1998).

**Paper 4. Elite football players in Norway. Do they have some common background characteristics?**

Unni Segberg\* & Rune Høigaard

*\*Agder University College, Norway*

In order to develop football players' skills, possessing more knowledge about elite players' backgrounds, lifestyles, activities and motivation, may be important. The aim of this study is to explore common background characteristics. 248 male football players (age 23.10±6.1) from fifteen different teams in first and second leagues participated in the study. Among these players, 75% of their siblings, 68% of their mothers and 32% of their fathers had been athletically active. Fifteen percent of the mothers had played sport at a high level. All of the players reported about a very high activity level in their childhoods and at age 8, 95% had been members of an athletics club. From the ages of 5 until 14, more than 75% participated in one or more athletic activities in addition to football. In addition to their organized practice sessions, at the age of eleven, 84% of the players reported that they played unorganized football more than 7 hours weekly. The players' ambitions were high; 50% wanted to be players on the international level, 30% had ambitions of playing in the Norwegian Premier League. In general, these players perceived their own football skills as being far above average from an early age. The main reason for participating in football was both high ambition and a love of the sport. Moreover, at the age of six, 56% reported that friendships was an important reason for participating in football, and at the age of seventeen, 20% reported developing and maintaining friendships as being an important reason for their participation.

**Paper 5. Effect of automatic priming by activation on the performance of expert soccer players in simulated decision-making task**

Claire Locquet\* & Bachir Zoudji

*\*University of Valenciennes, Faculty of Sports Sciences, France*

The study aims to test the assumption of the activation theory with expert subjects on simulated soccer situations in a decision-making task. The knowledge bases model states that the long-term memory of expert subjects contains a great number of structured patterns, specific to the field of expertise. These patterns would enable the expert to carry out good performances in memorization and/or decision tasks. In order to test this hypothesis we used a technique of automatic priming by activation. This method consists in presenting a prime situation, "neutral" or "logical", immediately followed by a target situation. We assume that if the expert activates his patterns according to the prime situation, this would result in a time saving during the treatment of the target situation. This improvement occurs whenever the prime and the target situations are presented as logically linked compared to the presentation of situations where the prime is neutral. In the other hand, we would expect that, novices, who are deprived of any specific knowledge about soccer, will wait for the target situation so as to make a decision and whatever the type of prime it may be. Indeed, we observed a significant time saving for expert subjects when the prime and the target have a logical link in comparison with the pairs of images where the prime was neutral, which is not the case for the novices. This result emphasizes the activation theory predictions.

**Thursday 6/9/2007**

**15:30-16:50**

**SESSION 32. Coaching – related issues II**

Chair: Marja Kokkonen

**Paper 1. Professional coaches' emotional skills are related to their well-being**

Marja Kokkonen

*Department of Sport Sciences, University of Jyväskylä, Finland*

The present cross-sectional study investigated the relationship between professional coaches' emotional skills and their subjective well-being, both psychological and physical. 142 professional Finnish coaches (39 females, 103 males) were assessed using the following mailed questionnaires: the Self-reported Emotional Intelligence

(Schutte et al., 1998) and the Twenty-Item Toronto Alexithymia Scale (Bagby, Parker, & Taylor, 1994) for emotional skills; the 20-item somatic symptom check-list (Aro, 1988) for psychosomatic symptoms; the General Health Questionnaire (Goldberg, 1972), Rosenberg's Self-Esteem Scale (1965), the Meta-Evaluation Scale (Mayer & Stevens, 1994) and Sense of Coherence Scale (Antonovsky, 1987) for psychological well-being. Additionally, their levels of stress, self-assessed health, working capacity and the number of chronic diseases were measured by means of single questions. T-tests revealed that female coaches scored higher in stress, psychosomatic symptoms, and psychological distress, whereas males scored higher in sense of coherence and self-esteem. Correlational findings showed that the emotional skills of identifying, understanding/analyzing and regulating emotions were positively connected to emotional well-being, sense of coherence and mental working capacity, and negatively to psychological distress. In hierarchical cluster analysis five distinct groups of coaches, based on their emotional skills, emerged. The groups were different from each other in terms of their psychological well-being and working capacity. The results supported previous findings on the relation between poor emotional skills and poor well-being, and suggested that promoting the teaching of social and emotional skills through coach education could be beneficial to the well-being of professional coaches.

### **Paper 2. Sources of information used by athletes when forming initial impressions and expectancies of a coach**

Andrew J. Manley\*, Iain Greenlees, Jan Graydon, Richard Thelwell, William C.D. Filby, & Matthew J. Smith  
\*University of Chichester, UK

First impressions have the potential to influence perceivers' expectancies of a target, which may subsequently dictate the behaviour of both parties (Miller & Turnbull, 1986: *Annual Review of Psychology*, 37, 233-256). Despite evidence suggesting that particular cues influence athletes' expectancies (Lubker et al., 2005: *The Sport Psychologist*, 19, 446-458), the information that athletes use to form expectancies of coaches has not been examined. This study aimed to identify the cues that athletes use to initially evaluate coaching ability. With institutional ethics approval, 534 athletes (Male,  $n = 334$ , Age mean 20.25,  $s = 4.22$  years; Female,  $n = 200$ , Age mean 20.46,  $s = 3.81$ ) were recruited. Athletes were given a list of 31 informational cues (e.g. age, attractiveness, reputation) and asked to rate the perceived influence of each item when forming initial impressions of a coach. Cue ratings were provided using a 7-point scale (1 = not influential; 7 = extremely influential). Following Exploratory Factor Analysis, a three-factor model (i.e. static cues, dynamic cues, and third-party reports) was extracted. Examination of variable means revealed that while static cues (e.g. gender) were deemed relatively unimportant during impression formation, dynamic cues (e.g. facial expressions) and third-party reports (e.g. reputation) were viewed as influential in the formation of expectancies about coaches. These findings have implications for coaching guidelines, and imply that coaches should be mindful of the way in which athletes perceive informational cues. Future research should test the validity of these findings and investigate their impact on the coach-athlete relationship.

### **Paper 3. The impact of cultural diversity on intercollegiate team sport coaches**

Catherine Duchesne\* & Gordon Bloom  
\*McGill University, Canada

Cultural diversity has played a key role in shaping the character and sporting culture of North American society. According to the student athlete ethnicity report of the National Collegiate Athletic Association (NCAA), the percentage of international student-athletes in the NCAA has increased by 1.3% from 2000 to 2005 (<http://www.ncaa.org/wps/portal>). In the highest division, the numbers are more staggering, with increases of 2063 to 3628 males and 1526 to 3492 females (<http://www.ncaa.org/wps/portal>). Despite this, there is a paucity of literature examining the impact of cultural diversity in coaching, at both the recreational and elite levels. Thus, the purpose of the present study was to identify the knowledge and successful strategies utilized by intercollegiate team sport coaches who have worked with international athletes. Particularly, what was the coach's view of the impact cultural diversity had on the coach and athlete relationship, as well as on team satisfaction and success? Seven head coaches were interviewed using an unstructured, open-ended interview format. The results extended the understanding of cultural sport psychology, by highlighting how coaches developed cultural competence and awareness. Specifically, the coaches' personal quest to satisfy the athletes' academic, sport, and personal needs, as well as the use of team building activities throughout the season helped to bridge the gap between differing cultures. This study provided a deeper understanding on how culturally diverse teams were managed by coaches, leading to the development of more effective and equitable strategies and interventions for coaching culturally diverse athletes and teams.

**Paper 4. A general theory of coaching in team sports**

Leif Isberg

*Department of Health Sciences Örebro University, Sweden*

The last 15 years of working with research in the field of coaching in team sports with focus on national and international elite level has lead to a general (formal) theory of coaching in team sports. The theory is based on the results and analyses presented in five different scientific reports and at a lot of international congresses. The main aims of the studies behind are; to describe the obstacles and conditions for the coaching activity and analysing the behaviour of the coach during practise and game; to describe how coaches, who have been fired during ongoing season or nor got their contracts prolonged to the next season, experienced their situations; to illuminate how coaches on elite level in the team sport of football (soccer) create conditions for the process of coaching, carrying it through and follow it up; to study what qualities, knowledge and, skills European Top Level coaches in football/soccer on international top level possess; to study how coaches with their qualities, knowledge and skills manage their roles in National Hockey League (NHL). The research is based on a naturalistic approach and includes data collected in real match and practise situations. The methods used are interview, observation combined with video recordings, followed up with stimulated recall interviews with coaches and players. The analyses are based on different qualitative techniques as Grounded Theory, Giddens structural theory and, individual focus on each coach's narrative. This have resulted in substantive theories and the last study is concluded by presented a general (formal) theory of coaching in Team Sports which will be presented and discussed in this paper.

**Thursday 6/9/2007****15:30-16:50****SESSION 33. Motivation and dance**

Chair: Jarmo Liukkonen

**Paper 1. Processing emotions without using words: Participation motives of 5 Rhythms™ dancers**

Ineke Vergeer

*Durham University, England*

Over the last several decades, we have seen the appearance and growth of a number of "alternative" movement or exercise disciplines. These disciplines tend to be embedded in holistic philosophies, often non-western in origin, specifying how particular types of movement or exercise can serve as a vehicle for obtaining and maintaining a holistic sense of well-being. We know very little, however, about the role that this embeddedness in holistic philosophies plays in individuals' motivation to take up and maintain participation in these disciplines. This study entails an exploration of the participation motives of 5 Rhythms dancers. The practice of 5 Rhythms™ dancing was developed by Gabrielle Roth (1989), as a westernised shamanic practice, grounded in the notion that unprocessed emotions get stored in the body and its wider energy system, and that by moving the body in accordance with five universal rhythms, these emotions can be released, thereby allowing more vitality and holistic well-being. Data were collected via e-mail requests sent to lists of participants of several workshops and classes held in the UK. The participants were asked to describe the reasons why they took up and continued dancing. The results indicated that the participants generally liked the presenting features of the practice that they encountered on their first visit, but that the appreciation of the emotional release often came through continued practice.

**Paper 2. Enjoyment of 12-16 year old dancers during one-year training period**

Sami Yli-Piipari, Timo Jaakkola, &amp; Jarmo Liukkonen

*University of Jyväskylä, Department of Sport Science, Finland*

Enjoyment has emerged as one of the major constructs for understanding and explaining the experiences and motivation of people who participate in sports. Additionally, research has revealed that enjoyment is an important antecedent in sport participation and physical activity involvement. However, although enjoyment is seen essential for sport participation, up to date, only a few longitudinal studies on changes in enjoyment during practice season have been implemented. The participants of the study were 209 Finnish dancers, 12 to 16 years of age. They responded to a Finnish version of the Enjoyment in Sports Scale three times during a one-year dance-training period. Explorative factor analysis supported the one-factor structure of the Scale. Also the internal consistency of the scale items was good. The multivariate analysis of variance with repeated measures



design showed that the girls' enjoyment decreased during the practice season. The boys' enjoyment remained the same. The reason why the girls' enjoyment decreased during the practice season might be that the culture of dance training includes a plenty of features of ego involving climate, such as coach-centred decision making, normative evaluation and competition. Boys are more competitive than girls, and thus they are used to ego oriented activities in other social contexts. That might be the reason why the boys' enjoyment remained the same during the year. The results of this study support finding pedagogical solutions which increase features of task-involving motivational climate instead of ego involving climate, if enjoyment is desired.

### **Paper 3. Body image: a study of comparisons and associations between female professional and non professional dancers**

Bakali Nikoleta\* & Pollatou Elisana

*\*Department of Physical Education and Sport Science, Democritus University of Thrace, Greece*

This study examined the association between the levels of dance status related to a number of factors in body image. This study investigated how body image was affected as a result of women dancers exercising in a professional and non professional level and the items of body image were surveyed according to the Multidimensional Body-Self Relations Questionnaire (MBSRQ). The reliabilities in the subscales were based on Cronbach's alpha and for this survey the  $\alpha$  for the total of the 69 question items was ranged to .91. The surveyed subjects were women were professional dancers (N=115) and non professional dancers (N=85) between the age of 15 and 30 years old. The SPSS 11.0 program used descriptive statistics to compute the means and standard deviation for each MBSRQ subscales and independent t-tests were used to compare means and standard deviations between dance status and depended variables. ANOVA was used to test differences in means between dance status and depended variables. Dance status was found to be significantly associated with 3 of 10 MBSRQ sub-scales, with professional dancers having higher mean scores on fitness orientation ( $F=10.095$ ,  $p<.05$ ) and body areas satisfaction ( $F=16.455$ ,  $p<.05$ ) and lower mean scores on overweight preoccupation ( $F=9.873$ ,  $p<.05$ ) compared to non professional dancers. Results showed that there is a relationship between fitness orientation, body areas satisfaction and lower mean scores on overweight preoccupation and dance status but it would be recommended that future surveys will focus also on body image problems as female professional and non professional dancers gets older, that is between female dancers of different age level.

### **Paper 4. Study on Observers' Impression in Dance**

Nao Shikanai\*, Misako Sawada, & Motonobu Ishii

*\*Tokyo Institute of Technology, Tokyo*

Dance that transmits information to others is considered as a form of nonverbal communication, and the dancer can transmit various images to others by variety of body expressions (Ishikawa, Y. et al., 2001). The previous studies focused on the analysis of dancer's movement. They analyzed the relation between the expression movement and the content of expression, and measured the parameters of body expression (Boone, R.T. & Cunningham, J.G., 1998 ; Sawada, M. et al., 2003). However, there are few researches what and how dancers' clue created the impression for observers. Thus, we focused on the observers' aspects and evaluated their impression in this study. The purpose of this experiment is 1) to investigate whether observers could identify specific emotions from the expressions by experienced and inexperienced dancers, 2) to measure and analyze what impressions observers got from the expressions, and 3) to investigate what body parts observers perceived in the expression. Experienced and inexperienced dancers performed Matsumoto's 7 motives; happy mv., flowing mv., lonely mv., natural mv., solemn mv., sharp mv., dynamic mv., Ekman's 6 emotions; joy, sadness, anger, surprise, fear, disgust, and a standing posture as a control pose. Each of these performances was recorded by digital video camera. Films were randomly presented observers. As preliminary experiment, observers could identify some specific emotions from the expressions by experienced and inexperienced dancers. And the findings indicated that there were differences of movement impression in each emotion and some body parts observers perceived in the expression.

### **Paper 5. Dance/movement therapy: A useful tool for sport psychology (Review)**

Kavazidou Eleni, Doganis George, & Fachantidou-Tsiligioglou Anna

*Department of Physical Education & Sports, Aristotle University of Thessaloniki, Greece*

Dance/Movement Therapy (DMT), even if ostensibly is much identified with kinesiotherapy physiotherapy and occupational therapy, it differs in structure, methodology, aims, content and upcoming results. Many professionals claimed the dance-art for the health-care. Well-known psychiatrists, psychologists, dancers,

choreographers, occupational therapists, physiotherapists and teachers of physical education are involved by the beginning of 20th century in an interminable game of knowledge exchange in behalf of delimiting the art of dance in therapeutic frames. DMT is already a widespread supporting method of psychotherapy, productive entertainment and re-establishment of psychosomatic illnesses. DMT is advisable for detection, improvement & development of kinetic behaviour and psychological abilities. DMT courses are adapted in a way that serves the needs of patient and keep pace with the virtues of healer. Appreciable theories of kinetic behaviour, which are based on the psychoanalytic and psychodynamic approach in combination with the basic ranks of kinetic learning, are reported. The advantages of DMT in effective learning and accessible healing are oscillated depending on the objectives, so that they cover a wide spectrum of beneficial effects as: a) new elements for treatment and study, b) improvement of personal and interpersonal psychological abilities d) control of cognitive and psychosomatic stress, e) positive sentimental change, g) pain tolerance, h) precocious recognition of psychosomatic dysfunctions and j) prevention for psychologic, physical and emotional disturbances from the infantile age . DMT is suggested to start being used in the field of Sport Psychology, because of being painless, effective and beneficial method of psychological abilities-improvement.

#### **Paper 6. Social environmental predictors of motivation regulations and self-perceptions in dancers**

Eleanor Qusted & Joan Duda

*University of Birmingham, UK*

Grounded primarily in self-determination theory (SDT; Deci & Ryan, 1985), recent sport research suggests more autonomy supportive, socially supportive and/or task-involving environments foster more autonomous regulations for participation (Gagne et al., 2003), need satisfaction and subjective well-being (Reinboth et al., 2004). Controlling and/or more ego-involving climates have been associated with negative affect (Standage et al., 2005), negative body image and preoccupations with eating and weight (Duda & Kim, 1997) and contingent self worth (Reinboth & Duda, 2005). Little is known regarding how and to what degree variability in the psychological environments manifested in dance settings differentially corresponds to need satisfaction, motivational regulations, and important outcomes such as self-perceptions. As research indicates dancers are more susceptible to eating disorders (Smolak et al., 2000) and have more negative body image and lower self-esteem than non-dancers (Bettle et al., 2001) it could be suggested that dance environments do not always contribute to need satisfaction (Ryan & Deci, 2000) and promotion of positive self-perceptions. This study aims to examine social environmental predictors of dancers' motivation regulations for dance participation and self-perceptions (i.e., self-esteem, physical self-worth, dance competence) within an SDT framework. Participants are elite male and female dancers representing ballet, hip-hop and contemporary disciplines. Preliminary findings indicate dancers' perceptions of task-involving, autonomy supportive and socially supportive features of their dance environment are associated with more self-determined regulations for dance and higher self-esteem ( $p < .01$ ). Perceptions of autonomy supportive and task-involving climates were also associated with positive perceptions of dance competence ( $p < .01$ ) and physical self-worth ( $p < .05$ ).

**Thursday 6/9/2007**

**17:00-18:20**

#### **SESSION 34. Swimming related psychological research**

Chair: Antonis Hatzigeorgiadis

#### **Paper 1. Understanding resilience in swimming: A qualitative investigation utilising personal construct psychology**

Timothy Chambers, Sandy Gordon, & Robert Grove

*School of Human Movement and Exercise Science, The University of Western Australia*

Resilience is a concept born from behavioural science whereby researchers aimed to explain unexpected benign or malignant outcomes associated with the development process. Much is known about resilience within developmental psychology contexts, yet the concept remains relatively ignored by sport and exercise psychology researchers. The present study aimed to further our understanding of resilience in swimming using a Personal Construct Psychology (PCP) framework to guide the research investigation. Question development for the present study was based on Kelly's (1955) psychotherapy retrospective interview. Twenty National and International representative Australian swimmers (13) and swimming coaches (7) participated in the study.

The qualitative data were transcribed verbatim and conventional content analytic procedures were utilised to analyse the data. Results were divided into two distinct categories; *understanding* and *developing* resilience. Findings pertaining to understanding resilience included a proposed definition of resilience for swimming, and three core categories for understanding resilience. Specifically, numerous resilience characteristics, situations that required resilience and resilient behaviours were identified by the present study. Developing results revealed several social, intrapersonal and environmental influences attributed to enhancing resilience. Subsequently, a developmental model of resilience was introduced, and a conceptual model of resilience in swimming was proposed. Findings of the present study significantly contributed to current sport and exercise psychology literature, in particular, discussing the ability of elite athletes to recover from setbacks, and the creation of a model to develop and conceptualise resilience. Future research recommendations include the design, implementation and evaluation of a resilience intervention.

**Paper 2. The examination of Autogenic Training (AT) by using psycho-physiological measurement for Japanese collegiate woman swimmers (Division) before intercollegiate competition**

Yasuhisa Tachiya

*Japan Institute of Sports Sciences, Japan*

Japanese athletes have used Autogenic Training (AT) since 1961 (before 1964 Tokyo Olympic Games) in order to overcome tension, anxiety and other psychological issues that often accompany an athlete's preparation for an event. AT is now one of the most common relaxation techniques in Japan. Although researchers have studied AT for athletes, little is known about AT with a long exercising period before an important competition. The purpose of this study was to examine how to an athletic can relax by using AT. AT measuring was accomplished by means of psycho-physiological measurements for 11 Japanese collegiate woman swimmers, division, mean age 20.5 (SD=0.69) before three months of intercollegiate competition. The study used psychological measurements: Profile of Mood States (POMS)-Brief Japanese Version and Competitive State Anxiety Inventory 2; (CSAI-2) and physiological measurements such as EEG, respiration and finally by using the subjects' comments. The experiments were held four times during the three months. The 1st was a start experiment (base line) and the 2nd, 3rd and 4th were 3-4 weeks on interval situations. In addition, the athletes continued to exercise AT every day from the 1st to 4th experiments, which means they exercised for three months until intercollegiate competition. The results showed that POMS-Brief's negative factor decreased ( $p < .01$ ) and the confidence in the factor of CSAI-2 increased ( $p < .001$ ) in comparing pre-post scores through the 4 experiments. And,  $\alpha$  waves in EEG changed to slow  $\alpha$  waves and the number of respiration decreased in comparing the 1st through 4th experiments. Also, some athletes said, "I am getting relaxation easily through the 4 experiments." The results suggested that the athletes do get relaxation before the important game.

**Paper 3. Development of mental strength among Danish elite swimmers**

Martin Thomsen Langagergaard

*"Team Denmark". Danish Elitesport Federation, Aalborg, Denmark*

A research project founded by "Team Denmark" was conducted in 2004-2006 to provide guidelines for a "Development of Mental Strength among Danish Eliteswimmers". The empirical approach was qualitative interviews with national and international swimmers, coaches and experts, and observation of swimmers and coaches in national and international elite swimming contexts. The theoretical approach was inspired by Natalia Stambulovas work of "Athletic Career Transitions" (2003), Weinberg & Gould (2002), and Horn (2002). The applied approach was taken in the work of Andersen (2000). The main issue was the following question: "What will be optimal according to mental skills fore a talented swimmer at certain times in the career". The aim of the research project was to develop mental skill training programs (PST) to talented swimmers and thereby contribute to create a broader and more qualitative basis for the talented swimmers career – so that the swimmer will be able to compete, practice and perform more consistently, with more quality and more enjoyable throughout his or hers career. The study provides guidelines and further directions fore an implementation of mental strength development in elite swimming in Denmark and undermines the need of applied sports psychology in Elite sports in Denmark.

**Friday 7/9/2007****08:30-09:50****SESSION 35. Combat sports and Sport psychology**

Chair: Tim Woodman

**Paper 1. Diagnostics of psychophysiological states in wrestlers**

Georgiy Korobeynikov &amp; Volodymyr Driukov

*State Scientific Institute of Physical Culture and Sport, Ukraine*

The aim of the study was diagnostics of the psychophysiological states of qualification wrestlers. A total of 27 wrestlers, (Greco-Roman Wrestling) were examined. The perception and information processing were studied by a special computer test. Four digits (from 0 to 9) are presented on the computer's monitor randomly. The subjects were requested to perform a combination digit test; the task was to calculate (in mind) the number of digits in the increasing (first algorithm) or decreasing (second algorithm) order. The following psychophysiological parameters were determined: time perception error (Halberg F., 1978), attention volume, short-term memory volume, operational thinking coefficient and productivity. The results of the investigation showed that 12 subjects had a high estimated, 15 have the intermediate level of psychophysiological states. It was found that different psychophysiological states of formation of system of information processing with specific sporting conditions. According to analysis the athletes with higher level of psychophysiological conditions have promotion of short-term memory volume in comparison of athletes with average level (75.89% and 58.34%,  $p=.05$ , accordingly), operational thinking coefficient (14.56 standard units and 8,14 standard units,  $p=.05$ , accordingly), productivity (43.90 number of positive tests performed and 33.67 number of positive tests performed,  $p=.05$ , accordingly) and time perception error (3.01 s and 5.45 s,  $p=.05$ , accordingly). The specific features of psychophysiological states in wrestlers are manifested with optimized the adaptive compensatory brain mechanisms of decline of perception and information processing capability.

**Paper 2. Identification and analysis of mood states in men and women from the Brazilian national judo team**Sérgio Ricardo de Souza Oliveira, Helio Serassuelo Junior, Antonio Carlos Simões, & Marcos Eduardo Garcia  
*School of Physical Education and Sport at the University of São Paulo, Department of Sport – Laboratory of Psychosociology of Sport – LAPSE, Psychosociology of Sport Study and Research Group – GEPPSE, Brasil*

Mood is proposed to predict performance and it is a signal of gender difference in elite level athletes' mood states. The purpose was to investigate the different mood states in men and women's Brazilian high level judo athletes in preparation phase. The research design involved 8 men and 8 women that participated in international tournaments, including medal's winners in World and Olympic Games. The results obtained in the study were (\*Men and †Women): Tension: \*38.63±8.73; †37.00±5.66; Depression \*40.75±2.82; †41.88±4.88; Anger \*45.63±6.72; †46.50±8.72; Vigor \*55.88±3.80 ; †50.75±11.40; Fatigue \*39.75±5.31 †46.13±9.16 and Confusion 30.50±0.93; †31.88±2.47. The Q-Square Statistic ( $p<0.05$ ) was used to relation the variables between genders. The men had T and V higher than women, and the women had A and F higher than men, with significant differences, what might show women's smaller capacity to cope with training routine. Men's individual analysis showed V and A at a good level which is important in controlling energy consumption. The low level of Confusion, in both groups, was important to keep their mind free of great responsibility. The factor that might concur to the results presented is that women have the same training program as men and it is worth mentioning that would not be in compliance with the principle of specificity. In conclusion, the results lend support that female gender can represent the worst results to negative mood states than males in same training phase. Further research is needed to explore mechanisms that individuals use to control the negative mood.

**Paper 3. Bi-gendered embodiment among female elite wrestlers**

Mari Kristin Sisjord &amp; Elsa Kristiansen

*Norwegian School of Sport Sciences, Oslo, Norway*

Wrestling is a body contact sport which above all requires strength, body flexibility, and fighting spirit. Traditionally wrestling has been dominated by males and perceived as a very masculine sport. Although, females in recent years have gained more acceptances as wrestlers and have also been included in the Olympic

Games, female wrestlers still experience an inferior status in the sport context as well as being confronted with negative reactions from people outside. The purpose of this paper is to examine female wrestlers' experiences in relation to skill performance in wrestling and body appearance. The empirical investigation was made in the fall 2005. Method was qualitative interview, with four Norwegian wrestlers, two seniors and two juniors. The interviewees are in the age group 17 to 32 years. Athletic levels among the wrestlers vary from international professional wrestlers to junior wrestlers on a national level. The data uncover different training strategies between the two genders, where also coaches take into consideration muscle size when they make training programs for the athletes. Muscles strength is beneficial in wrestling but muscle size may be a burden for female wrestlers socially. The paper will discuss different strategies female wrestlers adopt in coping with their bodily appearance and how they develop bi-gendered embodiment which seems to be related to age and athletic performance level. The results are discussed from a feminist theory perspective.

#### **Paper 4. Skilled memory of expert judoka**

Bachir Zoudji\* & Maxence Van Den Bossche

*\*University of Valenciennes, Faculty of Sports Sciences, France*

The skilled-memory theory describes how expert improves the efficiency of data encoding, storage and retrieval processes of the various memory systems (Ericsson & Kintsch, 1995). We tested this model in the judo activity. According to the predictions of this model, we can think that the expert judokas in their field will be less influenced by the difficulty to reproduce the driving gesture which is not the case for novices subjects. Thirty-six gestures of attack in judo were built and realized by two trainers. These gestures gather three levels of difficulty: 12 easy, 12 medium and 12 difficult. During the experiment these gestures were presented at 12 judokas experts and 12 novices, only once and randomly. The task of the subject consists in observing one gesture on the screen, and then, he must immediately carry it out in a real way on another subject on the tatami. The analysis consists to enter the percentage of good answers. The principal results show that: (i) the expert subjects carry out scores of good answers significantly more important than the novice group. (ii) The expert subjects are affected very little by the level of difficulty of the gesture. (iii) The novices subjects carry out almost the same score than judoka of good answers for the easy gesture, however, the more the difficulty of the gestures is important the more the difference between the two groups is important. This result strengthens the model from the long-term working memory suggested by Ericsson & Kintsch, (1995).

#### **Paper 5. Wrestling with gender stereotyping in media constructions. A study of Norwegian elite wrestlers.**

Elsa Kristiansen & Mari Kristin Sisjord

*Norwegian School of Sport Sciences, Oslo, Norway*

Traditionally wrestling has been dominated by males and perceived as a very masculine sport which is reflected in media constructions, commonly by over-emphasizing traditional perceptions of gender relations and stereotypes. However, media presentations also may deviate from reality, as it aims to produce stories that sell, often connected to more private issues more than athletic performance. The purpose of this paper is to examine female and male wrestlers' experiences with media constructions of their sport and how they are framed as elite athletes. The empirical investigation was made in the fall 2005. Method was qualitative interview, with eight Norwegian wrestlers, seniors and juniors, four of each gender. The interviewees are in the age group 17 to 32 years. Athletic levels among the wrestlers vary from international professional wrestlers to junior wrestlers on a national level. The interviewees' experiences of media constructions clearly uncover gender stereotyping relating to traditional perceptions of masculinity versus femininity, however in different ways. The male wrestlers express a dominant focus on hegemonic masculinity in terms of strength and muscle size. In contrast media's framing of female wrestlers are either directed towards traditional perceptions of feminine attributes, or more ridiculous aspects over-emphasizing their strength and muscle size. The paper will discuss how the wrestlers cope with these media constructions.

**Friday 7/9/2007****11:30-12:50****SESSION 36. Burn out and coping**

Chair: Emmanouil M. Georgiadis

**Paper 1. Coping with facilitative and restricting factors during long successful career in Top sport**

Nadine Debois &amp; Aurélie Ledon

*Institut National du Sport et de l'Education Physique (INSEP), France*

Based on a developmental perspective (Wylleman & Lavallee, 2004), the present study examined the factors that played a part in the development and maintenance of expert performance. Ten former elite male athletes with a long successful career in top sport (i.e., retired over 30 years old) were interviewed, using a qualitative method. Results revealed that the athletes had to compose all along their career with both facilitative and restricting factors. Four categories of factors have been identified: (1) environmental factors, including in particular significant others, (2) personal characteristics, (3) sport involvement and, (4) factual circumstances (e.g., injury, unexpected selection, conflict). The whole athletes encountered one or more periods within the course of their career, during which they underperformed, but they succeeded in recovering their elite standard. Thus, their success in sport appeared to rest as well on facilitative factors as on their ability (1) to cope with restricting factors, (2) to learn from good as well as from poor experiences and, (3) to keep a motivated, optimistic, and self-determined attitude, even during less successful stages. These results are in accordance with and complement those of Durand-Bush and Salmela (2002) and Stambulova (2000).

**Paper 2. Defining occupational disability in patients suffering from chronic fatigue syndrome**

Van Hoof Elke\*, McGregor Neil, &amp; De Meirleir Kenny

*\*University of Hasselt, Belgium*

Occupational disability (OD), frequently associated with chronic fatigue syndrome (CFS), creates a social and economic problem. This article examines all three variables defining OD (exercise stress test, neurocognitive assessment, the functional status) and the value of these assessment tools for the prediction of OD. The subjects performed a standardized exercise stress test, neurocognitive assessment, and paper and pencil test concerning their functional status. Correlation and regression analyses were used, as well as Bonferroni corrections. All three variables are examined separately in order to avoid Type I errors and power analyses are included to calculate Type II errors. Although one could criticize this differentiation in one scientific manuscript, these three variables are related when considering occupational disability. Approximately 40% of our patients were currently disabled. Functional status could be predicted by both an exercise stress test and complex cognitive activities. Moreover, current employment rate and the score on the AMA-scale of impairments could be predicted by this functional status. Conclusions: Our results validate meta-analyses that are already available and address the gaps in research of OD in CFS. We suggest the inclusion of an exercise test and neurocognitive testing in the assessment of OD. Although the AMA-scale of impairment should not be used as the sole criterion for the assessment of OD, it seems a valid tool in CFS.

**Paper 3. Stress-regeneration and reaction times in overtraining diagnosis**

Esther Nederhof\*, Koen A.P.M. Lemmink, &amp; Johannes Zwerver

*\*Center for Human Movement Sciences, University Center for Sports, Exercise and Health, University Medical Center Groningen, University of Groningen, The Netherlands*

There is a need for confirmative tools in overtraining diagnosis. In the present paper the Recovery Stress Questionnaire for Athletes (RESTQ-sport) and a reaction time task are presented in three cases. Two female speed skaters consulted a sports physician with complaints of underperformance and fatigue. One was diagnosed with non-functional overreaching (NFO), the other was recovering from NFO. A healthy female speed skater was the control subject. The RESTQ-sport assesses perceived frequency of occurring stressors and regeneration related activities in 19 general and sport-specific scales. Complex reaction time was measured with the Determination Test (DT) on the Vienna Test System. The DT consists of one part in which a new stimulus occurs when a correct reaction is given and one part in which the stimuli occur in six blocks with pre-set presentation times of 1.225, 0.948, 0.834, 0.734, 0.646 and 0.834 s. In this part two stimuli should be

ignored. On the RESTQ-sport the control athlete showed low stress and high regeneration levels. The NFO athlete showed high stress and low regeneration levels. The recovering athlete scored in between the two other athletes except on sport-specific regeneration where she scored high. On the two parts of the DT large inter individual variation was found in median reaction times. In the second part the control subject reacted faster as presentation times became shorter. The NFO athlete reacted slower as presentation times became shorter. The recovering athlete showed no differences. Both test seem valuable tools in overtraining diagnosis and deserve more research.

#### **Paper 4. Why don't they just quit? – Restraining factors in athletes' burnout**

Henrik Gustafsson\*, Peter Hassmén, Göran Kenttä, & Mattias Johansson

*\*Örebro University*

Athletes' burnout has been defined as a psychological, emotional and sometimes a physical withdrawal from an activity in response to excessive stress or dissatisfaction (Smith, 1986). Feelings of entrapment are correlated with burnout but what shape these feelings and why these athletes remain in sport is unclear. Aims of this study were to extend the understanding of burnout and especially why athletes remain in sport despite dissatisfaction and negative outcomes. Ten 22-26 year old elite athletes (5 men and 5 women) from various sports were purposefully selected from a total of 640 athletes using the Athlete Burnout Questionnaire (ABQ; Raedeke & Smith, 2001). Semi-structured interviews were conducted, transcribed verbatim and then inductively analyzed using qualitative content analysis with suitable trustworthiness criteria incorporated. Raw-data themes were organized into higher and superordinate themes. Multiple demands such as, lack of recovery and high expectations are causing burnout, according to the respondents. In addition, restraining factors such as unidimensional athletic identity, self-esteem strivings, and feelings of being caught in an inflexible system are critical when explaining why athletes remain in sport despite progressively worsening their condition. This might explain why some athletes continue as "active burnouts" while athletes with less severe restraining factors quit sport and become non-active burnouts.

#### **Paper 5. An idiographic approach to understanding 'severe' athlete burnout – An individual case study of an elite boxer**

Tom Fawcett

*Salford University, UK*

Athlete burnout in relation to chronic fatigue is still somewhat misunderstood and used interchangeably as a consequential effect of excessive overtraining and chronic responses to intense training programmes (Raedeke & Smith, 2001). Although Cresswell (2004) has provided some useful indicators as to the symptoms of early burnout with possible indicators to prevention in Professional Rugby Union athletes, research understanding needs to adopt a more idiographic approach directed at sport specific disciplines. This case study was longitudinally conducted over the period of 18 months with an elite boxer (age 19 years). University ethical procedures were followed and clearance was confirmed prior to the investigation commencing. Initial needs analysis was conducted and previous / current medical records were obtained with 'secured medical clearance of no skeletal muscle disorders from muscle biopsies was reported.' Pathological reports were also secured from the client via the General Practitioner as recommended by Derman et al. (1997) and parental contact was also secured prior to psychological intervention. The athlete had previously suffered re-lapse of burnout syndrome and was considering retirement due to severe symptomatic responses and ill health. Initial and long term assessments included prolonged in-depth and semi-structured interviews (n=10), repeated psychometric analysis (Profile of Mood States- Short version, Grove and Prappavasis, 1998, RESTQ 76 – Kellerman & Kallus, 2001) and laboratory assessment utilizing Perceive Exertion Scales (Borg, 1998). IPA (Smith & Osborn, 2003) was employed to analyze the qualitative data. Results over a period of 18 months identified a chronic/severe psychological and emotional affect. POMS & RESTQ values supported qualitative data and athlete burnout was experienced most severely from a psychological and social perspective compared to a physiological standpoint. Appropriate psychological interventions were conducted to compliment longitudinal data and recommendations from the findings are presented for practitioners to adopt more proactive strategies to prevent athlete burnout in the future.

**Friday 7/9/2007****14:00-15:20****SESSION 37. Volley – ball and Sport Psychology**

Chair: Nikos Chatzisarantis

**Paper 1. The development and application of goal setting and self-evaluation interventions with a division I college volleyball team in Japan**

Airi Naoi

*Kinki University, Japan*

This presenter, an AASP certified consultant, will present the development and application of goal setting and self-evaluation with a Division I College Volleyball Team in Japan. The number of athletes varied depending on game situations and athletes' condition; 7 to 12 athletes usually completed these interventions. Goal setting and self-evaluation forms were developed by the consultant, and they were often modified depending on coaches and athletes' opinions. Athletes completed these forms by themselves, and the consultant checked all sheets and provided feedback when it was necessary. Athletes set goals more than 10 times, and they also evaluated their mental and physical skills 22 times after the game. Frequent goal setting and self-evaluation provided athletes with opportunities to create valuable goals and strategies. Athletes evaluated the effectiveness of these interventions two times during the season, with most athletes reporting that these interventions were helpful for them to keep focus on physical skills and/or mental skills during practice and competition. In this presentation, the presenter will introduce specific cognitive and behavioral techniques used by these athletes such as cognitive and behavioral routines and cue words for competitive situations. Furthermore, the relationship between the game results (winning and losing) and athletes' perception of their concentration skills measured by the self-evaluation will be discussed. Lastly, the goal setting and self-evaluation sheets will be introduced to assist sport psychology students and consultants to gain practical knowledge and strategies.

**Paper 2. Psychological aspects: An intervention with high performance volley team from Maringá-PR**

João Ricardo Nickenig Vissoci, Leonardo Pestillo de Oliveira, Saulo Luders Fernandes, Elton Fernando Hoshino, Christiane de Cassia Ferraz, Lenamar Fiorese Vieira, &amp; José Luiz Lopes Vieira e Christi Noriko Sonoo.

*Universidade Estadual de Maringá, Brazil*

The aim of this study was to analyze and intervene in the psychological aspects that influence high performance volley teams from the city of Maringá-PR. Thirty two volleyball athletes from junior category were subjects for this study, from both genders. For the psycho diagnosis, were used the following measure instruments: POMS, Eysenck Personality Inventory, Group Environment Questionnaire and the SCAT Questionnaire. Also were used intervention instruments that consisted in group dynamics and behavior techniques, besides the observation of practices and games. The data was analyzed by descriptive statistics. The results from the psycho diagnosis showed that the masculine team presented only Melancholic (11 athletes) and Furious (8 athletes) temperaments and, in the feminine team showed the prevalence Melancholic (7) and Furious (7). There was also prevalence for medium trait anxiety for both teams. An "iceberg" profile was presented by the masculine team in relation to the humor state profile, but not ideal, as the feminine team didn't show an "iceberg" profile. For the group environment, the feminine team presented averages superior than the masculine team. From the diagnosis it was elaborated a plan to the intervention program, which focused on group integration, communication, concentration and self-confidence. The intervention was based on group dynamics, behavioral techniques and psychological advice. The work was considered positive by the athletes and by the coach; the evaluations highlighted the improvement of the integration and the group environment, as well as the communication easiness, as for the increase of self-confidence and concentration during training and competition.

**Paper 3. Mental skills profiles of Brazilian and South American men junior Volleyball teams**

Newton Santos Vianna Júnior\*, Antonio Marcos Lerbach, Katya Mourthé, &amp; John H. Salmela

*\*Volleyball Federation of Minas Gerais, Brazil*

The mental skills profile of volleyball athletes of Brazil (11), Argentina (12), Venezuela (12), Colombia (11), Peru (12) and Bolivian (12) of the volleyball team, in the South American Men Junior Championship, 2004, was evaluated through the OMSAT-3\* a questionnaire with 12 mental skills domains. Demographic questionnaire was used to investigate age, amount of practice time and educational level of athletes. Descriptive statistics



(means, standard deviations and percentages) were used to analyze demographic data. ANOVA and Mann-Whitney test were used to calculate statistical differences among mental skills and the groups ( $\alpha < 0.05$ ). Brazilian athletes had 7.0 ( $\pm 2.3$ ) years of practice in volleyball, 4.1 ( $\pm 1.0$ ) years of national and 2.5 ( $\pm 1.1$ ) years of international experience; training, 5.2 ( $\pm 0.6$ ) days/week, 4.5 ( $\pm 1.6$ ) hours/day. These values were higher than the other teams, except from Venezuela's amount of practice, 6.1 ( $\pm 0.3$ ) days/week, 4.7 ( $\pm 1.4$ ) hours/day. Results showed that Brazil (champion) had significant differences in the scores: "self-confidence" ( $p = .010$ ) and "focusing" ( $p = .010$ ), from all other teams, and also in "goal-setting" ( $p = .027$ ), "commitment" ( $p = .013$ ), "imagery" ( $p = .044$ ), "mental practice" ( $p = .001$ ) and "competition plan" ( $p = .006$ ), from the team in the second place. Mental skills profiles of these Brazilian athletes confirmed that they are experts, at the international level, showing highly developed mental abilities. Nine of these athletes in the Brazilian team were world youth champion in 2003, and second place in the world junior championship, in 2005.

#### **Paper 4. The effect of different interpolated tasks on warm-up decrement in the volleyball serve**

Hasan Mohammad Zadeh & Saeed Ghorbani

*Urmia University, Iran*

A common phenomenon associated with sport behavior is the temporary decrement that occurs when performance resumes after a period of inactivity. This phenomenon is termed warm-up decrement (WUD). In this study the effect of different times of the interpolated tasks on warm-up decrement in the volleyball serve, was examined. The participants were 56 university males ( $20 \pm 1.53$  years old) that practiced 20 trials of the serve, and then rested for 10 min and then attempted 5 final serve. During the either last 2 or 5 min of the rest period, participants continued to rest, ran in place, engaged in mental imagery, or repeatedly stroke the ball against the wall. Data were analyzed by tow-way repeated ANOVA test. Results showed that practice of stroking the ball was the most effectiveness warm-up activity for eliminating WUD and imagery and running has been decreased WUD. Also, running for 2 min was better than running for 5 min, but between other interpolated tasks, no significant difference in 2 or 5 minute status was observed. Theoretical discussion centered on possible applications of Nacson and Schmidt's (1971) activity-set hypothesis to the volleyball serve.

**Friday 7/9/2007**

**14:00-15:20**

#### **SESSION 38. Performance related factors**

Chair: Michael Bar-Eli

#### **Paper 1. The influence of manipulated self-efficacy on effort, persistence and motor performance**

Jamie A. Taylor\*, Rod M. Corban, David F. Shaw, & Paul Pollard

*\*University of Central Lancashire, UK*

Self-efficacy is predicted to have a positive influence on effort, persistence and motor performance (Bandura, 1997). Two experiments tested these predictions. In Experiment 1, 20 participants performed an accuracy-throwing task (throwing a ball at a target of concentric circles) and an effort-throwing task (throwing a ball with maximum velocity). Self-efficacy was raised and lowered through false positive and negative feedback. Variability in movement at the wrist, elbow and shoulder was measured through 3D motion analysis. Despite achieving changes in self-efficacy there were no corresponding changes in performance, movement variability, or perceived effort on the accuracy or effort-throwing tasks, however, participants threw the ball with greater force when lower in self-efficacy on the accuracy-throwing task. In Experiment 2, 64 participants performed an accuracy-throwing or effort-throwing task, and had their self-efficacy raised or lowered through false feedback. After self-efficacy was manipulated participants performed as many attempts at the task as they wanted, with their best performance counting for a competition. Participants whose efficacy was raised persisted longer than those whose efficacy was lowered; however, greater persistence did not facilitate performance. Increased effort was reported by participants on the accuracy-throwing task after self-efficacy was lowered. Collective findings suggest self-efficacy does not have an immediate impact on motor performance, however higher perceptions of self-efficacy were associated with greater persistence which may benefit performance over the longer term. There was evidence of a negative relationship between self-efficacy and effort on the accuracy-throwing task, which was explained by increased effort in response to negative feedback.

**Paper 2. Specific or general explanatory style predict the performance: An exploratory study**

Mareï Salama-Younes\*, Charles Martin-Krumm, Stephanie Hanrahan, &amp; Charles Roncin

*\*Sport Psychology Departement, Helwan University, Egypt*

The present paper aimed to test 3 hypotheses in sport and in school context : (1) if specific and/or general explanatory style predict performance with success expectancies as mediator variables; (2) if perceived competence predict results by the mediator role of specific, general explanatory style and success expectancies (3) if children having an optimistic explanatory style (O) perform better than the other children having an (realistic OP, undifferentiated PO and pessimistic P explanatory style) (Salama-Younes & Hanrahan, 2006). 143 sport children aged from 9 to 12 years participated in these two studies. These studies have been completed over two semesters. Children replied three questionnaires: General Explanatory Style; Specific (sport and school) Explanatory Style and Success Expectancies (versions in sport and school). Finally, Performance was evaluated by the coach and school professor. For these two studies, we used the Multiple Analyses of Regression to test the first hypothesis. To test the second hypothesis, the *Structural Equation Modelling* (SEM) with software LISREL 8.5 for windows was used. The programming used called Simplis. We used the ANOVA for testing the third one. Concerning the first study, the results indicated that (i) specific (sport) explanatory style predicted sport performance for children with the success of expectancies as a mediator variable; (ii) general explanatory style, in comparison to sport explanatory style, did not predict performance; (iii) sport performance predict by the perceived competence ( $\beta = .46$ ), by success expectancies ( $\beta = .32$ ) success expectancies predict by the perceived competence ( $\beta = .38$ ) and the specific explanatory style ( $\beta = .24$ ). The general explanatory style do not predict neither the success expectancies ( $\beta = .07$ ) nor the sport results ( $\beta = .02$ ); (iv) 81% of children had a neutral explanatory style (neither optimistic nor pessimistic); (v) optimistic children performed better than realistic, undifferentiated, and pessimistic children; (vi) children with a neutral explanatory style performed better than the pessimistic children. Concerning the second study, (i) specific (school) explanatory style predicted school performance for children with the success of expectancies as a mediator variable; (ii) general explanatory style, in comparison to school explanatory style, did not predict performance; (iii) 77% of children had a neutral explanatory style; (iv) optimistic children performed better than the three other explanatory style ; (iii) the differences is not significant among the performance of children with a neutral (realistic or indifferncied) and pessimistic explanatory style.

**Paper 3. Sport practice changes the brain: A study on motor preparation in top-level shooters**

Donatella Spinelli\*, Teresa Aprile Francesco Di Russo, &amp; Sabrina Pitzalis

*\*Institute of Motor Sciences (IUSM) and Mind in Sport Team, Roma*

The effect of motor experience on the brain activity was investigated in a special population: high-level rifle shooters. Movement related cortical potentials to self-paced movement of the left and right index fingers were recorded in a group of high-level rifle shooters and control subjects. The Bereitschaftspotential (BP) and the negative slope (NS') components, which emerged prior to movement onset, are associated with motor preparation. For right finger flexion (but not for left finger flexion) differences were found between groups. BP and NS' latencies were longer for shooters than for controls; amplitudes were smaller. In contrast, no difference was found between groups for motor potential (MP) and re-afferent positivity (RAP) amplitude or latency. Sources analysis, based on a realistic model of the brain, showed with high reliability (97% of variance explained) that the BP (time window: -1500 -400 ms), NS' (-400 -50 ms), MP (0 +100 ms) and RAP (+100 +200 ms) components were generated in the supplementary motor area, pre-motor area, primary motor area and somatosensory area, respectively. No difference was found between groups regarding the localization of generators of all components. The results are interpreted in terms of economy of motor preparation due to the specific practice involved in shooting.

**Paper 4. Performance optimisation and rhythmical acoustic stimulation: Experimental evidences in track and field**

Giovanni Righi\*, Alessandra Galmonte, Bruno Bianchi, Alice Gherzil, Alberto Pin, &amp; Tiziano Agostini

*\*Department of Psychology, University of Trieste, Mind in Sport Lab, Italy*

It is well known that a correct cognitive integration of visual, auditory, kinesthetic, and all the other perceptual cues leads to a more effective representation of our environment: Inter-modal integration plays a crucial role in sport performance as well as in everyday life. Although sport seems to be a highly visually dependent behaviour, and actually visual input tends to dominate above other input modality, we experimentally studied the role of auditory information, and its potential spin-off for enhancing the performance in track and field disciplines. We found that auditory information is an important feedback source for an accurate control of

movement timing. Indeed, we can produce a motor performance acoustic representation, by which it is possible to analyse the temporal relationships that we consider as the basic units of human movement. One of the most relevant basic units of the motor action mental representation is the rhythmical structure of the movement itself: The rhythm provides a precise description of the temporal development of the whole action. Therefore, human movement temporal periodicity can be accurately represented by an acoustic stimulus having definite rhythmical characteristics. We used acoustic stimulation to implement an acoustic representation of a model performance with throwers, jumpers, and runners. Data show a strong standardisation effect and a significant improvement in athletes' performance. Our results seem to be coherent with the literature claiming that auditory information is an essential factor in guiding motor action. This suggestion offers important indication to develop cognitive models about mental strategies in sport activities.

**Paper 5. Order effects in sport: Further examining the impact of order of information presentation on performance and ability attribution**

Matthew J. Smith\*, Iain Greenlees, Jan Graydon, & Andrew J. Manley

*\*University of Chichester, UK*

Order effects have been frequently observed in social psychology research (McKelvie, 1990). Greenlees, Dicks, Thelwell and Holder (2006) found primacy effects in attributions of sporting ability, regardless of participants' experience or judgement mode. This study aimed to replicate and extend the work of Greenlees et al. in a different sporting population. Eighty ultimate frisbee players viewed eight video-clips of a target performing a catching and throwing drill. Half the participants viewed an ascending (unsuccessful-to-successful) performance pattern, while half witnessed deteriorating performance. Participants rated the target's ability on five different criteria. Half of participants provided ratings at end-of-sequence (EoS), and half updated their ratings after each clip in a step-by-step (SbS) manner. Univariate analyses of variance revealed significant main effects for the order by judgment mode for target's general ability, disc control, and speed of thought. Post-hoc tests revealed that EoS judgments produced primacy effects, but no order effects emerged following SbS assessments. The results support Hogarth and Einhorn's (1992) belief adjustment model, which predicts primacy effects follow EoS judgements. It was unclear whether the lack of order effects following SbS judgments was due to the time delay from making SbS judgements or the SbS judgements themselves (McKelvie, 1990). In a second experiment, 40 participants were assigned to an ascending or descending condition before assessing the clips used in experiment one, with a delay inserted between each clip. No difference was found between the delay condition and the EoS data from experiment one, suggesting that it was process of making SbS judgements that offset primacy effects.

**Paper 6. The comparison of attributional styles at failure and success situations in motor task**

Hasan Mohammad Zadeh

*Urmia University, Iran*

The aim of this study was to compare confronting failure and success situations on attribution styles at motor task learning. Sixty three subjects were selected from among physical education students of Urmia University. Then they randomly divided into two experimental and one control groups. All the groups participated in gun shooting training for three days. Independent variables including success and failure situations were applied on the two experimental groups through augmented verbal feedback that emphasized motivational role. On the final day of training, the Participants were requested to complete Causal attributions questionnaire stated and the cause of their in the open end question and specified the dimensions given. The results showed: In the success group 52% of the participants stated the cause of their success as self-esteem, %14 as neuromuscular co-ordination, 24% as practice and %19 as internal satisfaction. These attributions were 100% internal, 80% inconsistent and %86 were controllable. In the failure group, the cause of their failure were reported as 47% fatigue, 29% as task complexity, 10% as inaccuracy and 14% as illness. These attributions were 71% internal, 53% persistent and 53% uncontrollable. The results of questionnaire were analyzed through t-test. As for the locus control, no significant difference was observed for the groups. However, for the globality and persistency a significant difference were observed ( $P = 0.05$ ). The findings suggest that encountering Failure and successful situations could be a significant effect on Attribution Styles. Failure experiences can cause more internal, persistent and non controllable attribution deficits and finally may lead to low self-confidence and poor expectations for future successes. Successful experiences, on the other hand, lead to internal, persistent and controllable attributions as well as a higher self- efficacy expectations and can be regard to be more actual predictors of future performances.

**Saturday 8/9/2007****08:30-09:50****SESSION 39. Clinical issues and doping**

Chair: Mark Andersen

**Paper 1. Prevalence of eating disorders and prediction of eating behavior among Greek female swimmers and water polo players**Douka, A., Skordilis E., Kontogianni, N., & Koutsouki, D.  
*National and Kapodistrian University of Athens, Greece*

Eating Disorders (ED) have gathered scientific interest lately. Studies suggest a higher frequency of eating problems in athletes than non-athletes, particularly in those competing in sports that emphasize leanness or low body weight. The aim of this study was to examine the prevalence of ED and predict the eating behavior among Greek female swimmers and water polo players. 35 Greek elite female athletes (12 swimmers and 23 water polo players) (18-33 years old), were asked to complete: 1) The Eating Attitudes Test (EAT-13) adapted in Greek population (Douka, Scordilis, Barsou & Lazaratou, 2005) and 2) the Eating Behavior Prediction Scale (EBPS) which was based on Planned Behavior Theory (Ajzen, 1991). The results showed that 4 of the athletes had a sum score higher than the cut-off score of 12 on EAT-13 scale, exhibiting a tendency towards ED. The multiple regression analysis revealed that the Intention factor of the EBPS predicted the Eating Behavior of the athletes ( $t = 2.061$ ,  $p = .047$ ,  $B = .338$ ). Multivariate analysis revealed no significant differences between athletes with or without the tendency to exhibit EDs in the EBPS factors ( $\Lambda = 0.837$ ,  $p = .238$ ). Univariate analysis however revealed that the athletes, who scored above 12 in EAT-13, were significantly lower in the perceived behavioral control factor, compared to the athletes who scored below 12. Overall, swimmers and water polo athletes are subjective to their intention and perceived control as it concerns risk-eating behaviours. In the future, it is necessary to examine more athletes to reach certain conclusions.

**Paper 2. Sport-specific aspects of disordered eating in athletes**(Karin) de Bruin, A.P.\*, Oudejans, R.R.D., & Bakker, F.C.  
*\*Vrije Universiteit Amsterdam, Netherlands*

Recent figures have shown that no less than 20% of female athletes and 8% of male athletes suffer from clinical or subclinical eating disorders (Sundgot-Borgen & Torstveit, 2004). The number of athletes suffering from disordered eating, a broader concept, could be even larger. Whereas common risk factors (e.g. negative body image, self esteem) contribute to the development of dieting and weight control behaviors in the general population, in sports these behaviors seem to be particularly related to the athletes' drive for performance enhancement. Athletes believe that 'thin is going to win' rather than 'thin is beautiful', which is the common conviction of females in the general population. Several studies have been conducted that investigated the role of certain performance-related concepts in disordered eating in Dutch female and male athletes (cf. De Bruin, Oudejans & Bakker, in press; De Bruin, Bakker & Oudejans, submitted). This presentation will focus on the most important results of these studies and will highlight the relationships of disordered eating with athletic identity, goal orientations, motivational climate, and weight-related pressures from coaches and peers. Finally, since current treatment and prevention programs are predominantly focused on general risk factors, modifications of these programs for athletes will be briefly discussed.

**Paper 3. Representations of the physical self and patterns of relationships among its dimensions: The case of substance abuse populations**George Kyrkoulis & Despina Stamatopoulou  
*Department of Philosophy and Social Sciences, University of Crete, Greece*

This study investigates the representations of the physical self, examines patterns of relationships among the various dimensions of it, and eventually attempts to compare the physical self-profiles of drug addicts to those of former drug addicts.

Forty six (46) drug addicts, thirty nine (39) former drug addicts and forty one (41) non drug users aged 20 to 42 years completed an expanded version of the protocol "what I am like with different people" (Harter, 1999). This protocol allows the examination of the relationships between self-attributes and particular roles

or interpersonal contexts (i.e. athletic ability, physical condition/health, sociability, family, close friend etc.). The data were analyzed by employing mixed qualitative and quantitative methods. The issue of triangulation (of methods, researches and data sources) as an alternative to validation is addressed. Categorical principal components and correspondence analyses revealed that regarding athletic ability drug users showed an inflated sense of self as a defense mechanism, consistent with the general pattern they produce in the whole spectrum of their interpersonal relationships and social functioning. The former users showed a differentiation of the physical self-concept dimensions concerning an enhanced importance of the domain health, which can be attributed to the recovery process. The data demonstrate that the issue of externalizing as opposed to internalizing behavior is recurrent in the physical domain as in the other domains of the self-system of these populations. For example, drug addicts reveal inability to process experience, impulse driven behavior and acting out, while ex drug addicts reveal negative self-conscious emotions, shame, guilt and generally restraining control mechanisms. Exercise and physical activities can offer possibilities for the amelioration of the physical self and for positive and flow experiences, thus contributing to the strengthening of the self-system of substance dependent populations.

#### **Paper 4. The social-cognitive mechanisms regulating adolescents' use of doping substances**

Lucidi F.\*, Zelli A., Mallia L., Grano C., & Violani C.

*\*Department of Psychology, University of Rome "La Sapienza", Rome, Italy*

The aim of this study was to assess the longitudinal effects of social-cognitive mechanisms on the self-reported use of doping and supplement substances among Italian high school students. A sample of 1232 students completed paper-and-pencil instruments measuring various psychological factors hypothesized to influence students' intention to use substances. Of these, 762 filled out the same questionnaires three months later and also reported whether they used substances during the time between assessments. The effects of the psychological variables on substance use were tested via structural equation modeling (SEM). Overall, the percentages of those using doping (2,2%) or supplement (14,4%) substances were consistent with percentages in the literature. The SEM analysis of the data showed that adolescents' intention to use doping substances increased with stronger attitudes about doping, stronger beliefs that significant others would approve their use, a stronger conviction that doping use can be justified, and a lower capacity to resist situational pressure or personal desires. In turn, stronger intentions contributed to greater use of both types of substances measured during the last three months. The study provides novel information about some of the psychological processes possibly regulating adolescents' actual use of doping substances and supplementation. It also highlights possible areas for future study and intervention, focusing on the prevention of adolescents' substance use.

#### **Paper 5. Social information processing and doping use in adolescents**

Arnaldo Zelli\*, Fabio Lucidi, Caterina Grano, & Luca Mallia

*\*University of Sport and Movement Sciences of Rome, Italy*

This study assessed Italian adolescents' judgments elicited by social situations framed in exercise or sport contexts and concerning substance use. The study examined the ways these judgments may represent risk factors for use of doping substances and supplements. In addition to answering questions on doping-specific attitudes and beliefs, nearly 1100 high school students also imagined being the protagonist of a series of 8 hypothetical situations in which a protagonist was offered to use substances. The study assessed the role that authority (e.g., a coach vs. a peer) and social pressure (e.g., advice vs. imposition) may have on students' judgments while keeping the counterpart's true intentions for their behavior ambiguous. Students indicated the extent to which the counterpart acted for his own interest, for the protagonist's welfare, or for harming the protagonist. Students also indicated what they would do if they actually were in those situations. Data analyses yielded support for the hypothesis concerning the risk value of adolescents' judgments for doping use. Compared to non-users, students who reported to have used supplements in the past three months were more likely to make interpretations of the situations favoring doping use (e.g., the coach acted for the protagonist's welfare) and to forecast their use of substances in the same situations. Supplement users' judgments also were relatively more linked to attitudes and beliefs supporting doping use. Finally, judgments represented distinct risk dimensions, in that, adolescents' prior doping and supplement use increased with the number of judgments favoring doping.

**Saturday 8/9/2007****08:30-09:50****SESSION 40. Sport parenting**

Chair: Wolf – Dietrich Brettschneider

**Paper 1. 'Conversations with a purpose': Adopting alternative modes of representation within children and family ethnography**

Archbold, V.\*, Richardson, D., Dugdill, L., &amp; Gillbourne D.

*\*Leeds Metropolitan University*

This study utilised a theoretical perspective of existential phenomenology (Dale, 1996) to conduct participant observations (underpinned by ethnographic principles) within the context of children's homes. This paper is motivated by the professional and ethical considerations required to adopt such research methodology (Swain, 2006) and the ongoing challenges the researcher and participants face in conveying the health behaviors of children and families through the representation mode of creative non-fiction (Tedlock, 2000). This paper will discuss the studies methodological dilemmas of writing a creative non – fiction children story to enable the reader to explore the lives and personal experiences of children and families in Knowsley UK. Moreover, extracts from the story will be presented to disclose how theoretical and personal perspectives of children's and family data can be presented in an intertwined way (Ellis, 1993) with personal dialogue. The importance of adopting a writing style that not only represents the studies findings but is suitable for children and young people to observe, understand and embrace will also be proposed.

**Paper 2. Examining the congruence of attitudes towards ice hockey between young athletes and their parents**

Kim D. Dorsch\*, Harold A. Riemer, Erwin Karreman, Larena Hoeber, Wade Kolmel, &amp; Orland Hoeber

*\*University of Regina, Canada*

While one specific conceptual definition of what an attitude is (or is not) remains elusive, most researchers in social psychology agree that an attitude is an overall learned disposition that guides a person's thoughts, feelings, and actions toward other people and social objects (Olson & Zanna, 1993). Consequently, when operationalizing this concept, three distinct components need to be examined: what people know about the object or person (cognitions), how they feel about it (affect), and how they behave towards it (behaviour). Furthermore, because most researchers believe that attitudes towards specific objects or persons are learned dispositions, most would suggest that the family unit is one of the strongest relationships whereby this learning occurs. The purpose of this paper is to examine the congruency of attitudes towards ice hockey between young athletes and their parents. Two hundred and twenty-one ice hockey athletes (ages 9 and 10) from two Canadian provinces and both of their parents participated in a survey designed to examine the introduction of body checking at this age from a psychosocial perspective. Overall the attitudes towards general ice hockey skills were very positive. Using the family as the unit of analysis, within-subjects ANOVAs showed significant differences among the children's' attitudes towards ice hockey, their fathers' attitudes, and their mothers' attitudes on all three attitudinal components ( $ps < .001$ ). Further regression analyses discovered that it was the mothers' perceptions that were more influential on their children's' affective and cognitive attitudes. Theoretical, measurement, and practical implications will be discussed.

**Paper 3. Congruencies of motivations for sport involvement between children and their parents**

Erwin Karreman\*, Harold A. Riemer, Kim D. Dorsch, Larena Hoeber, Wade Kolmel, &amp; Orland Hoeber

*\*University of Regina, Canada*

Various reasons have been identified for why children participate in sports (e.g., developing skills, meeting friends, etc.). However, the decision for the child to become involved in a sport is often made by the parent. Unfortunately, it appears that organized sport programs for children are often based on satisfying the motivations of adults/parents without due consideration to the motivations of the child. Overlooking the potential incongruities in motivations may have implications for continued sport involvement. The purpose of this research is to examine the congruency between sport participation motives of children and the sport involvement motives of their parents. Two hundred and twenty-one minor ice hockey players (ages 9 and 10) and their two parents filled out the Participation Motivation Questionnaire (PMQ; Gill, Gross, & Huddleston,

1983). Three of eight motivational factors taken from the PMQ showed sufficient reliability ( $\alpha > .70$ ): *team*, *achievement*, and *fitness*, for further analysis. Although the results show that the motivations of children and their parents are not significantly different for team reasons, children do have significantly higher scores ( $p < 0.05$ ) than both parents for achievement and fitness motives. These results suggest that motivations for children to play sport differ compared to why parents have their children participate. These differences highlight the importance of both the opinions of children and their parents in understanding why children are involved in sports and why they may, in many cases, eventually discontinue participation.

**Saturday 8/9/2007**

**08:30-09:50**

**SESSION 41. Disabilities**

Chair: Dieter Teipel

**Paper 1. Metacognitive skills of golf learning in persons with intellectual disabilities**

Matikka M. Leena\*, & Kairi Tea

\**University of Tampere and Finnish Association on Intellectual and developmental Disabilities, Finland*

This study is part of the project "Including people with intellectual disabilities in a Finnish golf society", which aims to enhance the participation and the quality of life of people with intellectual disabilities. The purpose of the present study was to find out in which way golf players with intellectual disabilities utilize metacognitive skills in learning novel skills. The study aimed to increase the players' capacity as self-determined learners. It focused on (1) describing how the participants set goals in learning golf skills, establish means for attaining these goals, act in a goal-oriented way and assess their learning, and on (2) finding out whether these metacognitive skills could be improved through a special intervention. The data-gathering methods were interviews, testing, observation and videotaping. The participants of this multiple case study were two young men ( $n=2$ ) with mild intellectual disability. The intervention was based on the ideas of the Self-Determined Learning Model of Instruction (Mithaug et al., 1998), and the core-based learning model (Eloranta, 2003). The goal setting of both participants improved throughout the intervention program. It was extremely difficult to establish means in order to attain their goals. However, both participants improved as golf-players and decreased their handicaps. The results provide suggestive knowledge about the ways metacognitive skills could be improved in coaching skilful actions. It seemed to be important to lower the level of abstraction in introducing self-assessment tasks to the players with intellectual disability.

**Paper 2. Consideration for self-handicapping research in sport**

Ferrand, C.\*, Bouzdine-Chameeva, T., & Euvrard, A.

\**Centre de Recherche et d'Innovation sur le Sport, Université Claude Bernard Lyon 1, Villeurbanne France*

The claimed self-handicaps are excuses that are verbalized by athletes prior to an athlete's performance in competition for self-protection and self-presentation. Descriptive information about the type and nature of self-handicaps reported by athletes and disruption ratings were gleaned from studies using an open-ended, "impediments approach". These measurement procedures are extensively used in the competitive sport setting. In our research (30 competitive teenage rock climbers; 7c, French climbing rating; same national competition) the ANCOM-2 methodology (ANalyze and COMpare Maps) was used. The ANCOM-2 combines the individual maps for all respondents into a single collective causal map. Moreover, the causal map consists of nodes (variables) linked by arcs that represent beliefs about the causal relationships among the nodes; each causal arc is assigned a weight evaluated within the range from 1 (extremely weak) to 7 (extremely strong) to indicate the relationship's strength. The variables used in this study were: perceived event importance, self-efficacy, claimed situational self-handicaps, self-esteem, perfectionism, and achievement goals. Finally, ANCOM-2 methodology includes three phases and each of the three phases of data collection and analysis (DEFINE VARIABLES, ANALYSE RELATIONS, MAP) has three steps (*Prepare, Create, Categorize; Prepare, Evaluate and Analyze, and Compute, Map & Interpret*). Results enabled deep examination of the pattern of relationships among claimed situational self-handicapping, self-efficacy and achievement goals, and reinforced the interest of studying self-handicapping in a naturalistic setting. ANCOM-2 opened a new perspective contributing to an improved better understanding of the complexities of different aspects of self-handicapping in sport.

**Paper 3. Perceived concept of women with disabilities**

Reinhild Kemper, Carina Treu, &amp; Dieter Teipel

*Institute of Sport Science Jena, Germany*

Studies which deal with the problem of recognition of persons with disabilities might become superfluous, when the modern societies enable all members to interact in a way of real mutual understanding and respect. But nowadays especially girls and women with disabilities have to cope with manifold problems of personal acceptance and discrimination in specific private and public settings. In the present study the problem is emphasised how, above all, early and late disabled girls and women feel themselves perceived by members of the family, by friends and in the society. For the analysis of specific aspects of the perceived concept of women with early and late disabilities a special form of qualitative method was applied. Thus a problem-centered focussed interview was conducted with a group of 12 women with bodily and visual disabilities. The age of these handicapped women reached from 24 to 57 years. According to the results, the women with less apparent disabilities felt themselves and their physical and psychological self-concept more positively evaluated from the perspectives of family members, friends and acquaintances than the women with more severe and apparent handicaps. The women with early disabilities had been confronted with prejudices and discriminations of other persons at an earlier age and had learnt to cope with this behaviour more effectively. The women, who had become disabled at a later age, had quite often experienced that their family members, friends and acquaintances had become more reserved and rejecting than before the disability. In some cases they had been confronted with a decreasing respect and a loss of the female identity. Most women with disabilities criticised that they were often evaluated more negatively in the public and also in the field of sport than the male persons with disabilities. Therefore the physical and psychological self-concept, that had existed before the accident or the disease had occurred, had to be altered in a negative way. But some women with disabilities were of the opinion that their own behavior could contribute a great deal to the change of the attitude of members of the society towards women with disabilities. It is striking that even today persons with disabilities and especially girls and women with disabilities are confronted with a lack of respect and fundamental prejudices. Specific information campaigns in the kindergarden, in elementary and secondary schools, but also for advanced age groups in the media and in commercials should be applied in order to contribute to a more profound and respectful interaction and cooperation between persons with and without handicaps in the future. Furthermore, the self-confidence of girls and women with disabilities should be explicitly strengthened at school, in the job and also in leisure and high-level sport.

**Saturday 8/9/2007****08:30-09:50****SESSION 42. Perceptual and Motor Control**

Chair: Markus Raab

**Paper 1. Side-specific perceptual training reverses laterality effects in novices**

Jörg Schorer, Norbert Hagemann, Florian Loffing, &amp; Simone Lotz

*Institute for Sport Science, Westfälische Wilhelms-University Münster*

One of the explanations for the over-representation of left-handers in interactive sports is the negative frequency hypothesis (cf. Raymond, Pontier, Dufour & Møller, 1996). It suggests that left-handers have an advantage due to their different techniques and tactics. Part of this advantage is a side-specific perception skill in athletes (cf. Hagemann & Ziegler, 2005). The aim of this study was to test if a perceptual negative frequency effect can be trained in novices. In this study 24 English pupils participated, who had neither experience as goalkeepers nor in handball. Their task was to defend handball penalty throws performed by two right-handed and two left-handed first league female players. The video scenes were temporally occluded at three different points. After a pretest of 48 trials, participants were divided randomly in three groups. Group L saw only throws by left-handers and in horizontal plane mirrored right-handed throwers. For group R the opposite was presented and for group B no mirrored videos-scenes were taken. After two blocks of 192 trials in two days, all participants performed a post-test. As dependent variable reaction time and quality were considered. For reaction time no significant interactions could be observed. For reaction quality hypothesis conform interaction was found for three out of four throwers. The results support the idea of a perceptual negative frequency effect for laterality in interactive sports.



**Paper 2. The influence of selective attention on the development of balance control**

Arli Ramos de Oliveira, Jere Dee Gallagher, &amp; Ann Smiley Oyen

*State University of Londrina, Paraná, Brazil*

This study aimed to determine the relationship between a motor skill with postural and focal components and dynamic balance. The study investigated the influence of selective attention on the development of balance control. The sample involved 60 female subjects (6-, 12-, and 19-years old). The instruments were a scale with stadiometer, three tri-axial accelerometers (head, hip and ankle), a footswitch, a line on the floor, a balance beam, and an AD computer. The tasks were: walk on a line on the floor, over a white obstacle, walk across a balance beam, and over an obstacle. The dependent variables were Root Mean Square and Index of Smoothness of the head and trunk in three planes of movement: vertical, anterior-posterior, and medial-lateral,  $p < .05$ . During the experiment children were cued to look at the end of the line and beam. Selective attention improved vertical head and trunk smoothness in the ML plane. The younger children group stabilized the trunk and head regardless of strategy use, the 12-year olds displayed smooth trunk motion without the use of any strategy and decreased smoothness with strategy. The adults demonstrated trunk stability regardless of strategy and deteriorated performance with strategy. Experience and selective attention strategy influenced the balance control across age and task complexity levels.

**Paper 3. Estimating the distance in optimist sailors.**

Gherzil A., Pin A., Righi G., Galmonte A., Bianchi B., &amp; Agostini T.

*University of Trieste – Department of Psychology – Mind in Sport Lab, Italy*

The aim of a cognitive approach to sport psychology is the experimental study of athletes' mental strategies. The results of these experiments can then be applied to develop more efficient and effective strategies to optimize performance. This target can be achieved, for example, by using the visual sciences paradigms in analyzing the sensorial cues available to the athletes and used by them when performing a specific motor action. The participants of the present research were young athletes of the Optimist category. They have been randomly carried in each of 16 different positions in which the regatta field had been divided. Their task was to judge the distance between their position and the virtual starting line of a regatta. Results show different levels of accuracy in estimating the distance from the different tested positions; in particular, it has been found that participants made a rather good estimation of the distance in the proximity of both the jury boat and the buoy, while there was an underestimation of the distance at the center of the regatta field, and an anomalous overestimation of the distance in the area between the central part of the starting line and the buoy. Since in sailing the start is crucial for the success in the race, these results can be used to develop a training protocol to compensate these estimation errors.

**Paper 4. Visual search behavior in catching baton twirlers**

Madoka Takahashi, Kazunobu Fukuhara, &amp; Motonobu Ishii

*Tokyo Institute of Technology, Japan*

Baton twirling is a kind of artistic sport, where players compete by techniques to control the baton and the body movement. One of the most important skills in baton twirling is 'catching'. There are few researches related to baton-catching directly. According to previous researches on ball-catching, catchers track the trajectory of the object's flight with their gaze. It is considered that the visual search behavior could be also a key factor to catch the baton. The purpose of the present study was to examine how the visual search behavior is used in baton-catching, whether the visual search behavior in baton-catching is different from that in ball-catching, and whether it depends on skill levels. Subjects, who all had experiences of baton twirling, consisted of 6 experts and 6 non-experts. The baton and the ball were thrown against subjects by other baton twirler from 5-meter-distance. Subjects were required to catch the baton or the ball as exactly as possible. The eye movements in catching and the number of catching errors were recorded. The eye movements were measured with a head-mounted eye mark recorder. The result showed that in the baton-catching condition, all participants transferred their eyes to the core of the baton rapidly and tracked the point with their gaze on most of the trajectory of the baton's flight as in ball-catching, though experts were able to transfer their eyes to the core of the baton earlier and more smoothly than non-experts.

**Paper 5. Spatial cueing in 1-on-1 and 3-on-2 situations in soccer**

Rouwen Cañal-Bruland &amp; Bernd Strauss

*Institute of Sport Science, Department of Sport Psychology, University of Münster, Germany*

In different sports athletes need to flexibly allocate their focus of attention onto relevant cues. In this study Posner's (1980) spatial cueing paradigm was used to (1) identify the advance cues and (2) to examine the efficient size of the attentional focus for decision-making in 1-on-1 and 3-on-2 situations in soccer. Two experiments were run. In the 1-on-1 experiment 27 participants (mean age  $24.22 \pm 3.87$ ) had to decide as fast as possible whether the finally presented player dribbled to the left or right (288 trials). In the 3-on-2 experiment 27 participants (mean age  $24.45 \pm 4.38$ ) had to decide whether the ball possessing player passed to the left or right forward (240 trials). In both experiments each trial began with a fixation cross (500 ms). This was followed by a red precue (200 ms). Four different sizes of precues were used. Furthermore, these cues were placed at different locations. Locations and size of precues were counterbalanced. Finally, the static slide of the 1-on-1 or 3-on-2 situation was presented for 1000 ms. The results showed that in the 3-on-2 experiment precues that locally preceded the peripheral forward led to significant faster response times than more central cues ( $F_{2,44} = 3.509, p = .039, \eta^2 = .138$ ). Neither in the 3-on-2 nor in the 1-on-1 experiment the different sizes of cues had a significant effect on the response times. There was no spatial cueing effect in 1-on-1 situations. The sport-specific research potentials of the cueing paradigm will be discussed.

**Saturday 8/9/2007****08:30-09:50****SESSION 43. Perfectionism**

Chair: Howard Hall

**Paper 1. Perfectionism, goal expectancies, and competitive performance in triathletes**

Joachim Stoeber &amp; Mark A. Uphill

*University of Kent, UK*

How perfectionism affects athletic performance is highly debated. Whereas some researchers see perfectionism as an adaptive characteristic that makes Olympic champions (Gould et al., 2002), others see perfectionism as a maladaptive characteristic that undermines, rather than helps athletic performance (Flett & Hewitt, 2005; Hall, 2006). So far, however, few empirical studies have investigated this issue. Consequently, a prospective study was conducted with 126 triathletes who completed measures of perfectionism prior to a race of "Half Ironman" distance (1.9 km swim, 90 km bike, 21.1 km run). In line with findings from outside sport (Stoeber & Otto, 2006), partial correlations showed differential effects for perfectionistic strivings (striving for perfection, personal standards) and perfectionistic concerns (concern over mistakes, feelings of discrepancy between expectations and performance). Whereas perfectionistic concerns were associated with lower goal attainment expectancies before the race (lower performance goals, lower confidence about achieving one's goals), perfectionistic strivings were associated with higher goal attainment expectancies (higher performance goals, higher confidence). Moreover, after athletes' previous level of performance (personal/seasonal best) was controlled for, perfectionistic strivings predicted better race performance: Compared to athletes with lower levels of perfectionistic strivings, athletes with higher levels of perfectionistic strivings achieved faster times in the bike split, the run split, and the overall race—and thus reached higher ranks in the final race results. The findings indicate that, whereas perfectionistic concerns may undermine athletes' goal attainment expectancies, perfectionistic strivings are associated with positive expectancies and may help athletes to achieve their best possible performance in competitions.

**Paper 2. A test of the concurrent and construct validity of the positive and negative perfectionism scale.**

Andrew P. Hill\*, Howard K. Hall, Paul R. Appleton, &amp; Steve A. Kozub

*\*University of Bedfordshire, UK*

The development of an understanding of perfectionism has been based on the use of valid and reliable measures of the construct (Flett and Hewitt, 1991; Frost, et al., 1990). Recently a number of new instruments have emerged that purport to measure both positive and negative dimensions of the disposition (Haase and Prapavassiss, 2004). However, some researchers have questioned the construct validity of the notion of positive perfectionism; specifically, whether this construct encompasses the core characteristics that are considered

to define perfectionism (Flett & Hewitt, 2002; Greenspon, 2000; Hall, 2006). The purpose of the current study was to assess the concurrent and construct validity of a new instrument (Haase and Prapevassiss, 2004) that purports to measure positive and negative perfectionism in athletes by assessing its relationship with measures considered to reflect adaptive striving and core dimensions of the perfectionism construct. The sample comprised 175 undergraduate student athletes. Bivariate correlations indicated two distinct patterns underlying the achievement striving of those high in positive and negative perfectionism. Partial correlations confirmed that positive perfectionism was positively associated with qualities of adaptive achievement striving such as mastery approach behaviours, intrinsic motivation and high personal standards. However, positive perfectionism was either unrelated or negatively related to all measures considered to reflect the core dimensions of perfectionism. In contrast, negative perfectionism displayed an expected pattern characterised by fears, doubts and concerns. The findings indicate that perfectionism may be a term best reserved for a more extreme and rigid pattern of maladaptive achievement striving (Greenspon, 2000; Hall, 2006).

### **Paper 3. The origins of perfectionism in elite junior sport: Examining the Social Learning Model**

Paul R. Appleton\*, Howard K. Hall, Andrew P. Hill, & Stephen A. Kozub

*\*University of Bedfordshire, UK*

Although perfectionism undermines the psychological well-being of athletes (for a review, see Hall, 2006), the origins of this personality disposition require empirical verification within sport. Addressing this issue within general psychology, research with student and clinical samples (Frost et al., 1991; Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005; Vieth & Trull, 1999) has examined a Social Learning Model, in which children acquire perfectionism through imitating their perfectionistic mother and/or father and aspiring to the standards of their seemingly “perfect” parents (Flett, Hewitt, Oliver, & Macdonald, 2002). Findings generally support this perspective, capturing childrens’ tendency to embrace the perfectionistic tendencies of their same-sex parent. The purpose of the current project was to extend previous research, providing an initial examination of the “same-sex, social learning” hypothesis within elite junior sport. One hundred fifty three elite junior athletes (52 female; 101 male) and their parents completed measures of self-oriented, socially prescribed, and other-oriented perfectionism (Hewitt & Flett, 1991). Correlational analysis supported the proposed hypothesis for all three perfectionism dimensions in male athletes. In contrast, while a same-sex relationship emerged between mothers’ and daughters’ self-oriented and socially prescribed perfectionism, a modelling relationship also emerged between daughters and fathers for other-oriented and socially prescribed perfectionism dimensions. The findings suggest that, while a “same-sex, social learning” hypothesis may explain perfectionism development in elite junior sport, the combined influence of maternal and paternal perfectionism may vary as a function of athletes’ sex. In particular, female athletes’ may be susceptible to perfectionism through imitating similar dispositions in both parents.

### **Paper 4. Multi-dimensional perfectionism, and exercise dependence: The mediating influence of introjected self-regulation and intrinsic motivation**

Howard K. Hall\*, Andrew P. Hill, Paul R. Appleton, & Stephen A. Kozub

*\*University of Bedfordshire, UK*

When exercise becomes an all consuming preoccupation it may have a debilitating influence on both physical and psychological health (Bamber, Cockerill & Carroll, 2000). Research has identified that multi-dimensional perfectionism may be a critical antecedent of an individual’s investment in compulsive forms of exercise, but little is known about the psychological mechanisms that explain why different forms of perfectionism may lead to symptoms of exercise dependence. Therefore, the purpose of the present investigation was to examine the degree of association between self-oriented and socially prescribed perfectionism and exercise dependence, and to determine whether the relationships were mediated by intrinsic and introjected forms of self-regulation. Participants were 307 recreational runners, recruited from running clubs in the UK. Participants completed a multi-section inventory, assessing, multidimensional perfectionism (Hewitt & Flett, 1991), intrinsic and extrinsic regulation of physical activity (Guay, Vallerand & Blanchard, 2001; Mullen, Markland & Ingledew, 1997) and exercise dependence (Ogden, Veale & Summers, 1997). Path analysis indicated that 38% variance in exercise dependence was accounted for by the variables included in the hypothesised model. The analysis revealed that self-oriented perfectionism had a significant direct influence on exercise dependence, but the association was also partially mediated by intrinsic regulation. In contrast, the relationship between socially prescribed perfectionism and exercise dependence was fully mediated by introjected regulation. The findings provide further evidence that both self-oriented and socially prescribed perfectionism may underpin debilitating patterns of cognition and affect and behaviour that may significantly undermine both physical and psychological health.

**Saturday 8/9/2007****11:30-12:50****SESSION 44. Social support and career decision making**

Chair: Tim Rees

**Paper 1. The stress-buffering relationship of social support with golf performance, and the role of self-efficacy in mediating this relationship**

Tim Rees\* &amp; Paul Freeman

*\*University of Exeter, UK*

This study examined in a field setting the main and stress-buffering effects of social support upon golf performance, and the role of self-efficacy in mediating this relationship. A sample of 196 high-performance male golfers, mean age 25.00 years ( $SD=6.56$ ) completed measures of stressors, social support, and self-efficacy before competitions; after competitions, performance outcome was recorded. Moderated hierarchical regression analysis (Jaccard, Turrissi, & Wan, 1990) revealed significant ( $p<.05$ ) main effects for stressors and social support upon performance outcome. These effects were in the hypothesized directions: stressors were associated with worse performance; social support was associated with better performance. There was a significant interactive effect of stress and social support that was consistent with the stress-buffering hypothesis (Cohen & Wills, 1985). For this effect, the detrimental effect of stressors on performance was reduced for those with high social support compared to those with low social support. Mediated moderation (cf. Baron & Kenny, 1986) demonstrated that self-efficacy may be considered a mediator (by Sobel's test, Preacher & Leonardelli, 2001;  $z = -3.91, p < .001$ ) of this stress-buffering relationship of social support with performance.

**Paper 2. Career decision-making of elite athletes in Australian institutes of sport**

Lisa Fraser\*, Gerry Fogarty, &amp; Majella Albion

*\*University of the Sunshine Coast, Australia*

The current findings of a five-year longitudinal study aimed at evaluating the National Athlete Career and Education (ACE) program, following the fourth year of data collection, will be reviewed. The ACE program, which is delivered through the Australian Institutes of Sport, provides athletes with career, education and personal development services. In 2003, 856 elite-level athletes were surveyed regarding their awareness and level of satisfaction with ACE services, and asked to complete measures relating to their levels of career decision-making difficulties (CDDQ) and athletic identity (AIMS) among others. Athletes also listed the occupations they were considering in the future. Surveys were administered annually, from 2003 to 2006, to both continuing and retired athletes. Overall, satisfaction levels for the program have been consistently high, with 72% satisfaction indicated for 2006. Participation with ACE was also found to be related to higher levels of motivation to make career-related decisions and better knowledge about career and educational options. Further analyses were conducted for those participants who had submitted questionnaire data each year ( $N=43$ ). Non-parametric tests were used to investigate differences over time within and between groups. While age was found to be a significant factor in athlete's level of internal confusion related to their career decisions, lack of knowledge about themselves and the process involved in reaching such a decision, results related to retirement status and gender will also be examined. Descriptive statistics of the types of occupations the athletes are considering for the future will also be discussed.

**Paper 3. Social support, the optimal matching model, and objective performance outcome in golf**

Paul Freeman\* &amp; Tim Rees

*\*University of Exeter, UK*

This study examined if social support buffered the negative effect of stress upon objective performance outcome in a sample of high-level golfers. In line with the optimal matching model (Cutrona & Russell, 1990), emotional and esteem support were matched to an uncontrollable stressor: competition pressure. Informational and tangible support were matched to a controllable stressor: technical problems with your game. A sample of 123 male amateur golfers (mean age 25.4,  $SD 5.4$ ) completed measures of social support and stress prior to a competition, and after the competition the participants' scores were recorded. Moderated hierarchical regression analyses revealed significant interactive effects in three of the four models tested. Both informational ( $\Delta R^2 = 0.07, p < .01$ ) and tangible support ( $\Delta R^2 = 0.04, p = .02$ ) significantly buffered the negative

effect of technical problems with your game upon performance outcome. Esteem support ( $\Delta R^2 = 0.03$ ,  $p = .04$ ) significantly buffered the negative of competition pressure upon performance outcome but no effect was found for emotional support ( $\Delta R^2 = 0.00$ ,  $p = .46$ ). These results provide partial support for the optimal matching model. The findings suggest that for social support interventions to be effective the type of support may need to be matched to the needs elicited by the stressful situation.

**Saturday 8/9/2007**

**11:30-12:50**

**SESSION 45. Personality and individual differences**

Chair: George Grouios

**Paper 1. Relationships between the college students' sport practice, personality and coping styles**

Greg Décamps, Emilie Boujut, & Marilou Bruchon-Schweitzer

*Laboratory of Health Psychology, Université Bordeaux2, France*

Although a number of studies in sport psychology have documented the links between the personality and the coping styles (Crocker & Isaak, 1997; Gould et al., 1993), few focused on the college students involved in a sport practice. Several authors stated that intensive sport practise could be related with psychological difficulties (Brownell & Rodin, 1996; Purper-Ouakil & al, 2002) and referred to personality and coping styles in order to explain these results. However, most of these authors failed to reach differences between very intensive and less intensive practitioners. The purpose of this study was to focus on a specific population, the college students, and to test the relationships between the intensity of the sport practice and the student's personality and coping styles. One thousand seventy one college students (381 men, 690 women) were divided into three groups: occasional, regular and intensive practice. The participants were assigned to complete three questionnaires: the WCC-R, a specific coping scale for college students, and the neuroticism scale from the NEOPI-R. The differences between the three groups were tested with ANOVAs. Results show that occasional practitioners are more neurotic than the regular and the intensive ones. Moreover, emotional coping is less frequently reported by intensive practitioners. These results are more precisely illustrated when focusing on the items of the specific coping scale for students. These unexpected results emphasise the fact that, such as established by Martin (2002), college students, even if involved in an intensive sport practise, cannot be considered like high-level sportsmen.

**Paper 2. Impact of mixed-sex and single-sex schooling in physical education on self-perception of instrumental and expressive personality traits**

Maike Tietjens & Norbert Hagemann

*Department of Sport psychology, University of Muenster, Germany*

Since the 19th century, the advantages and disadvantages of single-sex and mixed-sex education were – with different intensities - continuously discussed. Previous studies concerning motivation, attitude, self-concept, and seldom on the self perception of instrumental and expressive personality traits. On the basis of information theory all incoming information are classified into typical masculine and typical feminine. Hence all sports can be identified as more or less masculine or feminine. Also single-sex and mixed-sex education holds gender information ready. This study examines the impact of the single-sex and mixed education and a sport-related activity on the gender-related self perception. A number of 2640 pupils ( $M = 13.85$   $SD = 1.02$ ) were tested. To test this impact a  $2$  (sex)  $\times$   $2$  (sport context)  $\times$   $2$  (sex context)  $\times$   $2$  (adjective) factorial analysis of variance was accomplished. Using the programm e-prime a choice-reaction-experiment was realized. Reaction-time and agreement-rate were collected. The adjective were withdrawn from the German version of Bem's Inventory (Bem, 1974; Schneider-Düker & Kohler, 1988). Girls (boys) affirmed to more expressive (instrumental) adjectives and in a shorter reaction-time than men (women) and to more expressive (instrumental) adjectives in a feminine (masculine) sport context. Pupils in a single sex context approved to less adjectives than pupils thought in a mixed-sex group. In conclusion, it may be assumed, that only gender schematic sport activities in a single – sex education enforce schematic gender related self perception.

**Paper 3. Is optimistic vs pessimistic too simplistic with sport children?**

Mareï Salama-Younes

*Sport Psychology Departement, Helwan University, Egypt*

Recently, many studies supposed that sport adolescents have more than 2 explanatory styles (Martin-Krumm, Sarrazin, Peterson & Famose 2003; Martin-Krumm, Sarrazin & Peterson, 2005). These two studies revealed that French adolescents have been gathered in three explanatory styles (Optimistic vs Neutral vs Pessimistic) and not only in two (Optimistic vs pessimistic style). The present paper tests in sport children this hypothesis using the French version of *Children's Attributional Style Questionnaire* (CASQ) and develops a shorter version (Salama-Younes, Martin-Krumm, Hanrahan & Roncin, 2006). Three studies have been developed. In the first, we used the Multiple Correspondences Analysis with 709 sport children aged 8 to 12 years. The results show that children have been gathered in four explanatory styles. The second and third study attempted to develop a shorter version, test its reliability and re-test if children have been gathered in the same 4 explanatory styles. The results revealed (i) not just two explanatory styles (optimistic vs pessimistic), but instead four explanatory styles/classes: optimistic, pessimistic, *neutral low* (low scores for negative and positive events) and *neutral high* (high scores for negative and positive events). (ii) The neutral classes represented a large number of children. (iii) Boys had a more optimistic explanatory style than girls. These results would be produced from the first and the second study. The third one revealed that the short version has more acceptable reliability than the long version.

**Paper 4. Development and validation of the Trait Robustness of Self-Confidence Inventory (TROSCI)**

Beattie, S.\*, Hardy, L., Woodman, T., &amp; Callow, N.

*\*University of Wales, Bangor, UK*

Bandura (1986) proposes that self-efficacy beliefs have important performance implications that vary on the dimensions of level, generality, and strength. When assessing self-efficacy beliefs, individuals are typically asked whether they can perform at a specific *level*; then they are asked to rate their degree of confidence in that endorsement (i.e., *strength*; Lee & Bobko, 1994). In this context, self-efficacy *strength* pertains to a particular task at a particular moment in time. This seems conceptually different to Bandura's (1997) conception that 'weak self-efficacy beliefs are easily negated by disconfirming experiences, whereas people with strong efficacy beliefs will persevere in their efforts despite innumerable difficulties' which in essence reflect how *robust* efficacy strength beliefs are. Bandura (1997) addresses the issue that *resilient* efficacy beliefs "require learning how to handle adversity and mastering increasingly tougher challenges through perseverant effort" (p. 333). However, the term *resilience* implies a return to a certain level after having departed from that level; *robustness* implies that the individual's beliefs will remain high despite the presence of factors that may adversely affect them. Consequently, the present paper reports five studies that develop and validate the 'Trait Robustness of Self-Confidence Inventory'. Confirmatory factor analysis in studies 1 - 4 revealed a good fit for a 10 item TROSCI in both male ( $\chi^2/df$  ratio = 1.65; CFI = .96; RMSEA = .04; SRMR = .05) and female ( $\chi^2/df$  ratio = 1.56; CFI = .97; RMSEA = .04; SRMR = .05) athletes. Study 5 is currently assessing its convergent validity.

**Paper 5. The second to fourth digit ratio in elite and non-elite male sport competitors**

Grouios, G., Koidou, I., &amp; Kollias, N.

*Aristotle University of Thessaloniki, Greece*

The second-to-fourth digit ratio (2D:4D) is an index of prenatal testosterone and estrogen exposure, and has a sexual dimorphic pattern independent of body size, with men having a lower digit ratio than women. A low, masculine 2D:4D ratio corresponds to high levels of prenatal testosterone and low levels of prenatal estrogen, while the opposite holds for a high, feminine 2D:4D ratio. The underlying mechanism for such a relationship has been attributed to the action of the Homeobox genes, which govern the formation of the gonads and the digits. It has been suggested that the 2D:4D ratio is established in utero and remains constant after the age of 2. In animal studies, it has been shown that prenatal exposure to testosterone may produce permanent changes toward more aggressive behavior and competitive instincts in adulthood. Thus, there is a strong suspicion that males involved in competitive activities, such as sports, may have been exposed to high androgen levels in utero. Therefore, the purpose of our study was to test the hypothesis that males engaged in sports have lower 2D:4D ratio. We measured the 2D:4D ratios in elite (n=40) and non-elite (n=40) male sport competitors and compared them with male individuals (n=40) not engaged in any sport activities. Our results showed that elite male sport competitors have lower 2D:4D ratios compared to the non-elite and significantly lower 2D:4D ratios than the sedentary controls ( $p < .05$ ). Therefore, we can speculate that low 2D:4D ratio may be a positive correlate of sports potential in males.

**Saturday 8/9/2007****14:00-15:20****SESSION 46. Injury Rehabilitation**

Chair: Urban Johnson

**Paper 1. Psychological and emotional reactions to a major sports injury as perceived by athletic trainers**

Caroline R.F. Jannes

*Centrum voor Sportgeneeskunde, UZ GENT, Ghent University  
Belgium/Psy4Sport, Belgium*

The present study examined the difference in general psychological distress during rehabilitation between athletes who successfully completed rehabilitation versus athletes who did not as perceived by athletic trainers. Also, this study examined the difference in the emotional expression of joy, fear, anger, shame and sadness in successful rehabilitation athletes versus poor rehabilitation athletes as perceived by athletic trainers. These perceived emotions are compared over three separate rehabilitation phases: Immediate care (Early Phase), Restoration of motion and strength (Middle Phase), and Return to play (Late Phase). Fifty-seven certified U.S. athletic trainers filled out the demographic list, an adaptation of the "Psychological Distress Checklist" (Taylor & Taylor, 1997), and the "Discrete Emotion categories" (Diener, Smith, & Fujita, 1995) for both successful and poor rehabilitation scenarios. Paired t-test results showed that athletic trainers perceived successful rehabilitation athletes to show significantly less psychological distress when compared to poor rehabilitation athletes. One-way repeated measures ANOVA results showed successful rehabilitation athletes expressed significantly more joy and less negative emotions from the middle phase of the rehabilitation on. They were also perceived to have an equal amount of fear and stress in the early phase of rehabilitation, when compared to poor rehabilitation athletes. Conclusions and implications for the athletic trainer's rehabilitation work will be highlighted.

**Paper 2. Imagery use during rehabilitation from injury: A case study of an elite athlete**

Evans, L.\*, Hare, R., &amp; Callow, N.

*\*University of Wales Institute, Cardiff, UK*

The purpose of this case study was to gain an in-depth understanding of an elite athlete's use of imagery across different phases of injury rehabilitation and to explore the effects of imagery ability and perception of pain on imagery use. Data collection comprised semi-structured interviews, the Athletic Injury Imagery Questionnaire-2, the adapted Vividness of Movement Imagery Questionnaire, and a Visual Analogue Scale for pain and was conducted at four phases of injury rehabilitation; early, mid, late and return to sport. Findings of the study supported a change in imagery use across rehabilitation (cf. Evans, Hare, & Mullen, 2006) and highlighted the affect of imagery ability and pain intensity on the use and effectiveness of the athlete's imagery use. Cognitive and motivational functions of imagery were used to the greatest extent. Cognitive specific imagery was used to learn and rehearse skills, maintain a positive attitude, increase motivation to adhere to rehabilitation and to enhance self confidence, and was the most prevalent type of injury used. The motivational function of imagery was shown to increase as the participant approached the end of rehabilitation, in the preparation of returning to training and competition. Pain imagery, which was only used in the early phase, was synonymous with the athlete imaging the rehearsal of rehabilitation exercises pain free. The study provided support for the effect of a number of variables on athletes' responses to injury (Wiese-Bjornstal, Smith, Shaffer, & Morrey, 1998).

**Paper 3. Psychological need satisfaction and well-being during injury recovery: A preliminary investigation**

Les Podlog\* &amp; Scott Cresswell

*\*Charles Sturt University, Australia*

Researchers have suggested satisfaction of basic psychological needs may impact positively on athlete's recovery and return to sport following injury (Podlog & Eklund, 2004; 2006). Specifically, Podlog and Eklund (2006) proposed satisfaction of needs for autonomy, competence and relatedness, as proposed within self-determination theory (SDT; Ryan & Deci, 2002), may impact positively on an injured athlete's recovery and return to sport. Relationships among basic need satisfaction, injury recovery and psychological well-being are, however, yet to be examined. As a consequence, the purpose of this investigation was to examine whether

athletes' perceptions of need satisfaction during injury recovery were associated with psychological well-being and return-to-sport outcomes. The data reported here focus on the associations among athlete perceptions of need satisfaction and measures of psychological well-being during injury recovery. Sixty male ( $n = 37$ ) and female ( $n = 23$ ) Australian recreational athletes, aged 18 to 32 years ( $M = 20.4$ ), completed an adapted version of the need satisfaction scale (Gagne, Ryan & Bargmann, 2003) along with measures of psychological well-being. Correlational analyses revealed that satisfaction of injured athletes' competence needs were associated with positive affect, self-esteem and vitality. Autonomy and relatedness, however, were not significantly associated with affect, self-esteem or vitality. Findings from this preliminary investigation lend partial support to SDT based contentions that satisfaction of basic needs is related to psychological well-being during injury recovery. Further studies are needed with larger more diverse samples to determine whether need satisfaction is predictive of psychological well-being during recovery and return-to-sport outcomes.

#### **Paper 4. Determinants and consequences of perceived vulnerability to sport-related injury**

Yannick Stephan\*, Thomas Deroche, Gabrielle Visse, & Christine Le Scanff

*\*Paris XI University, France*

Most of the prevailing models of health behaviours propose that perceived susceptibility to health threats motivates precautionary health behaviours. Perceptions of vulnerability are assumed to trigger a chain of processes that influence whether health protective behaviour is adopted. However, few research have been conducted on perceived susceptibility to sport-related injury. The purpose of the present study is to identify (a) factors that play a potential role in the formation of perceived vulnerability to sport-related injury and (b) consequences of this dimension for injury preventive behaviour. One hundred seventy competitive runners reported their perceived susceptibility to sport injury using a single item anchored from 0 (no chance) to 10 (certain to happen), the number of injuries they experienced during the last year, and answered also to the Passion Scale. Moreover, the mean number of visits among the physiotherapist during a season was reported. Regression analysis revealed that perceived susceptibility was significantly predicted by previous injuries ( $\beta = .34, p < .0001$ ), harmonious passion ( $\beta = -.18, p < .05$ ), and obsessive passion ( $\beta = .21, p < .01$ ). In turn, perceived susceptibility significantly predicted the number of visits among the physiotherapist ( $\beta = .17, p < .05$ ). As a whole, this study is a first step toward a new conceptualisation of the psychological determinants of sport-related injury based on existing health behaviours models.

#### **Paper 5. Effects of motor imagery in injury rehabilitation: An overview**

Guillot Aymeric\*, Vernay Marion, Gimenez Pierre, & Collet Christian

*\*Centre de Recherche et d'Innovation sur le Sport, UFR STAPS, Université Lyon 1 – Université de Lyon*

While there is ample evidence that motor imagery (MI) may have positive psychological effects during injury rehabilitation, such as pain management, little is known about its effect on enhancing physical rehabilitation outcomes, reducing the duration of the immobilization period or limiting the strength loss. Two experiments were designed to identify the physical effectiveness of MI following a mental practice training period using both visual internal and kinesthetic imagery. The first study ( $n=7$ ) investigated the effect of MI after specific hand injuries, while the second ( $n=20$ ) focused on how MI may be beneficial to anterior cruciate ligament rehabilitation (following a Kenneth-Jones surgery). MI abilities and motor performance were assessed using well-established psychological, behavioral measures, as well as mental chronometry. MI training sessions were scheduled during a 5 to 8 week-period (*i.e.* 10 and 12 MI sessions, respectively). Although inconsistent results were observed with respect to the movements tested, the present results suggest that MI may have a therapeutic effect. In the first study, movement amplitude increased following MI. However, imagers did not systematically outperform non-imagers. In the second experiment, MI led to better performance than the control task, although no effect on muscular atrophy was seen. These results suggest that MI may contribute in keeping the motor program active, and therefore may enhance movement recovery. When associated to usual physical rehabilitation, the therapeutic effect of MI may be useful in the sport rehabilitation context. However, further research is needed to determine in greater details the key components of MI rehabilitation programs.



**Saturday 8/9/2007****14:00-15:20****SESSION 47. Perceptual and Motor Control**

Chair: Nicola J. Hodges

**Paper 1. Table Tennis: Visual cues on return of the serve**

Bruno Bianchi\*, Alice Gherzil, Alberto Pin, Giovanni Righi, Alessandra Galmonte, &amp; Tiziano Agostini

*\*Department of psychology, University of Trieste, Mind in Sport Lab, Italy*

There have been a large number of studies in sports psychology that analyse the relations between visual perception and sports performance. This work belongs to this field of research. Sometimes, in table tennis, the different skill levels between players are extremely evident. For example, when a novice player is matched against an expert player, the novice player is unable to correctly return the serve and the point is stopped immediately after only two strokes. In that situation, the visual selection of the significant information is very important. Information is also hidden in space and time. Expert players use visual cues like the line of the shoulders, waist baricentric movements, and paddle movement of the opponent player to predict with more accuracy and in advance where the ball will arrive. For these reasons a correct visual behavior before the ball is struck is the basis for an accurate motor response later. In this experiment, we have compared two groups of subjects having different levels of expertise in a video task focused on the prediction of the location of arrival of the trajectory of a table tennis ball. Each participant has been given a score in relation to the number of correct answers. From data analysis, it appears evident that expert players more accurately predict the trajectory of the ball by recognizing the right visual cues from body, paddle, and ball trajectory of the opponent player.

**Paper 2. Superstitious beliefs regarding clubs in a laboratory based putting task**

Churchill, A. \*, Parkes, R., &amp; Taylor, J.

*\*University of Central Lancashire, United Kingdom*

Two experiments are presented in which a superstitious behaviour was created in a sporting task. In the first experiment participants ( $N = 28$ ) took part in a putting task in which visual feedback regarding performance was restricted. Participants were then provided with verbal feedback of their performance which was honest when they used one putter, negative with a second putter (they did better than they were told) and positive with a third (they did worse than they were told). All putters were identical, and this fact was expressed to the participants several times during the study. After this initial acquisition phase a competition was announced and participants were asked to select a putter they would like to use. The results showed that for the competition significantly more participants selected the 'positive' putter ( $N = 22$ ) than the 'negative' putter ( $N = 1$ ),  $p < .001$ . In addition, participants claimed that the positive putter had a better weight, was more comfortable and produced better accuracy than the negative putter (all  $p < .001$ ). In a second experiment a different method was employed to create superstitious beliefs which did not use the removal of visual feedback method, similar results were obtained to the first study. Taken together these studies show that superstitious beliefs can be formed in a short amount of time and that they can affect the behaviour and perceptions of an individual.

**Paper 3. Unwanted effects in aiming actions are mediated by changes in gaze behavior**

Olaf Binsch\*, Raoul R.D. Oudejans, Frank C. Bakker, &amp; Geert J.P. Savelsbergh

*\*VU University Amsterdam, Institute of fundamental and clinical human movement science, The Netherlands*

The instruction to avoid a thought or action may ironically increase the tendency to engage in this thought or action. Negative instructions can also lead to overcompensation during which one actually overacts the instruction in question. Two explanations are proposed for these unwanted effects: Wegner's (1994) theory of ironic processes and Bargh et al.'s (1996) priming explanation. Recently, Bakker et al. (2006) showed that in penalty shooting unwanted effects are mediated by changes in gaze behavior. The negative instruction not to shoot within reach of the keeper, ironically directed gaze to the keeper and resulted in more shots nearby the keeper. However, it is possible that these effects were due to the fact that a keeper was present in combination with the adopted time constraint (players had to shoot within one second). In the current study we investigated the relation between gaze and aiming behavior in a task without a keeper and time constraint, namely, golf putting. In Experiment 1 it was found that both for 'wanted' and unwanted effects (primarily overcompensation) there was a strong relation

between gaze and aiming behavior, for experts as well as novices. In search for confirmation of this relation with ironic effects we added mental load to the instructions in Experiment 2. For most effects that were found there was again a strong relation between looking and aiming. However, for some ironic effects this strong relation could not be found. These results are interpreted in terms of Wegner's theory of ironic processes.

**Saturday 8/9/2007**

**15:30-16:50**

**SESSION 48. Social Dynamics in sport**

Chair: Joan L. Duda

**Paper 1. An examination of the self-presentation approach and the drive theory of social facilitation**

Yahya Al-Nakeeb\*, Mark Lyons, Dr Michael Duncan, Professor Alan Nevill & Christopher James

*\*Newman College of Higher Education, UK*

The purpose of this study was to examine the application of Bond's (1980) self-presentation approach and Cottrell et al.'s (1968) learned drive hypothesis on the effects of audience and competition on performance of motor tasks. Two separate experiments were carried out. In the first, 24 physically active males and female (21.70 ± 3.13 years) were assigned to one of two groups (skilled or unskilled) based on their practice scores. Each participant performed a novel dart aiming task under three conditions (alone, competition and audience). Participants completed the Jones et al.'s (2005) Sport Emotion Questionnaire following each condition and their heart rate was monitored continuously during the three testing conditions. The repeated measures ANOVA revealed a significant interaction between condition and skill level. While performance of the skilled group improved under the audience and competition conditions, the unskilled group's performance deteriorated under those two conditions. Highly significant differences ( $p < .001$ ) were found between the state anxiety levels under the three conditions, with the highest being under audience followed by competition then alone conditions. The results of this experiment provided further support for Cottrell et al.'s (1968) learned drive hypothesis in explaining the role of evaluation apprehension on performance of motor skills. This led to the second experiment in which 15 elite basketball players performed a familiar basketball skill and a novel skill. The results appear to support the self-presentation approach rather than Cottrell et al.'s adaptation of Zajonc' (1965) drive theory of social facilitation.

**Paper 2. 'Robo-Yacht : A human behaviour-based tool to predict the performances of yacht-crew systems'**

Scarponi, M.\*, McMorris, T., Sheno, R. A., Turnock, S. R., & Conti, P.

*\*University of Perugia, Italy*

Many numerical tools are available in the yacht design domain to predict yacht performances. These are based on experimental data and well-established numerical techniques. However, being competitive sailing an uncertainty-rich discipline, there is also a need to assess the performances of a yacht's crew. This is indeed the main area for performance gains. The present study aims at predicting the performances of yacht-crew systems, by including numerical models for human behaviour within those referred to the yacht dynamics. In particular, the problem of decision-making under weather uncertainty is formulated in terms of a game of chance having nature as a second player and involving risk. Within this context, it is shown that decision-making models often used in management sciences can be advantageously used. This approach has led to the development of a sailing simulator referred to as 'Robo-Yacht', based on the International America's Cup Class. A case study is investigated that involves three strategical alternatives and four possible weather scenarios: gains and losses are assessed through the simulator and a formula to express expected payoffs is derived. When different attitudes towards risk (neutral, risk-averse and risk-taking) are expressed as different utility functions, it is shown that sailors' choices can be conveniently modeled based on a maximization of expected utility. The 'automatic crew' can actually make decisions that appear to be consistent with widely accepted principles of race strategy. A risk function is also derived in order to take into account opponents' choices and, where necessary, modify the strategic plan accordingly.

**Paper 3. A longitudinal investigation of the self-concordance model in sport.**

Alison L. Smith\*, Nikos Ntoumanis, & Joan L. Duda

*\*University of Birmingham, UK*

Smith, Ntoumanis, and Duda (2006) presented a cross-sectional study which investigated the motivational processes underlying goal striving in sport, as well as the role of perceived coach autonomy-support in the goal process, by adapting the self-concordance model (Sheldon & Elliot, 1999) to sport. Self-report measures of goal motives, effort, and attainment in addition to measures of coach autonomy-support, psychological need satisfaction and psychological well-being, were administered to 210 British athletes. Structural equation modelling supported a model ( $\chi^2_{146} = 214.27, p < .01, CFI = .95, NNFI = .94, RMSEA = .05 (CI .03 - .06), SRMR = .08$ ) in which autonomous goal motives predicted goal striving through the following sequence: autonomous motives  $\rightarrow$  effort  $\rightarrow$  goal attainment  $\rightarrow$  need satisfaction  $\rightarrow$  well-being. A direct negative path was found between controlled motives and well-being. Coach autonomy-support had direct positive paths to need satisfaction and autonomous motives. The association of autonomous motives with effort remained significant when controlling for goal difficulty, goal specificity, and goal-efficacy. The findings of Smith et al. (2006) support the self-concordance model as a framework for further goal-setting research in sport. The model is currently being tested within a longitudinal design including three time-points across a six-month University sport season. The first two of these time-points have already shown support for the findings of the cross-sectional study as well as highlighting some longitudinal influences of goal motives. Results from all three time-points of this longitudinal study will be presented in the long abstract and at the conference.

#### **Paper 4. 'In' or 'out': The influence of the players' behaviour upon umpires' decision in tennis**

Norbert Hagemann & Julia Kusber

*University of Münster, Germany*

Research in social sport psychology has demonstrated that judgements of sport referees can be biased (e.g., by the color of the outfit, Frank & Gilovich, 1988). This experimental study investigated the impact of the players' behavior prior to critical "in or out" decisions in tennis. International chair umpires ( $n=24, \text{age}=35.29\pm 10.06$ ), experienced national referees ( $n=24, \text{age}=29.08\pm 8.56$ ) and novices ( $n=24, \text{age}=25.75\pm 2.89$ ) watched tennis rallies on a computer screen. Each video clip stopped after the ball had bounced closed to the base or side line. The subjects had to decide whether the ball was inside or outside the field. The video clips were manipulated using digital video-editing software. Each rally was coupled with a different behavior of the target player before the actual rally. In four experiments the influence of the body language (Exp. 1), aggressive behavior (Exp. 2), friendly behavior (Exp. 3), and discussions with the umpire (Exp. 4) were investigated by comparing the specific behavior with neutral control clips. Experiment 1 revealed that the participants judged the position of the ball in favor of the player who showed a positive body language,  $F_{2,138} = 3.65, p < .05, \eta^2_p = .05$ . Experiment 2 and 3 showed that the subjects support the tennis players which show an aggressive,  $F_{1,69} = 8.97, p < .01, \eta^2_p = .11$ , or a friendly behavior,  $F_{1,69} = 7.95, p < .01, \eta^2_p = .10$ . A close to significant interaction occurred in Exp. 4 which revealed that only the national referees judged in favor of the players who discussed with the umpires just before the critical decision,  $F_{2,69} = 2.68, p = .08, \eta^2_p = .07$ . The results indicated that the behavior of tennis players can influence umpires' decision.

#### **Paper 5. Social identities in physical activity promotion for sedentary women**

Erin Pearson & Tony Morris

*Victoria University, Australia*

This study applied the social level of analysis (Terry & Hogg, 1996) to the Theory of Planned Behavior (TPB) in a 3-month physical activity (PA) intervention; involving sedentary women aged 25-45. In two conditions (SI), we conducted social identity-based subjective norm manipulations. One SI condition was for women ( $n=26$ ) who identified as strong independent women. The other SI condition was for spiritual caring women ( $n=17$ ). In these SI conditions, we made salient the women's identities, either as strong independent women or spiritual caring women, and provided normative support for PA from other strong independent/spiritual caring women. In the personal identity (PI) condition ( $n=21$ ), we provided information about the importance of PA presented by health professionals. Participants completed PA questionnaires pre-intervention, two weeks post-intervention, and at 3-month follow-up. PA intentions and attitudes, perceived behavioural control, and subjective norm for PA were also measured. At the 2-week post-test, women from all conditions increased PA levels and there were no differences between conditions. At the 3-month post-test, however, only the women in the SI conditions maintained their increased PA levels. The success of the SI interventions in facilitating the maintenance of PA indicates that subjective norm can be a powerful factor to use in PA interventions. In addition, regression analysis revealed that, for the SI conditions, subjective norm was a significant predictor of behavioural intention both two weeks and three months post-intervention, whereas the best predictor of intention for the individual condition was perceived behavioural control.

**Saturday 8/9/2007****15:30-16:50****SESSION 49. Management and services on sport psychology**

Chair: Roland Seiler

**Paper 1. The Master in “Sport and psychosocial management: Promoting cooperation, mediating conflict”, a training – research project**

Caterina Gozzoli\*, Mara Gorli, &amp; D’Angelo Chiara

*\*Catholic University in Milan, Italy*

The Postgraduate School in Psychology “Agostino Gemelli” was created at Catholic University of Milan in 2004, with the aim of promoting a high-grade professional education in applicative psychology, mostly through II level Masters courses (executive). This paper analyzes the idea that stands behind the Master “**Sport and psychosocial management: promoting cooperation, mediating conflict**”, offered for the 4<sup>th</sup> year, and investigates the temporary training organization that leads professionals to be able to plan and handle complex initiatives, to manage problems and troubles related to the complexity of the world by the development of specific relational competences. In this context, sport is in fact considered a social tool that enhances the features that promote and strengthen bonds among people, groups and life contexts. This training program is presented as a training-research project, with the aim of supporting a “dialogue between working minds” through reflective practices and a connected research between staff, master participants and sport organizations. Starting from the evaluation of the training processes and outcomes, its aim is to analyze the developed and strengthened skills that professionals need in order to work as psychosocial sport management experts. This research analyzes the material from the 80 students of the 4 master editions, composed by beginning-ending questionnaires, narrative papers and board diaries. This material is analyzed using software as ATLAS.T and SpSS.

**Paper 2. Displaying implicit knowledge of culture in sport organizations**

Frank Engel\*, Sebastian Kaiser, &amp; Richard Keiner

*\*Institute of Sport Economics and Sport Management, Köln*

With the boom of Japanese companies in the 1980s organizational culture merged as a crucial variable for explaining success in organizations. It quickly became clear that a better understanding of organizational culture requires the reflection of methods and the use of interdisciplinary research. Approaches of rational deterministic economics that had been used no longer proved sufficient. Therefore economical, psychological and sociological approaches have been integrated into an interdisciplinary research project. The project’s aim is to understand how far the concept of organizational culture contributes to the understanding of sports organizations. As one innovative step beside quantitative and qualitative research we introduced the “Structure-Dimensional Analysis” as an access to the representation of culture-related knowledge. As a basic assumption, knowledge is conceptually structured and represented hierarchically in organizational units. The subjects are confronted with concepts determined in advance, which are relevant for culture in sport organizations. After analyzing the material in a hierarchical cluster-analysis, a dimensional analysis of the cluster concepts has been done via factor analysis. An intra- and inter-individual comparison of representations finally has been made by using an invariance analysis. Thus individual knowledge structures have been revealed, allowing both comparisons between individuals as well as group comparisons between different sectors. Results show that individual structures of culture representation can clearly be identified. *Invariant structures* and *group specific representations* can be shown in inter-individual comparisons. The SDA offers a new, empirical-experimental access to organizational culture which validates the results of qualitative and quantitative methods also used in this research project.

**Paper 3. Delivering psychology services to elite sports in Germany – efforts and trends**

Gabriele Neumann

*Federal Institute of Sport Science, Germany*

For a long time, applied sport psychology was not well established in the field of elite sports in Germany. In the last years however, the status of sport psychology work has risen and more top level coaches and athletes take advantage of sport psychological counselling and promote their effectiveness. One reason for this positive trend can be seen in the combined effort of three institutions that have started in 2002 to systematically reduce the existing deficits: the German Federal Institute of Sport Science (BISp), the German

Sport Federation (DSB) and the German Association of Sport Psychology (asp). Especially the following means have contributed to the upwind of sport psychology in German elite sports: 2002: launch of the website "http://www.bisp-sportpsychologie.de", offering (a) an information portal for the fast and easy access to applied sport psychological issues and topics for elite sports, (b) a sport psychologist expert pool with (c) quality ensurement of the listed sport psychologists, (d) quality ensurement and (e) regulation for sport psychological services of federal funded psychological work in elite sports. 2002-2006: the amount and duration of sport psychological counselling for Olympic athletes could be increased enormously by yearly funding 31-39 projects in 23-29 different Olympic sports by BISp and DSB as compared to 6-10 projects before 2002. 2005: sport federations have started to finance sport psychological work (partly) by themselves by considering these services within their yearly budgets. For the further acceptance of sport psychological work it will be crucial to secure its quality and ethical standards.

**Saturday 8/9/2007**

**17:00-18:20**

**SESSION 50. Feedback - biofeedback**

Chair: Frank C. Bakker

**Paper 1. Influence of information sources on efficiency of motor learning: verbal instruction, visual modelling and knowledge of performance**

Renata Barić\*, & Gordana Furjan-Mandić

\*Faculty of Kinesiology, University of Zagreb, Croatia

Motor learning is a process of establishing a motor skill that could be defined as ability of harmonious and coordinate performance of certain motor tasks. This experiment tested the influence of the sources and amount of information on the efficiency in learning one motor task. The experimental design represented an upgrade of Magill and Schoefeldler-Zhodi experiment (1992). The sample was comprised of 65 1<sup>st</sup> year female students of the Faculty of Kinesiology from Zagreb, divided in six experimental groups, who were learning a complex skill of rhythmic gymnastics (element with rope) through 48 trials organised in 8 series. They were learning based on different initial learning instructions (the verbal, visual or combined verbal-visual) and with or without feedback (KP). The results obtained by a 3x3x8 ANOVA with repeated measures show that the amount of initial information a beginner has at her/his disposal is important in learning a complex motor skill. Learning is more effective if an initial instruction is either visual or combined. Learning is faster and a level of acquisition is higher if a beginner receives augmented feedback information. Instructions of different levels of complexity bring different information to a beginner. When an instruction is verbal, basic mistakes are more frequent, whereas other types of instructions bring enough information for the acquisition of the basic motor pattern. Mistakes in performance, which may occur, are more mistakes of upgrading the skill learning, and they are related to the fine coordination or manipulation demands in the performance of a complex motor skill.

**Paper 2. Are ironic effects in penalty shooting the result of negative instructions or priming?**

Frank C. Bakker\*, Olaf Binsch, & Raoul R. D. Oudejans

I\*nstitute for Fundamental and Clinical Human Movement Sciences, VU University, Amsterdam

The instruction to avoid a thought or action may ironically increase the tendency to engage in this thought or action. Two explanations are proposed for these unwanted effects: Wegner's (1994) theory of ironic processes and Bargh et al.'s (1996) priming explanation. Bakker et al. (2006) showed that in penalty shooting unwanted effects are mediated by changes in gaze behavior. The negative instruction not to shoot within reach of the keeper, ironically directed the players' gaze to the keeper and resulted in more shots that ended nearby the keeper. However, it was not possible to distinguish between Wegner's and Bargh et al.'s explanations. The current study is aimed at making this distinction. We had football players make indoor penalty kicks under two instructions: One that urged them "not to shoot within reach of the keeper", and the other that urged them "to pass the keeper". If both instructions result in more looking and shooting at the keeper, the negative phrasing is not the decisive element in the occurrence of ironic effects, but instead merely mentioning 'keeper' is responsible for them. This result would clearly be in favor of Bargh et al.'s priming explanation. On the other hand, if the 'not in reach of the keeper' instruction results in ironic effects, while the 'pass' instruction does not, this outcome would support Wegner's explanation, making it unlikely that looking behavior into the direction of the keeper is primed by mentioning 'keeper' in the instruction.

### **Paper 3. Summing Hasselhoff! – Effects of instruction on basketball free throw performance for varying skill levels**

Jörg Schorer & Heiko Maurer

*Westfälische Wilhelms-University Münster, Germany*

During the NBA conference finals 2006 Dirk Nowitzki was asked how he can perform free throws with such certainty even at the very end of a tied game. He answered that he was humming “I’m looking for freedom” by David Hasselhoff. From a motor control perspective this seems to be a plausible strategy. Different theoretical concepts assume a disruption of automatic control processes by directing one’s attention to the body’s movements (Wulf & Prinz, 2001) or more general to skill execution (Beilock & Carr, 2001; Masters, 2001). Thus, using an external focus or directing attention to movement irrelevant aspects (e.g. humming a song) could be helpful strategies. The aim of the present study was to test these two strategies from a practical perspective with athletes of varying skill levels. As control conditions we used an internal focus and a non-instruction condition. Fifty five participants from three different skill groups (novice, advanced, and experts) performed 10 basketball free throws under each of the four conditions. As a dependent variable, free throw accuracy was measured on a four-step scale (1 = hit; 2 = hit with ring or board; 3 = no-hit, but board or ring; 4 = air ball). The results show a significant main effect for skill ( $F_{2,52} = 24.6; p < .01; \eta_p = .48$ ). The main effect for conditions ( $F_{3,153} = 2.15; p = .096; \eta_p = .04$ ) and the interaction for skill and condition ( $F_{6,153} = 1.87; p = .089; \eta_p = .07$ ) failed to reach significance. Having a further look to the results, only the experts show mentionable performance differences – they performed worse under external focus conditions compared to all other conditions. This might be explainable because it goes against their normal routine of free throw shooting, in which they mostly concentrate on their techniques.

### **Paper 4. Change of EEG coherence after neurofeedback training**

Tsung-Min, Hung, Yung-Shun, Wang, & Chih-Chieh, Chang

*Taipei Physical Education College, Taiwan*

Psychomotor Efficiency Hypothesis forwarded by Hatfield and Hillman suggested skilled motor performance is characterized by reduced cortical resource during motor performance. This is due to suppression of nonessential cortical regions to reduce interference to the network processing. One way to examine interference is through EEG coherence analysis. Study has found skilled marksmen have lower coherence between the motor planning region (Fz) and left temporal region (T4) than those of less skilled. Neurofeedback training has been found effective in enhancing  $\alpha$  power in the target region as well as enhancing performance. This study was to examine whether neurofeedback training affect coherence during air pistol shooting task. Twenty skilled air pistol shooters were assigned to either a neurofeedback training group or a control group. Coherence in the  $\alpha$  band between Fz and T3, Fz and T4, Fz and P3, and Fz and P4 were compared between groups. Results showed that neurofeedback training increased coherence between Fz and P4. This enhanced coherence in  $\alpha$  band could be a result of a general increase of  $\alpha$  power across the entire cortex that indicates a relaxed but attentive state. The implication of this finding for mental training is discussed.

### **Paper 5. Judging bias in aesthetic sports: Open feedback leads to nonperformance-based conformity**

Boen Filip\*, Vanden Auweele Yves, De Geest Annick, Feys Jos, Claes Ellen, Karen Van Hoye, & Bert De Cuyper

*\*Department of Human Kinesiology, K.U.Leuven, Belgium*

Three experiments were designed to determine whether the open feedback system used in many aesthetic sports (i.e., the judges hear and see each others’ scores after having rated each performance) leads to unwanted (i.e., nonperformance-based) conformity in the scoring of judges. In each of these three experiments, 2 independent variables were orthogonally manipulated: feedback (or none) during phase 1 and feedback (or none) during phase 2. In Study 1, 20 judges in synchronized swimming had to rate 60 videotaped performances of the same imposed figure. In Study 2, 27 difficulty judges in rope skipping had to rate the same 30 videotaped individual performances. In Study 3, 23 judges in women’s gymnastics had to rate 30 videotaped vaults. The results of all three studies indicated that the variation of the scores given in phase 1 was significantly smaller when the judges had received feedback than when judges had not received feedback. These findings indicate that the scoring of judges in aesthetic sports is strongly influenced by immediate feedback. In addition, the results of Study 1 and Study 3 revealed that the variation of the scores given in phase 2 remained significantly smaller among the judges who had received feedback in phase 1 but not in phase 2, compared with judges who had not received feedback in either phase. However, in Study 2 the conformity observed in phase 1 did not last when feedback opportunities were removed in phase 2. The implications for panel judging in aesthetic sports will be discussed.

**Saturday 8/9/2007****17:00-18:20****SESSION 51. Psychological preparation and performance enhancement**

Chair: Zisis Papanikolaou

**Paper 1. Monitoring of psychological training periods for the sportsmen of professional level**

Jan Supiński, Lesław Kulmatycki, &amp; Kazimierz Witkowski

*Akademia Wychowania Fizycznego we Wrocławiu, Polska*

Across the course of preparation of sportsmen of the highest rank, we can point out few monitoring periods of psychological training. According to the author's opinion none of these periods can not be omitted. We need to take into consideration in the first period the following factors; age (junior, senior), gender, training cycle, individual research, specificity of sports discipline. Period second is referring to choice of suitable term. Preparatory period is the most proper for research. This place properly prepared laboratory or centers of Olympic preparation, which is furnished assign with proper accommodation for these purposes. Period third, it choice of proper measuring instrument, which would take into consideration between other frequencies of monitoring, kind of sports discipline, individual requirements of sportsmen and coaches, also selection of proper psychological tools and research equipment. Period fourth refers to employ these results in practice for individual /group and coaches. Assignment of task and abilities for individual sportsmen or) group. Period fifth - exercise of this ability under control of psychologist and independently. Period sixth - adopt of ability in artificial and natural conditions (sport events). Period seventh - exercise in the course of independent training this assignment of task individual sportsmen. Period eighth – final report concerning current potential psychological sportsmen /group with reference to individual/ group of future career.

**Paper 2. System of psychological care in Polish Olympic Mission**

Marek Graczyk

*Academy of Physical Education and Sport, Psychological Department, Gdańsk, Poland*

The history of a psychologist's involvement with Polish Olympic Mission goes back over 25 years. His first official appearance was on the Olympic games in Moscow and ultimately up to the games in Atlanta, the psychologist has been appointed to all kinds of similar events – both summer and winter ones. The presentation aims to describe the role and duties of a psychologist accredited by IOC. It is also a review of tasks already accomplished during 20<sup>th</sup> Winter Olympic Games Torino 2006. During Torino 2006 the psychologist cooperated and provided his services to 47 athletes, 20 coaches and 20 members of the Mission. The psychologist's task was to take care of the team's cheerful mood and will for fighting. He was to intervene everywhere where there were trouble spots for interpersonal conflicts or pessimism and offer his help in group and individual sessions. Due to the impossibility of spending a longer time with the athletes, the psychologist limited his activities to the application of the so called intervention trainings: the cognitive and behavioral one (simulation of start, biofeedback, desensitization). After each training, the athlete's psycho-motoric fitness was monitored with a computer test. The psychologist also provided short advice and psychological conversations mostly of a strengthening nature. He also visited, i.e. performed the so-called psychological inspection in the village by observing and talking to doctors, therapists and coaches. The psychologist reached the aims in general, concerning to the whole team, as well as in individual one – athletes who were cooperating with him achieved expected goals, however, almost 20% of the participants reached levels below their abilities. The health care system prepared by the NOC proved to be good. The survey form filled in by the athletes and coaches proved that 85% of them assessed the functioning of the medical mission very well, as never before. The preparations for the Beijing 2008 Olympics in the medical aspect should begin as soon as possible basing on the positive experience from Torino 2006. Starting cooperation between psychologists and sports federations participating in the preparations for Beijing as soon as possible seems an important issue meant to prevent the situations from the Sydney and Turin games where part of athletes and coaches feared the introduction of new and unexpected influences. It is mainly about the usage of the programs and apparatuses designed for psycho-physiological influence of the "biofeedback" and "mindmachine" type as well as teaching the participants to contact the psychologist in the form of an Internet teleconference, for instance in the Skype system.

### **Paper 3. Strategies used by south african non-elite athletes to cope with the environmental stressors found in endurance events**

Steyn, B.J.M. & O'Neil, J. W.

*Department of Biokinetics, Sport and Leisure Sciences University of Pretoria South Africa*

The coping strategies used by athletes specifically in extreme endurance events have not been studied to a great extent. The aim of this study was to determine the coping strategies that non-elite athletes use to overcome environmental factors during endurance events. A qualitative approach was used. A sample of 53 non-elite endurance athletes completed a questionnaire and interviews. The focus was to explore individual experiences as well as the identification of themes and patterns of behaviour. These patterns of behaviour and mental processes will enable the researcher to identify concepts and themes of behaviour. The results indicated that endurance athletes used all three coping strategies that were identified in the literature. The most frequently used strategy was to remove the source of the stress followed by strategies that change the athlete's perception of the stressor and least strategies that focus on the symptoms of the stress. Most of the endurance athletes perceive problems and challenges to be something positive. The majority of endurance athletes has a positive perception of their own abilities and regularly place themselves in situations of danger or extreme stress to test this ability. This ability must however constantly be tested by participation in endurance sport or other stressful situations. Previous successful participation in endurance events or other stressful situations leads to an increase in positive self-perception of own abilities as well as an increase in performance in endurance events.

### **Paper 4. Using Music to Alleviate Choking Under Pressure in "Choking-Susceptible" Athletes**

Christopher Mesagno\*, Daryl Marchant, & Tony Morris

*\*Victoria University, Melbourne, Australia*

Based on recently proposed definitions, we define choking under pressure as a critical deterioration in the execution of habitual processes, resulting from elevations in anxiety levels under perceived pressure, leading to substandard performance. Two explanatory models for choking have been proposed, though, researchers have provided more empirical support for the self-focus model, whereby choking results from an increase in anxiety, leading athletes to consciously monitor behaviour and, consequently, experience a decrease in performance. To date, few researchers have examined the efficacy of applied sport psychology techniques to assist athletes in counteracting choking effects. The current study investigated whether listening attentively to music lyrics could alleviate choking. We purposively sampled three "choking-susceptible" basketball players, based on responses to three psychological inventories (SCS, SAS, & CSIA). These participants performed a total of 240 basketball free throws in a single-case  $A_1$ - $B_1$ - $A_2$ - $B_2$  design (A phases = "low-pressure"; B phases = "high-pressure"). We instructed participants to listen to the lyrics of a song prior to and during the  $B_2$  phase. All participants maintained or improved performance compared to the A and  $B_1$  phases. Interviews conducted after completion of the shooting task indicated that choking, which occurred in the  $B_1$  phase, resulted from increased self-awareness (S-A) and explicit monitoring of performance. Using the music intervention in the  $B_2$  phase, participants reported that S-A decreased, enabling them to reduce explicit monitoring and general distractibility. Results extend to qualitative research perspectives supporting the self-focus model and indicate that specific interventions can facilitate performance in choking-susceptible athletes.

### **Paper 5. The mental representation of dance figures – portrayed in unique neural activity of the cortex and in physiological functions**

Hökkelmann, A. & Blaser, P.

*Otto-von-Guericke-University, Magdeburg, Germany*

The build-up of movement representations is important for technique training. Sporting techniques in their temporal, spatial and dynamic structure are an example of an object of representations. These techniques can be recalled from memory as required. On the basis of many parallels between cognitive and neural processes, brain processes connected with thinking, imagination and attentiveness can be made visible due to the electrical activity of the neural networks involved. Intensive reproduction of experiential content also affects other physiological functions such as heart rate, respiratory and muscle activity. In this pilot study two dancers performed difficult elements (Pique turn and jump) of a dance while the mental associations of the choreography were reflected in altered electrical potentials in the frontal lobe. The following movement combination was used for the study The CATEEM (COMPUTER AIDED TOPOGRAPHICAL ELECTRO ENCEPHALO METRY) devices system by the MediSyst company was used to detect cerebral surface activity. It also enables parameters to be deduced for heart, respiratory and muscle activity and for these to be placed in the context of cortical activity. The dancers were concentrated fully on the selected technical elements of the dance. With relatively high accuracy the movement was reflected in the mental activity. The level of the electrical activity in the cortex areas confirmed these facts. The mental activity remains in close connection (significant) with respiratory, heart rate and leg muscle activities.



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**POSTER  
SESSIONS  
ABSTRACTS**



**POSTER SESSION 1****WEDNESDAY 5/9/2007****YOUNG INVESTIGATOR AWARD****1. Bad performance in sports because of insufficient preparation? - Experimental study about social loafing**

Jeannine Ohlert, Nadine Huettner, &amp; Randolph Ochsmann

*Johannes Gutenberg-University Mainz*

The performance of an athlete during competition is determined by several factors. One of them is a phenomenon called "social loafing" which means that the motivation of a person decreases if he or she is in a group situation: A team athlete is less motivated to perform perfectly than a single sports athlete. This phenomenon can be demonstrated for all areas of human life. The aim of the current study was to show that social loafing does not only occur in a group task but also when a person is preparing for a group task. Therefore, it is expected that team athletes prepare worse for their competition than single sports athletes. To test this assumption, an experiment was conducted. Male participants were asked to take part at a "tug-of-war" task. A film was shown with people pulling the rope either alone or in a group. Then they were asked to wait in a separate room for about 20 minutes and to prepare themselves for the anticipated task. A written instruction was provided telling them to eat and drink a certain amount, to do some stretching and to read an article about "tug-of-war". As expected, people anticipating the single tug-of-war prepared better than those waiting for the group task. This implicates that social loafing does indeed influence the preparation of people who are anticipating a group task even though they are still alone.

**2. An Investigation of the Effectiveness of the Old Way New Way Technique in a Group Setting**Lisa A. Fraser<sup>1</sup> & Gerald Tehan<sup>2</sup><sup>1</sup>*University of the Sunshine Coast, Australia*<sup>2</sup>*University of Southern Queensland, Australia*

The aim of the study was to investigate the effectiveness of the Old Way New Way technique in providing an efficient method of correcting performance errors when working with small groups of athletes. This technique, which originated from the verbal learning literature, has been previously shown to be successful in producing rapid and permanent change in sport-specific settings when working with individual athletes (1), and when working one-on-one with athletes while in a group setting (2). These results are a positive beginning to the application of the Old Way New Way technique to a sporting environment. The current study sought to test the generalisability of the technique, aiming to evaluate any change in performance after a single session in which the technique is applied in a group setting, and establish whether this change is maintained over time. Twenty-three female volleyball players, ranging from 15-18 years of age, were involved in the study. The intervention was conducted with small groups of approximately 6-10 players. The performance error of focus was spiking technique. Participants were videotaped spiking on four occasions over a 5-week period, including baseline and three post-test measures. Expert judges scored the performances based on judging criteria developed for the study. Results showed that a significant change in technique occurred after the intervention was conducted, and that this change was sustained for the duration of the study. Methodological limitations and pathways for future research are also discussed.

**3. Living up to high standards: The effect of perfectionistic concern over mistakes on negative mood in sport**Mark Schuls<sup>1</sup>, Nico W. Van Yperen<sup>1</sup>, Frank C. Bakker<sup>2</sup>, Bregje Speet<sup>2</sup>, Gerhardus A.B.M. Menkehorst<sup>3</sup>, & Henricus H.P.M. Schuijers<sup>4</sup><sup>1</sup>*University of Groningen, Department of social and organizational psychology, The Netherlands*<sup>2</sup>*VU University, Faculty of Human Movement Sciences, Amsterdam, The Netherlands*<sup>3</sup>*Mental Training & Coaching Centre, Groningen, The Netherlands*<sup>4</sup>*Rico Schuijers Sport Psychology & PROTASK, Nijmegen, The Netherlands*

Perfectionism is usually considered as a negative and maladaptive characteristic. However, flawless performance is inevitable for a top-class athlete. Many studies suggest that the core dimension of perfectionism – having

high personal standards - leads to negative reactions to athletic performance only when accompanied by negative dimensions of perfectionism, such as concern over mistakes (COM). COM reflects negative reactions to mistakes and a tendency to interpret mistakes as equivalent to failure. The aim of the current study is exploring the effect of COM on negative mood in sport, while living up to high standards. In contrast to most studies, we studied effects of perfectionism on actual goal setting and reactions to actual performance among high-level athletes. We induced participants (N = 62) a perfectionistic goal for a concentration task, which we emphasized to be important in sport practice and is therefore made sport-related to our participants. The results showed that athletes having high personal standards were more committed to the goal and experienced more negative mood in reaction to failure when discrepancy between the goal and actual score was high, particularly for athletes high in COM. It is concluded that perfectionism may be more adaptive for athletes low in COM. In future research, a longitudinal design offers opportunities to study the effect of perfectionism on performance. An important implication for sport psychology consultants is that they should also throw light upon the positive aspects of perfectionism when working with perfectionistic athletes.

#### **4. The goalkeepers' bravery: A self-efficacy study**

Sara Landi, Serena Benedetti, & Giorgio Merla

*Italian Football Federation (F.I.G.C.)*

The aim of this work was to improve the young goalkeepers' ability to face with role specific tasks perceived as difficult. Soccer experience and performance can be negatively affected by the fear to be injured and to make a mistake. Instead, self-efficacy beliefs play a key role in the self-regulation of motivation and influence the degree of effort that people expend and how long they persevere in the face of difficulties (Bandura, 1997). Therefore, people with high confidence in their abilities approach difficult tasks as challenges to be mastered. With this in mind, we have selected two kind of exercises that involve the occurrence to hurt oneself and to make a mistake. Eleven young goalkeepers (M age = 12,5 yrs) from the Football Youth School of Rome of the Italian Football Federation were interviewed to select the role-specific tasks perceived as more challenging. Subsequently, we used observational learning techniques (modeling and self-modeling) and imagery training to enhance their perceived self-efficacy to cope with the two more difficult role-specific tasks, which are: going out toward the opponents and ball management by feet. This training has been carried out in parallel, with the technical coaching of these movements. Furthermore, we assessed motivational style, self-efficacy strength and imagery abilities of the goalkeepers through specific questionnaires. The main findings based on the matching between pre- and post- test results (t test paired sample) showed significant enhancement in self-efficacy related to the mastery of the both technical tasks and in the imagery skills.

#### **5. Sources of Acute Stress and Psychological Skill Training Methods among Czech Elite Soccer Players**

Meichi Chen

*Charles University, Faculty of Physical Education and Sport*

The purpose of this research was twofold: first, to identify the sources of acute stress among Czech Elite Soccer Players (CESPs) by investigating their perceived intensity and appraisal direction and second, to investigate the psychological skill training (PST) methods used by CESPs. "Stress Intensities, Appraisals and PST methods Questionnaire" was created under the conceptual framework of stress process concluded from literature review to serve the purpose. Total 83 players from 5 teams competing at Czech premier soccer league (Gambrinus liga) completed the questionnaire. The main findings from the questionnaire were: 1) All the pre-competition stressors which were perceived with high intensity were all appraised strongly positive; 2) Cheers from spectators was the major facilitative in-competition stressor while making a goal-relevant game error was the major debilitating one; 3) "Team dynamics" has profound influence on the appraisal direction of stressors; 4) Defenders tend to be more aroused by negative stressors while Forwards by positive ones. The results of the research were presented and discussed with the coaches and effective PST methods concluded from antecedent research were recommended. The experimental attempt to use questionnaire for investigation of sources of acute stress and usage of PST methods among CESPs was proved to be effective even though further modification was needed in order to complete the questionnaire with validity and reliability for research purpose in the future.

## 6. Application of data mining techniques for identifying the holistic athlete's characteristics

Stavroula Psouni<sup>1</sup> & Dimitris Psounis<sup>2</sup>

<sup>1</sup>Faculty of Physical Education and Sport Science, *National and Kapodistrian University of Athens, Department of Psychology, University of Crete*

<sup>2</sup> *PhD Candidate, Department of Informatics and Telecommunications, National and Kapodistrian University of Athens*

The present study examines computer science techniques that can be used to analyze the total characteristics of an athlete. We suggest a 3 factor analysis which encompasses the psychological profile of the athlete, the body characteristics and the performance of the athlete in basic tests. We believe that this profile composes a holistic consideration of an athlete because it contains the psychological characteristics, somatotypes and basic performance skills. Specifically in our schema we arrange the items in the 3 categories as follows. In the first one, psychological skills we cite anxiety, concentration-attention, self confidence, positive feelings, excitation and mental preparation. In the second one, body characteristics, we cite weight, height, fat percentage, hands length and legs length. In the last category we cite the sports performance elements like speed, strength, endurance, kinesthesia and reflect. We believe this is a primary proposal that we can later develop with more elements. The method for our data analysis is to propose a measure to each of our 3 categories so as to put the samples (athlete's characteristics) in the 3D-space. By applying data mining techniques which is a very rapidly sector of computer science, like clustering methods, classification techniques and data generalizations, we are going to spot groups of samples with likely attributes. We conjecture that the groups that are going to consist by these automated methods will denote the various combinations of characteristics a successful athlete should have.

## 7. Applications of sports psychologist occupation to organizational fields in sports clubs

Stavroula Psouni

*Faculty of Physical Education and Sport Science, National and Capodistrian University of Athens  
Department of Psychology, University of Crete*

The subject of sport psychologist is restricted in psychology of athletes and the improvement of sport's abilities and performances. Instead the field of psychology is very huge and other divisions could easily imply to sports. In this paper we apply the theories and practices of organizational psychology in sports organizations. Nowadays the only field of organizational psychology, which is used in sport organizations, is the human's resources management and this is commonly applied by the manager of the organization who not always has the appropriate psychological knowledge. We propose a complete plan for the occupation of sports psychologist which composes the organizational psychology in sports. This schema contains subjects as like organizational behaviour and relationships; human resources; leadership; education and training; occupational stress and burn out; satisfaction researches; employee's motivation and organizational culture. We believe that this new occupation of sport organizational psychologist into sport clubs could totally improve the administration and all the functions of the organization. Organizational psychologist could apply his work in all persons of the organization; administration's members; trainers; staff; volunteers and even more professional athletes and sport consumers.

## 8. The effects of exercise on regional brain activation in response to smoking cues during temporary abstinence from smoking

Janse Van Rensburg, K<sup>1</sup>, Taylor, A. H<sup>1</sup>, & Hodgson, T<sup>2</sup>

<sup>1</sup> *School of Sport and Health Science, University of Exeter, England*

<sup>2</sup> *School of Psychology, University of Exeter, England*

The presence of substances of misuse (such as nicotine) are associated with increases in brain activation within the mesocorticolimbic brain system, which is thought to mediate the rewarding effects of most drugs (Koob & LeMoal, 2001). Pharmacological treatments for the control of nicotine addiction (such as bupropion) have been designed to attenuate the rewarding effects of cigarette smoking (Balfour, 2001). These drugs are thought to suppress the pathological 'need' to consume nicotine by acting upon the brain circuits involved. Exercise has been found to be an effective non-pharmacological tool for controlling cigarette cravings (Taylor et al., in press). One proposed mechanism suggests that exercise may increase dopaminergic stimulation in the forebrain, thus reducing craving for drug utilisation. In a within-subject, cross-over design, regular smokers (n=10) were initially randomised to either an exercise (10 minutes stationary cycling at a Rating of Perceived

Exertion of 11-13) or control (passive seating) session following 8 hours of CO confirmed nicotine abstinence. Following each treatment, participants entered a functional magnetic resonance imagery scanner (fMRI)(1.5 T Philips Gyroscan magnet). Both fMRI sessions involved viewing a random order of 60 images (30 smoking/30 neutral), each for 3 seconds, with an average inter-stimulus-interval of 10 seconds. A reaction time probe task assessed attentional bias to the images and maintained alertness. Self-reported cravings were assessed at baseline, post treatment and after exited the MRI scanner. Findings related to the effects of exercise (versus control) on differences in regional brain activation between smoking and neutral images will be presented and discussed.

### **9. The effects of acute exercise on cognitive functioning and desire to smoke during temporary abstinence from smoking**

Kate Janse Van Rensburg & Adrian Taylor

*University of Exeter, School of Sport and Health Sciences*

Several studies have shown that a single exercise session can reduce cravings and self-reported poor concentration (Taylor et al, in press) among abstaining smokers, and enhance cognitive performance among non-smokers (Tompsonowski, 2003). Research is needed to assess the impact of acute exercise on cognitive performance and cravings during temporary abstinence from smoking. In a within-subject, cross-over design, participants (n=13) were randomly assigned to either a passive or exercise condition, following 15 hours of abstinence on two occasions. The exercise condition involved 15 minutes of self-paced brisk walking (mean Rating of Perceived Exertion = 10.7). Cognitive functioning was measured by a computerised version of the Stroop (1935) colour-word interference task. Urge to smoke was measured using the 10-item QSU-brief, (Tiffany & Drobles, 1991), and single item 'I have a desire to smoke'. Measures were recorded at baseline, immediately post, 5, 10, and 15 minutes post treatment. A fully repeated 2-way ANOVA showed no significant condition x time interaction for cognitive performance. A significant interaction effect for urge to smoke on the desire-behave,  $F(2.1, 25.2) = 5.6, p < 0.01$ , and desire-affect  $F(4.0, 48.0) = 2.9, p < 0.05$ , subscales of the QSU-brief was found. Planned contrasts revealed that exercise reduced urges for up to 5 minutes post-exercise in comparison to the passive control. Findings support previous research that acute exercise reduces cravings to smoke. Several explanations for why it had no effect on cognitive performance are proposed, including sample size, time of test administration and the multi-dimensional nature of cognitive functioning.

### **10. An exploration of the relationship between athletic identity and starting status**

Carla Meijen

*University of Amsterdam*

Starting status is a subject within (sport) psychology that has not been given much attention. In the current study the relationship between starting status and athletic identity has been examined. Athletic identity refers to the degree to which an individual identifies with the athlete role. It was hypothesized that non-starters (also referred to as bench players or reserves) have lower athletic identity than starters. A Dutch translation of the Athletic Identity Measurement Scale (AIMS) was developed in order to test this hypothesis. Furthermore, the AIMS has been analysed using confirmatory factor analysis. Ninety basketball and football players competing in the Dutch premier division completed the AIMS. Findings revealed that the Dutch sample fitted the model of the AIMS. No significant differences were found to confirm the relationship between athletic identity and starting status for the full sample. Further analyses of the data show that, in the basketball sample, non-starters scored lower on the sub-scale social identity of the AIMS than starters. Also, over the full sample, football players have significant lower athletic identity than basketball-players. It was suggested that these findings can be explained by cognitive dissonance theory. Athletes may change their attributions, in this case adapting their level of athletic identity, to justify the amount of effort they put in their sport and the reward they achieve for it.

### **11. Goal self-determination and adaptive goal disengagement/re-engagement in sport**

Alison L. Smith, Nikos Ntoumanis, & Joan L. Duda

*University of Birmingham, School of Sport and Exercise Sciences*

The purpose of the present study was to extend a study by Smith, Ntoumanis, and Duda (2006), which investigated how goal motives (autonomous vs. controlled; Sheldon & Elliot, 1998) relate to goal striving and subsequent well-being. In the present study we were interested to examine whether goal motives can predict goal disengagement and re-engagement in new goals when athletes' are faced with unattainable goals. Social-contextual predictors of goal motives were also investigated. Wrosch, Scheier, Miller, Schultz, and Carver

(2003) propose that disengagement from unattainable goals and reengagement in new, meaningful, goals are effective self-regulatory mechanisms that can be used to alleviate the negative consequences associated with unattainable goals. However research has not yet investigated goal disengagement and reengagement in relation to sport-specific goal striving. Within the present study it is hypothesised that goal motives will predict an individuals' ability to adaptively disengage and reengage. Specifically, autonomous goal motives are hypothesised to positively predict goal disengagement and reengagement, whilst controlled motives are expected to negatively predict goal disengagement and reengagement. Additionally, coach autonomy-support and controlling coach behaviours are hypothesised to positively predict autonomous and controlled goal motives, respectively. Self-report measures of current goal striving and predicted responses to unattainable goals, along with measures of autonomy-support and controlling coach behaviours, will be administered to approximately 200 British athletes. Structural equation modelling will be utilised to test the study hypotheses. Data collection for this study is currently in progress. Data collection and analysis will be completed prior to submission of the long abstract.

## **12. The differences between anxiety and self-confidence in relation to individual and team sports college athletes**

Liga Geme

*University of Latvia*

This study was designed to determine the differences between individual and team college athletes with regard to competitive anxiety and self-confidence. An additional study was conducted to determine similarities between competitive anxiety and self-confidence in individual and team athletes. A Competitive state anxiety questionnaire (Competitive State Anxiety Inventory – 2; CSAI-2) was first time implemented in Latvia by me and used as a test for athletes. CSAI-2 was distributed before a game and was used to establish the valid participants as well as competitive anxiety and self-confidence of the athletes. In this study were also handed out before practice the self-evaluation questionnaire by Spielberg (State–Trait Anxiety Inventory; STAI) to determine the anxiety as a state-trait and the self-evaluation scale by Rosenberg (M.Rosenberg) to state the self-confidence. The findings of the study were that cognitive and somatic competitive anxiety are significantly higher between the individual athletes, but self-confidence is significantly higher between team athletes which is consistent with the findings in similar research conducted earlier. The study showed that there was significant relevance between cognitive and somatic competitive anxiety as well self-confidence. Anxiety as a trait was an important covariate in somatic competitive anxiety between individual and team athletes, and it was significantly higher between individual athletes. This suggests that characteristics such as responsibility and anxiety between individual and social loafing between team athletes possibly play the major role creating the differences in competitive anxiety and self-confidence.

## **13. Gaze control and mental skills during the hitting phase in tennis**

Lafont, D.

*A.S. Montferrand Tennis, Ligue Auvergne Tennis, France*

Recent observations suggested that great tennis players (with significant results in the Grand Slam tournaments) have specific gaze behaviour when they hit the ball. Indeed, these players differ significantly from other players in having a longer fixation on the ball combined with a fixation on the contact zone until the end of the follow through, whereas in the same time most of the professionals seem to abandon the ball with their eyes as it approached the hitting zone. This article reviews the effects of such fixation upon the fundamental mental skills needed in high level competitive tennis. In order to understand how gaze control interacts with the mind, this article incorporates not only state-of-the-art theory on mental skills, but also the on-court knowledge with information gathered from top coaches on the professional tour. In particular, it is shown that with the eyes fixed on the contact zone, the mind can focus on the process, creates an ideal state for concentration then favours flow and peak performance. Thus, through proper gaze control, the player can enhance the mental skills needed to handle challenging tennis situations.

## **14. How instructions make SMART?**

Nele Tielemann

*Institute for Movement Science and Sport, University of Flensburg, Germany*

The combination of instructions and motor learning on outcome measures and movement parameters has

not been sufficient explored during the development of expertise. Based on a model SMART (Raab, 2007) it is predicted in three studies that analogy instruction (compared to rule instructions) has differential effects on movement coordination and accuracy, due to expertise in table tennis topspin. The first two studies contained a 2x11 design with a learning phase (7 blocks) and test phase (retention, transfer and two decision tasks). The results showed that hitting performance in a novice analogy-instructed group remained constant with decision task in comparison to the corresponding rule-instructed group. In the second study adding tactical decisions during the learning phase shows as well better performance of the analogy group. In both studies movement coordination reflect the type of instruction measured by Principal Component Analysis indicating the influence of the movement control by the analogy and rule instruction. In the third study a 2 group x 3 block (pre, post and retention test) design is realised with junior national table tennis players. Results indicated significant more hits for the rule instructed group compare to the analogy group. In summery the pattern of all three studies show beneficial effects of analogy instruction of novices and beneficial effects of rule instruction for experts, mirroring the advantage of implicit learning in novices (Liao & Masters, 2001) and advantage of instructed internal focus of attention in experts and vice versa for novices (Beilock et al., 2002).

## POSTER SESSION 1

WEDNESDAY 5/9/2007

### PHYSICAL EDUCATION

#### 01. Level of physical fitness performance in Malaysian secondary school students

Ahmad Hashim\*, Shaharudin Abd Aziz, & Mohd Sani Madon

*\*Faculty of Sport Sciences, Sultan Idris University of Education, Malaysia*

The major purpose of the study was to assess physical fitness performance levels of Malaysian secondary school students aged 13, 14, 15, 16, and 17 years old. Five tests were administered to 1500 Malaysian secondary school students comprising 830 males and 670 females. Physical fitness performance level was determined by PACER, curl up, push up, Trunk Lift and body mass index. One Way ANOVAs revealed significant difference on physical fitness between the two genders ( $F_{1,1470} = 1067.65, p < .05$ ) and between age groups ( $F_{4,1470} = 21.458, p < .05$ ), on PACER, curl up, push up, trunk lift and body mass index. A multiple regression analysis indicated that all the predictors (gender, body weight, height, level of age and body mass index) were significantly related to physical fitness performance ( $F_{6,1493} = 288.790, p < .05$ ). The strongest predictor for physical fitness performance was gender. It accounted for 45.3% of the variance of the motor physical fitness performance, while the remaining variables contribute only an additional 7%. Based on the results, it can be concluded that male students performed significantly better compared to female students on physical fitness. Concerning female students, a major finding is that there were no significant differences in the physical fitness performance scores between ages of 13, 14, 15, 16, and 17 years. It was also found that there were no differences for male students aged 13 and 14 years, and for male students aged 15, 16 and 17 years.

#### 02. Interest in state anger rating in Spanish physical education teachers working in "Center Preferential Attention"

Ayme, S.\*, Ferrand, C., & Puig, N.

*\*University Lyon 1, France*

Few studies sought to apprehend student misbehaviour in physical education settings. The Spanish physical education teachers currently ask for a reformation of their status linked to a feeling insecurity in their job. Thus, for a better understanding of the teachers' actions and reactions to student misbehaviour we used an original procedure and measured the state anger intensities of physical education teachers with the STAXI-2 in a particular context of difficult schools labelled "Center Preferential Attention". Ten lessons were recorded on video with each of the five physical education teachers ( $M = 45$  years). During the 50 auto-confrontation interviews, the emotional intensities in anger episodes ( $n = 94$ ) were reported. Results indicated that the four teachers reported low-level state anger in spite of a lot of anger episodes and explained their conception of their job. These teachers perceived their educational mission as fundamental, lauded tolerance, indicated that socializing is an important aspect of physical education and expressed a very strong preoccupation in creating good relations with students, to preserve the dialog and communicate social and school values. The findings

provide some insights into the current context of Spanish schools and the present study underlines the interest to use state anger rating in school settings.

### 03. A study on the structure of psychomotor proficiency in preschool age

Kambas, A.\*, Venetsanou, F., Christoforidis, C., Xanthi, P., & Taxildaris, K.

*\*Democritus University of Thrace, Department of Physical Education and Sport Science, Komotini, Greece*

The purpose of the present study was to investigate the structure of psychomotor proficiency at preschool age, in order to put forward a theoretical frame for psychomotor proficiency development. Two hundred twenty-two preschoolers aged 52-76 months participated in the study. They were assessed with the Bruininks-Oseretsky-Test of Motor Proficiency (Bruininks, 1978), which includes 46 tests distributed in 8 subtests. The principal components factor analysis with varimax rotation revealed six factors which interpreted 35.43% of the total variance. The first factor accounted for 17.39% of the total score variance and represented the feature of "spatial- and temporal orientation". Both the second and the third factor were characterized by "spatial- and temporal kinaesthetic differentiation" accumulating 9.1% of the total variance. The fourth factor was labelled "balance" (3.85%), the fifth "rhythm" (2.79%) and the sixth "response speed and rhythm" (2.28%). According to the aforementioned results, since no physical ability appears to form a factor, the model of coordination seems to be the one that best interprets the structure of psychomotor proficiency in preschool age.

### 04. The 2 X 2 achievement goal framework in Greek physical education

Vassilis Barkoukis\*, Konstantinos Alexandris, George Lambropoulos, & Haralambos Tsorbatzoudis

*\*Department of Physical Education and Sport Science, Aristotle University of Thessaloniki, Greece*

Extending the trichotomous achievement goal framework Elliot (1999) proposed a 2 X 2 framework including a mastery-avoidance achievement goal. In this framework, competence is differentiated depending on how it is defined and how it is valenced. The present study was designed to examine the psychometric properties of the Achievement Goals in Physical Education Questionnaire (AGPEQ), measuring the four achievement goals in the context of physical education. The sample consisted of 160 high school students (Mage = 14.55 years, SD = .90), who completed the Achievement Goals in Physical Education (AGPED) assessing the four achievement goals in physical education and the Basic Psychological Needs Scale to measure the basic psychological needs in physical education. The results of the CFA supported the factorial validity of the AGPED (NNFI = .90, CFI = .93, SRMR = .06 and RMSEA = .07). Cronbach's alphas were high ( $\alpha > .71$ ) for all the subscales, apart from the performance-avoidance subscale ( $\alpha = .51$ ). The analysis of correlation confirmed the expected correlational sequence supporting construct and concurrent validity of the scale. Achievement goals were correlated with their conceptually similar achievement goals. Furthermore, mastery goals were positively associated with the basic psychological needs, whereas performance goals demonstrated weak or no correlations. The findings of the present study support the validity and reliability of the scale and suggest its use to measure the four achievement goals in Greek physical education. Furthermore, they provide valuable information on the correlates of achievement goals in school physical education.

### 05. The Development of professional identity of sport's teachers: Emotional and typological peculiarities

Valerijs Dombrovskis\*, Svetlana Guseva, & Vadims Murasovs

*\*Daugavpils University, Latvia*

This research aimed to study the interdependence between peculiarities of professional identity expression among educators and personality typology and professional burn-out problem. It is known that professional identity is based on Ego identity and social identity. Processes of identification and professional alienation are the mechanisms of the formation of professional identity. The Self image is a method of expressing professional identity. The aim of this research was the study of the ways the professional burn-out expresses itself among the physical education teacher programs, as well as among those already working in their profession; and to link this process to the typological peculiarities of personality. Research methods: 1) Twenty Statements Test (M.Kuhn and T.McPartland), 2) D.Keirsey Temperament Sorter II, 3) Professional burn-out detection test. During the research it was found that the adaptive type of behavior is expressed among both students of sports teacher education programs and those already working in the system of education; which means that they emphasize the priority of adapting to clear accepted norms in their professional activities. In this case the formation of professional identity is based on transmitting to oneself the professional stereotypes, excluding their creative transformation. The results suggest that professional identity is built on the societal



viewpoint concerning the prestige of certain professions, categorizing certain professional groups as elite, super-originality of functional Self. Future sports teachers have chosen not the profession but the way of life, which in turn leads to professional burn-out among the young practicing teachers, and to the stagnation of profession itself.

#### **06. Psychological characteristics of the Hungarian state-sponsored “Héraklész” star athletes in contrast to the athletes in the Central School of Sports**

Attila Szabo\*, Attila Velenczei, Árpád Kovács, & Tamás Szabo

*\*National Institute for Sport Talent Care, Budapest, Hungary*

Two hundred and eighty-three young athletes (mean age = 15.03, SD = 1.66) at the Central School of Sports in Budapest, of whom 65 were members of the “Héraklész” Hungarian government-sponsored champion and star programmes of promising athletes, were tested on task and ego orientation, using the Task / Ego Orientation in Sport Questionnaire (Duda & Nicholls, 1989), on competition anxiety, using the Sport Competition Anxiety Test (Martens et al., 1990), and on motivational characteristics, using the Sport Motivation Scale (Pelletier et al., 1995). Athletes completed the validated Hungarian versions of the three questionnaires with parents’ coaches’ and school authority’s consent. Athletes came from 12 different sporting disciplines and 90 of them were females. The results were analyzed by using a group (Héraklész and non-Héraklész) by gender (male and female) multivariate analyses of variance. A statistically significant group by gender interaction was found for amotivation as well as extrinsic motivation, according to which female non-Héraklész athletes demonstrated significantly higher amotivation and extrinsic motivation than the girls in the Héraklész programme, while no such differences were seen in males. Furthermore, male and female athletes regardless of their Héraklész membership scored differently on competition anxiety that was higher in females than in males and on intrinsic motivation that was lower in females than in males. The findings agree with previously reported gender differences in the literature and reveal that young promising female, but not male, athletes in a state-sponsored talent care programme demonstrate different motivational characteristics than their non-sponsored counterparts.

#### **07. Leadership behaviors of physical education teachers and its relation with students’ satisfaction**

Anastasia Kotsavasiladou\*, George Tzetzis, Thomas Kourtesis, & Athanasios Koustelios

*\*Department of Physical Education & Sport Science, Aristotle University of Thessaloniki, Greece*

The teachers’ leader behavior in physical education lessons is an important factor which influences teaching. The purpose of the study was to develop a questionnaire which evaluates: a) the leadership style of physical education teachers’ from the children’s point of view and b) the prediction of satisfaction of the children from the teachers’ leadership style. For this purpose the Leadership Scale for Sports (LSS) by Chelladurai (Chelladurai & Saleh, 1980) has been modified and some questions have been altered to fit in the school environment. Questionnaires were collected from 619 students from the fifth and sixth grade of primary school aged 11 -13 (12). To investigate the factors of leader behaviour an exploratory factor analysis has been conducted and 7 factors have revealed that contribute to the perception of the teachers’ leadership style by 58.5% and particularly the dimensions referred to instructional guidance for class and for practice, democratic behaviour freedom of opinion, democratic behaviour freedom of setting goals, autocratic behaviour, social support and positive feedback. From the (a) alpha reliability analysis revealed that the dimensions were within acceptable limits. Finally, a regression analysis was conducted using as independent variable the dimensions of the perceived leadership behaviours and satisfaction as the dependent variable and it was found that the dimensions of leadership behaviour predicted significantly students’ satisfaction and specifically the dimensions of class instructional guidance and perceived social support. It seems that leadership behaviour directed to class guidance and social support satisfies the physical education students.

#### **08. Adapted physical activity in Italian schools**

Rosa Anna Rosa\*, Italo Sannicandro, & Annalisa Frisardi

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The Italian School Reform (MIUR, 2001), through the perspective of the National Indications, sets in the personalized educative curriculum planning, the fundamental axis of the formative path of every student. The concepts of *Ability* and *Performance* (ICE, 2001) are transferable in schools because pupils are constantly and daily challenged to express their abilities and their knowledge’s in terms of *competences* that, if not adapted or

personalized to the needs, potentials and rhythms of everyone, risk to create more *limitations in the activities and restrictions of the participation* (ICF, 2001), creating in the disabled pupil an ulterior gap, preventing him/her from participating and being involved in the situations that he/she must face during his/her lifetime. In the National Indications, to personalize the educational process, impose that Teachers' choices be thought and carried out basing the decision on their students' characteristics. APA assumes the characteristics of a true didactic-educational process in so far as it responds to the needs of the users of different ages, not only from a motor point of view but, mainly, in referring to the functional interactions of the person, because it involves all the dimensions of a personality: the social one, by developing positive interpersonal relationships and lacking of perceived barriers to being physically active; the emotional one, by helping the person to increase his/her self-efficacy, self-confidence and self-esteem; the motor one by adopting more active and healthier lifestyles during one's entire life (CDC, 1999; WHO, 2004); the cognitive one by improving perception, attention, memory and metacognition.

### **09. Forming of cognitions in sports games training of 9-10-year-old pupils**

Antoaneta Momchilova\*, Iskra Ilieva, & Iliyan Ilchev

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Training of pupils aged 9-10-years may benefit a lot from the disclosing of the cognitions for regulation of the motions, and the processes underlying the control of each of their parameters. The realization of the global aims and purposes of the contemporary Physical education and sport at all levels of the educational system is connected not only with the improving of the way of a forming of the motive habits but it is also connected with the improving of the ability for self-monitoring and self-control over the motor actions and the behaviour. The purpose of the research is to disclose the cognitions for rationalized workout of the drills, included in the common system for sports games training, as a condition for quality of learning, self-control, improved physical efficiency.

### **10. Intellectualism of the physical training in the Bulgarian schools**

Antoaneta Momchilova\* & Tzvetana Dobрева

*\*University of Russe "Angel Kanchev", Bulgaria*

The idea about the necessity of unity in realizing of the scientific knowledge is a conceptual phase of the contents in new programs on physical education and sport in Bulgaria. The presence of some integrative trends and interdisciplinary connections are more powerful. Educational material is learned in condition of interdisciplinary agreement of knowledge, context and activities. They are directing to reach lightly the requirements of educational standards. The aim of the present research is to reveal psych – methodological preconditions for realizing of the integral approach in using the methods of mathematical teaching in the conditions of the lesson of physical training in the primary school. The research discloses also the multifunctional abilities for enlarging the integral effect in 1<sup>st</sup> form students. Tasks, of the research: By scientific – substantiated development of selection of means, approaches, formulation and methodic of the lesson with integrative purpose to determine preconditions for gaining of developing – functional cognitive health effect. Conclusions: Our study in this direction bring new moment toward fulfilling the cognitive and motive activities of the students. It is speaking of modelling of complex knowledge, not only for guiding and activating of cognitive action, but for complete development of the intellectual abilities of the students.

### **11. Contribution of video linked to post lesson interviews in emotional studies of the physical education teachers**

Ayme, S.\* & Ferrand C.

*\*University Lyon 1, France*

Emotional studies are based on a very large panel of methodologies but very few of them use the video linked to post lesson interviews in a naturalistic context. Our study used a situated cognition approach that highlight the importance of the emotional episodes in school context and limit the slant of the under estimation of emotional intensities. This methodology belongs to a theoretical approach labeled "semiotic theory of course of action". The present study described current methodologies and indicated possible problems or limitations. Moreover, this study analyzed the advantages using video in post lesson interviews for a) measuring teacher state anger intensities with the French and Spanish version STAXI 2 questionnaire and for b) understanding characteristics of the student misbehaviour and for c) understanding the way to express it. The discussion relates the interest of this methodology. These teachers indicated a gratifying experiment during the visualization of

the video recordings and an improved better understanding of their professional practice and their relationship with their students.

### **12. Physical activity, body mass index and smoking habits among students in Norway and UK**

Bjørn Tore Johansen\* Rune Høigaard, Derek Peters, & Gareth Jones

*\*Agder University College, Norway*

The aim of this study was to examine physical activity, body mass index and smoking habits among students in Norway and UK. The participants (N = 557; Norwegians = 241; 137 female and 70 male; UK = 315; 177 female and 138 male) were recruited from Agder University College and University of Worcester from classes in sport, nursing and educational training. The age of the participants ranged from 17.1 to 65 years, and the mean age was 24.0 years (SD = 6.9). Physical activity (PA) was measured by using a 7-point scale for frequency of 20 minutes of vigorous PA during a week, frequency of 30 minutes of moderate PA during a week, and frequency of strength fitness training. Exercise session duration was measured on a scale varying from less than 15 minutes to more than 120 minutes. Body mass index was measured by using the standard CGI based BMI Calculator. Smoking habits were measured using a 4-point scale varying from smoking every day to quit smoking. The results indicated a significant relationship between PA and smoking. The more the students are doing PA the less they smoke. But there was also a clear pattern between exercise session duration and smoking habits. Smokers did not only exercise less but also more seldom and in shorter sessions. And higher level of BMI indicated more smoking. There were no significant differences between the Norwegian and UK population. The overall percentage of smoking was 14.5 which are reasonable for academicians in these countries.

### **13. “Amallós Consultaría”: from University to Enterprise”**

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The aim of this paper is to describe the experience on the process of creation of Sport Psychology Consultancy named: “Amallós Consultaría”. Supported by Empresa-Concepto program we have developed the idea of a company based on offering Sport Psychology Services. Empresa-Concepto is a Spanish University program promoted by the three universities of the NW of Spain (Galicia region): University of Santiago de Compostela, Vigo and A Coruña and CSIC (Superior Council of Scientific Researchs). This program helps entrepreneurs to build an enterprise based on knowledge generated at the University. The assistance includes financial and human resources so business idea becomes true. Step by step, it is related all the business plan that entrepreneurs have made to organize all the activities necessary for the venture to succeed as idea generation, environment scanning or feasibility analysis until knowing the current situation of “Amallós Consultaría”.

### **14. Evaluation of students’ attitudes towards computers in comparison to their attitudes towards physical education (pe) and physical activity**

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The purpose of the present research was to examine students’ attitudes towards computers (Selwyn, 1997; Antoniou, Patsi, Bebetos, Ifantidou, 2006). Additionally, the research examined their attitudes towards computers and physical education, i.e. PE (Theodorakis, 1994) and also examined whether or not the use of new technologies affected students’ participation in physical activities. A number of 252 junior high school students, aged 17±2, participated in the research. For the examination of the time they spent either in computers or physical activities, a diary was used in which they noted down their activities. All students were given the questionnaires accompanied by the diary, in which they tracked down the time in minutes they spent in the two objectives for 26 days. The results showed that the questionnaire about attitudes towards computers had an  $\alpha=0.71$  and the questionnaire about attitudes towards PE had an  $\alpha=0.95$ . There were no differences between boys and girls in the attitudes towards computers or PE. Conclusively, the research showed that the questionnaires had a high-level validity and reliability. No differences were found between boys and girls in attitudes towards computers. There were also no differences between boys and girls in attitudes towards PE, perhaps because they begin sports from such an early age that it is possible to adopt a positive attitude towards exercise. Finally, students preferred surfing the net and playing computer games than to dealing with sports.

**15. Daily physical activity, programmed exercise and health in university students<sup>1</sup>**

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*\*Universitat Autònoma de Barcelona, Spain*

Although research supports the adoption of a physically active lifestyle to get benefits for health, physical activity levels in young adults are low. Moreover, the access to the university seems to be an obstacle to continue being physically active. The aim of the study is to assess the levels of physical activity and the levels of exercise separately, and their relationship with health. A personal electronic survey was used to assess physical activity and exercise behaviours (following the Transtheoretical Model) and the self-perception of health of the students (following the corrected criteria of the SF-12 questionnaire). The main results show that daily physical activity and exercise should be considered as two different behaviours, but they both are relevant for health. A high percentage of students are active for physical activity. However, there are more precontemplator women than men. There are more sedentary people for the exercise, especially in the females, despite the fact that most of them did some exercise in the past. An important outcome is that in both types of practice (physical activity and exercise) the regular active students have a better self-perception of health than non-active students. So, it is necessary to promote different types of active behaviours. If the exercise practice is not possible, people can also improve their health by involving the incorporation of physical activity to the daily routines.

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**16. The effect of internal and external focus attention on performance of dynamic balance and retention in male student of Shahid Chamran University**

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*\*Shahid Chamran University, Iran*

A number of recent studies have shown that the performer's focus of attention has an important influence on the performance and learning of motor skills (see Wulf, & Prinz, 2001). Previous studies (e.g., Wulf, Hob, & Prinz, 1998) have shown that motor learning can be enhanced by directing performers' attention to the effects of their movements ("external focus"), rather than to the body movements producing the effect ("internal focus"). The purpose of this study was to investigate the effect of internal and external focus attention on performance of dynamic balance and retention in male students of Shahid Chamran University. The method of this study is Quasi experimental research and the sample was consisted of 45 subjects were selected through random sampling method and subjects were randomly divided into three group. For collecting data stabilometer was used. The validity and reliability of this instrument were acceptable by the Company of Sabtrab Felez (2004). Data were analyzed by paired T test and ANOVA and analyzing the proposed hypotheses at the  $p < 0/05$  showed that there were significant differences between effect of three type of attention in post-test and retention test. There were not significant differences between post-test and retention test. In general external attention (attention to light) in performing the post-test and retention test was better than external attention (attention to signal) and internal attention (attention to feet), suggesting that focusing on external attention is more effective.

**17. The body image and eating habits of girls in an Ontarian elementary healthy school**

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Since the Jakarta declaration in 1997, schools are considered important settings for the promotion of children's health (WHO, 1997). Therefore, schools are being invited to adopt a Comprehensive School Health (CSH) approach, a set of school-affiliated strategies designed to promote optimal physical, emotional, social, and educational development of students (Deschesnes, Martin & Hill, 2003). Specifically, the Health and Physical Education curriculum of Ontario, Canada states that students of the 6<sup>th</sup> grade are expected to explain how body image influences eating practices (Ministry of Education, 1998). Many studies have looked at the body image and nutrition of girls in schools. However, there is a clear absence of research that investigates the body image and nutrition of girls in "healthy" schools that have adopted a CSH approach. This study has two purposes. The first one is to understand how a selected Ontarian elementary "healthy" school addresses health issues, specifically body image and nutrition. The second purpose is to understand the body image, eating habits, and health perceptions of girls of the 6<sup>th</sup> grade. The methodology of this study consisted of interviews and focus groups. Three interviews were conducted with the principal, the physical education teacher, and the 6<sup>th</sup> grade teacher. Then, two focus groups were held with the girls of the 6<sup>th</sup> grade. Surprisingly, the results showed that

the girls did not have body dissatisfaction. In addition, although there are some health initiatives in the school, the body image and nutrition components of the curriculum are not being covered.

### **18. The physical activity habits and body image perceptions of students in a healthy Ontarian junior school**

Moore, T.\* & Beaudoin C.

*\*University of Ottawa, Canada*

Schools are the world's leading medium for placing information at the disposal of families and communities, they are therefore an essential target for the promotion of health (WHO, 1997). The goal of this research is to develop a better understanding of the body image perceptions and physical activity habits of students in a Canadian Comprehensive School Health (CSH) environment. The CSH approach is an integrated set of strategies developing optimal physical, emotional, and educational development in students by addressing health services, health education, and a healthy environment (WHO). Although not standardized in Canadian schools, this approach moves past traditional educational models towards healthy environments and behaviors (Deschesnes, Martin, & Hill, 2003). The Ontario Ministry of Education responded to this by introducing a new Health and Physical Education curriculum, including physical activity and body image components (Ministry of Education, 1998). With such initiatives in Ontarian schools it is of interest to develop an understanding of student perceptions and habits. This study draws from the principal, physical education teacher, and seventh grade students aged twelve and thirteen. Interviews and focus groups allow for a better understanding of the school, of body image perceptions and physical activity habits among students. When combined with the focus group discussion, the Collins (1991) Body Image Scale is a valuable tool in illustrating the students' perceived body images. Although there are health initiatives in this school, traditional differences still exist with boys having fewer body image concerns, and being more involved in physical activity than girls.

### **19. Influence of "Quick mini-step callanetics program /Galinetika/" on the attention parameters with female students**

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Inclusion of new programs, that correspond to the requirements of female students is of particular importance for the educational process in the Higher Schools. "Quick mini-step callanetics program /Galinetika/" is an efficient program, containing exercises for influencing women's figure. Special exercises for the problem parts of female body – abdomen, hip, buttocks and legs are included. The purpose of this research is to establish the influence of "Quick mini-step callanetics program /Galinetika/" on the following attention parameters – volume, concentration, division. Eighty female students from the University of Medicine – Sofia and Thracian University – Stara Zagora participated in the research. The standard methods of Burdon's corrective test were applied. We estimated **B** – total quantity of processed figures/signs (index for attention volume), **p** – number of missed letters (index for attention division) and **r** – number of wrongly marked letters (index for attention concentration). Data from the investigation had been considered in two aspects – results from the corrective test per minutes and in entity. Analysis of Variance and Comparative analysis was used. The results give adequate evidence for the successful application of "Quick mini-step callanetics program /Galinetika/", for psychological aspect.

### **20. Norms for assessment of physical preparation of students – volleyball players**

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Improving sport preparation efficiency is possible on the basis of certain periodic assessment. In this direction, of importance is the optimization of control and assessment of basic factors of sport achievement, as well as the physical qualities of sportsmen. The aim of the investigation was to form standard, reliable and easily applicable norms for educational-training process with students, playing volleyball. The tasks are connected to defining informational tests for physical fitness and development of normative base with multistage assessment tables. Seventy-five students-volleyball players from the representative teams of Higher Schools were investigated on 14 indices for physical preparation degree (T1 – Solid ball cast away – 1 kg, T2 – Dumb-bell lash, T3 – Medical ball cast away with jump, T4 – Jump upward – forward, T5 – Vertical jump (sideward) from still position, T6 – Vertical jump (sideward) with speed up, T7 – Vertical jump (frontal), T8 – One leg vertical jump, T9 – Speed strength of abdominal muscles, T10 – Special speed, T11 – Combined test for speed-strength tenacity, T12 –

Medical ball cast away - backward, T13 – 6m distance run, T14 – 18 m distance run. Percentage analyses were applied. Norms for assessment/grading of the degree of physical preparation of students have been formed up, enabling the trainer to follow and control the physical preparation of volleyball players at each stage of the educational-training process and to make corrections in the training schedules.

### **21. Clumsiness in children – do they grow out of it? A study of motor skills in 6-12 year-old Norwegian children**

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The aim of this study was to monitor the development of gross motor coordination of school children from grade 1 to 7. Do children with weak motor performance or clumsiness grow out of the problem or are they still clumsy at the end of the primary school? 96 children are tested with the German KTK – Körper Koordinationstest für Kinder (Body Coordination Test for Children) in grade 1 and 7. At the final test 76 children still are in the sample. At baseline children in grade 1 are significantly below the norm of the German test (motor quotient – MQ), standardized in 1974 and shows weaker results than recent national studies using the KTK. There is a significant correlation between MQ in grade 1 and 7 ( $r_{\text{pearson}} = 0.63$ ). The children are grouped at three levels (weak; average; strong) regarding to their MQ. The majority of the children stay at the same level during the 6 years. Among the children with weak motor performance (MQ < 80) in grade 1 approx. 60% are still clumsy. 68% of the children with best motor skills in grade 7 have been in the strong group at grade 1. A similar tendency has been observed for the average group (~70%). The strong group (MQ > 100) contains more children in grade 7 than in grade 1. Some of the clumsy children grow out of it during the primary school, but most of them still are clumsy in the age of 12 years. Intervention programs have to start in preschool-age.

### **22. Administrative personal, teachers, and medical school team perceptions of what it means to be healthy: implications for implementing a comprehensive school health approach**

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School-based initiatives and educational programs related to health issues are more and more prominent around the world (Puhse, & Gerber, 2005). Health problems such as obesity, nutritional habits, and inactivity among teenagers are challenging to all the school personnel. Therefore, a new comprehensive approach to school health is suggested to educate students and all school personnel to adopt an active and healthy lifestyle (e.g., Lounsbery, Gast, & Smith, 2005). However, many studies that investigated the implementation process of school-based health education showed the difficulties to have direct impact on students' lifestyles (e.g., Deschesnes, Martin, & Jomphe-Hill, 2003). For example, teachers' perceptions of being healthy and opinions on their role in the health education of students have shown to be barriers to school-based health education programs (Cogérino, 1999; Perrin, 2003). The purpose of this study was to understand the implementation process of the health education programs initiated in one Franche-Comtois Lycée, in France. Thirteen individual interviews were conducted with school personnel, and this paper will present the administrative personnel's, teachers', and medical school team's perceptions of being healthy, of a healthy student, and opinions on their role in the health education of students. Results showed that all personnel believed they must play an important role in the health education of students. However, there is an absence of a formal health education program in the school. The personnel also addressed the difficulty in identifying a healthy student. Moreover, when discussing their perceptions of being healthy, they stressed more on the health problems.

### **23. Effects of perceived autonomy support on physical education and leisure need satisfaction**

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Motivational regulations in a specific context are largely affected by the motivational climate, which, in turn, affects motivation through the satisfaction of basic psychological needs (BPN). Furthermore, motivational constructs in a specific context are thought to influence the corresponding motivational constructs in a similar context. This process has been supported only with respect to motivational regulations, whereas there is no evidence regarding the BPN. The aim of the present study was to examine the effect of perceived autonomy support and basic psychological needs in physical education on the basic psychological needs in leisure. The participants of the study were 272 high school students (Mage = 13.67 years, SD = 1.13). The participants completed a modified to physical activity version of the Sport Climate Questionnaire (SCQ) assessing

perceived autonomy support, the Basic Psychological Needs Scale to measure the BPN in physical education, and Basic Psychological Needs in Exercise Scale to measure the BPN in leisure. The results indicated that perceived autonomy support predicted significantly the needs in physical education but not the needs in leisure. Regarding the association between the needs in similar contexts, the regression analyses indicated that only autonomy in physical education predicted significantly autonomy in leisure. The results of the study indicated a small association between autonomy support and needs in physical education, and needs in leisure. Future research should investigate whether needs in physical education and in leisure mediate the influence of autonomy support on motivational regulations in physical education and leisure.

#### **24. Relationship between parents' education level and athletes' gender on sporting achievements of pupils in the Central School of Sports in Budapest**

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Four-hundred-and-seventy-one young athletes (mean age = 14.72, SD = 3.56) at the Central School of Sports in Budapest, of whom 144 were females and 327 were males participated in the study. All athletes and their parents consented to participation. Questionnaires and existing sports-records data-bases were used to determine whether parents' education level and the athletes' gender are related to sporting success in the Central School of Sports. Parents' education score ranged from 1 (elementary school) to 6 (university) and athletic success was grouped into 5 categories based on past competition participation: local competition, regional competition, national competition, national championship and worldwide competition. Based on analysis of variance (ANOVA) followed up with Tukey's post hoc test it was found that fathers' – but not the mothers' education level was statistically significantly higher, forming a homogeneous subset on its own, for those athletes who have already participated in worldwide competitions in contrast to the education level of the fathers in the other groups, which formed another homogeneous subset. Using another ANOVA, it was also found that female athletes' success in the Central School of Sports was higher than that of male athletes. These results are unique because no similar findings were reported to date. Fathers with highest education may provide some "special" support, beyond material assistance, for their children to reach the highest possible success in sport. Another result, in a more specific context, is that girls although fewer in numbers are more successful than boys in the Central School of Sports.

#### **25. Testing motor skills and physical fitness among children – two sides of the same coin?**

Bjørn Tore Johansen\* & Tommy Haugen

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It's hard to imagine what life would be like if you couldn't move. The importance of measuring human motor control in particular among children is therefore common accepted. It also seems to be an agreement that regular physical activity (PA) is important even for children. There is, however, less consentaneous about the interaction between PA, physical fitness (PF), and motor skills, and especially when it comes to measuring these variables. The aim of this study was to examine the correlation between the KTK (Körperkoordinations Test für Kinder) – test (Schilling, 1974) and physical fitness test (PFT) for children based on the European Test of Physical Fitness (EUROFIT) (Adam et al., 1998). The participants (N = 45, 30 girls and 15 boys) were recruited from Prestehaia primary school. The age (in month) of the participants ranged from 77 (+/- 3.63) for girls and 75.2 (+/- 4.49) for boys when the study started. They were tested twice during the first and second grade on the KTK test and on the PFT test in between these two tests. The PFT test consisted of 8 different subtests of motor actions like running, jumping, throwing, and climbing. A bivariate correlation test (Spearman's rho) identified significant correlation between KTK test 1 versus the PFT test for girls ( $r=0.47$ ,  $p < .01$ ) and for boys ( $r=0.77$ ,  $p < .01$ ). A significant correlation was also identified between KTK test 2 versus the PFT test for girls ( $r=0.60$ ,  $p < .01$ ) and for boys ( $r=0.59$ ,  $p < .05$ ). Subsequently, there were no gender differences.

#### **26. Enhancing anticipation skills of physical education teacher students**

Minna Blomqvist\*, Tomi Vänttinen, & Mikko Häyrinen

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Perceptual skill is fundamental to successful performance in fast ball sports such as tennis. The ability to anticipate is presumed to be due to an enhanced ability to notify and process information arising from the opponent's postural orientation prior the ball racket contact. The purpose of this study was to determine

whether anticipation skills of physical education students could be improved through two types of training. A total of 26 physical education students were divided into two experimental groups: G1 (n=9), G2 (n=9) and a control (n=8) group. Both experimental groups participated into a 4-weeks tennis course (12 h) to improve their technical skills in tennis. In addition group G1 received video simulation training (4 x 30 min) in tennis. In the pre- and post-test measures participants were reacting in response to near life-size images of tennis forehand strokes into four different areas on court. The test included 30 trials in which response time (ms) and accuracy (%) were measured. A significant difference ( $p < .000$ ) was found in improving decision times between the experimental groups ( $266 \pm 177$  ms) and the control group ( $35 \pm 80$  ms). In addition differences between experimental groups were examined to clarify the effectiveness of combined training compared to on court technical training only. There was a significant difference ( $p < .01$ ) between the experimental groups in improving their decision times (G1  $379 \pm 169$  ms vs. G2  $154 \pm 96$  ms). To summarize it seems that combined video simulation and on court training seem to be the most effective in improving anticipation skills in tennis.

### **27. GO Kids! - Evaluation of a physical activity program to prevention of overweight in children**

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For a long term reduction of overweight three strategies of physical activity intervention will be follow: reduction of physical inactivity, increase of activities of daily living and specific exercise programs. There is a lack of studies evaluating, which criteria of an exercise program (e.g. time, frequency, intensity, type of exercise, elements of behaviour therapy) are particularly favourable for reduction of overweight. Objective of this study was to evaluate the effects of a health promoting physical activity program on medical and subjective health status as well as on behavioural changes. The intervention is a physical activity program with a specific orientation to the target group of sedentary children. Including aspects of self management and flexible control the intervention aimed to strengthen physical and psychosocial resources and changing the physical activity behaviour by physical activity. The children of the intervention group (8 to 12 years) visit one session per week about 120 minutes (60 min. physical activity, 60 min. nutrition) and supplement by physical activity homework. By means of questionnaires, tests of abilities and medical tests data has been collected three times from the participants of intervention group (n=140 sedentary children), control group (n=200 regular school children) and comparison group (n=40). Before, after and 12 month after program various aspects of health status and behavioural changes were recorded. Additionally course leader and parents were asked. The presented results suggest the importance of a well-structured physical activity program in combination with a nutrition program as a way in the prevention especially of overweight in preadolescent children.

### **28. Student's moral and ethical development through "Kallipatira": Evaluation of the teachers' training programme**

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Recently the Greek National Ministry of Education and Religious Affairs introduced a module on the National Curriculum named *Kallipatira*, aiming to develop ethical and moral aspects of the students' character and behaviour throughout physical education (PE). The teaching responsibility of this particular module was assigned to 1820 in-service PE teachers who participated in a five-day intensive training programme. The aim of this study was to evaluate this training programme. The training programme consisted of theoretical and practical sessions on the topics of *human rights, gender equity, antiracism and xenophobia, social isolation, and multicultural education*. On the first day, the participants obtained a briefcase, containing printed and digital educational materials (Teacher's Book and Student's Book, and exemplary lesson plans for different age groups). Four-hour lectures on each particular topic followed by 3-hour practical applications were included in the daily programme. In the end of the seminar 1805 participants completed an extensive anonymous questionnaire in order to evaluate the organisation of the seminar, the quality of oral presentations, the quality of practical sessions and their perceived competence on teaching ethical issues. The analyses of the results were very encouraging. The participants found the seminar overallly interesting and innovative. The quality of the presentations and the practical sessions were to be thought both informative and provoking. *Kallipatira* was considered to be very important for the students' moral development by the vast majority of the participants. At the same time the need for further training was enthusiastically expressed.



**29. Personality traits' changes of students from either with or without additional physical education"**

Dagmara Budnik

*University of Gdańsk, Poland*

Sport classes are the subject of some researches being linked to various psychological aspects. There is also an endless discussion about positive and negative effects of sport activity on children's psychological and physical features. The aim of the study was to determine the change of personality traits and self-perception among students from schools either with or without additional physical education in time perspective. The research is a part of longitudinal study which has been carried out for 2 years. Students filled out, Children's Personality Questionnaire CPQ which consists of 14 scales and Self-esteem. Adjective test constructed by R. Kościelak - Scale "S.A.-85. Students filled out the tests during classes at least twice, within a six months period. In addition, their teachers filled out Markowska's Test which has been constructed for measuring social adjustment. Findings are discussed.

**30. Handedness and motor performance in preschool children**

George Daloukas \*, Filippos Vlachos, &amp; Argiris Karapetsas

*\*University of Thessaly, Greece*

Handedness is marked by the preference of one hand over another for fine motor tasks. Usually, only one hand is considered dominant; however, there are individuals who exhibit the ability to use both hands equally (ambidexterity). Given that during the preschool years, children are rapidly developing patterns of behaviour and motor skills, the aim of the present study was to investigate the effect of hand preference on children's motor performance. From a population of 300 preschool children, aged 5 to 6 years old, 279 children were identified as right-handed, 17 children were identified as left-handed, and 3 as lacking definite hand preference. Children's motor evaluation was carried out using the Movement Assessment Battery for Children (M-ABC) which covers three major motor domains: manual dexterity, ball skills, static and dynamic balance. Results showed a significant effect of handedness on motor performance. Motor ability in consistent handedness children was superior to the inconsistent. The findings are interpreted based on the neurobiological theories of brain development as well as on the different rates of cerebral maturation between sexes.

**31. The important competencies of a qualified PE teacher: A student's perception**

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According to the changes in the society the role of the PE teacher has changed. Students' perception about the important competencies of the qualified PE teacher depends on their past experiences and the idealized view of teaching they have learned about at the college or university. The aims of the study were: to investigate PE students' and sport instructor students' perception of the important competencies / characteristics of the qualified PE teacher and to compare the perceptions between the programs: junior and senior students, as well as gender. The subjects were 529 students: 228 in the BA program and 301 in the PE MA program. The data were collected by a questionnaire. In the questionnaire students were asked to list the five most important competencies / characteristics of a good PE teacher.  $\chi^2$ -test was used to analyze the data. Results: "To master the subject matter", "skill to motivate", "positive attitude", "fair-minded" and "teacher to be a model" were mentioned as the most important competencies of PE teacher. The PE teacher students more often than sport instructor students mentioned "pedagogical content knowledge", "organizational skills", "fair-minded" and "empathy" as important competencies / characteristics for a PE teacher. The sport instructor students perceived "having a leadership", "creativity" and "positive attitude" more important than the PE teacher students. There were differences in the perceptions of important competencies between the junior and senior PE teacher students and also between the male and female PE teacher students as well as male and female sport instructor students.

**32. Causal effects between achievement goals and satisfaction in physical education context: A longitudinal study**

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The purpose of the present study was to examine the reciprocal effect model between four achievement goals (*mastery, performance approach, performance avoidance, and social approval goal*) and satisfaction in Physical

Education (PE) context. Participants were 916 Greek adolescents who completed the same questionnaires in three consecutively school years. In the first measurement (Time 1; T1) students were at 6<sup>th</sup> and 10<sup>th</sup> grade of the school. Goal orientations in PE were assessed with the instruments of Papaioannou et al., (2002). Satisfaction was measured with the instrument of Duda and Nicholls (1992). Results from Structural Equation Modeling (SEM) suggested that mastery goal had the strongest effect on satisfaction in both periods (T1-T2:  $\beta = .18^{***}$  & T2-T3:  $\beta = .24^{***}$ ). Performance approach (T1-T2:  $\beta = .06^*$  & T2-T3:  $\beta = .08^{**}$ ) and social approval goal (T1-T2:  $\beta = .09^{***}$  & T2-T3:  $\beta = .10^{***}$ ) had a very small positive effect on satisfaction in both periods. Satisfaction in PE had a positive effect on mastery (T1-T2:  $\beta = .12^{***}$  & T2-T3:  $\beta = .28^{***}$ ) in both periods. Satisfaction in PE had a positive effect on performance approach ( $\beta = .21^{***}$ ) and social approval goal ( $\beta = .14^{***}$ ) only in the second period (T2-T3). Performance avoidance had a small negative effect on PE satisfaction in both periods (T1-T2:  $\beta = -.06^*$  & T2-T3:  $\beta = -.05^*$ ) and similarly satisfaction had a small negative effect on performance avoidance but only in the first period (T1-T2:  $\beta = -.06^*$ ). These findings provided support for the reciprocal effect model between goals and satisfaction in PE and establish the strong and positive correlation between mastery goal and satisfaction in physical education.

### 33. The relationship between perceptions of obese children and inclusive practice in future physical education teachers

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In the coming years, physical education (PE) teachers will inevitably be faced with an increasing number of overweight and obese children in school PE lessons. The PE environment has been identified as an important arena for the engagement or indeed disengagement of children with a physically active lifestyle. Previous research has identified negative fat bias in obesity health professionals in the USA (Schwartz et al., 2003), in graduates from the exercise sciences in the USA (Chambliss et al., 2004) and in PE students in New Zealand (O'Brien et al., 2007). Lower scores on all but one of the subscales of an adapted version of Whitehead's Children & Youth Physical Self Perception Profile (CY-PSPP) have also been reported in a sample of PE students from the UK when they were asked to rate their perceptions of 'fat' children compared to 'normal weight' children (Peters & Jones, 2007). The question remains whether such negative perceptions manifest in negative behaviours towards obese individuals. This study investigated the relationship between the scores obtained from an adapted version of Whitehead's CY-PSPP in the sample of 167 PE and sport students in the UK reported by Peters & Jones (2007) and their responses to 12 statements relating to 'fat' children and inclusive practice in PE. The 12 statements were scored from 1 to 4 ('strongly disagree', 'disagree', 'agree', 'strongly agree') with 6 items worded negatively and subsequently re-coded, giving an inclusivity score from 12 to 48. Mean inclusivity score was  $34.9 \pm 4.1$  with only 20 students (12%) identified as reporting 'low inclusivity' (below 30). No significant correlations were found between the CY-PSPP subscales and inclusivity total ( $p < 0.05$ ) and chi-square analysis revealed no relationships between low, neutral, and high group membership for the subscales and low, neutral and high group membership for inclusivity ( $p < 0.05$ ). The results indicate that in this sample, the previously reported negative perceptions of obese children did not manifest into increased identification with statements attempting to portray non-inclusive PE practice.

### 34. The function of Piaget's cognitive development theory in evaluation of physical education students' attitude on the problems of career choice

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The purpose of the present study was to investigate the function of Piaget's cognitive development model for evaluating the attitude of physical education students of Mashhad universities on the problems of career choice, in order to look on one of the most important challenges of physical education students. For that reason, 97 males and 64 females, from physical education students of Ferdowsi University of Mashhad, Imam Reza and Islamic Azad University were randomly selected and career choice questionnaire were distributed. Content validity of this tool was confirmed by experts and internal consistency of questions in a pilot study was 0.83. Data were analyzed by the Spearman's rank order correlation and Mann-Whitney  $\mu$  test. The findings were showed that due to the results of cognitive development of career choice, 5.7% of the students were in the duality stage, 7.7% in the multi-fold stage, 78.4% in the relativism stage and 8.2% were in the commitment stage with the relativism. The mean of cognitive development in career choice for the students of physical education of Ferdowsi University, Imam Reza University and Azad University consequently were 54.06, 51.81 and 51.53. There was no difference between the place of cognitive development of physical education students

of Mashhad's universities ( $p>0.05$ ). There was a significant relationship between cognitive developments of career choice of physical education students with their awareness of the importance of the career and its choice ( $p<0.05$ ). There was a significant relationship between the place of cognitive development of physical education students with the choice of the field of study and the type of university as the factors of success in career choice ( $p<0.05$ ). There was no relationship between the place of cognitive development of physical education students with gender, the university and the year of their entrance to the university ( $p<0.05$ ). Based on the results of the survey, there has been no organizational activity on the development and identification of the process and the ways of career choice in the society. Therefore, holding some classes in order to educate the teachers and students, having some internship courses and motivating the students to have them in professional places are supposed to be useful to enhance mind structure in physical education faculties.

### **35. The evaluation of a social skills enhancing program in physical education**

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Social skills are universally recognized as critical to success both in school and life in general for all students. Physical education (PE) can increase students' social skills if its content is especially designed for this goal. Taking theoretical and empirical data into consideration, cooperative learning, may be a powerful method of learning, that strengthens the students' social skills. The aim of the present study was the evaluation of a cooperative learning program which applied in Physical Education. The program included thirteen interventional lesson plans that aimed at the enhancing of students' social skills. The means of enhancing were cooperative kinetic activities and games. Before and after the application of the program, the 57 students (29 boys – 28 girls) of the experimental group, and the 57 students of the control group (30 boys – 27 girls), ages 11-12 years, completed the Greek Version of the Assessment of Social Competence Scale, "GASC" (Magotsiou & Goudas, 2006). Data were analyzed using MANOVA. According to the results, the students of the experimental group enhanced their Cooperative Skills and their Empathy and they reduced their Quicktemperedness and the Disruptive behavior in class. On the contrary, there was no difference in the social competence of the control group's students. Overall, the results indicate that the students' social skills development through physical education does not happen spontaneously but only through effective interventional programs.

### **36. Learned helplessness, depression, anxiety and motivational climate in physical education**

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This study examined the relationship of motivational climate in physical education with learned helplessness, depression and anxiety. Participants were 451 male and female high school students in suburban areas of central Greece. They completed a series of questionnaires assessing motivational climate in physical education, attributional style, depression and anxiety. Principal components factor analysis of the motivational climate instrument resulted to four factors with eigenvalues greater than one. Alpha reliabilities for these factors were at acceptable levels. Based on these findings four new scales were created assessing perceptions of teacher promoting: avoidance goals, mastery approach goals, social approval goals and performance approach goals. Based on principal components factor analysis on students' responses to the anxiety measure two factors were retained suggesting worry-oversensitivity and social alienation. One composite scale was created for depression. Perceptions of teacher's emphasis on avoidance goals was positively related with hopelessness, depression, worries, social alienation, and Composite Negative Attributional Style, and negatively related with Composite Positive Attributional Style. These findings imply that more studies are needed to investigate climate dimensions emphasizing avoidance goals in physical education.

### **37. Efficiency of consolidation on free and serial recall in a complex motor task in school-aged children**

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Most studies measuring retention of motor skills focus on consolidation and usually look at short-term retention. However, few studies have examined long-term retention of motor skills. In this study we examined retrieval during consolidation and we focused on a 60-minute consolidation period with school-aged children ( $N=20$ ; age  $M=10.50$ ,  $SD=0.513$ ). Subjects were equally divided into two groups. One group was requested to perform the gymnastic routine by any order and the other group was asked to execute it in the order

that it was demonstrated. A 10-gymnastics element motor sequence unit was taught as a complex motor task. After a training session, a free (Group 1) and serial sequence routine (Group 2) recall were measured. Retrieval was examined in every 10 minutes after training (altogether 6). Between retrievals, pupils performed a masking exercise (crossword puzzle). Results show that there were significant differences between Group 1 (free performance) and Group 2 (serial performance) at the 1<sup>st</sup> and 6<sup>th</sup> motor retrievals. However, there were no significant differences within groups 1 and 2, at the 1<sup>st</sup> and 6<sup>th</sup> retrieval. During consolidation time, only at the 5<sup>th</sup> retrieval showed no significance between two groups but all the others had significant differences. Regarding gender, there were no significant differences between Groups 1 and 2 or within each group. Results indicate that in early phase of motor learning and in 10 years old children, tasks should be taught and evaluated separately at the beginning and just later in the particular order.

## SPORT PSYCHOLOGY

### 38. A Contemporary Dynamic Model of Motivation in Sport

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Success in competitive sports depends mostly on athlete's skills, personality and motivation. Motivation became very popular lately in the last two decades and numerous studies have been conducted to investigate determinants of motivation. The presence of "zeitgeist" social cognitive perspective in psychology has changed the view on motivation for sport. Social cognitive approaches became the main framework for investigation of sport motivation. We attempted to see motivation as a very complex phenomena, which must be researched freely with all its correlating variables. Motivational variables of 357 elite Slovenian athletes and young Slovenian athletes in 9 different sport disciplines were tested. Motivation included achievement motivation, incentive motivation, participation motivation, goal orientations, satisfaction and enjoyment in sport, self-efficacy, effort and ability attributions etc. Anova's, discriminant and factor analysis has been made to investigate the data. The aim of this study was to form a dynamic interactive model of sport motivation. We tried to upgrade different models of motivation to one unique model, which would explain all possible behaviours and motivation in sport situation. The results suggest some specific situation of sport motivation in Slovenia, especially according to group and individual sport in Slovenia.

### 39. The Performance Success Appraisal Inventory: A French validation with elite athletes

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The present study was designed to examine the psychometric properties of the *Performance Success Appraisal Inventory* (PSAI; Metzler & Conroy, 2007), a multidimensional measure of fear of success (FS), with French elite athletes. Transcultural validation is important for verifying conceptualizations theorized to explain human behaviour. Horner (1972) suggested that cultural differences lead people to learn different levels of motive to avoid success but in sport domain, transcultural validation (from American-English to French) of goals questionnaires appeared consistent across cultures. Horner defined FS as a "disposition to become anxious about achieving success because [individuals] expect negative consequences as a result of succeeding". Previous research highlighted the lack of valid FS measurement (Conroy & Metzler, 2004) and called for the development of a theoretically sound tool to assess FS in sport. Metzler and Conroy (2007) offered an emotionally-based definition of FS, operationalizing it as belief strengths regarding five aversive success that predispose individuals to appraise success as threatening. Although the PSAI demonstrated structural validity and stability over time, it has not yet been examined in non-English speaking cultures. The current French validation was intended (1) to determine the utility and validity of the PSAI translated into French and (2) to examine potential harmful effects of FS on French elite athletes' performance.

### 40. Sport Career and Athletes Personal Development

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Sport career formation falls on the period of intensive personal and intellectual development and may influence normative ontogenetic characteristics of this process. The influence of young athletes' involvement in sport activity on their personal development was explored through a ten-year long scientific project by

a group of psychologists under author's supervision and under support of Russian Humanitarian Scientific Fund. The research strategy included comparisons of young athletes' personal characteristics with the same characteristics of their non-athlete peers. The 520 male and female athletes and 480 non-athletes that took part in the project were subdivided into three age groups: 12-13, 14-15, and 20-24 years old. Indicators of motivation, aspiration level, self-esteem, conscious self-regulation, locus of control, self-concept, and social adaptation characteristics were registered. Positive and negative aspects of sport career influence on athletes' personal development were found out. Athletes have more realistic self-esteem than their non-athlete peers. They demonstrate less fear of failure and have higher indicators of internal locus of control, readiness to accept other people, social adaptation, responsibility than non-athletes. At the same time, athletes' self-concept is more fragmentary than that of non-athletes. Athletes are more interested in psychological support provided by their families than non-athletes. Involvement in sport activity complicates normative process of development of interrelation with significant others. Young athletes demonstrate less interest to relate with peers and prefer parents and relatives as communication partners than non-athletes. Sport career consequences for athletes' personal development depend on their gender. Investigation results demonstrate importance of psychological support for the young athletes' professional and personal development.

#### **41. Strain Situations in Sport**

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The goal of the research was to explore types of extreme strain situations that coaches (N = 59) commonly deal with their athletes. The extreme strain situation was understood as situation, which is important according to athlete's further motivation and his/her engagement in sport. We explored behavior of athletes in these situations, characteristics of successful and unsuccessful solutions of these situations, and also their impact on the coach – athlete relationship. To explore the listed goals a questionnaire with the 14 open questions was designed. The results are discussed in relation to implications for the coach-athlete relationships.

#### **42. Learning Habits and Preferences of USA Cycling Licensed Coaches**

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Recently the National Association for Sport and Physical Education (NASPE) released a new set of standards regarding the essential elements for coaching education programs in the U.S. (National Standards for Sport Coaches, 2006). Despite these standards and an increased awareness regarding the importance of sport science knowledge (Nash & Collins, 2006), many coaches in the United States continue to enter the profession without the benefit of a formal coaching science based education. In an effort to meet the needs of aspiring coaches and to help increase the professionalism and the qualifications of coaches working with athletes in their sports, many U.S. sport national governing bodies (NGB's), such as the USAC, offer coaching certification programs that provide different levels of training. Unfortunately, little is known about how to best disseminate information in a manner that will meet both the needs and learning styles of practicing coaches. This study focuses on the learning preferences and habits of USA Cycling licensed coaches from the club/beginner level of coaching through the elite level. Findings regarding the continuing education habits, preferred learning modalities, and attitudes about the importance of different sport science topic areas and the NASPE standards are assessed. Further, coaches' utilization of print versus online resources will be explored. Suggestions for enhancing coaching education program's efforts regarding information dissemination and continuing education for coaches will be made.

#### **43. Investigation of effect of anxiety levels and reaction times of professional basketballers on game statistics**

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Twelve male players of ITU Basketball Clup that compete in the Turkish 2nd Division have been investigated in this study that aimed to investigate the effects of anxiety levels and reaction times on game statistics of professional basketball players. Reaction times have been measured with "reaction time measurement battery (New Test 2000 Battery)". At the same time with the measurements, the Spielberger Consistency-Anxiety Inventory assessing anxiety levels of participants was administered. The correlation between data yielded from measurements and reaction times has been investigated, and compared with game statistics. It was found that the players with high levels of anxiety have lower reaction times but better shooting percentages.

**44. Identification, sport fan and intergroup conflict**

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The main reasons to be a sport fan and more specifically, a football team fan, can be different but always reflect membership feelings to express identities and define behaviors. This paper connects social identity and sport fan to football teams. From the developments of an important psychology theory, The Social Identity Theory (Turner, 1982), we try to analyze in a sample of young fans who support the two most representative Spanish football teams (Real Madrid C.F. and F.C. Barcelona) some of the psychology process which lay the foundations of intergroup conflicts. In this way, the categorization produced in the supporters of the sample and their identification as sport fans cause mechanisms of ingroup favoritism and discrimination of the outgroup. From this, we can extract some interesting conclusions about the behaviors originated from sport identification.

**45. Levels of development psychosocial in Gipuzkoa federated football: Analysis, and valuation of the perceived autoefficiency and the level of satisfaction in young football players**

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The present research examined different personal variables of young football players 12 to 18 years old, in their formative itinerary. The variables examined were the beliefs about the reasons of success, the perceived self efficacy, the degree of satisfaction with the above mentioned practice, and the perception of success of the players for with the trainer, like indicative of the motivational climate, Roberts, G. and Treasure, D.C. (1995). The sample was consisted of young football players of the most representative teams of the province. Three categories have been established: infantile, (12-13 years), cadet (14-15 years) and juvenile (16-18 years). The sample composed by 201 subjects of which 81 are Infantile, 69 Cadets and 51 juvenile ones. A questionnaire has been realized "ad hoc", in that there will be registered the personal information, the sports club, the self efficacy perceived to play football in general, in certain technical actions. To measure the level of satisfaction we have used the questionnaire realized by Treasure and Roberts (1994), it measures the satisfaction of the subjects on the basis of: The answers are reflected in a scale type Likert by a range of 0 (totally in disagreement) to 10 (totally in agreement). Findings regarding the above variables will be discussed.

**46. The effects of transformational leadership on athlete anxiety and self-confidence**

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This study investigated main and interactive effects of coaches' transformational leadership (TL) behaviours on athlete anxiety and self-confidence. Female team athletes ( $n = 127$ ) completed a measure of perceived transformational leadership, the Competitive State Anxiety Inventory-2R and the Group Environment Questionnaire. Cohesion was used as a covariate as it has been found to be influenced by TL and to affect anxiety in team athletes. Regression analyses revealed that TL did not account for significant variance in cognitive or somatic anxiety; however, two hypothesised leadership behaviours, *Creating and Articulating a Positive Vision* [ $\Delta r^2 = 0.026$ ,  $p = 0.067$ ] and *Inspirational Motivation – Esteem* [ $\Delta r^2 = 0.025$ ,  $p = 0.070$ ], predicted variance in self-confidence at a level that approached significance. Exploratory stepwise regression analyses indicated that two additional leadership behaviours significantly predicted self-confidence; these were *Fostering Acceptance of Group Goals* [ $\Delta r^2 = 0.043$ ,  $p = 0.017$ ] and *Appropriate Role Model* [ $\Delta r^2 = 0.034$ ,  $p = 0.028$ ]. Moderated hierarchical regression analyses examined the interactive effects of *High Performance Expectations (HPE)* and the support behaviours *Individual Consideration*, *Inspirational Motivation – Esteem (IM-E)* and *Contingent-Reward*. The interaction between *HPE* and *IM-E* approached significance [ $\Delta r^2 = 0.029$ ,  $p = 0.056$ ]; when performance expectations were high, low esteem support was associated with high cognitive anxiety, and high esteem support was associated with low cognitive anxiety. From an applied perspective, results suggest that some TL behaviours can positively affect athlete confidence. Additionally, coaches who express high performance expectations should anticipate that this could increase athlete anxiety if not accompanied by support.

**47. Neurofeedback training enhances  $\alpha$  power**

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Optimal mental states have been suggested critical for sport performance. EEG Study of optimal mental states found enhanced  $\alpha$  power in the left temporal region (i.e., T3) of the brain on higher skilled shooters than those of lower skilled. Additionally, better performance is also associated with higher  $\alpha$  power in T3. T3  $\alpha$  Neurofeedback training has been found effective in enhancing  $\alpha$  power in the target region as well as enhancing performance. However, how T3 neurofeedback training affects the non-target regions has not been explored. As such, this study intended to examine how the right temporal region (T4) and mid occipital region (Oz) were affected by T3 neurofeedback training. Twenty skilled air pistol shooters were assigned to either a neurofeedback training group or a control group. Group comparison after 16 sessions of neurofeedback training found that neurofeedback training not only enhances  $\alpha$  power in T3, but also  $\alpha$  power at both T4 and Oz. Since  $\alpha$  has been associated with relaxed and attentive mind set, these results suggest the neurofeedback training may result in generally lowered arousal that is conducive to shooting performance.

**48. The relationship between perceived coach behaviors and anxiety among Moroccan elite and scholar athletes**

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Previous research indicated that competitive anxiety influence meaningfully the athlete's outcomes. Studies examining the coach's influence on anxiety levels in athletes showed that athletes' perception toward specific coach behaviors was a significant predictor of anxiety in competitive sport context. The purpose of this study was to examine the relationship between coaching behaviors and competitive anxiety among Moroccan elite and scholar athletes. Participants were 99 elite athletes and 138 scholar athletes who completed the Arab versions of the Coaching Behavior Scale for Sport (CBS-S, Côté, Yardley, Hay, Sedgwick & Baker, 1999) and the Sport Anxiety Scale (SAS; Smith, Smoll, & Shiltz, 1990). MANOVA results revealed significant effect of group factor,  $\lambda(7,230) = 2.32, p < 0.05$ . Moroccan elite and scholar athletes perceived differently their coach behaviors. The regression analysis results regarding the scholar athletes group indicated that technical skills, mental preparation, goals setting, competition strategies, personal rapport are significant negative predictors of all anxiety levels (e.g., somatic, worry, concentration disruption and total anxiety). In addition, results showed that the negative personal rapport was a significant positive predictor of somatic, concentration disruption and total anxiety. However, the results related to the elite athletes group revealed that only the negative personal rapport was a significant positive predictor of concentration disruption, whereas all positive personal rapport were not significant predictors of any form of sport anxiety. Findings of this study were compared to those obtained in western countries, and pointed out that the relationship between the coaching behaviors and sport anxiety seemed to be influenced by the level of the athletes as well as the cultural context.

**49. The link between knowledge and visual fixations in gymnastics coaching and judging: A case study approach**

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Whilst little information exists to explain how coaches and judges process observed movement into performance scores, it would seem logical to suggest that a relationship exists between attention (i.e. what is looked at) and knowledge (both declarative and procedural). Although studies have investigated these phenomena separately, few have examined the relationship between them. The aim of this study is to redress this imbalance examining whether a relationship exists between visual fixation data and knowledge in gymnastic judging scenarios, using a two-phase case study design. Participants were an expert gymnastics coach and judge. In phase 1 each participant watched and scored ten handspring vaults wearing an ASL eye-tracker. They then participated in a semi-structured interview to assess knowledge used for scoring whilst reviewing the vault film (phase 2). Visual search data was analysed to produce (fixation location) by (phase) data. Inductive content analysis was used to extrapolate knowledge statements from the transcripts. Of the coach's statements 33.3% were directly related, 44.4% indirectly related, and 22.2% not related, to visual fixations. In comparison, 43.5% of the judge's statements were directly related, 36.7% were indirectly related and 20.0% were not related to visual fixations. In both cases results show links between visual fixation and knowledge statements. The higher number of

direct links for the judge and indirect links for the coach may be due to their differing roles and knowledge bases. Coaches are required to make judgements of cause, whereas judges are required to make evaluative judgements, relying more on procedural knowledge.

### **50. Reasons why 18-19 year old male football players in the elite programme “Tipselit” drop out and their view of their time in Tipselit**

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Main reasons for dropout in youth sports are lack of enjoyment, lack of time, decrease of interest and disliking of coaches' behaviour. For a sport talent to reach elite level there are several factors of importance such as coaches, peers, parents and the athletes' own interests and ambitions. The purpose of this study was to examine reasons why 18-19 year old football players in the elite programme tipselit drop out, and their view of their time in tipselit. Ten interviews with former players in tipselit from southern part of Sweden were conducted and analyzed. Five categories were presented: To live and be a part of tipselit, the coach, self picture, injuries, and termination of tipselit career. Together they form the theme: Reasons why 18-19 year old male football players in the elite programme tipselit drop out and their view of their time in tipselit. Most common reasons for dropping out of tipselit were “took too much time”, which had negative effects on social life and school work, and a “decrease of interest” for reaching elite level. Further, players expressed a need for a coach, with whom they could have a more personal relationship. It was concluded that persons who dropped out from tipselit would have felt better if they would be able to spend more time and energy on school work and their social life outside of football. If that was to happen, there might be a decrease in the number of dropouts from tipselit.

### **51. Psychometric properties of the Test of Performance Strategies in a Flemish athletic sample**

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The aim of the present study is to examine the psychometric properties of the Test of Performance Strategies (TOPS; Thomas et al., 1999) among Flemish athletes. The TOPS was designed to assess eight psychological strategies used in competition (i.e. activation, automaticity, emotional control, goal-setting, imagery, negative thinking, relaxation and self-talk) and eight used in practice (the same strategies except negative thinking is replaced by attentional control). A sample of Flemish athletes (n = 400) from diverse sports such as soccer, track and field, cycling, and a second sample of Physical Education students (n = 150) is expected to complete the 64-item TOPS, the Utrechtse Coping Lijst (UCL; P.J.G. Scheurs et al. 1993), a Dutch coping inventory, and the Resilience Scale-NL (RS-NL; Portzky, in press; Wagnild & Young, 1993). Psychometric analysis will include exploratory factor analysis, internal validity and concurrent validity with the scales from the UCL and the RS-NL. Discussion will include indications for further improvement and development, and highlight the usefulness of the TOPS in Flemish sport settings.

### **52. Performance strategies and resilience in a Flemish athletic population**

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The aim of this study is to investigate the impact of athletic performance strategies on resilience. Wagnild and Young (1993) found that people who showed increased resilience also showed a greater ability to successfully cope with change or misfortune through perseverance or belief in oneself. The Resilience Scale-NL (Portzky, in press; Wagnild & Young, 1993) and the Dutch version of the Test of Performance Strategies (Thomas et al., 1999) are expected to be completed by 300 Flemish athletes from diverse types of sport (track and field, soccer, cycling, bowling) and levels in experience (Junior, Recreational, Regional, Elite). The Resilience Scale-NL will also be completed by a control group of 300 non-athletic participants. First, paired t-tests will study for differences between resilience scores in athletes and resilience scores in a control group of non-athletes. It is expected to find significant higher levels of resilience in the athlete's group. Second, in the athlete's group, Multiple ANOVA's will be used to look for type x level differences in performance strategies and types of resilience. It is expected to find a difference in performance strategies and resilience (1) between levels of sport and (2) between types of sport. Third, multiple regression analysis will be used to investigate the relationship



between performance strategies and types of resilience. It is expected to find a model of performance strategies predicting types of resilience. Limitations of the current study and future research will be highlighted.

### **53. Examining the relationship between perfectionism and burnout in collegiate coaches**

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This study sought to examine the effects of perfectionism and participation in coaching activities on burnout in collegiate coaches. Head and assistant coaches (n=177) of American colleges participated in the study. Based on Smith's (1986) stress appraisal model of burnout, three causal models were tested. The models included self-evaluative and conscientious perfectionism, game plan and team organization participation in coaching activities, perceived stress, and the emotional exhaustion, depersonalization, and reduced personal accomplishment components of burnout. After removal of the organization dimension of perfectionism, the measurement model showed satisfactory fit to the data. The combined model including direct effects of perfectionism and coaching activity participation as well as stress-mediated effects of these variables on burnout exhibited the best fit to the data, accounting for 58% of the variance in burnout. However, only self-evaluative perfectionism proved to be a significant predictor, both directly and indirectly through perceived stress, of burnout. Conscientious perfectionism, game plan coaching activities, and team organization coaching activities, did not directly impact burnout, nor were their effects mediated by perceived stress. A multi-sample analysis was conducted to examine any differences in coach status (head versus assistant) for the conceptual model. The analysis did not indicate any significant differences among the two types of coaches. This study provides a basis for future examinations of the impact of dimensions of perfectionism and time spent engaging in activities related to coaching on burnout in collegiate coaches.

### **54. The relationship between prayer and team cohesion in collegiate softball teams**

Melissa Murray\*, Allison Dyrland, & Lauren Tashman

*\*Florida State University, USA*

The number of religious gestures seen at sporting events is steadily rising. Although it is feared that pre-game prayers may interfere with an athlete's preparation for competition, Turman (2003) found athletes credited those prayers as a way to bring the team together. Czech and Burke (2002) found that female athletes were more supportive of prayer and religiosity in sports than their male counterparts. Therefore, the purposes of the present study were: 1) to examine the differences in team cohesion and spirituality between softball teams that pray and those that do not pray, and 2) describe why softball players use prayer, when they use prayer, if they pray by choice, and how genuine the prayers are. Participants included 92 athletes from six American universities. Cohesion levels were measured using the GEQ (Carron, Widmeyer, & Brawley, 1985), and the personal use of spirituality in sports was measured by the SIST (Dillon & Tait, 2000). No relationship was found between scores on the SIST and subscales of the GEQ ( $p > .05$ ). However, there was a significant difference between athletes who reported individual prayer and those who did not on scores for the SIST ( $p = .0001$ ). Qualitative results revealed athletes believed team prayer aided in the development of team cohesion by bringing the team closer together and emphasized the importance of choice to participate in team prayers. Future research should include a more comprehensive study of the cohesion/prayer relationship among athletes in other regions and countries.

### **55. Relationship between athletic self-concept and exercise self-efficacy of Iranian elite wrestlers participated in the Qatar Asian Games**

Nasrollah Javadian Sarraf\* & Reza Shajie

*\*Ferdowsi University of Mashhad, Iran*

The purpose of this study was to explore the relationship between athletic self-concept and exercise self-efficacy of Iranian elite wrestlers (freestyle and Greco-Roman) participated in the camp of Qatar Asian games. 40 wrestlers were selected as elite individuals. In order to study athletic self-concept and exercise self-efficacy of elite wrestlers, Elite Athlete Self Description Questionnaire (EASDQ) and Exercise Self-Efficacy Questionnaire were used, respectively. Content validity of these tools is appointed by experts and internal consistency of questions in a pilot study was 0.93 and 0.79, respectively. Data were analyzed in two levels of descriptive and inferential statistics. The results showed that self-concept mean of elite wrestlers were 127.95 that evaluate in high extent. Self-concept subscales means of elite wrestlers were as followed: skill (18.97), body (15.20), aerobic (14.72), anaerobic (18.52), mental (20.37) and performance (22.37). Exercise self-efficacy mean of elite

wrestlers was 65.66 that evaluate in middle extent. There was a significant correlation between self-concept and exercise self-efficacy of elite wrestlers ( $P < 0.05$ ). Relationship between exercise self-efficacy and aerobic subscale of athletic self-concept was significant ( $P < 0.05$ ). There was no difference between athletic self-concept and exercise self-efficacy of wrestlers in terms of years of championship ( $P > 0.05$ ). According to results of study, elite wrestlers have enough perceived ability for performing in apex during exercise and competition. However their exercise self-efficacy assesses in the middle level. Based on these results, increase in exercise self-efficacy of elite wrestlers that have high self-concept, can gain better result for them.

#### **56. The effect of physical practice and random/blocked mental practice on performance and learning of tracking task**

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*\*Ferdowsi University of Mashhad, Iran*

In this study participants were 108 Ferdowsi University students in 9 groups of 12 students with mean age of ( $21.69 \pm 1.51$ ) and mean of MIQ score of ( $51.26 \pm 2.99$ ). Groups were (Physical random practice, Physical blocked practice, Mental random practice, Mental blocked practice, Physical random practice + Mental random practice, Physical random practice + Mental blocked practice, Physical blocked practice + Mental blocked practice, Physical blocked practice + Mental random practice and control). The apparatus was software and hardware of pursuit rotary that by authors constructed. The groups done physical practice and mental practice in two methods of random and blocked in 10 sessions with speeds (20, 30 and 40 rpm). Results showed that between performances of Random/Blocked Mental practice with Random/Blocked physical Practice in acquisition phase was significant ( $p < 0.05$ ). Physical practice groups were better. But, difference between physical practice groups and combined groups wasn't significant ( $p > 0.05$ ). In retention phase, Random/Blocked mental practice in comparison with physical practice and combined groups had a better performance. Random mental imagery in comparison of blocked mental imagery was better. Finally it can be concluded that, random arrangement for mental practice is more useful than physical practice and combination its when task complexity is higher.

#### **57. Postural stability and emotional status in survivors of domestic violence**

Jana Smidova

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Domestic violence (DV) has become a serious social and political issue recently. In the Czech Republic, 38% of women were reported to experience some type of DV during the lifespan. Survivors of DV are offered help and assistance including psychological, social, and legal guidance in civic associations, or crisis centers. According to some authors, women who experienced DV are at higher risk of physical and psychological health problems than general population. Physical discomfort may further deteriorate the psychological health. Despite this considerable relationship between psychological and physical dimension body-oriented approaches are lacking in standard help. Postural Stability and Emotions: The impact of emotional status may be observable in movement system that is regulated by the central neural system (CNS). Limbic system considered a center of emotions, participates in regulation in terms of movement initiation significantly. Thus, emotions determine the quality of movement. The quality of movement system may be represented by postural stability. According to Japanese study, the effect of adrenergic components in cerebellum (center of stability regulation) has a significant impact on postural stability (Hinoki, 1981). Reaction in postural stability induced by negative emotion was reported by Hillman (2004). Therefore, we suggest that the relation is reciprocal, thus a positive change in postural stability may positively influence emotional status consequently.

#### **58. Differences among coping responses, performances and adjustment to competition's stress in sportswomen: Research of self-efficacy's influence**

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The coping behaviours employed by athletes to manage the competition's stress influence the achievement of performance goals and the psychological well-being. In addition to the link between coping skills and performance, self-efficacy (judgments regarding one's capabilities) would be a significant determinant of performance (Bandura, 1997) and can have an important role in the selection of coping responses. The purpose of this study was to examine the contributions of self-efficacy to the prediction of coping behaviours and their

efficiency in French sportswomen. It was expected that sportswomen characterized by a high self-efficacy use more coping responses being positively related to performance and adjustment to stress than sportswomen characterized by a low self-efficacy. The participants completed measures prior to and following a competition. Before the competition, self-efficacy was measured with an instrument designed for the purpose of the present study. After the competition, coping strategies was evaluated by the Ways of Coping Checklist (Vitaliano & al., 1985) which we added an under-scale assessing the perceived effectiveness of the coping. Moreover, a comparison between the athlete's objectives of performance and the competitive results was carried out. The findings of this study revealed that a high level of self-efficacy would be favourable for the deployment of coping responses having positive consequences on performances and accommodation to competition stressors. However, a low level of self-efficacy would be less appropriate for this type of report. Hence, athletes having a high level of self-efficacy cope better with difficult situations during a sport competition.

### **59. Coaches as caregivers in children's competitive sports**

Karen Hoffman\*, Alfred Richartz & Jeffrey Sallen

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The notion of a care-giving system – a coherent set of behavioural strategies that an adult uses to provide protection for his child – is relatively new in the field of psychology. It was promoted by Solomon & George. The first goal of the care-giving system is to provide a 'secure base'; the second is to act as a 'trusted-companion' in the exploration and learning efforts of a child. The present paper aims to analyse the care-giving system of coaches in children's competitive sports and its relationship to the child's image of the coach. It is assumed that children taught by a coach providing a 'secure-base' and a sensitive challenging teaching style report small or no differences between their ideal-coach-image and their real-coach-image. The data was collected by conducting semi-structured interviews with coaches and athletes in German talent centres for swimming, gymnastics and springboard diving. The sample comprises a total of 22 matched coach-athlete-pairs (15 female coaches, 15 female athletes). The age of the children ranges from 7-12. The interviews were analysed using a special developed rating scheme for the care-giving system and typological analysis strategies. Among the 22 coaches 14 were classified as providing a 'secure-base' and a sensitive challenging teaching style. As expected, in those cases the difference between the children's ideal-coach-image and their real-coach-image was lower.

### **60. Empathy in coach-athlete dyads: The influence of relationship quality and group size**

Ross Lorimer\* & Sophia Jowett

*\*Loughborough University, UK*

Empathic accuracy, the ability to infer the specific thoughts and feelings of another, has been described as a key factor in allowing partners to work effectively together (Thomas & Fletcher, 2003). Coaches and athletes work closely together and it is not rare for intricate relationships to form (Jowett & Meek, 2000). It would seem sensible to suggest that the quality of their relationship and the opportunity they have to interact would influence their understanding of each other. This study investigates how coaches' and athletes' empathic accuracy is influenced by the quality of their relationship and the size of the group of athletes a coach works with. It was hypothesised that the lower the number of athletes that a coach typically works with and the greater quality of the coach-athlete relationship the more accurate their understanding of each other would be. Coach-athlete dyads from team and individual sports participated in the study. Each dyad was filmed during a typical training session. Subsequently, participants viewed their interactions and reported what they thought and felt at selected points, and what they believed their partner thought and felt. The participants completed the Coach-Athlete Relationship Questionnaire (Jowett & Ntoumanis, 2004) to assess the quality of their relationship and supplied a variety of demographic information. Regression analyses were used to determine the correlates (e.g., group size, quality of relationship) of empathic accuracy. Results supported the main hypotheses – these findings and future research directions are discussed.

### **61. Corelation between electroencephalografic feature and behavior at judo sportsmen**

Mircea Danoiu\*, Suzana Danoiu, & Veronica Sfredel

*\*University Of Craiova, Romania*

The knowledge and mastery based on scientific and rational practise of physical and sports education domaine aims to increase the human body buget or energetic capital, not always enough known, applied and turn account. In the last decade concern about the neuropsychological component has grow up, because a lot of past reserves are nearly the limits or has been over, even if in the last years appeared a lot of new and modern methods

addressed to the power and strength development. The specialists states that for the highest performance there are not enough only the upper physical and motrics qualities, but also personality features consistent with exactingness and mental tension generated by the competition. Purpose: Our study focused on evidentiating the possible corelations between physiological aspects of the nervous system, respective bioelectric activity of the brain, and varied abilities or characteristics relative invariablies of the sportsman. Stuff and methode: EEG band was recorded on a EEG machine (Pegasus Digital EEG–EMS GmbH - Austria) according to international standards. For the psychological testing we used The R. B. Cattell 16. P.F. Questionary. Subjects: Sample I: 24 judo sportsman (average age 18,5 years) and Sample II: 28 nonsportsfellows (average age 19 years). Setting: Romania. Results: All average values of the energetical index was higher at judo sportsmen. The average values of the Catel Test 16 PF suggests that the judo sportsmen tend to have an expansive, enthusiast, jovial, direct and attached behavior, even judo is an individual sport.

### **62. Intuitive physics in experts: Misconceptions about the balls momentum in football professionals**

Jan Rauch\*, Moritz M. Daum, & Friedrich Wilkening

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The area of intuitive physics in psychology has shown that already infants often show a quite sophisticated knowledge about physical events. However, adults - even experts - often show astonishing misconceptions about physical laws. When asked to redirect a moving object in order to hit a target, adults often failed, and the object missed the target on the far side. These findings were interpreted that participants ignored the object's momentum. In the present study, this misconception was investigated in professional football players. The 64 games of the 2006 FIFA World Cup in Germany were analyzed regarding situations in which cross balls were redirected by an attacking player to score a goal. We hypothesized that even professional football players often ignore the ball's momentum when trying to score and that the ball will more often miss the goal on the far than on the near side of the goal. Analyses of the ball's direction after its deflection showed that when heading the ball, a significantly larger amount of the headers went wide off the far post than off the near post. In contrast, redirecting or shooting by foot resulted in a normal distribution of the directions of the shots. Further results showed that the angle of redirection was larger when heading than when shooting the ball by foot. Thus, even the world's best experts in redirecting balls, football professionals participating in the FIFA World Cup, show a naive misconception about the laws of physics when trying to score by head.

### **63. Patterns of dream of the basketball female players of the Spanish national team in the preparation for the Athens' Olympic Games**

Felix Guillen\*, Mauricio Bara, & Rosi Sanchez

*\*University Of Las Palmas De Gran Canaria, Spain*

The present study analyzes the patterns of the dream in the female players of the Spanish National Team of Basketball in three different moments from Olympics Games of Athens. The Questionnaire of Dream in the Sport (CSD) of García-Mas et al (2003) was used. They were carried out descriptive analysis, ANOVA and correlations. The hours of dream they diminish in M2 and also the satisfaction with the dream. 70% needed to sleep from eight to ten hours. They took between 15 and 30 minutes to sleep and only of the 10 to 20% thought of sport before sleeping. 50% woke up 1 or 2 times in the night. 30% dreamt of sport topics. The moments of more fatigue were for the morning and evening in M1 and M2 and tomorrow and noon in M3. The yield the following day, for 40% was quite satisfactory in M1 and 90% in M2. The activation was half for most. The concentration levels and implication in the competition / training, they varied among high in M1 and half in M2. 70% prefers to train in the afternoon, 90% needs nap and they consider that they sleep the necessary hours. The correlations showed significant relationships among satisfaction with night of dream and time that take in sleeping, and yield the following day. Relationships exist between yield and activation level and concentration and between activation and concentration.

### **64. The effects of modelling and imagery type on performance and learning of the volleyball simple serve**

Masoumeh Shojaei\* & Tahere Bagher Poor

*\*School of Physical Education, Al-Zahra University, Iran*

Imagery and modelling are similar cognitive processes that have been found to enhance performance. However, some imagery studies have shown a model of correct performance before beginning imagery to ensure that subjects are imagining the skill correctly; thus, confounding modelling and imagery. In

a study that separated these factors, imagery type was not controlled. Therefore, the purpose of the present study was the comparison of the effect of modelling, internal imagery, and external imagery on performance and learning of volleyball simple serve using a pretest-posttest randomized-groups design. 48 novice female students with intermediate imagery ability were randomly selected and matched in 4 groups based on self-efficacy (control, modelling, internal and external imagery). Data of form and result of performance were analyzed by 4\*4 ANOVA with repeated measures of test factor and paired t test post hoc test. Results indicated that the result and form of performance of modelling group and after that internal imagery were significantly better than external imagery and control groups in last of acquisition, retention and transfer tests; but there were not significant differences between the form of performance of internal and external imagery groups in these tests. These findings suggest that modelling is more effective than internal and external imagery for individuals first learning a relatively simple, closed and discrete motor skill.

#### **65. Swimmers and coaches' perceptions of transitional changes after selection for an elite sports swimming school**

Wylleman, P.\*, Reints, A., & Wanter, A.

*\*Vrije Universiteit Brussel, Faculty of PE and Physiotherapy, Belgium*

Initial selection for an elite swimming sports school may lead young swimmers to experience changes at athletic, psychological, psychosocial, academic, and occupational level (Wylleman & Lavalée, 2004). Using a qualitative research methodology, thirty five 8-12 years old swimmers and 31 coaches were questioned with regard to the transitional changes occurring during the first three months at one of four elite swimming schools of the Flemish swimming federation (VZF). Changes were perceived with regard to changing school (environment), peer relationships, after-school activities, change of coach, increase and changes in swim training, and level of swim competitions. Coaches reported similar as well as different changes. In conclusion, differences in perceptions between swimmers and coaches will be discussed as well as similarities and differences with elite young tennis players' perceptions of transitional changes occurring after being selected for an elite tennis sports school.

#### **66. Coaches' knowledge of mental training with talented young athletes**

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*\*Vrije Universiteit Brussel, Faculty of PE and Physiotherapy, Belgium*

While an array of applied sport psychology literature provides insight in how to work with elite athletes and players little information is available on the needs of, and approaches for mental training with talented young athletes and players. Using a combination of a qualitative and quantitative research methodology, 36 tennis and 22 swimming coaches working daily with young athletes in the elite sports schools of the Flemish tennis federation (VTV) and of the Flemish swimming federation (VZF), or had been working with athletes in these sports prior to their joining the topsportschools, were questioned on (a) their knowledge on mental coaching, (b) the mental functioning of their players in function of age and level of performance, (c) the learning and training of mental techniques with young players, and (d) the role and influence of significant others on the mental functioning of young players. Coaches had a good basic knowledge of sport psychological techniques and mental coaching. Furthermore, coaches advocated the need to specify mental training and mental coaching not only in function of specific mental skills and/or attributes (e.g., being motivated and showing effort, being able to concentrate and focus, being able to manage stress) but also in function of specific age-groups. Finally, coaches also indicated that mental training of young players should not only be conducted on a day-to-day basis but also be integrated, as fully as possible, in young players' daily on-court training provided by the coaches themselves rather than via a sport psychologist or mental consultant.

**POSTER SESSION 2****THURSDAY 6/9/2007****SPORT PSYCHOLOGY****01. Sport Psychology's intervention: An experience with the reserve of young players in a football indoor Club**

Lois Río Graciela

*A. Lobelle de Santiago F.S., Spain*

High performance is not the unique objective of sport, but it is clear that the young sport is the reserve of future expertise athletes. A methodical and systematic work in this area of the sport structure has as consequence the improvement in the sport of competition as much as in the quality as in the amount of its practitioners. The main objective of the stage of young training is the harmonic development of all the qualities: physical, tactical, technical and psychological, all necessary for the high performance. The present work makes reference to the psychological work programme implanted during two seasons in the younger teams of a football indoor club, the A. Lobelle de Santiago F.S. which militates in the top league in the Spanish state, emphasizing the integral training of the football indoor players, as well as the orientation of which takes part in their development as they are the parents and trainers.

**02. Excessive Effort in Sport – Development and Validation of the Excessive Effort in Sport Scale (EESS)**

Sabine Würth

*University of Vienna, Department of Sports Sciences, Austria*

The study presented herein aims at developing and validating the Excessive Effort in Sport Scale (EESS). Excessive effort defines a set of attitudes and behaviors reflecting excessive striving for success in combination with a strong desire of being approved and esteemed by significant others (e.g. teammates or coaches). It is assumed that athletes showing a high amount of excessive effort tend to neglect their health and, hence, have a higher risk to occur an injury. A 48-item scale was constructed assessing six dimensions of excessive effort in sport, including two behavioral dimensions ("readiness for action" and "excessive effort"), and two social approval dimensions (perceived and desired amount of social approval for both, "readiness for action" and "excessive effort"). Psychometric properties of the scale were tested on a sample of 642 athletes (224 female, 418 male). Hierarchical factor analysis and item analyses via Cronbach's alpha confirmed the a priori structure of items, reflecting the six dimensions mentioned above. Additionally, the convergent and discriminant validity of the scales were proved by correlating the scores on EESS with scores on different scales, e.g. goal orientation, achievement motivation, and locus of control. Intercorrelations with these scales corroborate the validity of the EESS. The EESS will be discussed in the light of gender, and sport specific issues. Additionally, discussion will focus on the question whether excessive effort in sport may help to predict injury risk of athletes.

**03. Comparing the effect of massed & distributed practice in different stages of discrete motor task learning**

Mohammad Taghi Aghdasi\*, &amp; Mir Taghi Garooci Farshi

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How to distribute the duration of practice and rest at each session is a matter of concern in organizing the practice of motor skills. In this connection, most studies have introduced the nature of motor task as a determining factor and suggested that if the discrete skills are practiced according to massed method and continued skills according to distributed method, then better results can be obtained. But, it seems that the stage of the learner prior to the test, also as one of the effective variables in this process, has not been taken into consideration. To this end and in order to determine the role of learning stage in the mechanism of distributing practice and rest during a session, 60 male students of Tabriz University were placed randomly in two groups. One group repeated one of the discrete motor tasks (throwing dart) during five sessions with two blocks at each session according to the massed and group two according to the distributed method. Of course, each block contained ten trials. During this course, the results of the subject's performance were recorded with repeated pre-and-post tests, and eventually, the subject's rate of learning became known by giving a retention

test. After collecting the data and analysis of them according to T-Student method, the following results were obtained: the findings showed that the performance of both groups in pre-test and post-test had a significant difference. But, the performance of both groups of subjects did not have a significant difference in any of the stages of repeated pre-tests and post-tests. Of course, it should be noted that the group which had practiced according to massed method, did better than the distributed group on the delayed retention test which was taken at the interval of 48 hours after the last practice session although, this better ness was not significant statistically. So, according to the findings of this research, the learner's stage while learning discrete motor task, is not considered as an effective and significant factor in the way of distributing the practice and rest duration. Although, for the initial concern to be clearer, additional and more specific research is necessary.

#### **04. The impact of competitive state anxiety on the production of muscular power in a golf drive shot.**

Donna Dunne

*Waterford Institute of Technology, Ireland*

The primary purpose of this study was to further investigate the relationship between competitive state anxiety and golf performance through the analysis of the impact of competitive state anxiety on a golfer's ability to produce muscular power in a golf tee shot. Subjects ( $n = 18$ ) consisted of two groups varying in skill level, namely an elite group of golfers ( $n = 9$ ) and an intermediate group of golfers ( $n = 9$ ) and the investigation was conducted in a competitive round of golf (high anxiety) and a practice round of golf (low anxiety). Muscular power production was analysed through McLean and McTeigue's (1991) X-Factor Flexibility obtained via three-dimensional video analysis, while anxiety was measured through the CSAI-2 and the SCAT (Martens et al., 1990) and physically through heart rate. Data analysis included Wilcoxon's Sign Rank test and Spearman's rho (Pallant, 2001) and results revealed that there was no significant relationship between state anxiety and muscular power production (cognitive anxiety  $p = 0.21$ , somatic anxiety  $p = 0.34$ , self-confidence  $p = 0.15$ ). Analysis of results also revealed that the golfers did not experience a significant decrease in X-Factor from the practice round of golf to the competitive round of golf and this was consistent when golfers were considered in their subgroups of elite golfers and intermediate golfers. However, although no statistical significance was observed the study produced trends which suggest that as competitive state anxiety increases a golfer's ability to produce muscular power in a golf tee shot decreases.

#### **05. Psychological skills and athletes satisfaction to participate among Greek water polo and swimming athletes**

Doukas Konstantoulas\* & Evangelos Bebetos

*\*Department of Physical Education & Sport Science, Democritus University of Thrace, Greece*

The aim of the present research was to examine the relationship between psychological skills and athletes satisfaction to participate, gender and sport differences among Greek water polo and swimming athletes. The sample consisted of 358 swimming athletes and 117 water polo athletes who completed a Greek version of the Athletic Coping Skills Inventory-28 (Goudas, et al., 1996, 1998) and the Scale of Athletes Satisfaction (Bebetos & Theodorakis., 2003). Analysis showed statistically significant differences between men and women on two factors (Peaking with pressure, Personal outcome). Significant sport differences found on five factors (Freedom from worries, Confidence, Leadership, Personal outcome and coach ability). Significant correlation among psychological skills and athletes' satisfaction to participate were also found. The findings could help swimming and water polo athletes and coaches become more familiar with the sport specific psychological skills involved in water polo and swimming.

#### **06. Phase-1 Development of the Perfectionism in Sport Questionnaire (PSQ)**

Michael A. Pickering\* & Damon Burton

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The purpose of this study was to initiate the development of a valid and reliable instrument to assess dimensions of sport perfectionism.  $N=532$  high school and adult participants in a variety of sports ( $M$  age = 31.8 years,  $SD = 11.8$ ) completed an initial perfectionism inventory consisting of 74 items. Most items were taken from previously validated perfectionism instruments, but were modified to be specific to sport and competitive contexts. The data were randomly split into two equal-size ( $n = 266$ ) calibration and validation sub-samples. Results of exploratory factor analysis, using three extraction techniques and oblique rotation, suggested a 24-item, five-factor solution. The five dimensions that emerged were; (1) high personal standards, (2) discrepancy with parental expectations, (3) discrepancy with personal expectations, (4) failure as indicator of self-worth,

and (5) positive response to mistakes. SEM confirmatory cross-validation procedures, including invariance and fixed parameter multi-group analyses (calibration vs. validation samples), supported the factorial validity of the five sport perfectionism dimensions. Cross-validation was repeated for male vs. female respondents, also resulting in acceptable goodness-of-fit indices, further supporting the preliminary PSQ measurement model. Moderate correlations among the latent constructs (i.e.,  $r = .08$  to  $r = .57$ ) suggest that each dimension represents a conceptually distinct aspect of sport perfectionism. Discussion is offered regarding parallels with non-sport perfectionism dimensions in psychology literature, with suggestions for further refinement of the PSQ, and emphasis that further validation research across an a variety of sport and athletic contexts, and with athletes of specific demographic make-ups is warranted.

### **07. Mental training in artistic gymnastics**

Emilia Florina Grosu\*, Ioan Pascan, Ancuta Nut, Gheorghe Sabau, Denisa Petrehus, Sirb Sanda, Peter Szabo, & Dan Monea

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The representations of movements or the ideomotor representations release the movements and are at the bedrock of the mechanism of voluntary movements that are performed when the image of the target oriented action emerges in the brain. Gymnasts have a general representation about a certain movement as well as a work representation of the way they feel and imagine their own performance and it depends on several factors and circumstances. Among the research objectives I can remind the following ones: the investigation of the cognitive components involved in kinetik representations; the elaboration of certain training methods that entail psychological steps (of mental imagery) in the instructive and educational process as well as feed-back elements related to the neurophysiological correlated components involved in the creation of complex kinetik representations. The professional performance of a motor action must be always under receptive control and the performer should intercept the signals coming from his/her environment and from his body carrying information about the movements he/she is performing.

### **08. Speed/accuracy trade-off: An explanation for a soccer imagery intervention?**

Munroe-Chandler, K.J.\*, Murphy, L., Hall, C.R., & Fishburne, G.

*\*University of Windsor, Canada*

Imagery is a psychological skill that has been shown to improve sport performance. To date, however, most of these studies have been conducted on adult athletes. The purpose of the present study was to examine the effects of an imagery intervention on the soccer skill performance of young athletes aged 11-14 years. It was hypothesized that all athletes would improve in performance from baseline to post intervention, however, those in the cognitive specific imagery group would demonstrate greater improvements on the soccer skill than those in the motivational general-arousal imagery group. Participants were 68 soccer athletes belonging to eight different teams. Teams were randomly assigned to either the cognitive specific or motivational general-arousal imagery group. Athletes were tested on the soccer skill to determine baseline performance on both speed and accuracy. Following the six week imagery intervention, athletes were tested on the same soccer skill. A repeated measures MANOVA revealed that the two imagery groups did not differ on performance of the soccer skill. However, when the two groups were collapsed, a significant multivariate effect for overall performance was revealed. At baseline, all athletes performed the task slower but with greater accuracy and, at post intervention, athletes reversed their strategy and performed the skill faster but with more errors. The athletes' change of strategy is discussed.

### **09. Why a sport psychologist and a coach cannot find each other?**

Valery Malkin\* & Liudmila Rogaleva

*\*Ural State University, Russia*

Many coaches and sportsmen proclaim usefulness and necessity of sport psychologists who can help a sportsman professionally. In the same time the meeting is not often between coach and psychologist. Unfortunately, there are some serious reasons why a sport psychology cannot become one of links of the system of training sportsman. One of the reasons is very trivial: Great number of coaches cannot admit the necessity of psychology as they do not have special qualifications and general culture. The next group of coaches is highly qualified and they try to cope with this problem independently. We eager to explain why other coaches do not use knowledge and experience of a psychologist, although they understand the use psychology for their work. The first reason of it is the lack of qualified sport psychologists, as we can find «mock» specialists of the adjacent psychology



professions who work in sport. They have neither special psychological knowledge nor understanding the peculiarity of sport activity. The meeting with such kind of “expert” harms not only the specialist but sport psychology in general. However the most important reason is insufficient working out or lack of concrete technologies for the psychological preparation of the sportsmen and clear programmes psychologist’s work with coaches and sportsmen. In report the author demonstrates programmes and technologies, which he uses in his work.

### **10. Relationship among role ambiguity and athlete satisfaction**

Evangelos Bebetos & Anastasia Beneka

*Democritus University of Thrace, Dept. of Phy. Education & Sport Science, Greece*

The aim of the study was to examine the relationship between role ambiguity and athlete satisfaction among team handball players. The sample consisted of 169 team handball players, 53 (33%) men and 116 (67%) women, with a mean age of 16.5 years. Two questionnaires were used in order to measure Role Ambiguity and Athlete Satisfaction. Role ambiguity was measured by using the Role Ambiguity Scale (RAS) (Beauchamp et al., 2002), and athletes’ satisfaction was measured with the use of the Scale of Athlete Satisfaction (Chelladurai, et al., 1998). The results indicated the negative relation between Role Ambiguity and Athlete Satisfaction and the importance of the dimension of Scope of Responsibilities. Additionally, the multidimensional role of Role Ambiguity was shown. The results are discussed and future research is suggested. In conclusion, the study demonstrated that the Role Ambiguity Scale is a promising tool for measuring role ambiguity in the context of team sports in Greece.

### **11. The test of reversal theory on reducing stress and enhancing national athlete’s efficiency**

Alinagy Aghdasi

*Islamic Azad Tabriz University, Iran*

The aim of the study is to explore the degree of the use of reversal theory in counseling athletes in regard to reduction in stress and increase in their athletic efficiency in order to help the athletes, coaches, authorities and the national athletic organization, also to develop the range of counseling science in the country. The research method is semi experimental. Experimental group and control group with the pretest and post test were used. The statistical population was all the athletes in different periods of national teams. The statistical sampling was chosen on the voluntary base among all the athletes member of national teams in different athletic courses in East Azarbayjan. Among the volunteers, 36 who had the qualifications were ready to participate in the plan. Through random sampling among these volunteers two experimental groups and one control group were chosen. The variables were reversal theory, individual and group counseling, stress and athletic efficiency (desired performance). In order to measure the athletic stress and efficiency the Lionel coudron questionnaire on stress and the measurement form for athletic efficiency were used. The reliability coefficient the parts of these questionnaires were 0.99, 0.99, 0.98 using correlation between pretest and post-test in the significant level of 0.0001 were accepted. For the test of research questions pre-test, post-test, athletic efficiency stress of experimental and control groups were used. The data analysis using descriptive and inferential statistics were produced through the SPSS software using two-way ANOVA with repeated measurement, independent t-test, One-way ANOVA, Pearson correlation and Tukey’s analyses. The main findings are: (1) Reversal theory has positive effect on the reduction of stress among the National team athletes. (2) Reversal theory has positive effect on the increase of efficiency of national team athletes. (3) There are no differences between the reduction of stress and increasing of efficiency among the National team athletes. (4) Individual and group counseling using reversal theory will decrease the athletes stress and increase their efficiency. (5) There is no significant difference between the individual and group counseling in stress reduction and increase of efficiency of the National team athletes.

### **12. A confirmatory factorial analysis of the Athletic Coping Skills Inventory: an Italian contribution.**

Marco Guicciardi\* & Daniela Fadda

*\*Department of Psychology, University of Cagliari, Italy*

The Athletic Coping Skills Inventory (ACSI-28) of Smith Schutz, Smoll, and Ptacek (1995) is an instrument that was purposefully created for the sporting context. In addition to an estimation of personal coping resources, the ACSI-28 also provide a measurement of specific mental skills like concentration and self-confidence, that are strictly linked to performance improvement. Our research was carried out with the aim to provide further support to the ACSI-28 validity in the Italian framework. This instrument was administered, during the medical

sports examinations, to 494 athletes of various disciplines, ages 13 to 33 years old. The internal consistency and the discriminant validation of the scale according to age, gender and the athlete's level of competitiveness were analyzed. In agreement with the analyses conducted by the authors, an explorative analysis and subsequent confirmatory analysis was carried out to assess the structure of the questionnaire. Five scales are resulted particularly well-defined: Coping with Adversity, Goal Setting and Mental Preparation, Concentration, Freedom from Worry, Confidence and Achievement Motivation. Some doubts remain regarding the reliability of the scales Peaking Under Pressure and Coachability. We suggest the possibility to select single subscales that will match more the agonistic characteristics of the athletes under examination. With low level athletes, similar at our sample, a short version with five dimensions and twenty items could reduce the compilation length as well as increase the adherence within suitable contexts, such as the medical sports examinations are at present.

### 13. Relation of role ambiguity and athlete satisfaction among Greek players

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The aim of this study was to examine the relationship between role ambiguity and athlete satisfaction using interdependent Greek sport teams. Athlete perceptions of role ambiguity (offense – defense) were assessed using a questionnaire developed by Beauchamp, Bray, Eys & Carron (2002) and athlete satisfaction was assessed using the Athlete Satisfaction Questionnaire (ASQ; Riemer & Chelladurai, 1998). The sample of the study were 409 athletes of different team sports (basketball, soccer, volleyball and team handball). Confirmatory factor analyses provided the construct validity of the questionnaires. Correlations among the scales confirmed construct validity. The implications of the results are discussed and future research should continue to investigate the multidimensional models of both role ambiguity and athlete satisfaction in sport settings.

### 14. The effects of psyching-up and a passive warm-up on muscular strength and fatigue

David Tod\*, Jonathan Baker, & Michael McGuigan

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We investigated the effect of psyching-up and a passive warm-up on peak force and time to fatigue during the handgrip exercise. Using a handgrip dynamometer, 11 males (mean  $\pm$  SD: 28.4  $\pm$  6.9 years) and 13 females (31.0  $\pm$  8.0 years), who participated in regular physical activity, performed 3 fatigue resistance tests during 3 testing sessions. Prior to each test participants engaged in 1 of 3 psych-up interventions (psych-up, distraction, or placebo), and during each testing session submerged their dominant arm in water baths at 1 of 3 temperatures (15°C, 35°C, or 40°C). The orders of the interventions were randomized. A two-way ANOVA with repeated measures was used to analysis main effects, and Tukey's test was the post hoc test used. Psyching-up increased peak force ( $M \pm SE = 370.3 \pm 25.2$  N) compared with the distraction (356.5  $\pm$  23.6 N,  $p = .017$ , 2.76-24.8 95% confidence interval [CI]) and placebo control conditions (358.7  $\pm$  23.3 N,  $p = .026$ , 1.5-21.7 95%CI). A 40°C water bath decreased time to fatigue (27.9  $\pm$  2.2 s) compared with 15°C (33.1  $\pm$  2.4 s,  $p = .036$ , 0.4-10.0 95%CI) and 35°C (31.5  $\pm$  2.5 s,  $p = .029$ , 0.4-6.6 95%CI). The interaction between psyching-up and a passive warm-up influenced time to fatigue ( $p = .029$ ): psyching-up decreased time to fatigue at 15°C but increased it at 40°C. The current findings provide initial insights into the ways psychological and physiological preparation strategies might interact to influence muscular strength.

### 15. Main and interactive Effects of attributions upon efficacy expectations following less successful performances

Peter Coffee

*Tim Rees University of Exeter, UK*

This study examined main effects of controllability and interactive effects of controllability and generalisability attributions upon efficacy expectations following less successful performances in sport. Participants ( $n = 100$  athletes,  $M$  age 20.60 years) completed a measure of attributions for their most recent performance, followed by an efficacy expectations measure relating to their up-coming performance. All participants perceived their most recent performance to be less successful than usual. Hierarchical regression analysis revealed a significant main effect for controllability upon efficacy expectations ( $R^2 = .11$ ,  $b = .15$ ,  $p < .01$ ). There was also a significant effect for the generalisability dimensions upon efficacy expectations ( $\Delta R^2 = .10$ ,  $p = .01$ ); the regression coefficients revealed a significant effect for globality ( $b = -.12$ ,  $p = .01$ ) and universality ( $b = .14$ ,  $p$

< .01). An *interaction* ( $\Delta R^2 = .14, p < .01$ ) for controllability and stability ( $b = .14, p < .01$ ) demonstrated that for those who perceive that causes of performances are stable, efficacy expectations are low when they also perceive causes as uncontrollable; on the other hand, efficacy expectations are high when they perceive causes as controllable. Based upon the results of this study, after less successful performances, practitioners should encourage athletes to believe that causes of performances are controllable, and/or affect a narrow range of situations (specific), and/or are common to all people (universal). It is particularly important for athletes to perceive control over causes of less successful performances when athletes also expect causes to recur in the future.

### **16. A test of the predictions of processing efficiency theory using a simulated archery task**

Mark Wilson\* & Mike Behan

*\*University of Exeter, UK*

The aim of this study was to test the predictions of processing efficiency theory (Eysenck & Calvo, 1992), regarding the effects of state anxiety on motor performance and processing efficiency. Twenty participants were trained on a simulated archery task, using a joystick to aim and shoot arrows at the target. They then competed in two counterbalanced experimental conditions designed to manipulate the level of anxiety experienced. Each condition consisted of 12 shots and performance was measured as the total score obtained. Processing efficiency was indexed by both a psychophysiological measure of effort (pupil dilation), and a temporal measure related to efficient information processing (time to make the shot). The results showed that although self-reported cognitive anxiety was significantly higher in the high threat condition ( $p < .001$ ), performance accuracy in this condition was maintained at low threat levels ( $p = .53$ ). The mental effort invested in the task, as indexed by increased pupil dilation, was higher in the high threat condition ( $p < .05$ ), thus supporting the prediction of processing efficiency theory that the negative effects of anxiety on performance may be compensated for by the allocation of additional processing resources. Although shot times were, on average, 0.5 seconds longer in the high threat condition, this difference was not significant ( $p = .19$ ). The findings suggest that, owing to its consideration of compensatory effort, processing efficiency theory holds promise as a theoretical framework for examining the relationship between anxiety and performance in sport.

### **17. The use of the Freeze-Framer Interactive Learning System in mental training**

Frank van den Berg\* & Hardy Menkehorst

*\*Mental Training & Coaching Centre – Groningen/Calgary, Canada*

The Freeze-Framer Interactive Learning System is an easy-to-use software program, learning system and patented heart rhythm monitor. According to the manufacturers, the Freeze-Framer has been designed to prevent, manage and reverse the negative effects of stress, and to enable users to learn how to operate their mind-body-heart as a unified system, achieving new levels of health and well-being. The analysis of Heart Rate Variability (HRV) or heart rhythms, is recognized as a powerful, non-invasive measure that reflects heart-brain interactions and autonomic nervous system dynamics, which are particularly sensitive to changes in the emotional state (HeartMath LLC, 2007). In 2003 Mental Training & Coaching Centre in The Netherlands adopted the Freeze-Framer as a user-friendly, interactive biofeedback tool in sport psychology consultation with athletes, coaches and trainers. While the first trials and implementations of Freeze-Framer were primarily aimed at effective arousal regulation, stress management and relaxation, in consecutive mental training sessions with athletes it became clear that other mental functions could be usefully monitored through the application of the Freeze-Framer Interactive Learning System. This poster will explain and illustrate various uses of Freeze-Framer applications in different mental training sessions with athletes. The documented sessions lasted between 3-15 minutes and show Freeze-Framer profiles, as a result of monitoring heart rhythms when athletes engaged in relaxation through breathing, Progressive Muscle Relaxation, Systematic Desensitization, Imagery, and Rational Emotive Behavioral Therapy (REBT).

### **18. Mental toughness (MT) is contextually driven. Psychological interventions and coaching strategies which attempt to develop MT should reflect such research findings**

Tom Fawcett

*Salford University, UK*

Over the past five years Mental Toughness (MT) has received increased research interest (Jones et al.2002 (1); Middleton et al. 2004 (2), 2005 (3); Bull et al.2005(4) Fawcett, 2005 (5); and Thelwell et al.2005 (6) ).Research has been conducted on both generic samples (1,2,3 & 5 above) and sport specific samples ( 4 & 6

above). As a result, there seems to be general research consensus as to the major psychological characteristics which contribute to what being a 'Mentally Tough' competitor consists of. However, caution is required when considering potential application of theory to practice as a more critical review of research reveals that MT is more multi-dimensional and more discipline specific than initial findings provide. Mental Toughness research does have research consensus when findings from generic samples are compared (multi-discipline sports) but there is a lack of discipline specific research in individual, coactive and team sport events. In addition MT, has been found to be related to training behaviour, lifestyle management and dealing with organizational stress (Fawcett, 2005), which are outside of the direct competitive performance environment. MT most definitely exists when athletes need to deal with adversity in many different contextual situations (Fawcett, 2005) and findings demonstrate that it is contextually driven. Any attempt to develop mental skills and strategies and identifying coaching practices to aim at developing aspects of MT *need* to adopt a more sports specific approach as opposed to a generic strategy to building mental toughness in athletes. Each sports discipline has idiosyncratic requirements which compliment the more generally accepted major MT components (self belief, total commitment, absolute focus, dealing with adversity, effective coping, dealing and thriving on pressure etc). For example, selective sports require tolerance of extreme pain thresholds (rowing, boxing, and biathlon). The contention being that any successful development of MT in athletes by coaches should target more sports specific research findings in addition to the general components identified by more generic research studies.

### **19. A qualitative investigation of attentional processes underlying the anxiety-motor performance relationship**

Yvonne Penna\* & Richard Mullen

*\*Brunel University*

The present study aimed to explore the mechanisms that underlie the performance impairment of anxious athletes in a competitive environment. The majority of the research conducted in the area of anxiety is quantitative in nature and our study aimed to redress this methodological imbalance by using a qualitative methodology. Semi-structured interviews were conducted with 6 elite Greek swimmers ( $M$  age = 23,  $SD$  = 2.36). Participants responded to open-ended questions concerning their experience of "choking", which was defined as 'the occurrence of suboptimal performance under pressure conditions, despite striving for superior performance' (Baumeister & Showers, 1986). The content of the interview transcripts was deductively content analysed. Trustworthiness criteria were applied to ensure methodological rigour. From the results it was evident that both distraction and self-awareness may explain some instances of choking within swimmers. The results were conceptualised within the framework of processing efficiency theory and the conscious processing hypothesis. These findings suggest that multiple psychological skills should be employed in order to produce optimal performance and prevent choking. For instance, modelling and imagery use may help athletes make better use of implicit rather than explicit knowledge. Moreover, interventions should aim to reduce the athlete's distractibility by improving concentration and by directing attentional focus to holistic task-relevant cues. Nevertheless, further research is still required to determine the complex interaction between anxiety and performance.

### **20. An exploration of the relationship between high sensitivity and competitive anxiety**

Ineke Vergeer

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High sensory-processing sensitivity is a temperament characteristic that has received increasing attention in the past decade (Aron et al., 2005). Individuals high in this trait are thought to have a nervous system that shows great sensitivity to both physical and psychological stimulation, often resulting in a higher susceptibility to over-stimulation, enhanced nervousness and under-performance in evaluative situations. The purpose of this study was to provide an initial exploration of high sensitivity in the sport context by investigating the relationship between sensitivity and anxiety. A group of 206 student athletes (57.6% male, 42.4% female; age:  $M$  19.5 years,  $SD$  1.7), representing a range of sports and abilities, completed the Highly Sensitive Person Scale (Aron & Aron, 1997) and the modified CTAI-2 (Jones & Swain, 1995). Pearson Correlations revealed significant relationships between sensitivity and the intensity scores of Cognitive Anxiety ( $r = .29, p = .000$ ), Somatic Anxiety ( $r = .21, p = .003$ ) and Self-Confidence ( $r = -.28, p = .000$ ), and with the direction scores of Cognitive Anxiety ( $r = -.20, p = .005$ ), and Self-Confidence ( $r = -.19, p = .007$ ). The results suggest that athletes high in sensory-processing sensitivity may be prone to experiencing higher levels of somatic and cognitive anxiety and lower levels of self-confidence, and may be more debilitating in their interpretations of

cognitive anxiety and lack of self-confidence. Further examination of the role of high sensitivity among athletes is recommended in future work.

### **21. Control of the football players' stress by group dynamics**

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Many football players exhibit during the games inappropriate levels of activation. When the levels of activation are very high and / or high worry exists, emotional reactions of stress can be experienced. The stress concerns the physiological and cognitive processes spoiling the sports performance due to increase of muscular tension and fatigue, loss of concentration, inappropriate perception, fail in the decision making, disagreeable sensations of edginess and lack of confidence in the own possibilities. The present work aims to explore the efficiency of an intervention in order for the football players to acquire control on their stress. The intervention consisted of group dynamics in small groups. By means of games and group dynamics there were presented and solved stressful situations where sportsmen learned to use strategies of stress confrontation that facilitate a better performance. The sportsmen of the sample were 40 football players from 16 to 18 years old. Twenty participants took part in the control of stress intervention whereas other 20 formed the control group, which had no intervention. The intervention was developed in 8 meetings, two per week. The anxiety was measured before and after the period of intervention by the questionnaire CSAI-2 and two scales that measure stress of the Cuestionario de Características Psicológicas Relacionadas con el Rendimiento Deportivo (CPRD). We will present the results and will establish a discussion of the same ones.

### **22. Longitudinal monitoring of training distress in well-trained triathletes**

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Exceptional performances are required by individuals who wish to be successful in the elite sporting arena. To develop the required levels of physical fitness and ability, athletes must regularly push themselves to their limits. If a stress-recovery imbalance exists for extended periods of time, athletes are likely to succumb to overtraining syndrome, which is a debilitating condition that requires months of rest for recovery. In addition to training stressors, athletes are subjected to numerous non-training stressors. These stressors need to be considered when monitoring the health and well being of athletes. The aim of this study was to investigate the changes in athlete self report measures of training distress across a ten month training and competitive season, taking into consideration external stressors and their additional overload effect. Thirty five, well-trained, triathletes (males  $n = 23$ : Age =  $27.1 \pm 9.1$  and females  $n = 12$ : Age =  $27.4 \pm 6.6$ ) completed a weekly training log and responded to a questionnaire which addressed perceived stress levels, mood state, behavioural symptoms and degree of burnout. These results were plotted and trends were analysed across the season. There was a significant correlation between the total training load and the training distress questionnaire,  $r = .26$ ,  $p < 0.01$ . There was also a significant correlation between the training distress questionnaire and the incidence of illness and injury,  $r = .24$ ,  $p < 0.01$ . There was no significant relationship between training load and the incidence of injury and illness, suggesting that factors external to training, in addition to the athletes training load may indeed lead to performance decrements resulting from injury and illness.

### **23. Soccer referee's attentional style and performance**

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The precision and the efficacy of referee's evaluations are based on the development of specific skills in modulating and regulating the attentional focus. This research, based on Nideffer's model, tries to investigate the relation between the level of individual skill and the specific features of attentional and interpersonal style. The aim of this work is to help soccer referee trainers in their teaching task and to give future referees the cognitive tools to better analyse their behaviour and, in general, to judge the performance. The results show that the soccer referee's attentional style is mainly broad external, with a high level of overload by external information. We have noticed different attentional styles for different types of referees (main referee and linesman), but also within the same categories. Our results show that the attentional style, for a few specific aspects, becomes a good predictor of evaluation performance. In particular, the direction of the attentional focus correlates with the position of the referee in the field, the prevention and the discipline scale, and the general performance. The focus width associated to general performance scale is probably the best predictor

of the referee skill in choosing the best location in the field during a game. There are some differences among referee-types: the linesmen are less distracted by internal and external information, they make fewer mistakes caused by focus reduced flexibility, and they feel more able to integrate a high number of external stimuli effectively.

#### **24. The relationship between coping skills and multidimensional perfectionism In Romanian professional athletes – a correlational study**

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The present study examined the relationship between athletic coping skills and sport multidimensional perfectionism in Romanian professional athletes. Multidimensional perfectionism is considered to be an enduring personality construct while coping skills are learnt mental skills. Both of these two dimensions measured in this study play a very important role in achieving high performance in sports. The subjects of the study were 71 Romanian professional athletes, age between 14-28 years ( $M = 17,01$ ) practicing different sports, mostly team sport (90%) such as football and handball. The subjects were practicing their sport for an average of 6.99 years. The questionnaires used in this study were Athletic Coping Skills, ACSI-28, (Smith, Schutz, Smoll and Ptacek, 1995) and Sport Multidimensional Perfectionism Scale (SMPS) (Dunn et al., 2002) both of them adapted by the authors for the Romanian population. results show a significant but weak negative correlation of  $-.41$  ( $p = .01$ ) between Concern over Mistakes (COM) as an enduring personality trait measured by SMPS and Freedom of Worry as a coping skill measured by ACSI-28. Likewise results indicate a significant but weak negative correlation of  $-.31$  ( $p = .01$ ) between Perceived Coach Pressure an SMPS scale and Coachability an ACSI-28 scale. Further investigation is needed to determine the strengths of the relationship between the scales of these two sport specific instruments and the importance they have in achieving high performance.

#### **25. A post master program for applied sport psychology in the Netherlands**

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In 2004 the Dutch sport psychology federation (VSPN) initiated a path towards professionalisation of applied work, research, and teaching in sport psychology in the Netherlands. Most importantly, an accreditation system was formulated and accepted by the members of the federation with the aim to improve the field of sport psychology, provide more clarity, and make sport psychological services more recognizable and uniform among sport psychologists. At the VU-University, Amsterdam, we are currently developing a professional master program in applied sport psychology to meet the accreditation demands of the VSPN. The development of the program consisted of a feasibility study for the program, assessment of the professional market for sport psychology services, the development of a curriculum, planning of the courses and recruitment of teachers and students. The results of the feasibility study and assessment of career prospects for sport psychologists led to further development of the post master program for applied sport psychology. The first professional master course in sport psychology is scheduled to start in September 2007. The curriculum involves topics such as social interaction and team guidance, basic mental training interventions, and sports knowledge, as well as applied work. For the applied skills students will work with a supervisor on seven different cases involving athletes, coaches and/or teams. For this part of the curriculum an extensive cooperation with the Dutch Olympic network and with accredited sport psychologists will be set up.

#### **26. The influence of self-efficacy manipulation on affective response during a handgrip endurance task**

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The purpose of this study was to assess the influence of self-efficacy on task-related affect during a physically demanding task. A repeated measures experimental design with participants ( $n = 72$ ) randomly assigned to one of three groups; (a) high-efficacy (HE); (b) low-efficacy (LE), or (c) control group was employed. Efficacy expectations were manipulated via false performance feedback. Before and after the manipulation, participants completed a sustained isometric handgrip task to fatigue. The Feeling Scale (Rejeski, Best, Griffith, & Kenney, 1987) was used to assess in-task affect at 15 second intervals during the handgrip task. Pre- and post-manipulation self-efficacy measures indicated successful manipulation outcome. Results revealed a significant time (15 sec intervals) by trial (pre- and post-manipulation) by group interaction effect for affect ( $p < .01$ ), with the HE group showing more positive affect than the LE or control group following the manipulation. These

results suggest that self-efficacy can positively influence affective responses to physical exertion. These findings further emphasize the roles of self-efficacy and affect in the motivation for and adherence to exercise.

### **27. AASP and FEPSAC, two different organizations for two different continents**

Alessandro Quartiroli

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Since the conception of the field of sport psychology, Europe and the United States have looked at this field from different points of view. Many changes in its practice and in how it is studied in both continents have emerged. Currently, the discrepancy between Europe and the US is not characterized by two opposite visions of sport psychology, but by the presence of different structures and organizations of sport psychology in the two continents. While in the US it is possible to find a common structure and organization in the field of sport psychology, through the AASP (former AAASP), in Europe it is still represented through a variety of different structures and organizations. This variety is due to the many different factors: cultural, linguistic, legislative, educational and professional. To overcome this problem FEPSAC is trying to offer a common structure of sport psychology that could unify the field of sport psychology in Europe. This process covers two fundamental aspects of sport psychology, the educational and operative sides of sport psychology. The first goal of this paper is to analyze the main differences existing between European countries, in the field of sport psychology. The second goal deals with identifying and defining the differences and similarities, strengths and weaknesses, present between FEPSAC and AASP. The second goal is to highlight how FEPSAC could consider a sort of "europeanization" of this field of practice, research, and study. The final goal is to try to outline potential changes that could create a better arrangement for both organizations.

### **28. Does role ambiguity influence athletes' perceptions of coach competency?**

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*\*Laboratoire Sport et Environnement Social (EA 3742), Université Joseph Fourier, UFR APS*

The purpose of this study was to examine the direction of the effect between role ambiguity and coach competency in interdependent team sports. In the sport domain, role ambiguity and coach competency have been recently conceptualized as multidimensional constructs. Indeed, Beauchamp et al. (2002) described four manifestations of role ambiguity (i.e., scope of responsibilities, role behavior, role evaluation, and consequences of failing to carry out role responsibilities) that may arise in offensive and/or defensive contexts. Moreover, Myers et al. (2006) posited that coach competency comprises four factors (i.e., motivation competence, game strategy competence, technique competence, and character building competence). A total of 91 players ( $M = 23.08$ ;  $SD = 4.02$ ) completed the Role Ambiguity Scale (Beauchamp et al., 2002; higher scores reflecting lower ambiguity) and the Coach Competency Scale (Myers et al., 2006) at two time periods during the competitive season (i.e., mid-season and late season). Relationships were examined across time at an individual level. Regression analyses including the autoregressive influence indicated that role evaluation in offense positively predicted variance in perception of motivation competence and character building competency after controlling for their respective mid-season scores. Findings also supported that, consequences of failing to carry out role responsibilities in defense positively predicted variance in perception of game strategy competence and technique competency after controlling for their respective mid-season scores. Generally, the results underlined that athletes' perceptions of role ambiguity influenced their perceptions of their coach competency. Theoretical and practical implications related to the role episode model (Kahn et al., 1964) are discussed.

### **29. Cohesion or collective efficacy: What should be the focus of elite female handball team coaches?**

Heuzé, J.P.\* & Bosselut, G.

*\*Laboratoire Sport et Environnement Social (EA 3742), Université Joseph Fourier, UFR APS*

The purpose of this study was to examine the direction of the effect between cohesion and collective efficacy in elite female handball teams. In the sport domain, cohesion has been conceptualized as a multidimensional construct (Carron et al., 1985) with four manifestations: individual attraction to the group-task; individual attraction to the group-social; group integration-task; group integration-social. The construct of collective efficacy refers to shared beliefs that involve perceived competence in coordinated group activities, consideration of collective resources available within the group, and reflect situational or behavioral group task specificity (Zaccaro et al., 1995). The sample consisted of 84 French-speaking handball women from seven teams involved in the Division 1 championship (i.e., highest level of play in France). The participants completed

the Questionnaire d'Ambiance du Groupe (Heuzé & Fontayne, 2002) and a collective efficacy measure for handball specifically developed for this study at two time periods during the competitive season (i.e., early and mid-season). Relationships were examined across time at an individual level after statistically controlling for previous group performance (i.e., each team's total winning percentage for the games played in their regular competitive schedule). Regression analyses including the autoregressive influence indicated that early season collective efficacy positively predicted variance in mid-season individual attractions to the group-task (ATG-T) after controlling for early season ATG-T scores. In elite female handball teams, findings only support collective efficacy as an antecedent of task cohesion and suggest that coaches should promote strategies dedicated to foster athletes' beliefs about their team efficacy.

### **30. Social support & intervention preferences of high level academy football players**

Simon Kawycz\* & Moira Lafferty

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The aim of this study was to explore the social support and intervention preferences of athletes when faced with three possible sport performance problem scenarios: midseason slump, optimal performance desire and returning from injury. Eighty male academy football players (age range 16-19 years) from English national league clubs consented to participate in the study. Participants completed an adapted version of the Athletic Preference Questionnaire (Maniar et al., 2001) which explores athletes' perceptions of social support provision and coping strategies when faced with three performance problem scenarios. Between scenario differences were assessed using ANOVAs with follow up post-hoc tests. Statistical significance was set at  $p < 0.05$ . Within subject repeated measures ANOVA indicated a significant difference for support preferences by scenario  $F_{(2,79)} = 8.485, p < 0.05$  and intervention preferences. Post-hoc analysis indicated that for all three sport performance problem scenarios the support options of trainer, coach, friend and family member were rated significantly higher than other options as a support preference. Academy level athletes need to have access to a strong support network if faced with performance related problems. Social ties and relationship formation are perceived as a key coping strategy. Therefore identifying the need to establish the availability of a support network and the appropriateness of the relationships within. Intervention preferences were for the psychological skill of goal setting followed by relaxation techniques for all three scenarios. Identifying possible implications for the development of educational interventions that could help an athlete when faced with different performance problem scenarios.

### **31. Australian rules football: Making the transition to senior-level umpiring.**

Andrew Dunhill\* & Harriet Speed

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The experiences of Australian Rules football field-umpires during their first-year of officiating at senior (open-age) level was investigated to identify issues that make the transition to senior-level umpiring difficult and to identify factors that can potentially influence the quality of the transition. A total of eleven field-umpires from four different metropolitan football leagues in Melbourne, Australia responded to pre-season and post-season questionnaires. Four of these umpires also participated in semi-structured interviews that were conducted at the beginning and the end of the football season. Analysis of the quantitative and qualitative data suggested that the most difficult aspects of making the transition to senior-level umpiring related to the increase in physical demands, the additional pressure on decision making, the increase in the levels of verbal abuse, the adjustment to working with new officiating partners, and dealing with self-doubt. Umpires indicated that support from fellow officials and advisors were particularly important in helping them to overcome transitional problems. The use of cognitive coping strategies also appeared to be a significant factor in helping umpires to make a successful transition. Younger umpires who had not played football at senior level generally held a different perspective on officiating and experienced different transitional problems to older umpires who had played a significant amount of senior football. This transition of Australian Rules football umpires to a higher level of competition arguably represents a typical within-career transition for sports officials. Having a better understanding of the factors that can influence the quality of significant within-career transitions is likely to help to improve the retention of sports officials in the longer term.



**32. Coping and values : A cultural approach of stress in professional basketball**

Paty Emmanuel

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This paper comes to light a comprehensive theoretical and empirical work using social, cognitive and intercultural psychology. The aim of the research was to explore links between coping and values. Stress process models don't really consider relationships between coping and values; lacking of cultural considerations. Another over-all goal was to make stress, culture and their relationships in professional basketball clear. Theoretical frameworks refer to Berry's acculturation models (1997), Lazarus & Folkman's stress theory (1984, 2001) and Schwartz's values constructs (1992). Studies combine qualitative and quantitative approaches in cross-cultural sport psychology. 103 professional players and coaches (30,28) participated to four studies, conducted using a fieldwork non participant observation, interviews and questionnaires (MCOPE revised, Schwartz Value Survey, analogical scale). Results first underlined the existence of a particular basketball culture (made of subcultures opposing/combining aestheticism, business/"beau-jeu", heightened duel...). Then, contrast, categorisation, generalization and stereotypes processes were identified, also as subcultures' articulation mediators. Stress, coping and values strongly appeared culturally tintured and manipulated by professional coaches and players. Analysis indicated national differences in values and coping, acculturation strategies concerning foreigner players, identified groups of players sharing similar values without nationality and others discriminations. Results pointed out collective coping according team membership and a cultural assumed function of coping. Finally, significant correlations between values and coping were lightened (ex. conformity/tradition and religious strategies, benevolence/universalism and wishful thinking), different implication of terminal/instrumental values in stress response is hypothesized. Stress models and sport psychology can be improved in (inter)cultural ways regarding this explorative research.

**33. Psychological training in progressive muscular relaxation: Effects on anxiety levels and heart rate variability (HRV)**

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*\*Universitat Autònoma de Barcelona, Catalunya, Spain*

Muscular Progressive Relaxation Training (MPRT) is one of the widest used techniques in sport psychology to control anxiety. Heart Rate Variability (HRV) is considered an indicator of autonomic influence on the cardiovascular function and is related with fitness and athletic performance. Previous studies have shown that the states of relaxation are associated with increased HRV and lower perceived anxiety. The aim of this study is to explore the effects of the MPRT on perceived anxiety levels and HRV analysis parameters. Twelve volunteers practised an audio-taped 2-week MPRT programme and came to the laboratory twice coinciding with the first and last sessions of the MPRT programme. HRV at rest and perceived anxiety data were collected immediately before and after MPRT practice. The state anxiety was measured with the State-Trait Anxiety Inventory (STAI-S) and a 0-10 rating scale. HRV data were registered for 9 minutes using the Polar S-810i telemetry system and the last 5-minute segment was analysed with HRV Analysis Software (Biomedical Signal Analysis Group, University of Kuopio, Finland). Time domain and spectral measures of HRV were obtained. The results of this study show changes in perceived anxiety and HRV after the relaxation training. As happened in similar studies, there is inter-individual variation in the HRV response to relaxation. HRV analysis seems to be a promising non-invasive technique to assess the changes of ANS influence in cardiovascular function due to relaxation. The use of both cognitive and physiological assessment of the effect of MPRT is recommended.

**34. Performance-emotion dynamics during an event in competition**

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The aim of this exploratory study was to identify an artistic gymnast's emotional state across three different performances (good, average, poor) of the same exercise during competition. Specifically the study was intended to investigate the effects of emotions upon performance and the effects of performance upon emotions. This study was conducted within the theoretical framework of the Individual Zones of Optimal Functioning (IZOF) model. The participant was a 18-year-old female gymnast who competed in national competitions. An individualised list containing her emotional adjectives, previously identified adopting the recall method, was prepared. A Borg CR-10 scale (from 0 = nothing at all, to # = maximal possible) was adopted.

The gymnast had to recall three performances (good, average, poor) of the same exercise in competition. The video recording of these performances facilitated this task. She had to choose one or more descriptors from the list, representing how she felt immediately before and immediately after each technical element. Then she was asked to: 1) score in intensity each emotion and each level of arousal perceived; 2) specify the functional effect and the intensity of each emotion; 3) specify the hedonic tone and the intensity of each emotion. After recalling each single technical element, the gymnast was required to evaluate retrospectively her performance just concluded. Descriptive data showed different emotional approaches of the gymnast in facing performance demands. Determined (2), focused (3), happy (2), motivated (3), nervous (1) were the emotions elicited in good performance. Agitated (1), determined (1), fearful (3), focused (1), nervous (2), panic (1), uncertain (2), unconfident (2), worried (2) were the emotions elicited in poor performance. Agitated (1), confident (2), determined (4), focused (1), nervous (1), uncertain (4), unsatisfied (1) were the emotions elicited in average performance. Adopting this procedure the sport psychologist would be able to implement interventions helping athletes to find effective strategies to maintain, achieve or recover his/her optimal condition to deal with competition demands.

### **35. Heart Rate Variability (HRV) and competition stress in swimmers**

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Our aim is to analyze the influence of competition stress on the psycho-physiological state of a group of swimmers, by relating precompetitive state anxiety with heart rate variability (HRV). This will allow us to configure an individual profile which includes physiological, psychological and performance aspects. 10 master swimmers (6 women, 4 men) completed the CSAI-2 inventory, its HRV was registered by means of the Polar S810i telemetry system and time in 50 meters test was measured in order to compare training with competition sessions. Results show that competitive anxiety increased in competition, while HRV parameters related with parasympathetic activity (RMSSD, HF%, HFms<sup>2</sup>, HFnu, SD1) decreased ( $p < .05$ ). HRV parameters related with sympathetic activity (LF/HF) increased in competition ( $p < .01$ ). Performance significantly enhanced in competition in comparison with training ( $p < .05$ ). Individual analysis allowed us to obtain an individual profile for each swimmer. An enhancement in performance was found in those cases in which precompetitive somatic anxiety coincided with an increase in LF/HF parameter. To conclude, HRV analysis allows us to analyze objectively the relation between competitive stress and the autonomous nervous system activity. Thus, it can be used as a quick and non-invasive technique which is related with cognitive measurements of somatic anxiety and with performance. Its utility to determine individual levels of optimal performance is proposed.

### **36. Exploring a modified conceptualisation of imagery direction and golf putting performance**

Richard Ramsey\*, Jennifer Cumming, & Martin Gareth Edwards

*\*The University of Birmingham, UK*

This study investigated a modified conceptualisation of imagery direction and its subsequent effects on golf putting performance. A progression in the directional imagery literature was made by eliminating the need for participants to *intentionally* create persuasively harmful images as this rarely occurs, if at all, in the sporting domain. Thus, we explored a more ecologically valid conceptualisation of debilitating imagery and measured the effects on sports performance (golf putting). Seventy five participants were randomly allocated to one of three conditions: (a) facilitative imagery, (b) suppressive imagery (debilitative), or (c) no-imagery control. After performing imagery, the facilitative imagery group successfully putted significantly more golf balls than the suppressive imagery group. This finding suggests that a non-persuasive conceptualisation of debilitating imagery can result in disparate effects on performance compared to facilitative imagery. In doing so, this adds ecological strength to the imagery direction literature by suggesting debilitating imagery need not be persuasive to influence motor skill performance.

### **37. Identifying individual voices within applied group work – The application of q-sort technique**

Moira E. Lafferty

*University of Chester, United Kingdom*

A problem faced by many applied practitioners in group settings is how to gain an understanding of the individual within the group and how to identify within group sub-populations; one method, which may be useful, is q-methodology. Developed by Stephenson (1967) the q-sort technique inverts R-methodology and allows the identification of individual views and not merely group similarities. Building on previous work this

study uses q-methodology to explore a group of junior dressage rider's thoughts and feelings regarding factors influencing performance. Twenty-one junior dressage riders consented to participate in the study. Using standard q-sort protocol each rider rank ordered 40 statements relating to factors affecting performance using a fixed quasi-normal distribution (anchors -5 to +5). Sorts were entered into the PQ-Method statistical analysis programme. Principal component analysis with varimax rotation identified 4 distinct factors (eigenvalues > 1) that together explained 74% of the total variance. Interpretive analysis of these factors indicated sub-groups who differed on level of focus, confidence, worry, and enjoyment. Q-sorting allowed the emergence of four sub-groups from within the sample population who held differing views on factors influencing their performance. Analysis of group composition with respect to performance level indicates that worry thoughts move from an external to internal perspective as performance level increases, whilst enjoyment is a defining characteristic only at the lowest performance level. These results along with the advantages and disadvantages of the technique for the applied practitioner form the key discussion points within the paper.

### **38. The effect of exterior appearance of athletes in the sport of Rhythmic Gymnastics**

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In the 40 years of competition presence of rhythmic gymnastics in the world championships and in the Olympic games, have been observed important changes in the exterior appearance of the athletes. The aim of this study is to examine the opinions of internal environment (coaches, athletes, etc.) and external (spectators, journalists, etc.) with regard to the effect of exterior appearance (costume, hair-style, make-up) to the regulations, the spectacular, aesthetics, the religious particularities, the femininity and the tendencies of fashion, in the sport of rhythmic gymnastics. In this study 299 individual from around the world, representing different social groups (journalists, coaches, parents, gymnasts, etc.) responded to a questionnaire of closed questions during an international championship. According to the opinions asked, the majority supports that the exterior appearance has positive effect in the number of attendance of spectators and in the evaluation of programs, although this should be accorded by rules. Moreover, despite the costume should not correspond exclusively to the rules of fashion, it should mainly serve the aesthetic and less the facilitation of technique of movements. Finally, the overwhelming majority questioned, supports that the costume should promote also the femininity of the athletes.

### **39. Group dynamics: An application in sport context**

Eva María García Quinteiro\*, Graciela Lois Río, & Amparo Pozo Calvo

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The groups exist in multitude of fields and each one has an own dynamics that is developed and evolved without intervention but can be manipulated to obtain the objectives previously determined. The sport context in itself constitutes a facilitator atmosphere for the use of group techniques since its playful character cause that the athletes carry out new roles obtaining new identifications and new forms of interpersonal interaction. In this way, this work presents three different practice experiences with specific goals: the cohesion in a football indoor team, an experience to improve different psychological variables from ball room dancers who participate in training camps, and finally, a study to reduce stress in football players. We consider the difficulties and benefits of this methodology of work, that in no case constitute an aim in itself, but that the techniques of dynamic of groups are the means through as learnings are originated to modify certain behaviors and to promote certain emotions in each member of the group.

### **40. Perceived stressors in elite international rugby union age group players**

Richard Mullen\*, Lynne Evans, & Darren Edwards

*\*Brunel University, UK*

The ability to cope with competitive stress is an integral part of elite sport performance. The purpose of this study was to extend current research investigating organizational stress in elite sport and examine players' perceptions of sources of stress prior to and during a rugby union under 19 world cup tournament. Six players were interviewed to establish potential sources of stress during their preparation for the tournament and the tournament itself. Data were obtained using semi-structured interviews. The data were content analyzed using a combination of deductive and inductive procedures. Initially, the data were organized according to the

four categories identified by Woodman and Hardy (2001): environmental issues, personal issues, team issues, and leadership issues. Within the environmental category, the findings related to the preparatory training environment in the UK and the competitive tournament environment in South Africa. The main stressors that emerged in the UK were demographics of training facility, training atmosphere, and tournament selection. At the tournament itself, the environmental stressors that emerged were tournament intensity, team atmosphere, training logistics, travel, and selection. Injury and sickness, goals and expectations, and team-mates and family emerged as personal issues. The key team issues were team spirit, roles, support network and communication. Finally, the main leadership issues were coaches and coaching styles. The implications of these findings for researchers, athletes, coaches, and sport psychologists are discussed.

#### **41. Anxiety symptom interpretation in high anxious, defensive high anxious, low anxious, and repressor athletes**

Richard Mullen\*, Andrew Lane, & Sheldon Hanton

*\*Brunel University, UK*

This study examined the intensity and direction of the competitive state anxiety response of student athletes with different coping styles. Using tertiary splits, 249 student athletes were assigned to one of four coping style groups on the basis of their scores on the Marlowe Crowne Social Desirability Scale and the Sport Anxiety Scale: repressor (high defensiveness – low trait anxiety;  $n = 38$ ), low anxious (low defensiveness – low trait anxiety;  $n = 27$ ), high anxious (low defensiveness – high trait anxiety;  $n = 41$ ), and defensive high anxious (high defensiveness – high trait anxiety;  $n = 31$ ). The athletes then completed the modified Competitive State Anxiety Inventory-2 after listening to an imagery-based relaxation script designed to induce competitive state anxiety. Separate Multivariate Analyses of Variance ( $2 \times 2$ ; Defensiveness  $\times$  Trait Anxiety) were conducted on the intensity and direction subscales. Both analyses revealed a significant main effect for Trait Anxiety. Univariate follow up analyses of variance showed that low trait anxious athletes reported lower intensities of cognitive and somatic state anxiety and higher self-confidence and interpreted these intensities as more facilitative than high trait anxious athletes. The results do not support previous research which has suggested that repressors would interpret anxiety symptoms as more facilitative compared to high anxious, low anxious, and defensive high anxious athletes.

#### **42. “A system theory perspective on goal setting, an explorative case study with elite soccer players towards expanding development and performance”**

Christian Engell\* & Carsten Hvid Larsen

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“A system theory perspective on goal setting: an explorative and heuristic 2 year case study, with elite soccer players, towards expanding development and performance” A new and different approach towards the understanding of goal setting as a mediator of development, learning and performance will be presented – an understanding that is oriented towards what system theory thinking can offer in changing from a linear causal view on goal setting to circular process view. The system theory is used to enlarge the traditional goal setting theory (Locke & Latham 1990) with the use of domain- (Matuana & Varela), system- (Luhmann 2001) and learning theory (Qvortrup 2004). While traditional conceptions of goal setting are often based on process, outcome and performance goals this study shift focus towards working within learning/knowledge and performance as the mainframes of goals. Using deconstruction of systems, through concepts as levels of distinction (1. - 2.- and 3.) and differentiation of awareness in domains (psychological, social, technical, tactical and physical), the study examines how the reflective side of learning/knowledge can be connected and contained together with the tacit dimension in the goal setting process. This resulting in increased qualifications, competences and creativity used in training and competition.

#### **43. Personality and performance during competition**

Tatiana Iancheva

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Performance of the athletes during competition is a complex phenomenon. Its efficacy depends on the influence of a range of factors. They interact between them and determine in their unity the efficacy of athlete's activities and behavior. Most of the studies in the field of sport psychology focus on revealing the factors and conditions influencing the performance. Little is said though about the specific influence of the sport result (victory or

loss) on the self-efficacy and the level of activity and performance of the sportsmen during competition. The aim of the present study was to examine and assess the influence of generalized expectancies as mediating personal activity, and of sport result (victory or loss), as a consequence of that personal activity, on sport performance of athletes with different level of sport qualification and practicing different sports. 181 athletes (ages 15-25) took part in the present study. The following psychological methods were used: 1) Methodology for Self-efficacy research in sport (T. Iancheva, Tzv. Misheva-Aleksova, 2005); 2) Methodology for locus of control research (A. Velichkov, et al., 1986); 3) Method for measurement of generalized expectancies for outcome valance (optimism and negative expectations) (A. Velichkov, et al., 1999); 4) Scale for assessment of the attitude towards victory and loss (T. Iancheva, 2005). We present the results and established correlations among the studied psychological parameters and focus on the specifics in different sports and among athletes with different level of qualification.

#### **44. The impact of anxiety on visual attention in climbing**

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We investigated the impact of anxiety on visual attention and movement behaviour during the execution of a complex perceptual-motor task. Two identical traverses (i.e., horizontal climbing routes) at different heights on a climbing wall provided different anxiety conditions. Twelve participants climbed both traverses in random order. A collection of process (movement- and visual search) variables were analyzed in order to test theoretical predictions that were based on models of attentional narrowing and distraction. Anxiety was found to increase climbing times, which was reflected in more and slower movements. These changes in movement behaviour were accompanied by more and longer fixations on (task-relevant) handholds. The results indicate that the changes in gaze behaviour almost exclusively involved task-relevant rather than task-irrelevant gaze locations suggesting that participants were not more (externally) distracted under anxiety. Whether attentional narrowing occurred cannot be unambiguously determined. Further analyses are currently being executed.

#### **45. Couple self-efficacy in dual sports**

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Dual sports represent a third sport category that include several disciplines. This third sport category is different both from group sports, both from individual sports. Although there are not so many specific literature references dealing with dual sports, certainly they include a large number of disciplines, practiced at a recreational or professional levels from couples of athletes homogenous or heterogeneous for gender. The purpose of this study was to present the couple self-efficacy as an innovative field of research in the domain of dual sports. Consistently with Bandura, several researches have been conducted in the field of family psychology to deepen the knowledge of perceived couple self-efficacy, defined as the couple's beliefs in their capabilities to mobilize motivation, cognitive resources and courses of action needed to exercise control over environmental demands. Our contribution focused the attention on couple self-efficacy and apply it to the domain of dual sports. A literature review is proposed to define the concept of couple self-efficacy and related studies. From this study important suggestions came out supplying information to develop the knowledge of the concept of couple self-efficacy in dual sports, useful to support researches and interventions in this field.

#### **46. Antecedents of sports performance**

Alkistis Olympiou

*University of Leeds, UK*

The aim of the study was to examine the contribution of individual differences and social environment on the fulfillment of autonomy, competence and relatedness and in turn perceived sport performance. Participants (N = 239 males, 167 females) from a variety of team sports completed questionnaires measuring motivational climate, goal orientations, autonomy, competence, relatedness and subjective performance in terms of flow, plan and tactics. No zero-order correlations were found between ego orientations and ego climate and performance, whereas moderate correlations were shown between the three needs and the three facets of performance. Canonical correlations showed that only task climate and task orientations contributed to the multivariate relationship with the three needs and the three indicators of performance. Results from structural equation modeling revealed that task and ego climate were stronger predictors of performance directly and indirectly through the satisfaction of the three needs than task and ego orientations. The need for

autonomy was perceived by the athletes as a better predictor of performance than the needs for competence and relatedness. Results partially support previous research and the main tenets of the two theories. Coaches should pay extra attention when developing the motivational climate in the team. Although an emphasis on ego-involving climate can enhance feelings of and satisfy the need for competence, it can negatively affect the needs for autonomy and relatedness. Weighting correctly the balance on goal involvement and fulfillment of psychological needs performance enhancement can be materialised.

#### **47. Assessment of the personality profile of elite Spanish soccer referees**

Itziar Alonso-Arbiol\*, Kepa Diez, Francesc Falco, & Manuel Lopez

*\*University of The Basque Country, Spain*

The role of the referee is fundamental in sport competitions, especially in football, where officials' decisions have a big impact in all parties implicated in the sport. Although the sport is the same, the style of playing football and the way players behave in the pitch vary across different countries. For example, football players in Spain (Liga de Fútbol Profesional; LFP) complain more often to the referee than in England (Premiere League), which may require a different attitude from Spanish referees. Thus, the aim of this study was twofold: a) to explore the personality profile of Spanish referees, and b) to compare it with the personality profile of referees from other countries. The sample was composed of 241 Spanish officials (59 were referees of the First Division of the Spanish LFP and 182 were the top referees of the Third Division). A profile was extracted from the mean and standard deviations for all 16 dimensions of the Spanish version of the Cattell's 16PF Personality self-report. Differences in personality between Spanish elite referees and other FIFA referees were analysed through the comparison of mean differences for each dimension, using Mann-Whitney's *U* analyses, as well as eta squared for the calculation of effect size. Besides, possible differences in personality among referees due to the refereeing level were analysed through the comparison of mean differences for each dimension, using *t*-test analyses, as well as Cohen's *d* for the calculation of effect size.

#### **48. Assessing the personality profile of elite soccer officials: The referees of 2006 FIFA World Cup**

Itziar Alonso-Arbiol\*, Kepa Diez, Francesc Falco, & Manuel Lopez

*\*University of The Basque Country, Spain*

The role of the referee is fundamental in sport competitions; in the case of football officials get as much attention as players and teams themselves due to the importance of their decisions, which sometimes turned out to be crucial. The FIFA World Cup is one of the biggest world sport event, having the highest number of people around it following the matches at the stadiums or watching them by TV. Even though the skills of the selected referees for that kind of competitions are clearly outstanding, officials' some personality traits could lead to some quick decisions or to declarations to media that can make a difference in players' or followers' perceptions and, therefore, have an impact on the match. For that reason, it becomes of great interest to know which the personality traits of those elite referees are, exploring the differences between those who were selected again for the next stage of the competition and those who only officiated in the first stage of it. The sample was composed of the 44 referees selected for the 2006 FIFA World Cup hosted in Germany, even though only 22 of them finally officiated football matches. A profile was extracted from the mean and standard deviations for all 16 dimensions of the Cattell's 16PF Personality self-report. Possible differences in personality among referees were analysed through the comparison of mean differences for each dimension, using Mann-Whitney's *U*-tests as well as eta squared for the calculation of effect size.

#### **49. Personality character peculiarities of students, athletes who have chosen to study different kinds of sports**

Galinda Goriniene

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In the training of sports pedagogues and coaches at the university type school it is important to know the peculiarities of their psyche depending on the type of higher nervous activity personality characteristic. In the present study we have analysed and estimated the processes of higher nervous activity (extraversion, introversion, emotional liability) of students of Sport Education faculty of the Lithuanian Academy of Physical Education (LAPE) when students were in the 1<sup>st</sup> year and the 4<sup>th</sup> year of their Bachelor's studies according to the kind of sports chosen as the major subject of study. Participants were 100 students (42 boys and 58 girls) studying at Sport Education faculty of the LAPE. The majority of participants had chosen as major subject basketball (18 %), track-and-field athletics (13%), football (12%), handball (10%), baseball and swimming

(7%), tennis (5%); other kinds of sports (rowing, fencing, volleyball, wrestling, etc.) had been chosen by 3-4% of the participants. The result of the study in the personality character peculiarities showed that extraverts dominated (68.32%), introverts (31.68%) and those with emotional liability amounted to 65.29% among the students studied. Extraversion was more typical for 4<sup>th</sup> – year students, as well as 1<sup>st</sup> and 4<sup>th</sup> – year male students. Introversion manifests itself more markedly among 1<sup>st</sup> year students. Emotional liability was more markedly expressed in extraverts groups (4<sup>th</sup>-years students, 1<sup>st</sup> and 4<sup>th</sup> – year boy students) according to major subject extraverts distributed as follows: basketball (74%), football (81%) and track-and-field athletics (68%). Emotional liability was also characteristic of extraverts majoring in these kinds of sports.

### **50. Relationship between optimal level of arousal that deals with A and B type athletes' Performance**

Ali Keyani

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The present of this study examined the relationship between optimal level of arousal that deals with A and B type athletes' Performance. The participants were 90 expert male karate athletes (mean age 20) of Kurdistan University as research samples. The samples completed PNA77 and Bern Reuter's personality type questionnaires: The PNA77 questionnaire was used to gather the data of athletes' emotions and their emotional intensities. Data analysis showed significant difference in perceived helpfully positive emotional intensities between optimal and poor functioning in both A and B type athletes. There was significant difference in negative helpfully and negative harmfully perceived emotional intensities in optimal Performance between A and B type athletes. There was not significant difference in Perceived Helpfully positive and negative harmfully positive and negative emotional intensities in the poor performances between A and B type athletes.

### **51. Title: Identity and anxiety in athletes**

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The aim of this study was to research the interconnection of an athlete's identity and his/her state and trait anxiety. There were 410 athletes included. 67.4% of them were male athletes and 30% were female athletes. The sample included athletes of different quality classes (world class, international class, national class, perspective class, youngster class and non-categorized athletes). The Athletic Identity Measurement Scale (AIMS) (Brewer, Van Raalte, & Linder, 1993) and STAI X1 and STAI X2 (Spielberger, Gorsuch, & Lushene, 1970) were applied. It was found that there is a similar interconnection between athletic identity and both types of anxiety. The highest relative impact on both the state and trait anxiety had a negative affectivity as a factor of sport identity, followed by world class categorization (in comparison to other classes). Those athletes with a higher negative affectivity and world-class athletes had higher levels of both trait and state anxiety than other categories of athletes. Male athletes had a lower state and trait anxiety. An increase of self-identity decreases the level of trait anxiety.

### **52. Multifactorial preparation of an Olympic shooter**

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This study describes the planning and monitoring of a multiple world champion Olympic athlete, who obtained quota as well as the preparation program. We managed shooter technical control as the first step in the preparation, that consisted of optoelectronic movement analyses and shooter equipment control. The athlete became greatly skilled in the area of virtual movement analysis; eventually he was able to assess his own results and monitor his state. Data showed highly good holding results as earlier. He belongs to the "holder"- type. We have decided on shifting after the equipment control that has ensured the stabilization of performance after a short period. During the spiroergometric observation we measured somatotype, antropometry, body consumption, heart circulatory and respiratory analysis, stabilometry (on also sportspecific conditions) and blood test. The physiological conditions of the athlete were high, and enabled him for a constant high performance. In the aspect of sportpsychological assessment, we used the following measurements: CPI, ACSI-28/2, CSAI-2, Szondi-test, Wartegg-test, Achievement Motivation Test, Pieron-test. According to CPI, high dominancy, ability for status management, sociability, well-being and self-strength were observed. According to ACSI-28/2, the low results in mental preparation and goal setting indicated the need for psychological skill training. The manoeuvrability by the coach well indicates the need for independency. According to CSAI-

2, like an elite athlete we found high self-confidence and low cognitive and somatic anxiety. Projective tests indicated some difficulties in life-management. He has rational standards, and his achievement motivation fits the elite athlete level. We founded high tasksolving speed and high attention concentration level in Pieron test. The athlete voluntarily applied for participation in the preparation program with predetermined goals: more shoots and higher level in psychoregulation in the final, as well as lower pulse rate and higher confidence in himself (not in the meaning of sel-confidence). The program aimed at the special, individual needs of the athlete. The psychoregulation were controlled by heart rate analyser. Psychoregulation is developed by mental and cognitive techniques. The general skilltraining is part of the program in the frame of development of standing stabilization with the help of balance exercises, and improvement of visual efficiency with the help of some exercises from the so called visual therapy (focus shifting, convergeny and eye-hand coordination). The study describes the preparation plan and the first phase of the acquisiton in details.

### **53. Eye movements during somersaulting**

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Somersault rotations are highly demanding regarding space orientation and coordination. Tests using the occlusion technique emphasize the relevance of the visual system herein (Davlin, Sands & Schultz, 2001). From a methodological point of view, however, they should by all means be taken with a grain of salt. Parallel to these studies, visual behaviour during movement variations in free flight of athletes of different levels should be analysed. Five experts and five novices participated in this study. All of them were asked to execute back tuck somersaults at two differing altitudes (controlled by the time of flight). Gaze direction and somersault kinematics were recorded by means of a radio-based eye-tracking system. For analytical reasons, the space around the trampoline was subdivided into 12 gaze direction categories. When analysing the visual behaviour, it becomes apparent that experts and novices make use of only 5 out of the 12 possible gaze categories with a similar spatial distribution of their fixations. Novices show distinctly shorter fixation durations and more saccades than the professionals. The eye movements of the experts can be directly and clearly linked to the phases of the somersault. It seems as if experts and novices use only a few locations around the trampoline to control their somersault rotation. Professionals, however, can optimise their information retrieval from different visual cues (e.g. depth perception and peripheral vision).

### **54. Stress coping strategies and anxiety by handball and football players**

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The main goal of the paper is an attempt to determine the level of general anxiety, sport competitive anxiety, and to indicate what stress coping strategies are employed by players varying in their performance level, age and professional experience. The research into the determination of the stress level drew on the Polish version of *State Trait Anxiety Inventory* (Wrześniewski, Sosnowski, 1996) and *The Sport Anxiety Scale – SAS* (Smith, Smoll, Schulz, 1990), and the estimate of stress coping styles on *Coping Inventory for Stressful Situations - CISS* (Ender, Parker, 1994). The participants of the research numbered altogether 60 handball and football players from the first divisions in Poland. The results of the study indicated no significant differences in the area of the examined properties of general anxiety and anxiety as a feature of sports competition. The examined players are mainly characterized by either a style of being concentrated on the task or a style concentrated on emotions that correlate with the anxiety level. The results obtained indicate that the task-oriented players cope much more positively with anxiety involved in sports competition.

### **55. “Big Five Model” of personality and technical-tactical effectiveness in judo**

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The main goal of the paper is an attempt to determine the level of technical-tactical effectiveness (as a reflection of athletes general sports level), to ascertain the level of personality characteristics in both male and female judo players as well as examining the correlation between selected psychological features and the technical and tactical effectiveness found in athletes. The Polish version of Costa and McCrae *NEO Personality Inventory* (Zawadzki Strelau, Szczepański, Śliwińska, 1998) and *Competitive judo matches observations sheets* (Adam,



1984; Adam, Smaruj, Laskowski, 2005) were applied in this research. The study is based on matches fought in a number of domestic seniors' judo tournaments as well as those recording during National Qualification Tournament and Polish Senior Judo Championships in the years 2004-2005. The research was conducted on 75 female and 95 male competitive judo athletes selected from 34 Polish judo clubs. The results show that there are the significant positive correlation between conscientiousness (male) and openness to experiences (female), negative correlation between agreeableness (male) and selected factors of technical-tactical effectiveness. Research also revealed no significant differences in elements of personality between male and female judo athletes, but revealed significant differences in neurotics and conscientiousness in male group of high and low efficacy.

#### **56. Career-development and coaching in professional sports. Stage-specific considerations and the general role of trust and unconditional appreciation**

Schweer, M.\* & Gerwinat, A.

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Coaching in Sport Psychology should be viewed as a long term relationship accompanying all stages of an athlete's career-development. Referring to Bloom et al. (1985) first findings of a survey about specific issues of professional tennis players in specific stages of career-development are presented. Furthermore, the importance of interpersonal trust between athletes, coaches and parents is presented within a differential theory of trust (Schweer, 1997). Trust and unconditional appreciation are viewed as stage-unspecific necessities in an athlete's career the development of a sound personality which is discussed by drawing implications for sport psychological coaching.

#### **57. Life Span Sports career motivation - development: phases of transition**

*Hana Válková*

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*Olomouc, Czech Republic*

Talent is potential which has to be developed, formed, cultivated. Somatotype, motor abilities/skills as well as physiological parameters are usually in the center of attention of coaches and specialists. Psychological parameters (called need for achievement, motivation) are considered as important but there is lack of information available for practical purpose. Development of motivation seems to be very sensitive phenomenon for future top level of achievement. Motivation phases (from early childhood up to period of involution) Motivation periods are alternated with typical phases of transition. The idea of motivation phases and transition period (with other terminology) was firstly presented by Puni (Puni, 1961) in sixties of last century, after that transformed with Vaněk et al. (Vaněk et al., 1983). Recently the theory is developed by Wyllemann (2005). The role of parents, teachers, coaches has to be stressed in motivation and transition phases.

#### **58. Analysis of Perception of Quality of Life of Handball and Volleyball Players: A Comparison among Genders**

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Athletes' quality of life can be harmed by factors such as injuries or excessive training, causing physical, psychological and social problems. The objective of this study was to compare the perception of quality of life among female and male players. One hundred thirty seven volleyball and handball players have participated in the study (average age  $17.30 \pm 3.06$  years). The instrument utilized was the Questionnaire of Quality of Life for Athletes (QLA) (cronbach alpha  $>.70$ ). Mann-Whitney test indicated significant difference in the favorable situations to quality of life in training environment: "coach's experience and competency" ( $p=.032$ ), "confidence in the coaching staff" ( $p=.044$ ) and "team cohesion" ( $p=.001$ ), all with higher averages in favor of women. There was also significant difference in harmful situations to quality of life at training: inadequate "training facilities" ( $p=.008$ ), "injuries" ( $p=.020$ ), "lack of sponsorship" ( $p=.020$ ) and "social relationship issues" ( $p=.023$ ), all with superior averages for men. Significant difference was not observed in any of the favorable situations to quality of life in competitive environment. However, when verifying harmful situations in competition, there was significant difference in the situation "lack of sponsorship" ( $p=.049$ ), with higher average for men. We can conclude based on the Action Theory, that the situations noticed by the women as favorable to quality of life were related to subjective and personal aspects, while the situations noticed by the men as harmful to quality of life were related to objective aspects and environment.

**59. Survey and Analysis on Present Situation of Mental Fatigue of Professional Athletes**

Gou Yu-Jiang\* &amp; Zhou Yi-Gang

*\*Physical Education College of Zhengzhou University, Henan*

The purpose of this study is to know the present situation of mental fatigue of professional athletes, draw attention to individual difference of sport mental fatigue for elite athletes, make clear the emphasis and discuss which factors are apt to bring about mental fatigue. Based on stress-response model theory for negative training and cognition-emotion stress theory, a survey of 271 professional athletes in a certain province was performed with the tool of questionnaire on mental fatigue of athletes. All data were processed with 10.0 Software for test of reliability, t-test of independence and one-factor analysis of variance. The reliability of coefficients for internal consistency and bisection in the scales used here is high and the same with reliability of the questionnaire. The findings indicate: 1) the symptoms of mental fatigue for professional athletes are apparent: 29.3% often have the feeling of fatigue and 12.6% show unwillingness for training; 2) But 40.4% of professional athletes have ever had pleasure for success, which may be an important drive to continue training; 3) emotional/ physical burnout and negative assessment are the main factors reaching significance level; 4) sex, age, enrollment years, skill levels and sport events are the important factors concerned for distinctive significance of mental fatigue; and 5) it is suggested that more attention shall be drawn on those athletes who are male, over 18 yrs of age, over six years of training, at the first skill level and in skilling events.

**60. Motivational climate in sports teams: situational vs. dispositional determinants**

Renata Barić

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The achievement theory in sports assumes that motivation is a function of dispositional characteristics of individuals and characteristics of sports environment. Environmental factors are means used by individuals to create inner, relevant motivational drives, whereas the interpersonal context of sporting activities is an important factor which influences athletes' cognitive, affective and behavioural responses. Their interaction determines motivational climate which is compounded from a sequence of factors like goals of individual athletes, evaluations and awards for their striving, and requirements regarding interpersonal relations with the rest of participants in the sports context. There are two basic paradigms of motivational climate: *Mastery* and *Performance*. It is assumed that dispositional (goal orientation) and environmental (coach's leadership behaviour) factors influence motivational climate patterns. The aim of the study was to determine associations of athletes' goal orientation and coaches' leadership behaviour with the aspects of perceived motivational climate in two sports and to investigate to which extent it is possible to predict dimensions of motivational climate from the assessments of athletes' individual goal orientation and the assessments of coach's leadership behaviour. The sample of young Croatian basketball and football players participated in the study. Hierarchical regression analysis indicates that the situational factors are more important for prediction of the mastery-oriented motivational climate than the dispositional factors, whereas quite the opposite is valid for prediction of the performance-oriented motivational climate.

**61. Enhancing motor learning in Volleyball with visualisation training based on movement modelling**

Konstantinos Velentzas\* &amp; Thomas Heinen

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When looking at the interaction of motor primary components, volleyball seems one of the most challenging sports. This is particularly demonstrated in the case of young beginners. Various texts prove that trainers or teachers are able to optimise the acquisition of motor skills by use of models or by adopting selective feedback (Zetou, Terzis, Kioumourzoglou, 2002). The purpose of this study was to determine the effects of a motor model based visualisation training on the optimisation of the overhand setting execution. Participants were 28 beginners (14 exp. group and 14 contr. group). The movement kinematics of each participant were collected in a pre- and post test. A four-week visualisation training was carried out in 8 sessions, based on the model of a professional player. To quantify the approach of the intervention, a measure to bear analogy to the kinematics of the professional player was calculated. The results verify the effectiveness of a visualisation training based on the model of an expert movement execution. The experimental group significantly approximate movement solution of the expert to a higher extent than those of the control group. In contrast to traditional investigations, the present study tested the effects of a visualisation training on the setting process. Results confirm the hypothesis that visualisation training based on movement modelling, enhances greater learning effects than traditional training.

**62. Qualitative Analysis in the Evaluation of Imagery Abilities and Use in Sport**

Anthony Watt\* &amp; Tony Morris

*\*Victoria University and Centre for Aging, Rehabilitation, Exercise and Sport, Australia*

Researchers in sport psychology have shown substantial interest in the assessment of mental imagery in relation to recreational and elite performance in sport and exercise. Individual differences in imagery characteristics are typically examined using subjective self-report tests derived from both cognitive and sport psychology. Recently, several psychometrically-sound measures have been developed that specifically emphasise movement or sport imagery skills. Additional studies have also demonstrated that the use of interviews and the content analysis of verbal reports of imagery behaviours provide valuable evidence regarding the use and processing of imagery by athletes. As an integral component in the evaluation of the Sport Imagery Ability Measure (SIAM) the imagery descriptions of a specific athlete group were qualitatively analysed. Participants comprised 33 state-level junior and senior water polo players and coaches, 19 male and 14 female ( $M = 17.91$  years). Athletes imagined a common water polo performance situation. Using concurrent verbalisation, they described their imagery and this was recorded on audio tape. This procedure was repeated with three alternative water polo scenarios. Athletes then completed the SIAM. The verbalisation was transcribed and content analysed for generational dimensions, sense modalities, and the experience of emotion. Comparison of these results with matching SIAM scores highlights the dominant characteristics of sport imagery that warrant on-going investigation. This set of findings is also considered in relation to similar research in which qualitative methodologies were used to develop frameworks to classify the key components of imagery use relevant to involvement in sport and exercise.

**63. The influence of imagery functions on flow in competition**

Koehn, S.\*, Morris, T., &amp; Watt, A. P.

*\*Centre for Ageing, Rehabilitation, Exercise and Sport (CARES), Australia*

Flow is a critical experience in sport competition. Jackson and Csikszentmihalyi (1999) proposed that imagery facilitates several antecedents of flow, such as focus on the task and clear goals. We examined the effect of cognitive and motivational imagery functions, as measured by the Sport Imagery Questionnaire (SIQ), on dispositional flow dimensions, as measured by the Dispositional Flow Scale – 2 (DFS-2), in a sample that consisted of 271 junior competition tennis players, aged between 11 and 18 years. Participants were involved in tennis competition for a mean of 4.28 years ( $SD = 1.88$ ), had a mean training intensity of 9.19 hours per week ( $SD = 5.87$ ), and competed frequently in tournaments ( $Mdn = 6-10$  per year). Stepwise multiple regression analyses showed a strong connection between cognitive imagery functions and dispositional flow, explaining 30.34% of the variance in global flow. Assessing flow subscales as criterion variables, cognitive imagery functions explained the most variance in challenge-skills balance ( $R^2 = 25.67$ ), sense of control ( $R^2 = 21.88$ ), and concentration on the task at hand ( $R^2 = 13.47$ ), whereas motivational imagery functions accounted for the most variance in autotelic experience ( $R^2 = 18.94$ ) and clear goals ( $R^2 = 18.32$ ). In conclusion, both imagery functions appear to be important for the frequent experience of flow in competition. Imagery interventions emphasising cognitive and motivational imagery functions should be designed to enhance antecedents of flow. Practical implications of this study and emerging possible future studies will be discussed.

**64. Interaction effects on flow state**

Koehn, S.\*, Morris, T., &amp; Watt, A. P.

*\*Centre for Ageing, Rehabilitation, Exercise and Sport (CARES), Australia*

The flow model (Kimiecik & Stein, 1992) proposed that interactions between personal and situational variables influence the experience of flow. Kimiecik and Stein (1992) suggested that dispositional variables, such as confidence and anxiety, interplay with situational variables, such as sport types and task characteristics. We examined the interaction between confidence and self- and externally-paced tasks on flow state. The sample consisted of 60 junior tennis players aged between 12 and 18 who had been involved in tennis for a mean of 5.83 years ( $SD = 2.65$ ) and had a mean training intensity of 7.57 ( $SD = 6.04$ ) hours per week. Participants performed a self-paced service task and an externally-paced groundstroke task on court. Flow state was measured retrospectively after the end of each task. A median split on the Trait Sport Confidence Inventory (TSCI) dichotomized the sample into groups of high and low confidence. A two-way ANOVA was carried out on flow with high and low confidence as independent group variables and self-/externally-paced tasks as repeated measures variables. The results showed a significant main effect on flow state between groups of high and low confidence,  $F(1, 58) = 6.82, p < .05, \eta^2 = .11$ . A trend towards an interaction effect was found between

confidence and task types on flow ( $\eta^2 = .04$ ). The results will be discussed with regard to practical implications and methodological issues that need to be considered in future studies testing interaction effects on flow.

### 65. Development and validation of the Coping In Competition Questionnaire

Antonis Hatzigeorgiadis\* & Stilian Chroni

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The purpose of the present investigation was to develop an instrument assessing approach and avoidance coping strategies used by athletes in competitive situations (Coping in Competition). The investigation took place in four stages. In the first stage, the applicability of coping strategies in competitive environments was assessed. Twenty four coping strategies included in sport coping inventories (M-COPE, Test Of Performance Strategies, Ways of Coping with Sport, Inventory of Coping Strategies in Competitive Sport) were listed and described, and athletes ( $n = 25$ ) assessed their applicability during competitive situations. Content analysis was conducted and nine coping strategies dimensions were identified as most applicable for competitive situations (effort, active coping, planning, thought control, self-talk, mental disengagement, behavioural disengagement, distancing, denial). In the second stage items from scales assessing the identified coping strategies were selected from respective instruments. Items were screened to remove redundant items. Thirty six items were selected to be further investigated. In the third stage the factorial structure of the preliminary instrument was examined through exploratory factor analysis ( $n = 405$ ). The analysis yielded six factors accounting for 58.93% of the total variance. The prospective instrument included 24 items assessing three approach (effort, planning, self-talk) and three avoidance coping strategies (mental disengagement, behavioural disengagement, and denial). In the final stage, the factorial validity of the instrument that emerged was tested through confirmatory factor analysis ( $n = 265$ ). The results confirmed the hypothesized factor structure, thus providing support for the factorial validity of the Coping in Competition questionnaire.

### 66. Development and validation of Sport Self-Confident Questionnaire of injured athletes

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The purpose of this study was to describe the development and validation of Sport Self-Confident Questionnaire of Injured Athletes (SSCQ-IA) after an acute sport injury. The SSCQ-IA consists of twenty-one items, representing two factors, namely the "Self-Confident due to Recovery" (SCO-R) and the "General Self-Confident" (G-SCO). For this purpose a series of three studies were conducted. In the first study interviews with athletes with a sport injury in the last year were examined. Also, thirty six expert judges (physiotherapists, sport psychologists, teachers of the Department of Physical Education and Sport Science, and M.Sc. students of athletic psychology) assessed the content validity of the new questionnaire. The aim of the second study targeted to test the factor structure of the instrument. The subjects were 186 athletes (107 men and 79 women) from different sports (e.g., soccer, basketball, handball, water-polo, judo, tennis) aged from 18 to 28 years ( $M = 19.53$ ;  $SD = 1.85$ ). The sample had an acute injury during the last year and had followed a physiotherapy program. Exploratory factor analysis indicated a marginal fit to the data (Cronbach  $\alpha$  for SCO-R factor = .96 and for G-SCO factor = .92). The purpose of the third study was to examine further the psychometric properties of the instrument. The final sample consisted of 184 athletes (138 men and 46 women) with a sport injury in the last eight months, ranging in age from 18 to 42 years ( $M = 21.22$ ;  $SD = 3.45$ ), and participating in soccer, basketball, handball, water-polo and judo. The results of confirmatory analysis indicated an acceptable fit to the data (NNFI = .90; CFI = .91; RCFI = .93; SRMR = .05; RMSEA = .11). The factors are internally consistent (Cronbach  $\alpha$  for SCO-R factor = .97 and for G-SCO factor = .93). The results provide adequate psychometric support for the instrument.

### 67. Social support, self-talk and affect

Nikos Zourbanos\*, Antonis Hatzigeorgiadis, Paul Davis, & Yannis Theodorakis

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Cognitive-behaviour theorists suggest a person's thinking influences emotional and behavioural reactions (Ellis, 1976; Meichenbaum, 1977). Zourbanos, Theodorakis and Hatzigeorgiadis (2006) provide evidence that coaches' esteem support may play an important role in mediating the relationship between general supportive behaviour and athletes' positive self-talk. Considering the importance of thoughts and their significant role in behaviour and emotions, and the relationship between social support and self-talk, it would be interesting to examine relationships relating to perceived coaching social support. More specifically, the relationships

between esteem and informational support, two types of athletes' self-talk (worry and concentration), and athletes' affect (tension and vigour). One hundred seventy four young athletes (101 males and 73 females,  $M = 14.47$ ,  $SD = 1.27$ ) representing a variety of sports participated in the study. Participants completed the Social Support Questionnaire for Sports, assessing perceptions of social support, the Automatique Self-Talk Questionnaire for Sports, measuring dimensions of athletes' self-talk, and the Affect State Inventory, evaluating affect. It was hypothesized that: (a) esteem support would negatively predict worry, which would predict tension, and (b) informational support would predict concentration related self-talk, which would predict vigour. The hypothesized relationships were tested through a structural model with latent factors. The model presented a good fit ( $NNFI = .91$ ,  $CFI = .92$ ,  $IFI = .93$ , and  $RMSEA = .05$ ). The results revealed moderate relationships between esteem support, athletes' worry (negative) and tension, and between informational support, concentration and vigour. The model explained 40% of athletes' tension variance and 20% of athletes' vigor variance. Overall, the results of the study stress the importance of coaching support and athletes' self-talk on athletes' affect.

### **68. The effect of personal goals in a service task in University level volleyball**

Haralampos Krommidas \*, Christos Mouzakidis, & Asterios Patsiaouras

*\*Department of Physical Education and Sport Sciences, University of Thessaly, Greece*

The present study was designed to examine the effect of personal goals in a service task on volleyball. For this purpose, eighty ( $n=80$ ) students (male=40, female=40) from the Department of Physical Education and Sport Science (University of Thessaly), 19 to 22 year of age ( $M=19.54$ ,  $SD=0.79$ ), voluntarily participated in an experiment. The subjects organized into two groups and performed twenty trials of a specific service task. After the tenth trial, the experimental group ( $n=40$ ) set specific, personal goals and continue their performance trying to achieve the goal. The control group ( $n=40$ ) set no goals after the tenth trial. The results showed that the performance of the experimental group was significantly better after the personal goal setting ( $F_{(1,78)}=93.63$ ,  $p<.001$ ). In addition, the control group didn't manage to enhance their performance in the last ten trials ( $F_{(1,78)}=2.57$ ,  $p>.05$ ). It seems that personal goals enhance performance in sport and exercise.

### **69. Gender differences in competitive anxiety of 13-14 Years old handball players during a tournament**

Christodoulidis, T.\*, Bebetos, E., Bakou, M., Diggelidis, N., Kouli, O., & Rokka, S.

*\*Democritus University of Thrace, Greece*

Aim of this study was the examination of the fluctuation of competitive anxiety to 13-14 years old handball players, during the Greek championship's finals. 21 handball teams from all over Greece (12 boy teams, 9 girl teams), consisting of 265 handball players (158 male, 107 female) participated in the study. The instrument used was the Competitive State Anxiety Inventory II. Totally, 41 games were recorded. The participants responded to anonymous questionnaires (with code number) 5'-15' right after the game. Exploratory factor analysis (principal components), Reliability analysis ( $\alpha$  Cronbach), and repeated measures were used. For each one of the 4 games, the factorial structure of CSAI II was found to be adequate except to one item for the factor cognitive anxiety. Somatic anxiety and self-confidence exhibited significant variation during the tournament. It was found different variation of somatic anxiety and self-confidence between boys and girls. Boys may be more competitive than girls or there were perceptual gender differences regarding the sport competition concept. In consistency with relevant research female handball players were shown to be more susceptible to stressors. First game's lower scores of the girls in self confidence and the anxiety-relevant findings may indicate insufficient preparation of female handball players for sport competition.

### **70. The effectiveness of deliberate practice in learning Volleyball skills and rules in novice athletes.**

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The aim of this study was to investigate the effect of deliberate practice (Eriksson, Krampe, & Tesch-Romer, 1993), on learning basic skills in volleyball, by comparing the knowledge and skill test scores of novice athletes following a practice period. The participants were 34 novice female athletes 13-15 years old ( $M=14.4$ ) and with training experience two years, which were randomly assigned in two practice method groups: a) deliberate practice (DP,  $N=18$ ) and b) traditional practice (TP,  $N=16$ ). They were taught and practiced in set, pass, service, attack and knowledge for 12 weeks (3X90min/per week). Participants of experimental group followed a practice procedure with emphasis in the next points: maximization of the active time of action, cooperation between

athletes, goal setting program (in every drill and in every daily practice) and especially drills which were focused in the development of the tactical thought (decision making, problem solving) in game like situations. Participants of the control group followed the traditional practice method. There were three measurement periods: pre-test, in the beginning, post-test, after 12 weeks, and retention test, one week after the post-test. Also in the beginning and in the end of this study participants received a validated 15-item multiple choice knowledge test. Analysis of variances with repeated measures (ANOVAs 2X3) was conducted to determine differences between groups and between measures. The results indicated that the two groups improve learning in volleyball skills ( $p < .05$ ), but the deliberate practice group demonstrated better performance than the control group, especially in knowledge test. In conclusion the practice session is most effective if it is focused in the knowledge and not only in the skill technique.

## POSTER SESSION 3

FRIDAY 7/9/2007

### EXERCISE PSYCHOLOGY

#### 01. The differential evolution of the decision-making processes according to the age, the degree of physical activity and the complexity of the task

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An initial analysis of the literature pointed out that aging is accompanied by a reduction in effectiveness as well as a reduction in the processes of sensory motor speed. Aging is particularly characterized by a deceleration of information processing speed (e.g. Fisk & Warr, 1996; Salthouse, 1985, 1996). Most research support that deceleration is located at the level of the central mental processes. Recent results emphasize the benefit of physical exercise on cognitive processes with aging people (Colcombe & Kramer, 2003). Furthermore, present research focuses on the evolution of the decision-making process according to the different age groups, the physical exercise and the complexity of the task. Due to this fact, the question arising is: do physical exercises allow the old sportsmen an advanced evolution regarding the level of the central processes during the decision-making process compared to sedentary persons? Moreover, we have to ask, if there is an impact of task complexity on the decision making process between younger and older people. Therefore, two questionnaires were issued to the elderly (65-75 years) – a MMSE used for the fast tracking of the cognitive deficits and a GDSE scale of geriatric depression. In order to detect the maximal oxygen consumption ( $VO_{2max}$ ), 40 young adults (20-30 years) and 40 elderly (sportsmen and sedentary, 65-75 years) take the Rockport 1 mile test. The cognitive task was carried out on the computer. Participants responded manually to different visual stimuli with corresponding finger pressures in order to assess their reaction time. They were asked to respond within the shortest time and by making as little errors as possible. The reaction time was recorded by the SR Box. The experiment was carried out with the E prime version 1.2 software from Psychology Software Tools. Results showed a significant interaction between age and sportivity on decision making ( $F_{1,72} = 12.16, p < .0008$ ). In addition, young people had shorter reaction time than adults in the complex task ( $F_{1,72} = 30.53, p < .0001$ ). The interaction between task complexity and age was not significant ( $F_{1,72} = 0.80, p = ns$ ).

#### 02. The influence of three types of exercise on emotional states of middle-aged women

Monika Guskowska

Jozef Pilsudski Academy of Physical Education, Warsaw, Poland

Exercise is recognized as a positive health behavior. The results of correlational and experimental researches support the notion that positive psychological benefits could accrue from regular exercise. The aim of the study was to establish the influence of single session of exercise (so-called acute effect) on anxiety and mood level and its differentiation according to the type of exercise (yoga, step, TBC). Three groups of women aged from 30 to 45 ( $n=25$  in each group) were investigated. Profile of Mood States (POMS) by McNair, Lorr and Droppleman and State-Trait Anxiety Inventory (STAI) by Spielberger were used. A considerable improvement of wellbeing was noted in all groups. The positive changes were most pronounced in subjects practicing yoga: all negative mood states and anxiety level decreased. The emotional benefits were the least in step group, significant decreases of confusion and tension level were observed. Mood changes were correlated to personality traits

forming Big Five Model by Costa and McCrae. A single session of relaxation, anaerobic and aerobic exercise improve significantly the mood of middle-aged women.

### **03. Social lived space through physical activities based in a traditional Brazilian art-form called capoeira: An experience in Poland**

André Luiz Teixeira Reis

*University of Brasília, UnB, Brazil*

This work explored individual and collective experience of social space through physical activities based on capoeira – a traditional Brazilian art-form that evolves self-defense, dance, acrobatics, music, musical instruments, group - and its relationship with subjective social well-being. This research was developed in Warsaw, capital of Poland. The elements of subjective social well-being were understood as beliefs, values, hopes and expectancies (Heidegger, 2000). The interaction through connectivity was defined as the main element of social well-being (Van Manen, 1990). The specific elements of capoeira, such as capoeira game, musical instruments and the group were related to the social well-being improvement. Eighty individuals participated in this study. Fifty non-structured interviews were applied in a randomized sample of these participants during a period of 3 to 5 months of regular participation in capoeira lessons. Phenomenology and hermeneutics were considered as the methodological principles (Colaizzi, 1978; Creswell, 1997). The process of analyzing, interpreting and discussion identified positive effects when relating subjective social well-being with the social space of capoeira practicing. According to “the big five tradition of groups” established by Forsyth (1996), the experience promoted sense of belonging through social and group interaction, intimacy in a cohesive work group, stability through self-improvement increasing self-esteem, adaptability in understanding that a group of committed people works together even confronting levels of differences, personal temperaments and moods, and, finally, there was transferability to the life outside the practice reflecting that Polish and Brazilian capoeira’s players crossing national and cultural boundaries could become part of the same family.

### **04. Lived experience of Capoeira – a Brazilian art-form – through Van Manen’s (1990) phenomenology of body, time, space and human relation**

André Luiz Teixeira Reis

*University of Brasília, UnB, Brazil*

This research describes experiences through specific physical activities in a group. Capoeira is a traditional Brazilian physical activity that evolves group work, self-defense, dance, acrobatics, music and musical instruments. Four elements developed by Van Manen (1990) were used for exploring the experiences: body as corporeal and mental experiences, time as the situatedness and the sense of passing time, space as the physical environment, and human relations related to the interaction with others. The phenomenology was the philosophical and methodological principle. According to Heidegger (2000), it considers that “researchers should be conscious for the hidden elements inside people’s everyday experiences” (p.123). In this qualitative study, 80 people attended regular capoeira lessons. Non-structured interviews were applied to 15 randomized participants. The results indicated lived time as significant for the experience and participants realized bad and good aspects of life, co-existing in a social setting. In this sense, participants evaluated that lived body, lived time, lived space and lived human relation brought an intrinsic balance between positive and negative elements along the practice of capoeira, as a normal consequence of living in a group, and it may offer an optimum space for coping and problem solving.

### **05. Cohesion, humour and assiduity in Fitness**

Silva C.\*, Borrego C., & Matias R.

*\*Sport Sciences School of Rio Maior, Canada*

The main goal of this study was to investigate the correlation between group cohesion, mood states, and how these two concepts relate to age and assiduity in a fitness group. Participants were all female ( $n=45$ ), from the program “Community Physical Activity”, developed in Alenquer municipality and completed the Group Environment Questionnaire (QAG) and the Profile of Mood States (POMS). Main conclusions of this study were: Individuals with High individual attraction towards the group relating to the social aspects (AIG-S) and integration in the group relating to the task (IG-T) shows higher perception of cohesion in the ages between 35 and 63 years old. The dimensions individual attraction towards the group relating to the task and Integration in the group relating to the social aspects, show no significant differences between the two age stadiums. Second, integration in the group relating to the task and relating to the social aspects reveals a perception of

cohesion higher in participants with less than 50% of assiduity to the classes. Concerning to mood states in all its dimensions (Tension, Depression, Hostility, Vigour, Fatigue and Confusion) relating to age, we found no significant statistical differences. Participants with over 75% assiduity to classes reveal, in the dimensions Depression and Hostility, higher values, meaning that these students show a higher level of Depression and Hostility. Generally, participants exhibit an “iceberg” profile. In this study there’s no significant statistic relation between group cohesion and mood states.

#### **06. Automatic Goal Activation and Enhancement of Physical Activity in a 3-Month Physical Activity Intervention for Sedentary Women**

Erin Pearson\* & Tony Morris

*\*Victoria University, Australia*

According to the Theory of Planned Behaviour (TPB; Ajzen, 1985), intention is the most proximal predictor of behaviour. In a 3-month physical activity (PA) intervention study for sedentary women (25-45 years), presented at this Congress, we found that neither intention nor perceived behavioural control made a significant contribution to the prediction of behaviour. In the theory of automatic goal activation, based on auto-motive theory, Bargh (1990) proposed that goal striving can occur without conscious intentions, if an association between a goal and a context exists in memory for an extended time. In the presence of contextual cues, goals can be activated automatically. In post-intervention focus groups with social-identity and personal intervention participants ( $n=38$ ), we investigated the potential of automatic goal activation to explain the intervention results. The features of automatic goal activation include a heightened awareness to action cues, immediate, efficient action without conscious intent, and remaining active until goal acquisition or effortful disengagement from the goal. Only the social-identity participants reported all these features. Women in social-identity conditions reported increased awareness of the importance of exercise (heightened awareness), found the process of reaching their goals less arduous than control participants (immediate, efficient action), and thought little about engaging in PA (action without conscious intention). Social-identity participants who did not reach their PA goal were either very determined to attain it (continued goal activation) or extremely challenged, questioning their social identity (effortful goal disengagement). Further research is needed on automatic goal activation in PA, but this study provides encouraging support.

#### **07. Examining the Role of Intention in the Theory of Planned Behavior**

Erin Pearson\* & Tony Morris

*\*Victoria University, Australia*

In a 3-month physical activity (PA) intervention involving sedentary women aged 25-45, we examined two social identity (SI) conditions (strong independent women,  $n=26$ , and spiritual caring women,  $n=17$ ), based on a social-identity subjective norm manipulation. In the personal identity (PI) condition ( $n=21$ ), we asked women to focus on their individuality and provided information about the importance of PA presented by health professionals. Women in all conditions completed PA questionnaires pre-intervention, 2-weeks post-intervention, and 3-months later to follow-up. In regression analyses, for the SI conditions, subjective norm was a significant predictor of behavioural intention both two weeks and three months after the intervention, whereas the best predictor of intention for the personal condition was perceived behavioural control. The regression results support the Terry and Hogg (1996) conclusion that the social factor in the TPB plays a much more important role when individuals are operating at a social level of analysis, when a social identity is salient, whereas the individual factors of attitude and behavioural control are more important at the individual level of analysis, when individual identity is salient. Contrary to the TPB, intention did not predict PA in either the PI or SI conditions, indicating that action is not guaranteed by good intentions alone. Automatic goal activation, based on auto-motive theory (Bargh, 1990) provides a potential explanation for the maintained enhancement of PA in the SI conditions, in which women were able to bypass the more effortful, intentional route in order to achieve their physical activity goals.

#### **08. A comparison of self-presentation between competitive and uncompetitive man bodybuilders and its relationship with their body dissatisfaction**

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Self presentation is a factor most important in exercise behavior that can affect the quality, quantity and duration of exercise (Martin & Leary, 2001; Hausenblas & Brewer VanRealte, 2004). According to Furnham



& Calnan (1998) body dissatisfaction of youth is increasing. The purpose of this study was to compare self-presentation between competitive and uncompetitive bodybuilders and its relationship with their body dissatisfaction. Through a stage random sampling 200 subjects were selected for the intended purposes, then the subjects were divided equally in four groups: one competitive and three uncompetitive groups (beginner, intermediate and experienced). Two instruments were used to assess self presentation and body dissatisfaction of the subjects. According to the results there were no significant differences among beginner, intermediate and experienced body builders in self presentation and body dissatisfaction. However, there was a significant difference between competitive and uncompetitive body builders in self presentation and body dissatisfaction. Also, there was a negative relationship between self presentation and body dissatisfaction of body builders. Based on the results of the study, it is recommended that in order to improve physical and emotional health of body builders, self presentational characteristics of body building clubs should be reduced.

### 09. The influence of reported exercise participation on how older adults are perceived

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Recent research (e.g., Martin & Leary, 2001; Martin, Sinden, & Fleming, 2000; Martin-Ginis, Latimer, & Jung, 2003) has indicated that reported exercise status may influence the manner in which a target person is perceived, with exercisers being perceived more positively than non-exercisers. However, Martin et al. (2000) questioned whether these interpersonal benefits of exercise would be enjoyed by older exercisers, proposing that society may hold negative views of older persons who exercise. This study therefore set out to examine whether information about an older person's exercise habits does influence the way in which they are perceived. Participants ( $n=180$ , age range 16-75,  $M= 41.33$ ) were asked to read a description of either a 65 year old man or woman who was described as either an exerciser, non-exerciser or with no exercise status information. Participants rated the target on 11 personality and 6 physical appearance dimensions. MANOVA revealed a significant main effect for target exercise status (Pillai's trace 36,316=0.47,  $F=2.63$ ,  $p<.001$ , effect size  $\eta^2=.23$ ). Non-exercisers received less favourable ratings than the exercising and/or controls for the personality dimensions of control, friendliness, laziness, kindness, happiness and sociability and for the physical appearance dimensions of attractiveness, fitness, strength, ableness and for how old they were perceived to look ( $p<.05$ ). Neither a gender main effect nor a gender x exercise status interaction effect was observed. The results suggest that there are self-presentational benefits associated with being an exerciser at an older age.

### 10. Physical self-esteem and appearance in adolescents that practise physical activity at different levels

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The importance of physical activity for individual well-being has often been underlined in literature, in particular for adolescents (e.g. Fox, 1997). This work examines within the discrepancy and domain-importance approaches (e.g. Marsh, 1986; Marsh & Hattie, 1996) the differences between adolescents that practise physical activity, respectively, in a continuous (more than 3 times a week) and non-continuous way (3 or less than 3 times a week). A sample of 397 adolescents balanced for gender and aged 14 – 16, completed the subsequent instruments concerning physical self-esteem predictors connected with appearance: 1) A modified form of the Appearance Scale of PSDQ (Marsh et al., 1994, Meleddu et al. 2002): *Appearance Discrepancy*. 2) The Global Physical Scale of PSDQ (Marsh et al., 1994, Meleddu et al. 2002): *Physical Self-Esteem*. 3) The Appearance Schemas Inventory (Cash & Labarge, 1996): *Self-Investment*, *Vulnerability*, *Stereotypes*. The effects of *Appearance Discrepancy*, *Self-Investment*, *Vulnerability* and *Stereotypes* on *Physical Self-Esteem* were examined with a multiple regression approach, on the two groups. Differences between non-continuous and continuous group seem to be connected especially with *Self-Investment*. *Self-Investment* has no effect on *Physical Self-Esteem*, in the first group, while it has a significant one on the second. For both groups, *Discrepancy* has a positive effect, *Vulnerability* affects negatively *Physical Self-Esteem*, and *Stereotypes* have no significant effect. *Self-Investment* differences support the domain-importance approach. The positive effect of physical activity on an important domain such as appearance can improve the sense of competence and bring to a more positive evaluation of one's physical-self.

### 11. Formation of subject of the activity at physical culture lesson

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Physical culture lessons are considered not only means of students' physical development but also a matter of their personal development. In the research basis, the approaches are on individual formation of personalities (Rubinstein L.S.) and the ideas of the representatives of human psychology (K.Rodgers, A. Maslow) about self-realization of a person as a main condition of its development. The solution of this problem is possible under the circumstances that the students perceive themselves as the subjects of the activity that are able to develop their possibilities. The research consisted of 2 stages. The first stage dealt with changes in the contents of Physical culture lessons programme. The second stage was devoted to working out the motivating technology of programme realization. The research was conducted on the base of a lyceum with the realisation of the innovation programme of physical training lessons for the senior school girls which was oriented towards the interests, needs and values of the youth. The main system-forming component of the programme was the preparation of collective creative sport-dance projects. The analysis of the students' attitude to the preparation and the presentation of the group sports-dance complexes allows to state that if in the experimental groups 65% of students want creative works to be included, in the control group this figure is 34%. In the experimental group there was an increase in values such as: Active life, Existence of faithful friends, Self-control, Self-confidence, Effectiveness in deeds.

### 12. Age group differences in attitudes towards exercise, perceived athletic ability, perceived physical attractiveness and participation in physical activity

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The purpose of the study was to examine age-group differences in students' attitudes and intentions towards exercise, perceived athletic ability, perceived physical attractiveness and participation in physical activity. One thousand, two hundred and three children (537 boys and 630 girls) aged 11-18 years responded on self reports which, in this study, had acceptable internal consistency. The results, showed that junior high, and senior high school children scored lower on the scales assessing attitudes and intentions towards exercise, perceived athletic ability, perceived body attractiveness and effort in physical education lesson, than elementary school children. Elementary school children had higher scores in their participation in moderate and vigorous physical activity. The results suggest that physical education lesson must create a positive climate facilitating students' attitudes and intentions towards exercise, providing more success opportunities and allowing learners to set their own goals on what is an appropriate challenge may be important.

### 13. Effects of glycaemic index of carbohydrate meals on endurance performance in healthy, untrained and trained Thai men

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We examined the effects of carbohydrate meals with different glycaemic index (GI) (high GI (HGI) and medium GI (MGI)) on endurance performance in 8 untrained (22±0.6 years) and 8 trained (19±0.2 years) healthy, Thai men. All subjects had 2 visits with either a HGI or a MGI meal 60 min before cycling exercise at 60% $\dot{V}O_{2,max}$  until exhaustion. The HGI meal consisted of raisins and Fanta (orange soft drink) and the MGI meal consisted of apple and apple juice. The amount of carbohydrate ingested in each meal was equal to 1 g/kg bodymass. Heart rate (HR) and blood pressure (BP) were recorded before and at every 10 min after the ingestion before the exercise test. Expired air was collected for 30 min immediately before and at 30 min after the ingestion for the determination of respiratory exchange ratio (RER). Our results showed that HR and BP were not significantly different in both groups but RER was higher in the HGI than in the MGI trial in both groups. In contrast, time to exhaustion was significantly longer in the MGI trial than in the HGI trial in both groups. In conclusion, pre-exercise MGI meal contributed to higher endurance performance than pre-exercise HGI meal in both untrained and trained Thai men. The results suggest that individuals who wish to perform exercise for a prolonged period may gain benefit from the MGI meal ingestion 60 min before the activity.

**14. Running after core factors**

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The main aim of the study “Super coach in National Hockey League (NHL)” was to examine how coaches with their qualities, knowledge and skills, manage their roles in National Hockey League (NHL). Seven coaches both experienced head coaches and assistant coaches who within a couple of years by sure will become head coaches were proposed from NHL. All of them agreed to join the study. Data were collected by interviews, which were transcribed and analysed following three perspectives: 1) what characterise the coaches as a group, 2) what characterises each individual coach, 3) in what way is each of the coaches capable of using the possibilities that is attributed to the position of the coach in the NHL- organisation. In the first perspective the Grounded theory was used as method. In the second perspective questions was made to each coach's narrative in order to see how the coach from his personal merits and shortcomings manage the coaching process. The purpose was to find some core factors in the managing process. In the third perspective Giddens (1984) structural theory complemented with Calanders (1999) strategically context was used in order to see how capable each coach was to strengthen his position by moving himself virtually between the concepts and pick up what was attributed to the position of the coach. The results from the first perspective are presented in a category system, from the second perspective are presented in a model for each coach and from the third perspective are presented in a short description of what each coach has picked up and how he has used it. Finally trustworthiness, accountability and generalisation of results and methods are discussed.

**15. Practical investigation of a life skills program using a part-time job as part of athletic club activities**

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The purpose of this study is to use a part-time postal service job for training in an athletic club, and to discuss the psycho-educational effects of such training from the perspective of life-span development. In study 1, an intervention program for helping students recognize the life meaning of their experiences within the athletic club was developed. In study 2, an intervention program was introduced to 18 high school baseball club members. Participants were asked to answer The Belief in Life Skills Questionnaire (Ueno, 2006) and The Experiential Time Perspective Scale (Shirai, 1994), and to narrate their past experiences before the intervention, immediately after and 6 months later. The four constructs measured in the BLSQ are Positive Thinking, Endurance, Propriety and Cooperation. The four constructs measured in the ETPS are Hopefulness, Goal-directedness, Self-fullness and Acceptance of the Past. From the results of study 2, it was found that 1) there are significant statistical differences in each investigation between the results of the pre-intervention and those of 6 months later, and 2) many students who maintained a positive change in terms of time perspective for 6 months wrote realistic stories about the life meaning of their experiences with the athletic club. Petitpas et al. (1992) claimed that athletes don't recognize that the skills they acquire through sport are often generic life skills. It appears that an awareness of life skills that they have already got leads to an acceptance of experiences of endurance, hope for the future and self-fullness.

**16. The effects of objective and subjective competence on RPE and affects under the different exercise intensity**

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The purpose of this study was to examine the effects of objective and subjective competence on RPE (rating of perceived exertion) and affects under different exercise intensity. A sample of 35 college students (mean age = 19.8 years, height = 160.6 cm, weight = 55.8 kg, VO<sub>2</sub> max = 34.7 ml/kg/min) was recruited in this study. Based on the aerobic capacity and perceived ability, subjects were categorized as high or low aerobic capacity groups and high or low perceived ability groups. All subjects were asked to ride the computerized cycle ergometer at 75% and 60% HR max (220-age) intensity at 60 rpm for 20 minutes. The work load was increased or decreased 0.1 kg/m when their heart rate deviated 3 bpm from the target. RPEs at 10 and 20 min, affects before and after exercise were assessed. Data were analyzed by two-way mixed model ANOVA. Results indicated that: (a) there were two significant main effects for the aerobic capacity and time factors under the 60% HR max intensity. RPEs at 20 min were higher than at 10 min, and low aerobic capacity group reported higher RPEs than high aerobic capacity group. (b) There was a significant intensity X perceived ability interaction on negative affects. Under the 60% HR max intensity, low perceived ability group improved more negative affects than high

perceived ability group. Low perceived ability group improved more negative affects at 60% HR max intensity than at 75% HR max intensity.

### **17. Confirmatory factor analysis of the behavioural regulation in exercise questionnaire – Portuguese Version**

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The purpose of this study was to assess the factorial validity of a Portuguese version of the Behavioural Regulation in Exercise Questionnaire-2 (BREQ-2; Markland & Tobin, 2004). The BREQ-2 is grounded in the self-determination theory conceptualization of a continuum of behavioural regulation reflecting varying degrees of autonomy for behaviour (Deci & Ryan, 1985). It comprises 19 items measuring amotivation and external, introjected, identified and intrinsic regulations for exercise on a 5 point Likert-type scale, and has been used extensively in recent research, warranting its translation to other languages. The sample comprised from 703 subjects ( $27.3 \pm 9.0y$ , 56% in maintenance stage of change, 431 women) who completed the Portuguese BREQ-2, which was created by a translation-retroversion process. Confirmatory factor analyses provided support for the tenability of the hypothesised factor structure of the Portuguese BREQ-2 (Satorra-Bentler  $\chi^2=447.84$  [142],  $p < .001$ ; RMSEA=.06; CFI=.96) and for the invariance of the factor loadings and inter-factor covariances across gender. Subscale reliabilities (Jöreskog's rho) ranged from .64 - .81. In line with the theoretical model, subscale intercorrelations conformed to a simplex-like pattern. The results indicate that the factorial validity and reliability of Portuguese BREQ-2 is acceptable, suggesting that it may be useful to enhance our understanding for exercise motivation from the perspective of self-determination theory.

### **18. Performance-based validation of the human activity profile**

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Without a gold standard, validated measures of physical activity are difficult, due to the lack of multi-dimensional performance-based measures. The aim of this study was to assess the concurrent validity of the Human Activity Profile (HAP) when reported by subjects compared to their actual physical performance. The HAP is a survey of 94 activities, such as self-care, transportation, home maintenance, entertainment/social, and physical exercise. These activities are sequentially rated according to their required metabolic equivalents, with a score of 1 representing the lowest, and 94 the highest value. Its administration takes approximately 20 minutes, whereas, other performance-based measures are more time-consuming, and also covers a broad range of familiar physical activities common in daily life and thus has an acceptable face validity. HAP scoring includes both low and high levels of physical activity and does not have floor nor ceiling effects encountered with other scales. Twenty-four stroke ( $63.7 \pm 11.6$  years) and 23 healthy control subjects ( $65.5 \pm 6.4$  years) completed the questionnaire and were asked to perform the activity corresponding to their self-reported scores. The actual activity levels progressed in successive discrete steps, increasing or decreasing by one level to evaluate their actual physical performance. The test ended when subjects were unable to complete or refused to perform the given activity, or complained of discomfort. Strong relationships were found between self-reported and actual performance scores for both groups ( $r=0.89-0.99$ ). This performance-based validation supported the use of HAP as an appropriate measure for the assessment of physical activity levels.

### **19. The effect of exercise training in water on depression and thyroid hormone in male students**

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Depression is a mental illness and sufferers feel a sense of worthlessness and lack interest in every day activities and events. It is often treated using medication rather than alternative methods. One alternative that has been shown to be effective in alleviating depression is exercise. Thyroid hormones are essential for normal development and functioning of the brain and previous studies shows that the thyroid hormone can help treat depression. The purpose of this investigation was to assess the effect of aerobic exercise on depression and related hormones. Two hundred and forty-nine male undergraduates randomly allocated for this study. The Beck Depression Inventory was used to measure the presence and degree of depression. Fifty –two males (body mass,  $67.8 \pm 9.3$  kg; height,  $1.73 \pm 0.04$  m; age,  $22.26 \pm 2.4$ ) who obtained a score depression of more than 18 took part in an aerobic exercise program. The exercise program was an unstructured water polo session for 60 min taken three times per week for seven weeks. The participants trained at 60-70 % of

maximum heart rate. The Beck Depression Inventory was administered before the water polo and the first, twelfth and twenty- first sessions. Analysis of variance with repeated measures (ANOVA) showed that levels of depression were significantly higher pre-treatment than in middle-treatment ( $p < .05$ ). A significant change was observed between the pre-treatment and post-treatment ( $p < .05$ ), the level of depression was lower in post-treatment. Although the level of depression was 4 % lower in the post-treatment than in middle-treatment but the differences were not significant ( $p > .05$ ). Blood sample for determination of thyroid hormones was obtained before and after training. The results of this study showed no significant changes after training in thyroxin (T4)  $8.88 \pm 1.36$  vs  $8.82 \pm 1.16$  ug/dl, T3 Uptake (T3 Up)  $29.22 \pm 2.36$  vs  $28.6 \pm 1.54\%$ , Free Thyroxin Index (FTI)  $2.58 \pm 0.38$  vs  $2.52 \pm 0.30$  ug/dl, TSH  $1.35 \pm 0.62$  vs  $1.18 \pm 0.40$  mIU/ml, Thyroglobulin (TG)  $6.95 \pm 4.44$  vs  $6.74 \pm 4.12$  ng/ml. It can be concluded that small changes, even within the normal range, of the level of thyroid hormones among depressed patients have significant effects on the brain function. Aerobic exercise might be effective in positive changes in thyroid hormones among depressed patients and alleviate depression. Due to the negative side effects of medication in treating depression and often fail to fully relive depression symptoms, we suggest aerobic exercise as an alternative strategy for treatment of depression.

## 20. Acute effects of bouts of exercise of different duration on cognitive functioning in 10-11 year old children

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The aim of the present study was to investigate the effects of an acute bout of exercise on the cognitive performance (in terms of controlled and automatic processing) of 10-11 years-old children. Thirty participants (17 boys and 13 girls) were allocated either to a control condition, a 25-minute exercise condition or a 50-minute exercise condition (HR 120-145 beats per minute). Participants completed the Stroop Colour and Interference tasks on two occasions. In the exercise conditions this was prior to and immediately following the exercise bout. The 50-minute exercise condition resulted in significantly better performance than the control condition on both tasks and significantly better than the 25-minute exercise condition on the Interference task. The 25-minute condition resulted in a significantly better performance than the control condition on the Interference task. In addition, the controlled processing task gained larger benefits in the 50-minute exercise condition. No relationship was found between academic achievement or heart rate and performance on the Stroop tasks. The findings support the attentional hypothesis for the explanation of improved cognitive functioning following an acute bout of exercise (Tomprowski, 2003). A large proportion of the school day is spent working in the cognitive domain. The implications of this study would be that education authorities and schools should consider the provision of PE classes as a mean to improve cognitive functioning in children. Acute bouts of exercise during the afternoon would be time well spent by pupils.

## 21. Gender differences in ability of biological motion

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Cognitive ability related to perceiving the motion of living organisms have come to be known as "perception of biological motion" (Johansson, 1973). Finding people with higher than average perception of biological motion will allow them to be directed towards professional areas involving teaching or correction of motor skills. The hypothesis of this research is that there are no gender differences in biological motion perception. The experiment was carried out as a pilot study with 20 subjects, 10 women and 10 men. Subject's task was to recognize human and non-human motion respectively from point-light displays. These displays were constructed by filming either a person running over lab or a basketball flying over lab floor. Both human and ball were marked with 2 or 4 reflective markers. Right and wrong answers were recorded. Statistica 6.0 and module ANOVA/MANOVA was used for data analysis. Here manifested a statistically significant difference between genders. Women recognized objects two times better than men. It can be speculated that biological motion perception is one of the cognitive abilities that have a difference between men and women brought about through evolution. There can be found many such abilities as for example difference in discriminating genders by faces (Cellerino et al, 2004) and affective components when watching pleasant and unpleasant pictures (Sabatinelli, 2004).

**22. Can older adults acquire a novel motor skill independently of working memory load?**

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This study explores the role of working memory during the acquisition of a new motor skill, in younger and older adults. A widespread view of learning postulates that skill acquisition proceeds through different stages of learning. According to this view, these learning stages are initially declarative but they become gradually more procedural. Recently, the generality of this serial model was questioned by studies using the errorless learning method in younger adults. Empirical evidence suggests that procedural knowledge can be acquired early during learning, without being affected by the working memory load (e.g., Maxwell, Masters, Kerr & Weedon, 2001). Consequently, the errorless learning method might allow older adults to acquire a novel motor skill by minimizing cognitive processing demands on working memory, which is known to decline in normal aging as well as in certain neurological diseases associated with aging (e.g. Alzheimer's disease)? During the practice phase, 32 younger adults (20-30 years) and 32 older adults (60-70 years) carried out 4 blocks of 40 trials in a golf putting task, either at a close distance from the hole (errorless learning) or at a longer distance (errorfull learning). During the transfer phase, they carried out 40 trials at a novel distance. Half of the participants belonging to the errorless and errorfull group carried out the golf putting task while concurrently performing a cognitive task requiring the manipulation of information in working memory. The other half simply carried out the golf putting task without any interference during the learning process. Results will be presented during the congress.

**23. Biological motion perception and it's interaction with speed discrimination ability**

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Biological motion perception ensures the recognition of human body and his/her actions from displays with only few body points seen. Biological motion perception seems to be based on integration of two kinds of information – firstly, information about whole human figure and secondly, information about movement from body parts, however the information about motion seems to be more important. The goal of this research was going to find relations between biological motion perception and speed discrimination ability. To estimate the ability of speed discrimination we used „WinPsycho 2000“ (Thomson, 2001) and for constructing biological motion perception stimulus we used movement analysis apparatus ELITE Biomech 2002 (BTS – Bioengineering Technology and Systems, Italy). There were 58 subjects in the study, 29 males and 29 females, 48.3 % of them doing sports regularly or have been doing that some time ago. The results revealed small but statistically confident negative correlation between biological motion perception and speed discrimination ability. This may be the proof for form information playing the most important role in biological motion perception or it may be that biological motion perception and speed discrimination ability are just two separate cognitive abilities.

**24. Peak height velocity offset; an objective measure of maturation for exploring the psychological deterrents of physical activity behaviour**

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The influence of the physical changes associated with maturation on the psychological determinants of physical activity behaviour in adolescents requires further research. Traditionally the tool of choice for assessing maturity status (where a study is ethically restricted from directly assessing Tanner stages) is the pubertal development scale (PDS) (Paterson et al., 1988). However, the subjective nature of this tool means that responses may be subject to social desirability bias, which has important implications for studies interested in the influence of maturation and changes in body size and adiposity on behaviour. Recently, the use of an estimation of years from peak height velocity (PHV offset) has been advocated in the field of paediatric exercise science as an objective measure of maturity status. Therefore, this preliminary study examined the use of the PHV offset for assessing maturity status for the purposes of exercise and health psychology research. 162 girls (age  $12.3 \pm 0.4$  yrs) participated in the study. A series of anthropometrical variables were assessed, and the girls completed the PDS. PHV offset was estimated from age, height, weight, sitting height and leg length (Mirwald et al., 2002). The girls were subsequently categorised as in the early, mid or late stages of maturity for both the PDS and PHV offset. There was marginal agreement between the two measures (kappa coefficient = 0.28) and 91 ties, 33 negative ranks (PHV offset < PDS) and 38 positive ranks. PHV offset was more closely correlated

with body size and adiposity than the PDS suggesting that PHV offset may be a more useful tool to study the effects of maturation and accompanying changes in body size and shape on physical activity behaviour in adolescents.

### 25. High stress reduces qigong adherence

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Introduction: Health professionals often prescribe mind-body techniques such as yoga, tai chi and qigong to people who are stressed out and lack energy. Qigong is a Chinese low-impact movement therapy that builds “life-energy”. Wellness resulting from qigong exercise motivates adherence. However, stressful events in daily life reduce both the number of exercise sessions and time spent exercising per week. The relationship between stress level perceived before a qigong course and adherence is, however, unknown. Our aim was therefore to investigate this relationship. Participants ( $n=87$ ) completed a stress and energy questionnaire before commencing a qigong course. Their qigong exercise behaviour was then followed for fifteen weeks and correlations with stress and energy calculated. According to the results, participants with an initially lower stress-level were better at adhering to their exercise program than participants with an initially higher stress-level, confirmed by a negative correlation ( $-0.22$ ,  $p < 0.029$ , one tailed). No significant relationship between energy level and adherence was detected. This suggests that health professionals prescribing qigong for wellness should primarily consider the stress level of the individual, and if found to be high, extra care should be taken to secure adherence.

### 26. The relationship between body image, physical self-efficacy and motor abilities in children

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The aim of the present study was to analyse the relationship among body image, self-efficacy and physical abilities in 160 subjects aged 8 and 10 years (40 males and 40 females of each age), and to check possible differences by gender and age. Discrepancy between perceived and ideal body image (BI) was measured with seven same-gender silhouettes (Collins, 1991), and self-efficacy with the Physical Self-Efficacy Scale (TSEM, Bortoli & Robazza, 1991). The EUROFIT Motor Fitness Test (1988) of standing long jump (SLJ), plate tapping (PLT), sit and reach (SAR) were also administered to the participants. ANOVA 2 (sex) x 2 (age) was conducted for each variable. Significant differences by *gender* emerged in TSEM, SLJ and SAR tests. Males showed higher scores in TSEM and better performances in SLJ compared with females, which reported best results in SAR test. Significant differences by *age* emerged in the discrepancy between perceived and ideal body image, in TSEM, SLJ and PLT tests. Children aged 10 presented higher scores in TSEM and a smaller difference between the perceived and ideal body image compared to younger subjects. The 8-yr.-old participants scored lower in SLJ, but performed better in PLT test than older children. Pearson's product-moment correlations revealed significant relationships between the three motor-performance tests ( $p < .01$ ), and between TSEM and SLJ ( $p < .01$ ), TSEM and PLT ( $p < .05$ ), BI and SLJ ( $p < .01$ ).

### 27. Adapted physical activity in adult psychiatric patients

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The patients hospitalized in psychiatric institutes are at significant risk for sedentary behaviours. To improve their quality of life and their lifestyles it is necessary to integrate the medical treatments with motor and sport activities (Richardson, C.R, 2005). The aim is to verify in 16 adult psychiatric patients (DSM-IV), (8 male and 8 female), hospitalized in the Italian Department of Mental Disease, which items of Louvain Observation Scale for Objectives in Psychomotor Therapy (Van Coppenolle et al., 1989) are more associated before and after the 12 weeks of body expressivity training. From the data analysis, done through the  $\rho$  of Spearman we could detect, both changes of coupling among item couplets (absent in the test but revealed in the retest) and different values of the sense of the correlation among item. Significant correlation ( $p < .05$ ) have been revealed in the retest among the following item couplet: emotional relation with movement control (without self confidence and verbal communication); activity with social regulation (without movement control and focus attention); movement control with emotional relation and focus attention (without self confidence and activity); focus attention with movement expressivity (without self confidence and verbal communication);

movement expressivity with movement control (without emotional relation and verbal communication). No significant correlation has been revealed in the item relaxation (test/retest). At the end of the training period, it has been possible to highlight which items have been more affected by the activities (test/retest), the different correlations among variables (test/retest) and the variations of correlations among variables (test/retest).

### **28. Development of an objective Weekly Physical Activity Report (RSAF) to evaluate healthy physical activity**

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Most of the questionnaires used in the assessment of physical activity are based on retrospective measurement. The aim of our study was the development and the administration of a seven day physical activity recall that can report accurate information through daily measuring and also can evaluate physical activity in people. Participants were 132 university students (103 women, 29 men,  $x = 28,53$  years;  $SD = 11,197$ ). All of them completed the RSAF during a typical week and the four health-related physical fitness assessments (aerobic fitness, muscular fitness, flexibility and body condition) were evaluated through four exercise tests, in order to know their physical fitness level and to compare it with the RSAF scores. The results show that subjects consume a mean of 43,33 METs ( $SD = 0,24$ ) every day and a mean of 13,70 METs ( $SD = 19,20$ ) in sports activities. There is a significant correlation ( $p = ,022$ ) between the mean of METs scores during the week and aerobic fitness. There is also significant correlation between the mean of METs scores spent in sport activities and muscular fitness ( $p < ,001$ ) and body condition ( $p = ,003$ ). The RSAF is a self-report test, based on the recall of the real physical activity performance instead of other instruments, where information is recalled in a wider period of time between the activity performance and the response. Moreover, the RSAF provides accurate and detailed information about the type, the intensity and duration of the activity and it allows to calculate average summary scores of METs, for a week, a single day and an hour. To conclude, RSAF could also become a valid instrument to measure healthy physical activity behaviour in people.

### **29. Translation and preliminary study about validity of the Portuguese version of Goal Orientation in Exercise Scale (GOES)**

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In the last years several researchers have devoted a great deal of time and energy to understand the adherence and the participation into exercise. However, the same is not completely true for achievement motivation research in this domain. In reverse with what happens in sport field investigation, goal perspective in the physical activity, just recently received a considerable attention in the scientific literature (Kilpatrick, Bartholomew & Riemer, 2003). There are two predominant goal perspectives of success in achievement situations who can influence the individual attitude (i.e. cognitive component), guide his decision making, lead the action and determine, most of the time, the motivational levels in physical activity practice and sport performance. The *Goal Orientation in Exercise Scale* (GOES), developed by Kilpatrick, Bartholomew & Riemer (2003), was created to aim a valid measure instrument that can evaluate achievement motivation in the exercise domain and it is modeled on the *Task and Ego Orientation Questionnaire* (TEOSQ). This scale consists of ten items with five alternative responses ranging (i.e. likert scale), from "Strongly disagree" (1 point) to "Strongly agree" (5 points). Those are subsequently grouped in two factors (i.e. "Task" and "Ego"). The main objective of this paper is to describe the preliminary adaptation process of GOES for the Portuguese population, from the translation of the original version and preparation of the Portuguese version (designated *Questionário de Orientação Motivacional para o Exercício – QOMPE*), to the determination of their initial psychometric proprieties through the use of Exploratory Factorial Analysis (EFA), accomplished with data from a sample composed by regular participants in physical activity and exercise.

### **30. Translation and preliminary study about validity of the Portuguese version of Actitudes towards Physical Activity and Sport Scale (EAFD)**

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The *Attitudes towards Physical Activity and Sport Scale* (EAFD), developed by Dosil (2002), was created to aim a measure instrument to evaluate the individual attitude towards physical activity and sport independently to the level of experience or practice involvement. According to Dosil (2002, 2005), the attitudes measures may



not lie in the orientation of their items which favour those who actively participate in sport or physical activity, supposing an important bias in determining whether a positive attitude towards physical activity or sport depends exclusively on the degree of participation. This scale consists of twelve items with seven alternative responses ranging (i.e. likert scale), from “*Totally disagree*” (1 point) to “*Totally agree*” (7 points). Those are subsequently grouped in two factors (i.e. “*Importance attributed*” and “*Possibility of practice*”). After a rigorous methodological process of translation, proposed by Vallerand (1989) and following in Portugal by Fonseca and Brito (2005, i.e. juries composed by different specialists in several scientific areas), we proceed to preliminary validation (i.e. Exploratory Factorial Analysis), accomplished with data from a sample of 187 individuals, of both genders (i.e. 86 females and 101 males), university students, with  $21.99 \pm 2.78$  years old of mean age and different degree on participation in exercise (i.e. 77 non-participants and 110 regular participants in several kinds of physical activities). From main results emerged five factors structure (i.e. similar to the factors proposed for the original version), justifying 46.48% of the total variance and presenting reasonable values of internal reliability. Despite some small problems found that claim a special attention in future, we are able to conclude that initial psychometric properties are promising. However, we suggest some prudence and more studies are advisable (i.e. Confirmatory Factorial Analysis) to a strong and complete adaptation of this attitudes measurement scale to the Portuguese population.

### **31. Information processing and dyslexia. Differences in reaction time, attention and memory between dyslexics and non-dyslexics**

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In a cognitive approach, the information processing models try to give us answers about the way a human-being mentally treat information, attempting to understand the “*phenomena that took place inside the black box*” (Alves, 1995, pp.32). According Fonseca (1999), dyslexics have special characteristics that can reflect, between others factors, some difficulties in information processing speed. This is an important fact, because those difficulties are present during all of their life (Frank & Livingston, 2004). So, the main objective of this study was to clarify the differences between dyslexics and non-dyslexics, in speed of information processing, attention capacity and visual short term memory capacity. For this propose, we studied a sample of 22 individuals (ten dyslexics, twelve non-dyslexics), of both genders,  $25.40 \pm 2.71$  years of mean age. The measurement instruments were the following: Toulouse-Piéron test and Schultz test (attention), Menvis-A test (visual memory) and several tasks of simple and choice reaction time (PRWin Software). The main results indicate significant differences between the two groups in simple ( $Z = -2.044, p = .043$ ) and choice ( $Z = -3.099, p = .001$ ) reaction time, decision time ( $Z = -2.044, p = .043$ ) and broad attention capacity ( $Z = -3.297, p = .000$ ). There were no significant differences in narrow attention neither in visual memory capacity. In other words, the dyslexic individuals presented a lower capacity of information processing and broad attention.

### **32. Effects of exercise and mental stress on the antibody response to vaccination: Evidence that acute stress improves vaccine efficacy in humans**

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Acute restraint stress at the time of an immune challenge can increase cellular (delayed-type-hypersensitivity) and humoral (antibody) responses to vaccination in rodents. Our study investigated the possibility of similar stress-induced immunoenhancement in humans by determining the effects of acute exercise and mental stress prior to inoculation on antibody responses to meningococcal and influenza vaccinations in 60 healthy young adults. Participants rested during a 20-min baseline, completed a 45-min condition (cycling, mental arithmetic or no-stress control) and then received meningococcal A+C and influenza vaccines. Samples for immunoglobulin G antibody determination were collected at baseline as well as 4 and 20 weeks after vaccination. Microsphere-based multiplexed assays measured serum antibodies against meningococcal serogroups A and C. Haemagglutination inhibition tests measured anti-influenza antibody titres for the A/New Caledonia, A/Panama and B/Shangdong vaccine strains. Condition (exercise, mental stress, control) by Sex (male, female) by Time (pre-vaccination, +4 weeks, +20 weeks) MANOVAs were conducted on the antibody data. Meningococcal serogroup A antibody responses were enhanced by exercise and mental stress in men but not women. In contrast, exercise and mental stress improved antibody responses to the A/Panama influenza strain in women but not men. In both cases, antibody responses were poor in controls. Acute exercise and mental stress at the time of vaccination improves the antibody response in humans who would otherwise mount poor immune responses. That the effect was observed in both thymus-dependent (influenza)

and thymus-independent (meningococcal) vaccines suggests that stress-induced immunoenhancement is not specific to T cell involvement.

### 33. Changing sedentary lifestyles to improve health and quality of life: behavioural strategies for specific target groups

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Our aims were to examine the relationship between health and stages of change about active behaviour, and to design and apply strategies to promote physical activity and exercise, specific for different target groups of the university community. Participants were 3482 university members (2723 were students,  $M$  Age= 22.25 years,  $SD$ = 3.91, 369 were teachers or researchers,  $M$ = 42.56 years,  $SD$ = 9.20; and 390 were administrative employees,  $M$ = 38.46 years,  $SD$ = 8.20). All subjects completed an electronic questionnaire through a specific web site, to describe exercise habits and regular sport practice, to determine *Stage of Change*, and to evaluate health behaviours according to *SF-12 Health Survey*. Our results show that 21.2% of subjects were in *precontemplation*, 28.4% in *contemplation*, 15.1% in *preparation*, 8% in *action* and 27.3% in *maintenance*. Men showed a higher level of *maintenance* and women a higher levels of *precontemplation* and *contemplation* ( $p$ <.001). People in *Maintenance stage* had better health, well-being and quality of life than subjects in all the other stages ( $p$ <.001). The *Stages of Change Model* allows to identify the profile of the university community members who need special strategies: students and employees, women show a higher percentage of non-actives. We have developed educational materials for women in *Precontemplation stage* to change their attitude towards the exercise. We have used a media-based approach to reach our target audience, 100 % with computer and Internet access, through an informative strategy based in simple, direct and convincing messages.

### 34. Understanding obesity: Psychological cues and antecedents of eating behaviour

Michelle Cranston\* & Dr Harriet Speed

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This study explored the cues and antecedents that trigger eating behaviour in males and females classified as being obese, overweight, or within a healthy weight range. Seventy two participants completed two questionnaires: the Dutch Eating Behavior Questionnaire (van Strien, Frijters, Bergers, & Defares, 1986) which assessed restrained eating, emotional cues to eating, and external cues eating, and a questionnaire developed specifically for the study that explored non-hungry eating and the antecedents of eating behaviour. Participants were categorised into 6 groups according to weight and gender. Across the three weight groups, females reported higher levels of restrained eating than males. Overweight females reported the highest levels of non-hungry eating, emotional eating and external eating, compared to all other groups. Healthy weight males reported the lowest amounts of both non-hungry and restrained eating of the six groups. Interestingly, eating in response to external cues was least common in overweight males. Compared to healthy weight and obese people, more overweight people usually ate quickly and at predetermined times, and reported that food was used to reward or console them throughout childhood. Overweight participants also ate more frequently in response to positive emotions, and experienced more negative emotions after overeating. The results indicate that, compared to any other group, more overweight females eat for reasons other than hunger, including emotional and environmental cues. The findings also suggest that antecedents of eating behaviour and susceptibility to eating cues differ between males, females and people of different weight categories. Recognition of these differences is central to developing successful weight loss programs.

### 35. Effect of two different cardiovascular training protocols on mood states of well conditioned exercisers

João Moutão\*, Luís Cid, Humberto Silva, & José Alves

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The purpose of this study was to compare the effect of two different cardiovascular training protocols on mood states of well conditioned exercisers. Eight male regular exercisers, with ages ranging from 30 and 35 years ( $M$ = 32.75  $\pm$  1.67), and a  $VO_2$  max above reasonable level ( $>38.86$  ml/Kg/min) were submitted to two different cardiovascular training protocols (continuous training VS interval training), at the treadmill with the same energy expend and (200 Kcal). To measure the impact of each protocol, the subjects fulfilled the questionnaire of Profile of Mood States (POMS) at the beginning and at the end of the sessions. In both protocols it was

verified a reduce in the negative dimensions of the POMS and a statistical significant improvement of the positive dimension of Vigour. There wasn't any statistical difference between the two training methods. In conclusion, in trained individuals, with adaptation to the cardio-vascular training, the mood states improve independently of the training method.

### **36. Physical self-perceptions and global self esteem in gym exercisers**

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This study investigated the relationship between physical self-perception and global self esteem in gym exercisers. It was also intended to analyze the gender differences in physical self-perceptions. Fitness practitioners (42 female and 58 male) with ages ranging from 16 to 52 years ( $M = 28.26 \pm 7.14$ ) fulfilled the Physical Self-Perception Profile (PSPP: Fox & Corbin, 1989) and the Rosenberg Self-Esteem Scale (RSE: Rosenberg, 1965). Subjects mean score at de RSE was 24 points in an interval from 10 to 40, which can be considered as a moderate self esteem. In the physical self-perceptions, subjects score higher on the physical condition ( $2.64 \pm 0.58$ ), sports competence ( $2.55 \pm 0.59$ ) and physical strength ( $2.52 \pm 0.54$ ). On the other hand Fitness exercisers rated their bodily attractiveness relatively low ( $2.38 \pm 0.61$ ). Global self-esteem was positively associated with all of the sub-scales of the PSPP. The strongest association was with the scale of bodily attractiveness ( $r = .84, p \leq .05$ ). Males score higher (t-test;  $p \leq .05$ ) on scales of sports competence, physical condition and bodily attractiveness. In the scale physical strength there was no significant differences, witch corroborates the opinion that our physical self is more a perception than a physical demand. It was concluded that bodily attractiveness perception could play a significant role in promoting self-esteem and that females had lower physical self perception than male. We suggest that exercise programs should be conducted in a relatively 'body neutral' environment to promote a positive effect on physical self-perceptions and global self-esteem.

### **37. Development and validation of the Mood State Scale: A patient mood state questionnaire for use in patients with chronic low back pain**

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The aim of this study was the development of a new instrument for assessing mood state in patients with chronic low back pain and to examine its reliability. The Mood State Scale was developed to assess CLBP patients' responses to pain. To establish the value of the questionnaire, a reliability test was performed, the results of which are the focus of this article. The MSS was developed based on semi-structured interviews with chronic pain patients ( $n = 330$ ). A project team performed content analysis to determine item domains and generate potential items in each category. The MSS consisted of 23 items in 3 parts. The MSS utilized Likert-like response options on a five point scale. A principal component analysis with varimax rotation was performed to test the factor structure of the scale. Additionally, using the Cronbach coefficient  $\alpha$  internal consistency reliability of the scale was calculated, which was for "negative feelings" .87, for "stress" .79 and for "capacity" .81. Pearson correlation was conducted between the three factors. The results revealed strong relations between negative feelings and stress and strong negative relations between negative feelings and capacity. One-way analyses of variance were conducted to examine differences first between the factors of the questionnaire and gender and second, between the factors and the variable of rehabilitation. The results revealed significant statistical differences for the first analysis on the factor of "negative feelings", and on the second analysis, on the factor of "stress".

### **38. The Study of relationship between attitude and some of social association with anabolic steroids use among men bodybuilders in Ahwaz**

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Attitude is a factor that affects behaviour (Berning, 2003). The research showed that there is relation between attitude and use of steroid (Nilsson et al, 2005; Berning, 2003; Irving, 2002). The purpose of this study was to investigate the relationship between attitude and some of social associations with anabolic steroids use among men bodybuilders in Ahwaz. The research methods of this study are descriptive, survey and correlation. The instrument of this research was researcher-made questionnaires. The reliability of this instrument was reported to be satisfactory and validity of questionnaire were obtained relatively ( $r = .79, r = .77$ ). The statistical

population of this study were 165 bodybuilder athletes in Ahwaz, selected through staged random sampling. In this study, relationship between attitude and some of social associations with anabolic steroids use were studied. In addition relationship between some of individual characteristic (employment, education, economic status and years of activity) with Anabolic Steroid were studied. Analyzing the proposed hypotheses at the  $p > .05$  it was found the results: significant relationship between anabolic steroids use with attitude and association with friends, no significant relationship between anabolic steroids use and association with parents was found. Also using multi-regression between attitude and some of social associations and use of anabolic steroids showed that attitude and association with friends were considered to be better predictors for anabolic steroids use among men bodybuilders.

### **39. Mental inducement of cognitive and motor tasks in a multiple-sender multiple-receiver design**

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Mental inducement between two human beings has been widely explored in psychological tasks (card guessing, mind-machine interaction, etc). The aim of the present study was to develop an automated procedure testing mental inducement between two subjects in cognitive and motor tasks to explore a feasible advantage in sports application. In addition, characteristics for positive inducement should be extracted indicating if special coach-athlete relationships could benefit mental inducement. Twenty voluntary female sender-receiver pairs participated in the study. Subjects were placed in separated rooms excluding sensory transmission between them after completing a questionnaire concerning their relationship. Receivers absolved two tasks including colour-guessing and a coordinative motor task which was arranged as 2-factorial design: 1. 'Sending' and 2. 'Receiver's expectation of Sending'. Receivers got procedural information by head-phones and additional notification if the sender will influence him by mental transmission or not. Note, this information included 'placebo-effects' meaning that receivers were 'blind' to the real condition. The procedure was arranged automatically by LabVIEW 7.1 that randomised the conditions of the motor tasks, the sequence of the repetitions in one task and the recreation time between the repetitions after being started by a 'blind' experiment leader. Colour-guessing results could not confirm previous studies which describe direct hit rates of 33% while 25% means chance expectation. It seems that 'success in colour-guessing' has influence on the factor 'Sending' and the interaction between 'Sending' and 'receiver's expectation' in the motor task while 'friendship' has not. Furthermore, distinction between internal (muscle-parameters) and external (movement-parameters) changes seems to be important.

### **40. The effect of aerobic dance exercise on the psychological mood state of adults**

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The aim of the present study was to examine the effect of exercise on the psychological mood state of adults, after participating in group dance aerobic programs, in a gym. The sample of the study consisted of 392 subjects (131 men and 261 women), who took part in group exercise programs: 1) Dance aerobic ( $n=141$ ), 2) Yoga ( $n=78$ ), 3) Tae-bo aerobic ( $n=75$ ), 4) Step aerobic ( $n=58$ ), 5) Body pump ( $n=40$ ). For the data collection, the questionnaire used was the Profile of Mood States (POMS), by McNair, Lorr and Droppleman (1971), which was modified for the Greek population by Zervas, Ekkekakis, Psychoudaki and Kakkos (1993). The subjects filled in the questionnaire before and after their participation in each program. The 'Cronbach a' internal cohesion indicator of this questionnaire concerning this specific sample ranged between .82 and .89. The Repeated measures ANOVA analysis showed that there was a statistically important difference in the psychological mood state of the sample, before and after their participation in all programs ( $F_{1,384}=624,861, p < .001$ ), while there were not any statistically important differences, due to sex or age. More specifically, there was a decrease in depression, aggressiveness and confusion and on the contrary, an increase in energy, while fatigue was kept on the same level. The overall psychological mood state of the subjects improved because the factors, which affect the psychological mood state in a negative way were removed. In conclusion, all the above aerobic dance programs enhance positive psychological mood state and can be used for the amelioration of the psychological mood of adults, offering, at the same time, a variety to aerobic classes.

**41. Movement analysis from mental and motor aspects**

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Mental training aims to improve the foundation for cognitive regulation of complex movement performance. The cognitive regulation is based on a movement representation. The build-up of movement representations is of particular importance for technique training. Therefore, the mental training should be applied as a supplement during the first phase of the learning process. How does the learning process happen under the conditions of a goal-oriented combination of mental and motor learning / training? The study included 6 young athletes from the training centre of Modern Rhythmic Gymnastics in Halle (Germany). The experimental subjects had to learn a "Double Diving Turn backward". In order to improve and control the level of the cognitive components in mental representation, „Gymnastic-Mental“ (a computer-aided tool) together with the use of a demonstration video was developed. The development of motor execution of the element was investigated with a SIMI MOTION Movement analysis System. The mental movement presentation developed over the time period from pre- to post- test 1, in a very intensive learning phase. The quality of movement representation decreased during a period of stabilising in a second phase without daily mental practices (increase of mental time required and rate of mistakes). Regarding the executing quality of the selected movement, there was a similar appearance. The learning curve is determined through a progressive and regressive phase. The process of motor learning of complicated movement structures should be accompanied by mental practicing. If the mental practice does not occur, the quality of motor execution worsens.

**42. A comparison of physical activity level and physical self-perception in overweight and normal weight adolescent girls**

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Last twenty years obesity worldwide has an epidemic form in all age groups. Balanced diet and daily physical activity (PA) are the two key-factors for obesity prevention. However, in the last three years Greece holds a dominant place among European countries on youth's obesity. The purpose of this study was to examine PA level and physical self-perception, in overweight and normal weight adolescent girls. A randomly selected sample of healthy adolescent girls living in two urban areas of Greece, aged 14 yrs (SD  $\pm$ .8) participated voluntarily in the study; 22 had a normal weight (BMI >21 and <25) and 20 were overweight or obese (BMI >27). Their daily PA measured objectively using the CSA 7164 accelerometer over a 4-day period. For each day summary scores were calculated for: a) total daily PA, b) daily moderate PA (3-5.9 METs, MPA) and c) daily vigorous PA ( $\geq$  6 METs, VPA). Their self-perception of body appearance, and athletic competence were estimated by Harter's (1985) *Self-perception Profile for Children* questionnaire. Compared to their non-overweight counterparts, overweight girls exhibited significantly ( $p < .05$ ) lower daily accumulations of MVPA for the weekdays and the weekend. Overweight girls were significantly less active in the school environment as well in their leisure. The vast majority of the normal weight girls (77%) fulfilled the first recommendation of the 60'min accumulated daily MVPA compared to 21% of their overweight counterparts. Obese girls reported significantly lower levels of physical self-perception. These findings suggest that physical inactivity is an important contributing factor to the increase of young people's obesity in Greece.

**43. A longitudinal study on visual-motor skills development**

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The development of visual-motor skills has long been considered an essential component of children's academic readiness and success. The purpose of the present study was to investigate individual variation in visual-motor development. We evaluated performance on the Rey-Osterrieth Complex Figure (ROCF) test on 20 left-handed children and 20 right-handed controls, over a period of five years. Reliable group differences were obtained across developmental time, the magnitude of which was age and handedness dependent. Children in the control group showed a coherent pattern of age-related changes in ROCF performance with the most substantial improvement occurring between the ages of 7 and 9. However left-handed children exhibited their greater improvement with a delay of about a year. The differences in performance could be attributed to different rates of maturation of the cerebral hemispheres or to functional differences between right- and left-handed children.

**44. Is physical activity more beneficial for aging persons?**

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Practicing physical activity has appeared as an influential factor on the aging phenomenon in a large amount of studies. However, a question remains unanswered: is physical activity more beneficial for aging persons, subjected to many declines, or does physical activity intervene the same way regardless of the age group? This problematic is difficult to observe in the literature because a comparison of the effect of physical activity in younger and older adults is not always possible. The relevance of the present study is to take into account the effects of an active lifestyle on different categories of ability, for young and old adults in order to shed light on the nature of the intervention of regular practice of physical activity. Sixty four participants divided in four groups according to age (young adults, older adults) and level of physical activity per week (active, inactive) were tested on a series of cognitive and psychomotor abilities. Variance analysis revealed a deleterious effect of age on all tested abilities, as well as a large positive effect of an active lifestyle, for older participants on each tested ability and for younger on psychomotor abilities. These results leave room for many interpretations regarding the nature of the effect of aging and of an active lifestyle. An active experience allow a global alleviation of the effects of aging, on cognitive and motor abilities, but also an optimisation of certain behaviours, mainly those requiring motricity and speed, and this, at a young age.

**45. Exercise continuation and discontinuation within Swiss fitness clubs**

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This paper describes the results of a 6-months long prospective study, the goal of which was to find out the rates of clients' continuation and dropout in Swiss fitness clubs, while throwing a light on the reasons for their choice and the personal predictors of dropout / continuation of exercise programmes within a fitness club. To this end, the profile of 156 individuals (mean age=36.6 +/- 13.9; 67 male and 89 female) was investigated through a theoretically-based questionnaire at the very moment of signing in for a subscription in a fitness club. Six months after subscription, 59 individuals (33 males and 26 females) were contacted for a 20 min. interview. They were asked to say if they continued or discontinued their visits to the fitness clubs, and to specify the reasons for their choice. Finally, the quantitative and qualitative analyses focused on possible relationships between factors that were assessed at subscription time and clients' decisions to continue or quit their fitness club's programme 6 months later. Results revealed, on the one hand, that an important dropout rate encompasses the presence of special types of exercise withdrawal, such as "seasonal dropout", "forced dropout" and "health-related dropout". On the other hand, the quantitative analysis confirmed some important theoretically-based assumptions: the most prominent are the positive role played by factors such as the long personal habit in exercising (Prochaska & Markus, 1994), the self-determined motives to do physical activities (Deci & Ryan, 1985), and a positive attitude towards sports in general (Ajzen & Fishbein, 1980). Finally, the paper tackles practical guidelines that are possible to withdraw from the results of the study.

**46. Written anti-smoking/pro-exercise messages: Does a peer source make the difference for adults or adolescents?**

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The present investigation aimed to examine the effects of written anti-smoking / pro-exercise messages from varying sources. Two studies were conducted, one involving young adults and one involving adolescents. In the first study, participants were 86 undergraduate students (mean age 20.43 ± 1.59 years). In the second study, participants were 100 secondary students (mean age 16.74 ± 1.22 years). In both studies participants were randomly assigned in three groups exposed to different experimental conditions: (a) reading a message from a peer source, (b) reading a message from a non-peer source, and (c) no message (control group). Participants completed questionnaires assessing attitudes toward smoking, intention to smoke, perceived behavioural control, subjective norms and knowledge, before and after the experimental manipulation. In both studies there were no significant differences between experimental groups for the pre-experimental assessment. Concerning young adults, in the post-experimental assessment differences were identified in attitudes toward smoking ( $F_{2,79}=3.35, p<.05$ ), perceived behavioural control ( $F_{2,79}=3.57, p<.05$ ) and subjective norms ( $F_{2,79}=5.69, p\leq.001$ ). The non-peer source group had more positive attitudes toward smoking, less perceived behavioural control, and lower scores on subjective norms than the other two groups. Concerning adolescents, in post-

experimental assessment, differences were identified in perceived behavioural control ( $F_{2,95}=3.83, p<.05$ ) and knowledge ( $F_{2,95}=4.24, p<.05$ ). The control group had less perceived behavioural control than the experimental groups, and that the peer-source group scored higher on perceived knowledge than the other two groups. Results are discussed in relation to the planned behavior theory for effective anti-smoking messages for young adults and adolescents.

#### **47. "Stop smoking time for exercise": The effectiveness of an intervention program on smoking cessation**

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Smoking consists one of the greatest risk to public health. People in their attempt to quit smoking, participate in different smoking cessation programs, which combine pharmacological therapies (with the nicotine gum and the nicotine patch), and sometimes behavioural counselling. Recent approaches to overcome smoking include intervention programs with behavioural counselling in conjunction with exercise, which has been shown to moderate psychological withdrawal symptoms and cravings. The aim of this study was to examine the effectiveness of a brief smoking cessation intervention program combining behavioural counselling and exercise. Participants were 7 volunteer smokers, 3 men and 4 women with a mean age of 25. years. The Stop Smoking and Time for Exercise manual was used. The manual includes a ten steps intervention program based in psychological support, briefing and exercise tips. At the end of the intervention, in-depth, semi-structured interviews were conducted. The scripts were analysed by means of thematic analysis. After the conclusion of the intervention combining psychological support and exercise, smokers willing to reduce or quit smoking, managed to quit smoking. Analysis of the interviews revealed that exercise was the mean for the adoption of healthy behaviours and the abstinence from unhealthy behaviours. Finally, individuals who did not quit smoking, reported that they enjoyed the program and that the knowledge and the experience gained through the intervention will help them in case they want quit smoking in the future.

#### **48. Psychological responses and consequences of career ending injury**

Tom Fawcett\* & Neil Light

*\*Salford University, UK*

The purpose of this qualitative study was to examine the psychological responses and consequences to career ending injury of 3 professional athletes (mean age = 35). University ethical procedures were followed and clearance were confirmed prior to the study commencing. Life adjustments and accompanying psychological responses following career ending injury require more focused research (Ogilvie & Taylor, 1993; Drawer & Fuller, 2003). A fresh methodological approach employing semi –structured interviews and Interpretative Phenomenological Analysis (Smith & Osborn, 2003) was adopted for the study. A phenomenological 'first person' experience perspective was deemed most suitable to study the emergent themes and conduct interpretative analysis through different phases of the injury process (1st day response, initial stage, mid stage and late stage). Trustworthiness criteria were satisfied during the methodological process (Lincoln & Guba, 1985). Through IPA emergent themes within the immediate response phase included 'a sense of knowing and realization it would happen' and 'anxiety of the worst case scenario'. 'Emotional outburst, anger, desperation, blame and victimization' emerged during the 1<sup>st</sup> day response period. Within the initial post injury stage athletes reported confidence, happiness and a sense of optimism with a psychological shift into more positive emotions. However, such optimism was reversed during the mid stage as emergent psychological responses included a 'loss of progress', 'confusion', 'apathy', 'anger', 'loss of identity', 'isolation' and 'denial'. Late stage responses included 'relief', 'stimulation' and 're-invention'. Consequences of injury which emerged included courage, pride, appreciation, achievement and bitterness. Limitations and recommendations for future research are reported.

#### **49. Applied science in elite youth soccer: A diagnosis and intervention project to optimize prevention measures to reduce knee and ankle injuries**

Gabriele Neumann

*Federal Institute of Sport Science, Germany*

Epidemiological studies show an increased number and impact of serious knee and ankle injuries that occur not only in the field of high level senior soccer but also in youth soccer. Therefore, in 2004 the German Federal Institute of Sport Science promoted – in close cooperation with the German Soccer Federation

– an interdisciplinary project to optimize prevention measures to reduce knee and ankle injuries in soccer. Diagnosis variables included the individual knee and ankle stability, coordinative and psychological abilities. The study took place with 5 elite male youth soccer teams (U 17, U 19) of 1<sup>st</sup> division clubs. Each team took part at 4 diagnosis sessions before and throughout the seasons 2004/05 and 2005/06. Throughout the season, a proprioceptive training program was integrated into the normal warm-up program as well as weekly handheld assisted monitoring of perceived physical and psychological states. A dynamic database was developed to secure multivariate analyses and a fast and “comprehensible” interpretation and transfer of the measurement results for the coaches and teams. After each measurement, the coaches were given commented graphical and table analyses for the teams and each player, compared to reference values. By doing so, coaches could react immediately and more sensible to the individual and team needs. The weekly feedbacks of the players’ physical and psychological states helped to become more aware of temporal stressors that might impair the performance or increase the risk for injuries. Preliminary analyses indicate a positive influence of the proprioceptive training upon the dynamic knee stability and coordination.

### **50. The association between level of physical activity and eating disorders among Norwegian women and men**

Einar Vedul-Kjelsås

*Department of Neuroscience, Faculty of Medicine, NTNU and St. Olavs University Hospital, Department of research and development, AFFU, Norway*

Several studies have shown high prevalence of eating disorders among elite athletes, particularly in weight-related sports focusing on body and body shape. Studies including lower-level athletes have failed to find a strong relationship between amount of training (hours per week) and prevalence of eating disorders. The aim of the present study was to study the relationship between physical activity and eating disorders among 1500 women and 2000 men aged 18-65 years. In addition, we wanted to see whether the prevalence of eating disorders is higher among competitive athletes than among recreational athletes. The Survey for eating disorders (SEDs, 37 questions), which assesses full DSM-IV diagnoses for anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED), and eating disorders not otherwise specified (EDNOS) based on self-report, was used. In addition, the respondents answered specific questions related to different aspects of exercise and physical activity, such as hours of exercise, type of sport and competency level. No earlier population-based studies on physical activity and eating have presented data to differentiate between competitive athletes and recreational athletes. Preliminary analyses indicate that women with AN exercised more than all the other ED groups, and the BN group also showed a high number of weekly physical activity. More results will be presented in September.

### **51. Effect of a physical activity program on physical self-concept in older adults**

Méniar Ouaghilani\* & Jean Bertsch

*\*Université Paris sud Orsay, UFR STAPS, France*

There is an overall evidence for the positive relationship between physical activity and physical self-concept (Sonstroem, 1997). A handful of studies have been conducted on the relation between physical activity and physical self-concept in older persons. Fox (2000) reported that positive effects of physical activity could be experienced by all age groups, but there is greater evidence of change in children and older adults. In the current study, the focus was on the effects of an aerobic program, which had a duration of 15 weeks, on physical self-concept in older adults compared to young adults. The experimental procedure followed a pre-test – post-test design. The participants were 56 representing two age groups: 28 young ( $M = 24.5$  years), and 28 old adults ( $M = 69.2$  years). Each age group was divided into two groups: experimental group and control group. At pre-test and post-test, participants completed two questionnaires. The first one examined the physical self-concept (PSDQ, Marsh et al, 1994). The second one measured the physical activity (QUANTAP, Vuillemin & al, 2000). Results showed that after 15 weeks of aerobic programs, and regardless of age, the experimental groups improved in physical self-concept more than the control groups (Hotelling’s  $T = 23.144$ ,  $F_{11,38} = 79.95$ ,  $p < .0001$ ,  $\eta^2 = .959$ ). Moreover, a greater improvement on physical self-concept was noted in old adults than in young ones (Hotelling’s  $T = 1.821$ ,  $F_{11,38} = 6.29$ ,  $p < .0001$ ,  $\eta^2 = .645$ ). Changes in physical self-concept were observed mainly in specific scales of physical self-concept than in global ones, especially for old adults. Additionally, hierarchical and multidimensional character was confirmed more in old adults than in young ones.



**52. Influence of the “PG FITNESS” program on the physical fitness of female students**

Galina Petrova Dyakova, Penka Mihailova Peeva\*, &amp; Anni Tichomirova Bojkova

*\*Trakia University, Bulgaria*

The PG FITNESS program was created at the beginning of 2006 and approved at Trakia University, Stara Zagora. Exercises for different muscle groups with complex influence are included in it. The symbiosis of loading and relaxing exercises, combined with respiratory exercises is characteristic of the program. The purpose of the study is to establish the influence of the PG FITNESS program on the physical fitness of female students. PG FITNESS classes were carried out with 74 female students during 15 weeks, twice a week, at Trakia University, Stara Zagora. At the beginning and the end of the studied period seven tests for measuring the physical abilities were done - Taping test for a convenient hand, standing long jump, flexibility, 50m dash, folding-unfolding of arms (push-ups), sit-ups, 300 m shuttle run. Three of them (Taping-test for a convenient hand, standing long jump and flexibility) were measured according to the EUROFIT requirements, and the rest - according to the standard methodology. A comparative analysis of data from the test done was carried out by using the Student t-criterion. Differences at  $p < .05$  were accepted as reliable. The obtained results show a significant increase in the physical fitness level of the studied persons which gives us the reason to recommend the putting into practice of the PG FITNESS program in the obligatory physical education classes at universities.

**SPORT PSYCHOLOGY****53. Laterality in the sport of Full Contact. Changes in conditions of training and competition**

Del Valle Sagrario\* &amp; De La Vega Ricardo

*\*Faculty Of Sport Sciences. University Of Castilla La Mancha, Spain*

The study and definition of the laterality continues being a problem mainly in relation with sport. It is evident that concepts like process of laterality, dominance and laterality are classic terms to which the scientific community does not pay much attention at the moment, still the issue requires consideration. In the field of psychology the laterality has been studied from two perspective differentiated giving rise to two opposite classic models, one with directions based on the genetics and Biology, and another with adaptive and behavioural bases that laterality like product of the learning considers, although for one decade it has been coming defining a third mixed model to both previously exposed. The present study attempts to interpret the laterality from the second model, is observed in the participants who practicing a sport where in training situations the learning is constituted like the key factor for its accomplishment. The results seem to demonstrate that effectiveness of the training and the practice in the treated conducts does not exist. In conditions of sport stress -competition- changes of laterality tendency are not observed. The hypothesis of the genetic model cannot be considered that the bilateral sport training constitutes a valid technique for the modification of the laterality, confirming.

**54. Self-regulation in a motor task: handstand**

Del Valle Sagrario\*, Moreno Amparo, &amp; De La Vega Ricardo

*\*Faculty of Sport Sciences, University of Castilla La Mancha, Spain*

The aim of this study is to analyse the different representational levels reached both by adults and eight to sixteen year old children, all of them at different levels of experience, when performing a specific motor task (handstand). We are focusing specifically on how these representations become more explicit and conscious as the development process takes place. These increasing levels of awareness allow the participants of the present study to have greater control over their actions. The relationship between awareness and motor learning is a question which has not drawn much attention so far, but it is one which we deem essential both from a theoretical and a practical point of view. Results and findings are discussed in terms of psychological concerns and also from the connection with educational problems, namely, the teaching and learning of Physical Education

**55. Development and Psychometric Evaluation of the Basic and Earning Self-Esteem Scale (BESES)**

Carolina Lundqvist\* &amp; Göran Kenttä

*\*The Swedish School of Sport and Health Sciences, Stockholm, Sweden*

Self-esteem is based on four elements, acceptance, evaluation, comparison, and efficacy. Competitive sport magnifies the importance of these elements and may explain some desirable and undesirable behaviour (Hewitt, 2002). The Basic and Earning Self-Esteem Scale (BESES) was developed based on Forsman and

Johnson's (1996) conceptualization of self-esteem subdivided into Basic (BS-E) and Earning self-esteem (ES-E). Four items representing the ES-E subscale were modified from The Performance-based self-esteem scale (Hallsten, 2005), whereas four new items were generated to assess the dimension of BS-E. A total of 530 university students (282 Men and 248 Women, mean age: 34.8,  $SD=10.9$ ), of whom a majority studied physical education or sports science, volunteered to complete the BESES. The factorial validity of the BESES was evaluated using confirmatory factor analysis (CFA); first by analyzing the measurement model of each gender separately, and second, by testing the invariance of BESES across gender (i.e., by stepwise constraining factor loadings, covariance and factor variance as equal). Fit indices indicated an acceptable model-fit in the sample of Men (NNFI=.94, CFI=.96, SRMR=.06 and RMSEA= .06; 90% CI= .04-.09). Similar results, apart from that the RMSEA (= .10; 90% CI=.07-.10) indicated an unacceptable model-fit, were obtained in the sample of Women (NNFI=.90, CFI=.93, SRMR=.06). Chi-square difference tests between the baseline model and more stringent models showed all analyzed parameters but one factor loading on the BS-E subscale to be invariant across gender. The results support the factorial validity of BESES in the sample of Men, but underscore gender differences are attributable to the inventory.

### 56. Group cohesion, performance and player's satisfaction in soccer.

Borrego, C\*, Silva, C., & Silva, N.

*\*Sport Sciences High School of Rio Maior, Portugal*

The main goal of this exploratory study was to examine the relationship between group cohesion, performance and player's satisfaction. This study was accomplished with 72 juvenile male soccer players from four teams of Portuguese Juveniles National Championship. Federated soccer teams were assessed for cohesiveness with Portuguese version of the Group Environment Questionnaire -GEQ (Widmeyer, Brawley, & Carron, 1985), players satisfaction with Athlete Satisfaction Questionnaire -ASQ (Riemer & Chelladurai, 1998) and for performance through the national classification, and were divided in two team group: successful (teams A, B) and unsuccessful (teams C, D). The relationship between these multidimensional constructs was investigated once in middle of the season. We use the statistical technique ANOVA One Way and the test of H.S.D of Tukey, for multiple comparisons of the averages between Satisfaction and Cohesion of the team players, with differentiated degree of success. The dimensions in which teams are more satisfied were personal treatment and the one in which they are less satisfied was budget dimension. We found differences between successful and unsuccessful teams, successful teams were more satisfied with the level of performance, and teams are ordered according to the national classification (A,B,C and D). This study did not support the hypothesis that there are differences between successful and unsuccessful teams regarding cohesion. However, unsuccessful teams have higher values in individual attraction to the group in relation to the social aspects (AIGS). Moreover, stronger correlations were found between satisfaction and group environment dimensions in successful teams.

### 57. Leadership and player's satisfaction in soccer

Borrego, C\*, Silva, C., & Gouveia, A.

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The main goal of this exploratory study was to examine the relationship among preferred and perceived leadership and player's satisfaction. Satisfaction level is a reflection of an athlete's reactions to the extent that athletic experience meets personal standards. Participants were 42 male soccer players aged 17 and 18 years old from two teams, with 9,4 +/- 1,8 years of playing experience. Participants completed the Portuguese version of the preference and perception Leadership Scale for Sport - LSS (Chelladurai & Saleh, 1978) and players satisfaction was assessed with the Athlete Satisfaction Questionnaire -ASQ (Riemer and Chelladurai, 1998), with 4 dimensions: training and instruction satisfaction, personal treatment satisfaction, team performance and individual performance satisfaction. Results indicated that players preferred training and instruction (4,17 +/- 0,5) and democratic leadership behaviours (3,36 +/- 0,4) and also perceived more training and instruction (3,84 +/- 0,5) leadership behaviours and more democratic behaviour (3,28 +/- 0,5). Players were more satisfied with team performance (5,7 +/- 1) and less with personal treatment (4,99 +/- 0,9). Individual performance satisfaction had significant correlations with all the preference dimensions of LSS and only with training and instruction perception version. Satisfaction with team performance had more significant correlations with preference leadership (training and instruction, social support, positive feedback and autocratic behaviour) than with perception (training, instruction and democratic behaviour).

**58. Human factor in air sports accidents in Poland according to text-mining analysis**

Ryszard Makarowski

*University of Gdansk, Poland*

The search for "sport psychology" in the EIFL EBSCO e-magazine database, return 3879 academic articles. Searching the same database for "text mining", return 21 articles. Joining the two phrases, "sport psychology" and "text mining", the search is fruitless (<http://web.ebscohost.com>, 02.02.2007). What is "text mining" then? *Text mining* is a set of concepts and methods of text resources processing by the means of computer algorithms, which allows automation of the process of natural language documents processing, and consequently to obtain useful knowledge. *Text mining* is a type of *data mining* developed to cover tasks and applications connected with text documents. It is a type of statistical analysis, in which text documents (qualitative), such as opinions, reports, statements, voices, commentaries, descriptions, or unfinished sentences, are processed by a computer program for measuring quantitative variables, which permits the use of classic statistical techniques such as factor analysis, data clustering, or other known dispersion distribution measuring apparatus. *Text mining* has been increasingly popular since the 1990s, and currently is one of the fastest-developing areas of data analysis, both in terms of scientific research and practical application. It is worth mentioning that the method may supplement such disciplines as pedagogy, psychology, law, religion, etc., as well as statistical science. Air sports are taken into account in the research presented here. The analyzed documents include all air accidents in Poland in the years 1993-2005, and particularly air accidents, catastrophes and incidents which took place in local flying clubs and involved sport aircraft, gliders, hang gliders, parachutes, and paragliders. The leading cause of most accidents is the so-called human factor. The increasing number of air sports accidents makes it difficult to draw unambiguous conclusions without using the aforementioned statistical analysis, especially as the notion of human factor, as dealt with by psychologists, is exceptionally wide.

**59. The beginning and the maintenance of eating disorders in female athletes**

Lieurquin A.S. \*, Godin, Ph., &amp; Lories, G.

*\*University of Louvain; Department of Psychology; Research Unit for Emotion, Cognition, and Health (ECSA), Belgium*

The different forms of eating disorder observed among sport population represent an important issue. In fact, more and more athletes acquire actually an abnormal and harmful eating behaviour, from the simple weight concern to anorexia or bulimia nervosa. Our first researches show that the demand of sports environment exerts a bad influence on health and weight worries among athletes (men and women). The purpose of the present study is to understand the beginning and the maintenance of disorder, in order to determine the role that each factor is playing. Then the aim is to elaborate an appropriate primary or secondary prevention program. We have tested our pattern (by means of clinical interview and standardised tests) on female athletes suffering from eating disorder and on "control athletes", in order to compare which factors are present or not and if they could lead to the development and/or the maintenance of disorder in the athlete. According to our hypothesis, some fragility factors (body dissatisfaction, bad performances/achievements, etc.) associated to some environmental factors (various pressure, missing coaching, etc.) will bring about different learning mechanisms (the slimmer you are, the better you are) that cause disorders. However, the data processing is in progress. Moreover, if the necessity of learning is indeed confirmed, additional researches will be essential in order to study the actions that will help warning against a development of eating disorder.

**60. Personal characteristics as regulators of burnout in male and female athletes**

Helen Grin

*Kuban State University of Physical Education, Sport and Tourism, Russia*

Elite sport is characterized by high intensity of competitive activity of athletes that leads to the growth of mental loadings and increases interest to the problem of athletes burnout. The purpose of the study is to investigate the interrelation between personal characteristics of male and female athletes (locus of control, achievement motivation, personal anxiety, self-esteem, level of aspiration) and burnout. Maslach and Jackson ABQ-test adapted for Russian populations, Spilberger personal anxiety scale, Ellers achievement motivation test, USC – locus of control test, Dembo-Rubinstain test were used. The participants of the study were 190 athletes, aged 14-29 (113 males and 77 females), who followed intensive sport practice, that may cause burnout. Positive correlation were obtained between indices of burnout and personal anxiety ( $r=.29$ ,  $p<.05$ ), discrepancy of self-esteem and aspiration level ( $r=.35$ ,  $p<.01$ ). Negative correlation were registred between "reduced sense of accomplishment" (ABQ-test) and achievement of success motivation ( $r = -.27$ ,  $p<.01$ ); self-esteem ( $r = -$

0.41,  $p < .01$ ), general internality ( $r = -.27$ ,  $p < .01$ ) were revealed. Male and female athletes showed that they had experienced burnout mostly as “reduced sense of accomplishment” and “emotional/physical exhaustion” (ABQ-test). Male athletes experience “devaluation of achievements” more often than female.

### **61. I want to pee but I just can not do it – the problem of urine doping tests in competitive sports**

Anne-Marie Elbe\* & Katharina Strahler

*\*University of Copenhagen, Denmark*

During the first author’s sport psychological consultancy work it became apparent that a number of top-level athletes complained about and extremely suffered from not being able to pee during doping controls. The aim of this presentation is to show the results of a study conducted with 37 German doping control agents who were questioned about problems that athletes have during urine testing. The results indicate that, in average, problems occur in over 40% of monthly controls performed in Germany. No differences could be found between male or female, younger or older athletes or training and competition testing. However, the results indicate, that the reasons the athletes state for the problem are mainly of psychological nature. The reasons most frequently mentioned are statements about not being able to pee in the presence of others or being too tense. Since there is almost no research available concerning urine control testing we suggest that this problem is further analyzed and sport specific intervention strategies developed for the athletes concerned. In addition, we recommend raising the awareness for this problem among people involved in top-level sports.

### **62. Study on interrelationship of fatigue, social support and mental health of elite athletes**

Zhou Yi-Gang\* & Yu-Jiang Gou

*\*Physical Education College of Zhengzhou University, Henan*

The purpose of this study is to explore which factors are apt to bring about a certain mental symptom for athletes and propose some useful suggestions for mental health education in the sport team and provide as well empirical reference for sport and health psychology. Based on stress theory and stress–response model theory for negative training, a survey of 163 athletes above the first level was performed in a certain province with the tools of Psychological Health Inventory, Sport Fatigue Questionnaire, Social Support Review Scale and perceived Social Support Scale. SPSS10.0 Software was used for reliability analysis, Pearson correlation analysis and multiple stepwise regression analysis. The results show that psychological health level of elite athletes has close relation with the degree of fatigue and the correlation between many factors reaches the significance level and physical and emotional burnout among sport fatigue factors are important aspects affecting psychological health level. Age, level, economic condition, suspicion, somatization and perceived family support are factors affecting sport fatigue of elite athletes. Social support is an important outside “buffer” for the training process, among which family support and subjective support play the vital role in adjustment. It is suggested that more attention shall be paid to those athletes of the older, high skill level, low family income and high scores for psychological check.

### **63. Present situation and interrelationship of social support and mental fatigue for college athletes**

Yu-Jiang Gou\* & Yi-Gang Zhou

*\*Physical Education College of Zhengzhou University*

The purpose of this study is to discuss the individual difference in mental fatigue for college athletes and make plans or choose proper coping strategies in order to help college athletes prevent, lessen or deal with mental fatigue. Based on cognition—emotion stress theory model and stress theory, the research is performed among 100 college athletes above nation’s first level with the tools of Psychological Fatigue Questionnaire, Social Support Review Scale and Perceived Social Support Scale. SPSS10.0 software is adopted to carry out test of reliability, t—test of independence, one-factor analysis of variance, Pearson correlation analysis and multiple stepwise regression analysis. The reliability of coefficients for internal consistency and bisection in the scales used here is high and the same with reliability of the questionnaire. The findings suggest that 1) symptoms of sport mental fatigue for college athletes are quite obvious mainly including emotional and physical burnout and negative assessment on sports; mental fatigue of college athletes with different sexes and skill levels reaches significance level; conditions of social support for college athletes with different sport events, skill levels and regions show significant difference and more social support falls on athletes of skilling events, master levels and urban families. As one related factor of sport mental health, social support affects the factor of decrease in sense of achievement and acts as an important outer source for gaining sense of achievement. As well it is illustrated that main causes of sport mental fatigue are intensive training and emotional/physical burnout from competition.

**64. Experiences of people with disabilities playing golf in Finnish golf courses**

Leena M. Matikka

*University of Tampere, Finland*

The purpose of the study was to find out if golf would also be played and enjoyed by people with disabilities and if it would be possible to develop golf as a therapy method for those suffering from longitudinal diseases or disabilities. First, a survey for all members of golf societies in Finland was conducted in August 2006. Second, golf as a therapy method was reviewed and discussed with scientists and people with disabilities. A total of 77 persons with disabilities or longitudinal diseases answered the survey (64 % were men). Most were 50 – 59 years old and lived in Helsinki or its surroundings. A 30% were playing golf for 11-19 years and the mean of the handicap of the whole group was as high as 28.2 (std=14.5). Most of them (65 %) had started golf after they got a disease or disability. Most felt their health status quite good and also enjoyed other sports activities as cross country skiing, orienteering, biking, playing tennis etc. Difficulties most often mentioned in golf play were moving around golf courses, feeling tired and carrying their clubs and other belongings. Most important motivational aspects for playing golf were feeling good, having social contacts, acquiring new skills and fitness. Most were started playing encouraged by family members or friends and assessed their support as an important issue to continue their golf play. The biggest problems of these people seemed to be the lack of golf cars and other technical aids as well as access to golf courses situated far away from their home. Additionally, there was a shortage of good coaches.

**65. Eating disorder and mood states in female junior long-distance runners in Japan**

Yoko Kajiwara\*, Saburo Yokokura, Masami Hirashita, &amp; Shinichiro Ono

*\*Faculty of Education, Bunkyo University, Saitama, Japan*

In long-distance races and marathons, runners must move their own body weight for extended periods. Therefore, excessive weight and body fat are negative factors for performance, and a lower weight is advantageous. Female runners often follow excessive dietary restrictions to reduce weight, with the risk of developing eating disorder, and preventive measures are necessary in health management. In this study, Eating Attitude Test (EAT) 26 was performed in 295 female high school long-distance runners (age, 18.0±1.9 years). From these runners, 85 had an EAT 26 score of < 5 (low score group) and those with a score 20 as a cut-off point for screening for anorexia nervosa (AN) (high score group) were obtained, and psychological characteristics were compared between the two groups. The high score group (BMI, 18.6±1.1; standard body weight ratio, -11.4±5.7%) appeared to have a greater desire for a slim body than the low score group (BMI, 18.2±0.9; standard body weight ratio, -14.8±4.5). Comparison of each factor of POMS showed significantly higher values in the 6 factors excluding vigor and TMD in the high score group than in the low score group. As a factor inducing eating disorder, psychosocial stress is considered. The high score group showed marked psychological exhaustion associated with daily practice and races and a higher incidence of running injury, suggesting a higher incidence of psychological stress. This may be reflected by the enhancement of the depression, anger, tension, and confusion in the high score group.

**66. Recovery from burnout among elite soccer coaches**

Sören Hjälms\*, Peter Hassmén, Henrik Gustafsson, &amp; Erik Lundkvist

*\*Örebro University, Sweden*

A limited number of studies have examined burnout among elite coaches, and in particular the recovery process. The aim of this study was to interview a group of emotionally exhausted elite soccer coaches regarding their experiences of and recovery from burnout. In a population of 47 male elite soccer coaches, those 6 with the highest scores on the Maslach Burnout Inventory (MBI-ES) were selected. Semi-structured interviews were conducted, transcribed verbatim and inductively analyzed using interpretative phenomenological analysis. Two main superordinate themes were identified. These were labelled cognitive and behaviour processes, respectively. For recovery to take place, the coaches stressed the importance of cognitively understanding and diagnosing problems related to work overload and high pressure to perform. They also stressed the importance of actively changing their behaviour; both by increasing energy by investing more time in themselves, being with their family and keeping fit, and by reducing stress responses by relaxing and developing coping strategies to handle pressure from other people. Positive feedback and support from other coaches and clubs were also deemed important for successful recovery. Factors mentioned above as being important when recovering from burnout are probably equally important when trying to prevent burnout. If acted on, this knowledge may save many coaches from being forced to recover from burnout, a painful and time-consuming process.

**67. Relationship between quality of life and depression among elders in a sport games**

Wen-chin Chen\*, Chang-Yong Chu, &amp; Hui-Chun Tang

*\*Taipei Physical Education College, Taiwan*

Quality of life and depression in the elderly have become a major concern in Taiwan. Physical activity has been associated with higher quality of life and lower depression in the elders. Given the popularity of sports and physical activity in the older population in Taiwan, few studies examined the relationship between depression and quality of life in the elderly who actively participated in sports. As such, the purpose of this study was to explore the relationships between depression and quality of life in the elderly that actively participated in sports. Two hundreds and two older individuals (with age range between 50 and 85) who participated in a local sports game were surveyed. Data were collected through structured questionnaires, which included demographic questions, depression scale, and quality of life scale. The findings of this study were as followed: (1) Sex, age, and education had no effect on depression. (2) As for quality of life, sex effect was not significant. However, persons with higher education scored higher on the physical functioning subscale of the quality of life. Less old individuals also scored higher on the physical functioning subscale. (3) Depression was significantly negatively correlated with 3 subscales (physical functioning, mental health, and social function) of the quality of life. Depression was significantly positively correlated with 3 subscales (role functioning-activity, role functioning-emotional, and bodily pain) of the quality of life.

**POSTER SESSION 4****SATURDAY 8/9/2007****MOTIVATION IN SPORT****01. Confirmatory factor analysis and factorial dimensionality of the Amotivation Toward Exercise Scale among older inactive individuals**

Maria A. Gigoudi &amp; Symeon P. Vlachopoulos

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The present study examined the factor structure of the Amotivation Toward Exercise Scale (ATES) among older inactive individuals. The ATES represents a taxonomy of reasons toward non-exercise participation based on previous work by Pelletier, Dion, Tuson and Green-Demers (1999) on environmental amotivation, and Legault, Green-Demers and Pelletier (2006) on academic amotivation. The ATES measures the extent to which older individuals adopt outcome, capacity, effort, and value beliefs associated with exercise amotivation. The instrument comprises 12 items categorized into four subscales with three items per subscale. Confirmatory factor analysis on a validation sample of 300 older individuals aged between 62 and 86 years ( $M = 71.13$ ,  $SD = 5.84$ ) supported the 4-factor correlated model hypothesized to best represent ATES responses obtained through the personal face-to-face method of data collection. Also, the 4-factor correlated model was significantly better than the single-factor model, the 4-factor uncorrelated model, and the hierarchical model representing the inter-correlations between the first-order factors. The goodness of fit indexes were  $X^2 = 154.61$ ,  $df = 48$ ,  $p < .001$ , NNFI = .969, CFI = .977, RMSEA = .086, 90% CI = .071 - .101. All of the factor loadings were greater than .70 and statistically significant at  $p < .05$ . Also the subscale Cronbach's alphas were greater than .80. Overall, the CFA results provided promising evidence for the factor structure of the ATES among older inactive individuals.

**02. Formation optimum motivational climate at lessons of physical culture**

Erkomayshvili, I.\*, Serova, N., Rogaleva, L., Fitina, L., Galysheva, S., &amp; Zhukova, O.

*\*Ural State Technical University, Ekaterinburg, Russia*

The creation of optimum motivational climate is a major factor for working effectively at lessons of physical culture. Previous research has shown that among girls at the age of 14-15 years, external motives of physical culture employment prevail. In particular, 46% of participants attend a lesson of physical culture because it is required by the school program, 34% to receive a positive rating, and 16% to communicate or to have a cheerfully time. Only 8% considered that the lesson of physical culture promotes strengthening of health, development of physical and personal qualities, and less than 2% considered that the lesson of physical culture develops creative

abilities. Therefore, the most important task in working with the pupils should become the formation of internal motivation to employment of physical culture. The accomplishment of this task is possible in lessons of physical culture where the conditions will facilitate pupils' realization of their abilities and active creative work. Pupils were offered special school creative competitions (sports - dancing festival), in which all pupils could participate. At lessons of physical culture the teacher conducted the large psychology-pedagogical work connected first of all to rendering assistance by pupils in situations of interpersonal conflicts and emotional support. The results of this work, have confirmed the opportunity of increasing internal motivation to employment of physical culture at the pupil through creation of a creative microclimate at lessons.

### **03. Socio-cognitive antecedents of teacher motivation**

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This study, based on Pekrun's (2002) socio-cognitive model of academic emotions, Weiner's (2001) attribution theory of achievement behaviour, and mainly, Jesus and Lens' (2005) integrated model for teacher motivation, aimed to investigate (a) teachers' emotions in physical education instructions, (b) teachers' attributions for the perceived quality of their own teaching, (c) the role of the perceived quality of teaching, and the subsequent attributions, in the generation of teachers' emotions and expectations for future teaching. Elementary and secondary school teachers (n = 130, both gender), from a variety of Greek state schools, participated in this study. The participants completed the scales at the middle of a school year. The results showed that (a) teachers, particularly those perceiving their teaching as success, experienced positive emotions in their classes, (b) teachers attributed their perceived successful teaching to internal, personal controllable, and, mainly stable factors, whereas they attributed their perceived unsuccessful teaching to external, personal uncontrollable, and, mainly unstable factors, (c) the attributional appraisal (in particular stability) and, mainly, the intuitive appraisal influenced the formation of teachers' experienced emotions in classes, and (d) teachers' attributions (predominately, stability) for their own teaching was positively related to their expectations for future teaching performance. Discussion focuses on application of the findings in education, and, in particular, in teacher motivation, and future research.

### **04. Examining the effect of motivational regulations on intention and actual participation in physical activities**

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The hierarchical model of intrinsic and extrinsic motivation suggests that motivational regulations have certain cognitive, affective and behavioral consequences. Intrinsic motivation, contrary to extrinsic, is expected to have more positive consequences. The aim of the study was to examine this hypothesis in a leisure context using intention to participate and actual participation in physical activities as the outcome variables. The sample of the study consisted of 216 adolescents (Mage = 14.17 years, SD = 1.65). A two-wave prospective design was used. In the first wave, the adolescents of the study completed the Behavioral Regulations in Exercise Questionnaire and three items to measure behavioral intention to participate in physical activities during the following month. Five weeks later, the adolescents completed the Leisure-Time Exercise Questionnaire to measure physical activity during leisure time. The results of the analyses indicated that motivational regulations, apart from introjection, were significant predictors of intention to participate in physical activities. On the other hand, they did not predict actual behavior. Intention to participate in physical activities predicted significantly actual participation. The results of the present study imply that motivational regulations affect participation in physical activities through their impact on behavioral intentions. The findings of the present study provide valuable information on the role of motivational regulations in determining participation in physical activity.

### **05. Social physique anxiety, motives for physical activity and physical activity levels in early adolescent girls**

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Physical activity (PA) in girls drops considerably from age 10-15 years and self-presentation concerns related to the body may partly explain this decrease. Social Physique Anxiety (SPA) has been identified as a barrier to exercise although inconsistencies in the literature are evident, which may be due to the influence of heightened SPA acting as either a stimulus or a barrier to being active. This study examined the influence of SPA on PA and motives to be active in early adolescent girls (n = 182; mean age = 11.83 ± 0.32 years). Participants

completed the Physical Activity Questionnaire for Older Children (Crocker et al., 1997), the 9-item Social Physique Anxiety Scale (Smith, 2004) and the revised Motivation for Physical Activity Measure (MPAM-R; Ryan, Frederick, Lepes, Rubio & Sheldon, 1997). Results indicated that there was no significant relationship between SPA and PA ( $r = -.07; p > .05$ ). MANOVA indicated a significant difference between high and low SPA on motives for PA ( $F_{5,176} = 16.4, P < .01$ ) with girls with high SPA scoring significantly higher on the motives for appearance scale and lower on the interest and enjoyment scale than girls with low SPA. These results suggest that SPA is not a barrier to activity in this sample but high SPA may prompt girls to be active more for extrinsic appearance reasons than intrinsic motives. Extrinsic motives are known to be a poor predictor of long-term adherence to PA and may partly explain the subsequent decrease in PA seen in some adolescent girls.

#### **06. Perceived value of physical activity to significant others, peer relationships, and social goals predict physical activity motivation of adolescents**

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Based on Eccles (Parsons) and colleagues' (1983) expectancy-value model, a young person's value for physical activity is expected to be influenced by their perception of beliefs held by significant others as well as their personal goals. The aim of the present study was to explore how perceptions of the value that parents and peers place on physical activity, peer relationships, and social goals associate with adolescents' physical activity motivation. Arguably, greater endorsement of social goals could result in greater impact of significant others on one's motivation. Thus, it was hypothesized that: (a) perceived significant other value and peer relationships relative to physical activity would associate with personal value for physical activity, enjoyment, perceived competence, and physical activity behavior, and (b) these associations would be moderated by the degree to which social goals are endorsed. Middle-school students ( $N = 340, M$  age = 13.5 years) completed reliable measures of perceived significant other value (parents, peer group, best friend), peer relationship, social goal, and physical activity motivation variables. Higher perceptions of significant others' value for physical activity, more positive peer relationships, and greater endorsement of social goals associated with more adaptive motivational responses, including self-reported physical activity. Social goals largely did not moderate associations of significant other value and peer relationship variables with motivation variables. Although the moderation hypothesis was not supported, the findings show various social constructs and physical activity motivation to be linked and suggest that further consideration of the interface of social constructs in predicting physical activity motivation is warranted.

#### **07. The prediction of 2 X 2 achievement goals and perceived competence on passion in sport**

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The purposes of this research were to confirm the overall fit and reliability of the Passion Scale and to explore the prediction of 2 X 2 achievement goals and perceived competence on passion in sport. Two hundred and twenty one senior high school athletes voluntarily participated in the study. Their average age was 16.58 years. All participants were asked to complete the Passion Scale, the Perceived Competence Scale, and the 2 x 2 Achievement Goal Questionnaire for Sport. The results of confirmatory factor analysis showed a two-factor oblique model of Passion Scale, named harmonious passion (HP) and obsessive passion (OP). This theoretical model was found to be good overall fit ( $\chi^2(76) = 183.44, p < .05$ ; RMSEA = .08; CFI = .97; NNFI = .96) and reliability ( $R^2 = .22 \sim .67; \rho = .84 \sim .88$ ). The results of sequential simultaneous regression analysis showed that perceived competence positively predicted approach achievement goals (mastery-approach and performance-approach goals), which in turn positively predicted both HP and OP. In addition, the effects of performance-approach goals on HP were moderated by perceived competence. Thus, it is suggested that Passion Scale demonstrates good construct validity and the tenet of hierarchical model of achievement motivation (Elliot, 1999) was partially supported.

#### **08. The relationships of perceived learning environment and intrinsic motivation in elementary school physical education classes**

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The purpose of this study was to compare differences between gender and grade, and to examine the prediction of perceived learning environment on intrinsic motivation. Participants were six hundred and seventy-nine



(352 boys, 327 girls) third to sixth graders students. The average age was  $10.37 \pm 1.14$  years. The data were analyzed using two-way ANOVAs and multiple regression analysis. The results indicated the following: First, on intrinsic motivation, high grade boys reported higher than middle grade boys, middle grade girls reported higher than high grade girls, and high grade boys reported higher than high grade girls. Second, boys and girls' intrinsic motivation were significantly predicted by perceived challenge and perceived threat. These two variables accounted for 46.4% (positive) and 9.6% (negative) of total explained variance respectively for boys, and 41.7% (positive) and 8.4% (negative) of total explained variance respectively for girls. In conclusion, elementary school PE teachers should design programs that suit to different physical conditions in each gender and grade, in order to raise children's intrinsic motivation. The PE teachers should actively create a learning environment perceived by students as challenging, and not threatening, so that children could ultimately grow up in an atmosphere that filled with happiness while experiencing enjoyment.

### **09. Motivational climate, goal orientations friendship and peer acceptance in organized youth sport**

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Previous research has indicated that perceptions of the motivational climate may be stronger predictors of affect and behavior in sport than individual goal orientations. The purpose of the present study was to investigate the relative contribution of motivational climate and individual goal orientations on friendship and peer acceptance in organized youth sport. Participants were 1514 (males,  $n=917$ ; females,  $n=597$ , ages 12-16 years) youth participants from various sports clubs in and around Oslo, Norway. A series of simultaneous multiple regression analyses were employed. Results revealed that performance climate was positively associated with conflict, but task orientation was negatively associated with conflict. However, mastery climate was positively associated with companionship and peer acceptance. The present findings indicate that the coach-created motivational climate, rather than individual goal orientations, may well be more strongly associated with friendship and peer acceptance in youth club sport. The findings clearly demonstrate that coaches emphasizing a task-involving, mastery focus are arguably paving the way for positive peer relations in organized youth sport.

### **10. A comparative study of exercise motivations in university students in Norway and England**

Rune Høigaard\*, Bjørn Tore Johansen, Gareth W. Jones, & Derek M. Peters

*\*Agder University College, Norway*

Appreciating differences in reasons for exercise may be paramount for effective exercise promotion initiatives in university students in different countries. Research has investigated reasons in students from one university (Smith et al., 1998; Kilpatrick et al., 2005) or one student group (Cash et al., 1994) but none has compared diverse student groups from different countries. The purpose therefore, was to investigate reasons for exercise in students at University in Norway and England. Students completed The Reasons for Exercise Inventory (Silberstein et al., 1988) and additional demographic questions. Inclusion criterion was at least 1 day/wk with at least 20mins vigorous exercise. The 7 REI subscales were supported (Cronbach  $\alpha$  0.69 to 0.89) in the 462 participants (Norway 70 males, 137 females; England 124 males, 131 females; age  $23.10 \pm 6.11$  yrs). The highest reasons in females were: Norway - HEALTH, FITNESS, ENJOYMENT; England - HEALTH, WEIGHTCONTROL, BODYTONE; and in males: Norway - ENJOYMENT, HEALTH, FITNESS; England - HEALTH, ENJOYMENT, FITNESS. Location x gender MANCOVA (age and BMI covariates) identified gender differences ( $F_{7,426} = 18.17$ ,  $p < 0.001$ , partial  $\eta^2$  0.23) with males lower for WEIGHTCONTROL ( $3.16 \pm 1.48$  Vs  $4.10 \pm 1.50$ ) and MOOD ( $3.50 \pm 1.11$  Vs  $4.02 \pm 1.23$ ; both  $_{0.05-7} p < 0.007$ ); and location differences ( $F_{7,426} = 12.37$ ,  $p < 0.001$ , partial  $\eta^2$  0.17) with Norway higher for FITNESS ( $4.82 \pm 1.06$  Vs  $4.33 \pm 1.14$ ) and lower for WEIGHTCONTROL ( $3.24 \pm 1.62$  Vs  $4.09 \pm 1.41$ ), APPEARANCE ( $3.67 \pm 1.61$  Vs  $4.15 \pm 1.53$ ) BODYTONE ( $3.77 \pm 1.47$  Vs  $4.35 \pm 1.30$ ) MOOD ( $3.62 \pm 1.10$  Vs  $3.92 \pm 1.25$ ; all  $_{0.05-7} p < 0.007$ ) with not interaction effect. Accepting the universal importance of HEALTH, students in Norway generally demonstrate more positive reasons for exercise.

### **11. Motive manifestations with taking into consideration individual profile of functional asymmetry.**

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This paper examines characteristic of motive manifestations taking into consideration individual profile of functional asymmetry. Any motor activity is realized by human in asymmetric area. Organization of motive

manifestations of human reveal in realization motive act in any direction (up-down, right-left, forward-backward, and also mixed variants). Methods of research respond to the goal of this work. Results of research reveal that the exposure of individual profile of functional asymmetry in proper time allows individualizing the activity of students in educational process and gives an opportunity to correct this activity, optimize it and to give objective evaluation of physical efficiency of students.

### **12. Sport motivation and commitment: An evaluation with university sport intramural participants**

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This study was designed to explore sport motivation and sport commitment. The Sport Motivation Scale and the Sport Commitment Scale were administrated to 453 students (289 males and 164 females, M=20.4 yr.) sport intramural participants in Greek Universities. Pearson intercorrelations in sport motivation showed strong relationships between intrinsic and extrinsic motivation scores, whereas amotivation scores showed a strong correlation only to external regulation, a negative correlation to intrinsic motivation and non significant correlation to external identification and extrinsic introjection. Pearson intercorrelations in commitment showed strong relationships between sport commitment, enjoyment, personal investments and involvement opportunities. In contrast, social constraints were negatively correlated to sport commitment and enjoyment. Pearson correlations showed a strong correlation between intrinsic motivation and commitment except for social constraints, where the scores were not significantly correlated. Most of the items of extrinsic motivations were correlated to commitment as well. Amotivation scores were negatively correlated or not scientifically correlated to commitment. Only social constraints showed strong relationship with amotivation. The results showed that high self-determination is supportive of commitment. Gender analysis (MANOVA) showed that females, in contrast to previous findings, were more strongly motivated than males. Post hoc test showed significances in IM to know, intrinsic accomplishments, external identification and external regulation. Gender analysis (MANOVA) showed that females were also more strongly committed than males. The post hoc test showed significances in social constraints and personal investments.

### **13. Specific motivational aspects in female soccer referees**

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Introduction: In the present exploratory study the focus was laid on the analysis of specific motivational aspects in female soccer referees. This study was conducted in the field of emotion- and stress-related conditions and consequences of the activity of male and female referees (e.g. Teipel, Kemper & Heinemann, 1999). The essential motives for the start of the role of female soccer referee were the aspects of enjoyment during the game, the opportunity of leadership and the interpretation of a personal challenge in a male-dominated area of sport. Method: A specific standardised questionnaire on important motives of female soccer referees was conceived and applied in relation to the start and maintenance of the career. The questionnaire consisted of 34 person- and environment-oriented motivational aspects which were answered on a 6-point-scale from '1=not true' to '6=very true'. The population included 20 female soccer referees from high to medium high leagues in female soccer in Germany. Furthermore specific motivation-related focused interviews were conducted with 7 female referees. Results: At the beginning of the career important incentives for the female referees had been the interest in the game soccer, the need of physical and sport-related activity and the orientation on acquaintances and friends in soccer. The female referees confirmed the notion that it had been their own decision primarily to become a referee and not the consequence of the influence of club representatives. Predominant motivational aspects were related to the feeling of enjoyment during their activity, the specific attractiveness of the soccer game, the need for competition with male referees and the wish to master the soccer rules during the game. Besides, the aspects of progress to higher leagues as a soccer referee, coping with new challenges and getting recognition in a male-dominated field belonged to the relevant incentives. The notions of regular physical exercise, striving for a healthy life and maintaining a good physical shape were of lower relevance. Furthermore, the aspects of the increase of personal respect and regard on the soccer field and in the public were obviously of lower importance. The female soccer referees felt themselves highly accepted by female and male soccer referees as well as female junior and senior players, but in accepted a lower degree by the male senior players and especially junior soccer players. Discussion: In the present study similar dominant motives of female referees could be detected as in male referees. But in contrast, the needs of taking part in a specific competition with male referees and of receiving respect in a male-dominated sport were quite important.

#### 14. The relationship between perceived coach behaviour and perceived motivational climate in youth football

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How sports coaches are perceived to behave may significantly influence athletes' perceptions of team dynamics. One such team dynamic is motivational climate which refers to the situational goal structures perceived by participants in a particular setting. If the sport context has high value placed on interpersonal competition, social comparison, the coach emphasizing "winning" and achieving outcomes and public recognition of the demonstration of ability, a performance oriented motivational climate will prevail. If the context emphasises learning and mastery of skills, trying hard to do one's best, and the coach using private evaluation of demonstrated ability, a mastery oriented motivational climate will prevail. The purpose of this paper was to investigate the relationship between perceived coach behaviors and motivational climate in 12 youth football teams (n=118, mean age 17.54±.84 years) using the Leadership Scale for Sport (LSS) and the Perceived Motivational Climate in Sport Questionnaire (PMCSQ). Internal consistency of the subscales was confirmed using Cronbach  $\alpha$  (Behaviours: Instruction .87; Democratic .81; Social Support .79; Feedback .72; Autocratic .62; Climate: Mastery .76; Performance .79). Standard multiple regression analyses were then used with mastery climate and performance climate as dependent variables and the coaching behaviours as independent variables. 38% (adj.  $R^2$  35%,  $F_{df51}$  2.97,  $p < .001$ ) of the variance in mastery climate was accounted for, with Instruction (beta .52) and Social Support (beta .28) making unique contributions ( $p < .001$  &  $p < .05$ ). 15% (adj.  $R^2$  11%,  $F_{df5}$  3.79,  $p < .001$ ) of the variance in performance climate was accounted for, with Autocratic behaviour making a unique contribution (beta .25,  $p < .05$ ).

#### 15. Sport in pregnancy: Motivational aspects

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Research has shown the benefits of physical activity in pregnancy in both biomedical and psychosocial parameters. Furthermore, previous studies have shown no negative effects of sports in pregnancy, if activity is conducted in an adequate and mostly riskless way. On the other side, only a few studies deal with activity patterns of pregnant women, their attitudes and beliefs, and other motivation-relevant variables. Therefore the purpose of the present study is to find out, in which way physical activity changes during the period of gravidity. Furthermore, correlations of physical activity with attitudes and knowledge on the topic 'sport and pregnancy' are investigated. For the study an online-questionnaire was developed covering 34 items on the person, the pregnancy, physical activity, on motivation to be active or not, on knowledge and on attitudes towards physical activity in pregnancy. In cooperation with a health insurance company pregnant women were asked to take part in the study. Two hundred and ninety five women (age 20 to 45,  $M = 31$ ;  $SD = 4.4$ ) filled out the questionnaire. Most of the women (79%) had been active in physical activities before their pregnancy (mostly leisure and health sport). 93 % of the active women reduced their physical activity during pregnancy, especially in the second and last third of the pregnancy. Attitudes towards physical activity in pregnancy are very positive. 91% of participants expected positive effects. The most frequently stated reasons for missing sport activity were problems of self-motivation, physical complaints, and lack of time.

#### 16. Model development and first steps of evaluation

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The counts of doping findings in 2005 were by one third higher than 2004 (WADA, 2006). Additionally, doping is not longer only a phenomenon of elite sport. More and more athletes of lower performance levels and low age are involved in doping. In spite of many studies that have been conducted on biomedical aspects of doping, research is up to now not able to answer questions on behavioural and motivational problems of doping satisfactorily. Especially, there is a lack of development and integration of motivation models of doping behaviour. Therefore the purpose of the present study is (1) to develop a motivational model of doping behaviour and (2) to conduct a first study to find out significant correlations between the different parts of this model. The model development was based on motivation models of health psychology and drug taking behaviour. Additionally, experiences of doping prevention programs have been involved. In the model determinants of doping are attributes of the person and his or her social and material environment. As personal variables knowledge, attitudes, beliefs, and personality factors were stated. As environmental variables for

example success or failure, social pressure, and attitudes of significant others are meaningful parts of the model. The interaction between individual and environmental variables leads to specific goals and intentions against or towards doping behaviour. In a pilot study 220 athletes from different sport activities and different sport performance levels filled out a questionnaire based on the developed model. Results show significant correlations between different model components and only low interrelations to sex, age and performance level.

### **17. Intrinsic motivation in gym exercisers and it's relation with gender, most practiced activity and weekly training frequency**

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*Purpose:* This study examined intrinsic motivation in gym exercisers and its relation with gender, most practiced activity and weekly training frequency. *Methods:* 200 fitness practitioners, 89 male and 111 female, with ages ranging from 15 and 58 years (M age: 28,98, sd: 8,38) completed the *Intrinsic Motivation Inventory* (IMI, Ryan, 1982; Mc Auley, Duncan & Tammen, 1989). *Results/findings:* Subjects show high average values in the dimensions Pleasure/Interest and Effort/Matter, which shows good intrinsic motivation, but the Competence dimension shows a relatively lower average value that reduces levels of intrinsic motivation. With regard to gender the following differences were revealed: women showed higher levels of Pleasure/Interest, but men perceived themselves more competent and demonstrated more effort in exercise, women showed higher levels of Pressure/Tension. With regard to the activity people practice in the gym, people who practice group activities showed more pleasure and interest and higher pressure and tension. Strength training and cardiofitness adepts showed more effort. However, for both activities, the levels of competence were low. With regard to training frequency, people who train less than 3 times a week perceive themselves less competent and show less effort in exercise than those who train 3 or more times a week. *Conclusions:* We conclude that it is necessary to promote strategies especially for women and strength training individuals due to their lower levels of competence. The intervention should focus on the promotion of the perception of competence. Any pressure should be eradicated, so that we could promote the training frequency of 3 or more times a week.

### **18. Influence of different in content motive activities classes on the attention of female students with harmful habits**

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One of the important personality psychological assets is attention. The attention volume, concentration and distribution are very important for the educational activity. The purpose of the present study was to reveal the influence of physical loadings of different duration and system on attention parameters of female students with harmful habits. A study with 240 female students from Trakia University - Stara Zagora has been carried out. It included the following directions: First direction – one-year pedagogical experiment according to a complex program for sustaining and developing motive qualities. Second direction- three classes of different content but having the same duration- 60 minutes: (a) *a cycling-long-distance race*. During this class the female students made 12km long-distance race by bikes. (b) *a volleyball game*. The class includes warming-up, special volleyball exercise with balls and educational game. (c) *a physical endurance* complex including physical endurance exercise mainly from the Bodyfit-energy for live program. A coded survey has been carried out to establish the presence of harmful habits. The standard methodology of the Bourdon correction sample has been applied. We used the Bourdon's correction sample for collecting qualitative information and registering the changes, occurred in the attention parameters - concentration, volume and distribution. The following indices have been calculated: An attention volume index (B) indicating the total amount of the sings processed. An attention concentration index (r), indicating the number of the letters omitted. An attention division index (p), indicating number of missed letters. An analysis of Variance and Comparative analysis has been used for processing the results obtained. The Student's t-criterion for dependable excerpts has been used for comparing the average values. The differences at  $p < 0.05$  have been accepted as reliable. We can draw a general conclusion that after single classes the attention properties of female students changed as follows: The attention volume increased. The attention concentration decreased. The attention distribution showed positive changes. As a result of systemic physical exercise and sport the attention volume, concentration and distribution considerably improve.

### 19. Promoting self determined motivational strategies in physical activity

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This study investigated the criteria for promoting self determined motivational strategies in physical activity bearing in mind those fundamental variables that could serve as pivot in promoting athlete's interest towards physical activities. One hundred and sixty final year students of the Department of Human Kinetics and Health Education, University of Lagos, Nigeria, formed the population out of which only 100 who are seasoned athletes were randomly sampled for the study using a highly structured and standardized questionnaire of twenty (20) items for data collection. Analysis of the data was done using chi-square and rank order. The findings revealed the following as factors promoting self determined motivational strategies in physical activities: (a) Interest, (b) Availability and Accessibility of sports equipment and facilities, (c) Individual's health status, (d) Individual's focus, and (e) Government policy on physical education and recreation. The following recommendations were advanced based on the findings above for government to elicit the motivational status of the student athletes: (a) Government should make it a top priority policy to provide recreational/sporting facilities and equipment, (b) Government should vote adequate funds for the provision of sports/recreational facilities and equipment, and (c) Government should make it mandatory for the University authority to allot specific days and hours weekly to be lecture free for students to engage in competitive sports and recreational sports.

### 20. Effects of motivational strategies on the achievement level of professional footballers in Lagos State

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This study was designed to identify selected extrinsic motivational strategies as they affect the achievement level of elite professional football players in Lagos State. The population for the study was drawn from six professional soccer clubs in Lagos State and a total of one hundred and fifty (150) players were used as the sample population. The survey method was utilized for the study. The instrument used for data collection was a structured questionnaire. Seven sub-hypotheses, were identified and tested using inferential statistics of chi-square ( $\chi^2$ ) as data analysis. The results showed that monetary award, insurance policy, stimulating facilities and equipment were found to have positive effect on participants' performance. Also, it was found that material gifts and presents, employment of competent coaches, audience effect, and medical care have significant influence on the achievement level of the elite professional football players in Lagos State. The researchers made the following recommendations in view of the results of the research: (a) Club management and the soccer ruling body should take the issue of medical care and insurance of players as a matter of serious concern; (b) More money should be injected into the purchase of state-of-the art equipment to enhance better performance; (c) Monetary award as a motivational factor should be given to players though not all the time as it may be counter productive; (d) Competent coaches should also be employed and appropriately rewarded.

### 21. Motivational profiles of sport dancers

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Sport dancing is known as both sport and entertainment (social dancing). It is important for the management and practice of dancing to identify and differentiate the main motives for exercising sport and social dancing. The aim of the study was to identify specific motivations for involving into sport dancing and for continuation of these activities. The questionnaires used were Sport Motivation Scale (Pelletier et al., 1995) and Participation Motivation Questionnaire (Gill et al., 1983), adapted to Bulgarian language. Participants were 168 people aged between 11 and 55 years, who had just started exercising sport dances. Motivational profiles of males and females of different age groups and level of competence (beginners, intermediate and advanced dancers), were compared in order to identify the particular motivational characteristics specific for sport dancing. Psychological tests results have been compared with the attendance records and with the duration of the involvement in sport dancing. The results showed that intrinsic motivation is dominant between different motivational factors, while amotivation and external regulation were almost not present in social dancers, so the self-determination index was very high. Several practical applications for the popularization of sport and social dancing and for building motivational strategies in sport are discussed.

**22. The dynamics of the motivation for sport dancing**

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Africa and Bulgaria about the reasons people have to practice the Sport Dancing. The study is performed over 232 persons, aged between 7 and 56 years. It shows the same pattern in all the countries - the primary motivations are of socially-psychological character and are almost entirely related to entertainment, but gradually the motivations are strengthened by desires to have positive emotions, social contacts and to be in good physical form.

**23. Relationships between emotions and goal orientations, in swimmers and water polo athletes**

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Understanding the mechanisms of performance – emotion relationships is crucial for accurate prediction and control of the impact of emotion on athletic performance. The Individual Zones of Optimal Functioning (IZOF) model attempts to describe and explain emotions related to individually successful and poor performances (Hanin, 1997, 2000). As for goal orientations, according to Elliot, the ego/performance goal should be distinguished in performance avoidance and performance approach goals. Research in academic domain provided construct and predictive validity for a questionnaire assessing task, performance avoidance and performance goals (Elliot & Church, 1997). In sum, it is suggested, that researches should focus on four goals, namely task, performance avoidance, performance approach and social. Participants were 119 swimmers and 121 water polo athletes (132 males and 108 females) their age was 10 to 27 years old ( $M= 16,55$ ,  $SD= 3.62$ ). All athletes were Greek and they answered on valid and reliable questionnaires for goal orientations (Papaioannou, Milosis, Kosmidou, & Tsiggilis, 2002), and for emotions (IZOF, Hanin, 2000). The present study attempts to examine relationships between four emotion categories (optimal-pleasant, optimal-unpleasant, dysfunctional-pleasant, and dysfunctional-unpleasant) and four goals orientations (personal development/task, ego-strengthening, ego-protection and social acceptance). The results showed that in the present study factor and reliability analyses supported the psychometric properties of these tools. The personal development/task related to dysfunctional unpleasant emotions. The ego-protection had high negative relationship with optimal-pleasant and optimal-unpleasant emotions, and high positive relationship with dysfunctional unpleasant. These results support previous findings (Hanin, 2001) suggesting that personal development/task and ego-protection, is a mechanism moderating emotion impact on athletic performance. Therefore, it can be expected that pleasant and unpleasant emotions should predict task involvement better than they predict performance outcomes.

**24. Relation between achievement motivation and self-efficacy in professional and non-professional swimmers**

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In sport, motivation and self-efficacy play significant roles. What is the relationship between motivation and self-efficacy in high level swimmers? Is it the same or different from recreational swimmers? Motivation refers to the initiation, direction, intensity and persistence of behavior (Geen, 1995). Motivation is having the desire, willingness and persistence until a goal is achieved. Self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave (Bandura, 1997). The aim of the study was to analyse the relationships between motivation and self-efficacy in two groups of swimmers - professional and non-professional.

**25. Sport Mindsets – Exploration of the multivariate relationships among ability beliefs, goal orientations, and dimensions of sport perfectionism**

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The purposes of this study were to explore the nature of sport perfectionism profile groups, and to test the efficacy of Dweck's (1999) Implicit Self-Theory of Ability Beliefs model to predict multivariate relationships among ability beliefs, performance and social goal orientations, and dimensions of sport perfectionism. Two

analysis strategies were employed to address these objectives. First, scores for  $n = 532$  adult and high school sport participants (mean age = 31.8 years,  $SD = 11.8$ ) on five dimensions of sport perfectionism, as assessed by the preliminary version of the PSQ, were cluster analyzed. Four meaningful sport perfectionism profile groups emerged; (1) positive achievement, (2) non-perfectionist, (3) negative self-discrepant, and (4) negative parent-discrepant groups. Multivariate group comparisons indicated that the more maladaptive profile groups reported higher levels of ego, recognition, and status goal orientations, while the adaptive profile group reported the highest level of task orientation and learning ability beliefs. Second, a multivariate canonical correlation analysis was performed by considering the five dimensions of perfectionism as one set of variables, and both performance and social goal orientations as the second set of variables. Two significant and interpretable multivariate relationships ( $R_1 = .41$ ,  $R_2 = .33$ ) emerged, suggesting both adaptive and maladaptive relationships between the two sets of constructs. Discussion will emphasize theoretical implications of Dweck's Implicit Self-Theory model and the related hypothesis that are supported with these data. It will also elucidate interpretation of the sport perfectionism profile groups and their respective differences in regards to goal orientations and ability beliefs.

## 26. Motives for the adults to occupy themselves with physical education in Greece

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The purpose of the present research was to trace down the motives for the adults to occupy themselves with physical education in Greece. For the purposes of the research the questionnaire Exercise Motivations Inventory -2 (Markland & Ingledew, 1997) was used. Participants were 366 people, at the age of 18 and above ( $N = 366$ , 186 female and 180 male,  $M = 36.60$  years old,  $SD = 10.31$ ) who participated in sports activities and either continue or stopped, as well as people who have never participated in any sports activities but are thinking of taking up one very seriously. The participants who took or are taking part in physical activities, used to or do prefer mainly fitness (32.2%), football with its classical form or the form 5x5 (12.0%), swimming (8.2%), jogging (6.6%) and basketball (6.0%). A part of the participants stated that during the three last years has taken part in physical activities systematically and regularly (26.5%), while a bigger part stated that stops exercise for short time periods, but restarts it (32.5%). A third group of the participants stated that it stops exercise for longer time periods and restarts it (13.7%), while several stated that they don't exercise at all (8.7%). In order for the model's suitability to be achieved, six variables were excluded ( $X_1$ ,  $X_5$ ,  $X_6$ ,  $X_9$ ,  $X_{11}$ ,  $X_{31}$ ) from the fifty one which were included in the original EMI-2, because they presented loading smaller than 0.50. After the exclusions of some variables and on the basis of the check outs carried out, it can be claimed that the Greek edition of EMI-2 is suitable in order to estimate the factors of motivating the Greek population under the theory of the self-definition.

## SPORT PSYCHOLOGY

### 27. Football young-players' perception of change in level of knowledge and control over their psychological skills after a psychological training

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Athletes' performance is the result of the integration of acquired physical, technical, tactical and psychological skills. It has been highlighted that subjective judgements on personal skills may have a greater impact on athletes' success than skills themselves, and that it is necessary to deeply study these personal perceptions. OBJECTIVES: To establish the change perceived by athletes' in their knowledge and control over a number of trained psychological skills. METHODS: *Participants*: Ten young football players aged 16 to 18 yr ( $M = 17.65$ ;  $Sd = 0.54$ ) participated in the study. *Measures*: A questionnaire for the assessment of psychological skills was responded before and after a seasonal-period psychological training. Simultaneously, athletes completed a self-report regarding the perceived modification in the knowledge and control over these skills after such psychological training. Skills trained were self-confidence, use of self-talk, competitive motivation and fair-play. *Procedure*: Players adhered to a psychological training programme during 1 season, with 20 1/week 45-min sessions. RESULTS: Differences in measures after the training showed significant positive changes in all knowledge and control variables ( $p < 0.05$ ), changes which were supported by very elevated effect sizes ( $d$  up to 2.36). CONCLUSIONS: Results indicated robust changes in athletes' level of knowledge and control over several psychological skills after a training of them using self-report strategies. These results were obtained

despite the brevity and specificity of the programme, pointing out the suitability of including psychological training in order to complete the formation process of young athletes. They also highlight the utility of including subjective indicators of change.

### **28. Coaches' perception of change in level of knowledge and control over trained psychological skills by football young-players**

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Athletes' performance is the result of the integration of acquired physical, technical, tactical and psychological skills. **OBJECTIVES:** The main aim of this study was to establish the change perceived by coaches in their athletes' knowledge and control over a number of trained psychological skills. **METHODS:** *Participants:* Ten young football players aged 16 to 18 yr ( $M= 17.65$ ;  $Sd=0.54$ ) and their two coaches participated in the study. *Measures:* A questionnaire for the assessment of sport psychological skills was responded before and after a seasonal-period psychological training. Simultaneously, coaches completed a self-report regarding the perceived modification in the knowledge and control by the athletes after such psychological training. Skills trained were self-confidence, use of self-talk, competitive motivation and fair-play. *Procedure:* Players adhered to a psychological training programme during 1 season, with 20 1/week 45-min sessions. **RESULTS:** Differences in measures before and after the training showed significant positive perceived changes in all knowledge and control variables ( $p < 0.05$ ), changes which were supported by very elevated effect sizes ( $d > 1.0$ ) for both knowledge and control variables. **CONCLUSIONS:** Results indicated a parallelism between the strong changes experienced by athletes in their level of knowledge and control over several psychological skills after a training of them and the perception of those changes by coaches using self-report strategies. These results were obtained despite the brevity and specificity of the programme, pointing out the suitability of including psychological training in order to complete the formation process of young athletes.

### **29. Goal orientation and maintaining participation in youth soccer**

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The past literature on goal orientation has suggested that the task orientation more often than the ego orientation protects the athlete from disappointments and a lack of motivation (Duda, 1989). Accordingly, emphasis on task orientation should lead to a stronger persistence in competitive situations. The present study focused on the relationship between goal orientation and competitive involvement in youth soccer. The participants for the study were 1,949 Finnish junior level players. A valid license of the Football Association of Finland was used as the indicator of persistence 2.5 years after the initial survey questionnaire. During the initial phase the participants ranged in age between 14 and 15 years (mean  $\pm$  S.D: age  $14.9 \pm 0.3$  years). Goal orientation was examined using the Finnish version of the Perception of Success Questionnaire or POSQ (Liukkonen, 1998; Roberts, Treasure, & Balague, 1998). The dependence of persistence on task and ego orientation, and gender, and of their pairwise interactions was studied with forward stepwise logistic regression. The results demonstrated that only task orientation was related to persistence (Model Chi-Square= 15.503,  $df= 1$ ,  $p= .0001$ ). The players who had maintained their participation in soccer perceived more task orientation than the withdrawals. This finding held equally for girls and boys. The results suggest that the investigation of goal orientation may provide us with additional information concerning a young player's persistence for training in the face of failures and disappointments.

### **30. Effective communication of refocusing skills to athletes,**

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The ability to rebound after a setback is a critical feature in the psychological set of tools for any athlete. Orlick (1986) first coined the term refocusing, which refers to getting back on track after an error, a bad call, a loss or other family life situations which took the athletes' primary focus away from the task of performing in their sport. In preparation for the Asian Games, the Iranian national coaches requested solutions for this problem that they considered central for the realization of optimal performance in their sport discipline. A literature review of possible strategies resulted in no comprehensive publications on refocusing or any effective means of communicating possible solutions to their athletes. A research team conferred and resulted in a compilation



of potential stressors and strategies for overcoming them during international competitions. These problem areas included coach-induced pressures, dealing with pain, perfectionism, family and official organizational pressures, and performance outcome expectations of the national press and federations. Thus, an illustrated booklet was published and distributed to all athletes that illustrated 12 major causes of stress and performance disruptions and suggested possible refocusing strategies which included creating a protective mental bubble, reframing and other cognitive strategies. This document facilitated the various intervention processes with stressed athletes, since they were able to flip to a specific page/illustration and initiate discussion with the mental training coach. Further consideration of this area of concern is warranted.

### **31. Augmented information feedback in supporting performance of the shooters with disabilities**

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Augmented information feedback has been demonstrated to have positive effects on motor performance and learning. Although augmented feedback is widely investigated among able-bodied individuals, less interest has been directed to the examination of the effects of feedback on performance and learning among individuals with disabilities. The purpose of this study was to examine the effects of performance-related delayed feedback on sport performance among shooters with physical disabilities. A total of six elite shooters from the Finnish Paralympic Team accomplished a controlled 4-week training period followed by a 3-day retention test. During the training period, the participants were provided with video-based augmented feedback on essential aspects of performance, such as posture, gun stability and trigger pull. The participants assessed their performance by completing a 7-item Likert format questionnaire with a 5-point response scale. The assessed items that were regarded as essential for shooting performance were as follows: posture, gun stability, aiming, trigger pull, follow through, and concentration. The participants completed the questionnaire three days after accomplishing the feedback-training period. The number of assessed items was 42. In the 3-day retention test, the participants perceived no change (52%), improvement (24%) or large improvement (24%) in their performance. In particular, the participants perceived improvement in trigger pull (n=4), and concentration (n=4). Large improvement was found in gun stability (n=2) and follow through (n=2). According to the participants' self-assessments, the training period with augmented feedback supported their shooting performance. The feedback-training appeared to affect the essential characteristics of shooting performance.

### **32. The foundation of the competition strategies of the TOPS questionnaire**

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Exploratory factorial designs and their vindication – confirmatory factor analysis – are well established methodologies, widely and successfully applied in psychological research. The purpose of this study is to demonstrate that the application of a “second order” factorial design, using as items the factors generated by a “first order” factor analysis may reveal valuable generalized information on the nature of the factors. In the present work the Test of Performance Strategies (TOPS) questionnaire was used. Participants were 364 track and field athletes aged  $18.9 \pm 3.7$  years. The first factorial analysis yielded the eight expected strategies (activation, automaticity, emotional control, goal-setting, imagery, relaxation, self-talk and negative thinking), which explained 62.5% of the total variance. Only automaticity had low internal consistency (Cronbach's  $\alpha$  0.611), while for the other strategies the  $\alpha$  coefficient was greater than 0.700. Applying de novo a factorial design on the competition strategies, two new groups of strategies emerge. The first group encompasses the strategies of imagery, goal setting, self talk and activation, while the second group includes emotional control, negative thinking and relaxation. Automaticity does not correlate with either factor. These two groups seem to further classify the strategies according to their etiological source (intellectual or psychological foundation). The first group is related with mental attitudes aimed at achieving one's goals, while the strategies in the second group seem to be more attributable to uncensored psychosomatic states and thus they may be considered not as strategies per se but rather as emotional states, which may endorse or impede performance. These findings provide further support towards the validity of the construct.

**33. Gender and level differences in competition strategies of track and field athletes**

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The aim of the present study was to determine whether male and female athletes (gender effect) and elite and non elite athletes (level effect) differ in the strategies they adopt during competition. Participants were 364 Greek track and field athletes aged  $18.9 \pm 3.7$  years. There were 241 men (71 elite and 171 non elite) and 123 women (47 elite and 76 non elite). The instrument used was the Test of Performance Strategies (TOPS) questionnaire, designed to access eight psychological strategies used in competition (activation, automaticity, emotional control, goal-setting, imagery, negative thinking, relaxation and self-talk). A MANOVA model confirmed an overall significant gender effect, as well as a significant level effect, but no significant interaction between the two factors was observed. This allowed the application of simple univariate statistics for the determination of group differences separately for each factor (t-tests). Subsequent analysis revealed that during a competition women have less emotional control than men and they "allow" negative thoughts to infiltrate more frequently than men. Conversely, women display a more enhanced function of imagery than men. Elite athletes have, in comparison to non elite athletes, an increased ability to use activation, goal-setting, relaxation and imagery in order to boost them up psychologically in view of the competition. They are also able to allow less negative thoughts. The sex differences in performance strategies can be explained within the framework of the psychosomatic idiosyncrasies of the two genders, while differences between elite and non elite athletes can be better explained from the point of view of differences in experience of participation in top-level events.

**34. Locus of control and feeling of loneliness comparison in male athletes in individual and team sports**

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The aim of this study was to assess and compare locus of control and its relation with feeling of loneliness among male athletes in team (basketball, volleyball) and individual sports (wrestling and Taekwondo). Participants were 60 men in individual (age  $20 \pm 0.98$ ) and 60 men in team sports (age  $21 \pm 1.34$ ). Data were gathered by UCLA and Levenson's IPC and analyzed using Pearson's correlation coefficient and *t* tests. Results showed significant negative correlation between loneliness feeling and internal locus of control among athletes in individual ( $r = -0.259$ ) and team ( $r = -0.247$ ) sports. No significant differences were observed between two groups in loneliness feeling ( $p = 0.092$ ). The results of this study indicate that sports activities, regardless of individual or team activity, could reduce the feeling of loneliness.

**35. Pregame anxiety of female basketball players**

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The purpose of the present study was to examine the differences in intensity and direction of pregame competitive state anxiety among female basketball players deriving from their role in the game. The sample of the research consisted of 39 female basketball players of A1 league and 71 female basketball players of A2 league ranging in age from 21 to 25 years old. For the data collection the method used was the questionnaire Competitive State Anxiety Inventory-II, modified from Stavrou, Zerva, Kakko & Psychountaki (1998). The multidimensional theory of anxiety differentiates between cognitive and somatic anxiety. Cognitive anxiety is characterised by negative thoughts about performance, whereas somatic anxiety is characterised by perceptions of bodily symptoms (Davidson & Schwartz, 1976). The CSAI-II is a multidimensional scale that is believed to assess somatic anxiety, cognitive anxiety, and self-confidence. The scale consists of 15 questions (three five-item subscales) arranged on a 4-point Likert scale for intensity and a 7-point Likert bipolar scale for the direction of anxiety. The inquiring process lasted for one period. The questionnaire was administered one hour before the beginning of the game. The statistical analyses showed significant differences at self-confidence between the players of A1 and A2 league  $F(1,109)=10,188$   $p < .01$  and between starters and bench players  $F(1,109)=9,627$   $p < .01$ . There were also statistically significant differences at cognitive anxiety between playmakers and perimeter players, the first presenting a higher level of cognitive anxiety than the second  $F(2,109)=10,962$   $p < .001$ . Findings support the notion that these anxiety differences must be taken into consideration when examining anxiety performance association in basketball players.

**36. Greek adolescents and organized sports**

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The aim of the present work was to study the participation of Greek adolescents in organized sports and its possible relationships to risk-taking behaviors and nutritional habits. Participants were 1727 students (15 to 19 years of age). The students completed, anonymously, and in the presence of the researcher, the Youth Risk Behavior Questionnaire (YRBS, 2000). The results showed that 405 students (23.6%) participated in organized sports. Male adolescents in organized sports (36.9%) were significantly more ( $p < 0.001$ ) than female (11%). With regard to risk-taking behaviors, the analyses showed that students who participate in organized sports, comparing to those who do not: make less use of a helmet on a motorbike ( $F = 9.6$ ,  $p < 0.001$ ), engage more in physical fights ( $F = 13.7$ ,  $p < 0.001$ ), carry knives more often ( $F = 65.5$ ,  $p < 0.001$ ), consume alcohol more often ( $F = 32.3$ ,  $p < 0.001$ ), consume more anabolic steroids ( $F = 91.2$ ,  $p < 0.001$ ), are more sexually active ( $F = 76.6$ ,  $p < 0.001$ ), and have more sexual partners ( $F = 112.9$ ,  $p < 0.001$ ). With regard to nutritional habits, the students who participate in organized sports, comparing to those who do not, consume more fruits ( $F = 7.6$ ,  $p < 0.001$ ) and milk ( $F = 8.0$ ,  $p < 0.001$ ). Participation of adolescents in organized sports seems to be associated with some risk-taking behaviors. Further research should examine whether the interaction with co-athletes drives to these behaviors or participation in organized sports and risk behaviors are driven by the same causes.

**37. The influence of sport dances on positive and negative affects**

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The sport dances represent a modern and very attractive sport, that is why the number of the persons who practice it increases impetuously. The objective of the present paper is to study the influence of exercising sport dances on positive and negative affects. The following tests have been applied adapted to the Bulgarian language: STAI-Y (Spielberger et al., 1983), Beck Depression Inventory (Beck 1971), Perceived Stress Scale (Cohen et al., 1983), Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), Fordyce Emotions Questionnaire (Fordyce, 1988), Satisfaction with Life Scale (Pavot & Diener, 1993). Participants were 70 high school students and 65 college students. The students were divided into two groups. The first one engaged in social dancing (beginners), whereas the second did not engage in any sport activity. Dancers have been tested before their first dancing session and after 3 months of training. At the same times the non-dancing group was also tested. The results showed that regular practice of dancing reduces negative affects and increases positive affects in adolescents thus improving their subjective well-being. Practical implications for school and college sports and consulting are considered and discussed.

**38. Implicit learning in problem solving: Case of analogy the link between “insight” and “incremental processes”**

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In the recent past, some theories have been developed attempting to answer the following question “How do participants acquire knowledge of regularity that they encounter in an incidental learning situation?” (Frensch & Rüniger, 2003). Wagner and colleagues (2004) have recently provided evidence by using a mathematical “Number Reduction Task”, which originates from Thurstone & Thurstone (1941) and have demonstrated sleep-dependent creative insight. However, this study focuses on the insight resolution itself to the exclusion of the other incremental processes that led up to changing qualitatively behaviour. Our hypothesis was to show and characterize this two contrasting implicit learning processes, by the extraction of analogies cues (Gick & Holyoak, 1983) inside a situation problem and under the positive influence of memory consolidation during sleep. Twenty sports students (age 20-27 yr), participated to a modified version of the NRT. This task requiring the learning of stimulus-response sequence, in which they improved gradually by increasing response speed across task blocks. In addition, they could also improve abruptly after gaining insight into a hidden abstract rule underlying all sequences. Our results suggest that the way a person represents a problem determines which kinds of links become active. We also obtained specific qualitative results, like Vollmeyer et al. (1996) indicating that motivation can influence cognitive processes, and therefore lead to differential knowledge acquisition and performance.

### **39. The effect of feedback (Subject-determined and Teacher-determined) on performance and learning of long service badminton**

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The purpose of this study was to compare the effect of two type feedback on performance and learning long service badminton. Thirty undergraduate female were randomly selected and assigned to three groups. The acquisition stage comprised 8 sessions, including 20 attempts in each session. Participants received feedback according to their groups. Participants' performance was tested at the end of the 4<sup>th</sup> and the 8<sup>th</sup> sessions. Retention and transfer tests (short service badminton) were conducted 2 day after the conclusion of the training sessions. The data were analyzed through ANOVA and t-tests. The results showed that subject-determined group was significantly better than the control group in performance test, retention test and transfer test. Teacher-determined group was significantly better than the control group in performance and transfer test,. No significant differences were found between the two experimental groups, but the subject-determined group scored higher than the teacher-determined group, especially in the retention test.

### **40. Psychological preparation of Greek Elite Shooters: From a theoretical integrated program to applied individual consulting**

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The purpose of the present study was twofold: (a) to present three individualized psychological preparation programs (PsPP) of Greek elite shooters during competitive period and (b) to compare these with an integrated PsPP as a theoretical paradigm. The athletes (two women, one man) were members of the national team of shooting and participated in long term individual PsPP. Psychountaki, Kakkos, and Zervas (1996) described the principles, the goals, the structure and the basic characteristics of an integrated PsPP. The period of analysis was two months as a part of the competitive period and included national and international championships. The general competitive psychological preparation period is the second phase of the integrated PsPP, after the basic psychological preparation period. The structure and the basic characteristics of this phase were: (a) psychological self-evaluation (training, competitions), (b) individual meetings with athletes, and (c) daily psychological practice at home and shooting center during training and competitions. Although the athletes followed a common framework of the applied PsPP, the results indicated that differences existed among athletes: (a) in various parameters of PsPP, and (b) the consulting work process based on specific problems, competitive goals, etc. The effectiveness of the PsPP in all cases was evaluated as positive based on multiple criteria such as performance outcomes, psychological profile in competitions, athletes' and sport psychologist's estimations. The results supported the suggestion for individualized PsPP taking into account the athletes' characteristics, the training and competitive situations, and also the domain of sport environment.

### **41. Coach competence dimensions as predictors of moral behaviours, self-efficacy, commitment, enjoyment, and effort in Rugby Union**

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Coaching competence consists of four dimensions: motivation, game strategy, technique, and character building (Myers, Feltz, Maier, Wolfe, & Reckase, 2006). The purpose of this study was to examine the ability of these dimensions to predict effort, enjoyment, commitment, self-efficacy, prosocial behaviour, and antisocial behaviour, variables that have been theoretically associated with the four dimensions. Participants were 166 adult male rugby-union players (age  $26.5 \pm 8.5$  years) competing at various standards ranging from recreational to professional level. Participants completed questionnaires measuring their perceptions of their coach's level of competency as reflected on the four coach competence dimensions, effort, enjoyment, commitment, rugby task self-efficacy, and prosocial and antisocial behaviours in rugby. Regression analyses revealed that athletes' perceptions that the coach is competent in motivating athletes positively predicted effort, commitment, and enjoyment, and negatively predicted prosocial behaviour. Perceptions of character building competence positively predicted prosocial behaviour and self-efficacy. None of the perceived coach competence dimensions predicted antisocial behaviour. Playing experience was controlled for in regression analyses when this variable was associated with an outcome variable. In conclusion, the four coach competence dimensions differentially predict the outcome measures and athletes' perceptions of a coach's ability to motivate and build moral character in his or her athletes largely predict positive outcomes. However, the negative association

between the competence dimension of motivation and prosocial behaviour should be further examined in future research.

#### **42. Types of female volleyball players depending on their personality traits, intelligence, tactical thinking and volleyball efficacy**

Zshivka Zsheliaskova-Koynova\* & Georgy Bozhilov

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Thinking of athletes represents one hidden but crucial moment of initiation and realization of given tactical-technical action. Quality and style of tactical thinking (as manifestations of sport intellect) during the game is the most important factor for outplaying the opponent and thus winning the game. Our study aimed to identify the ways intellectual and personality characteristics of female volleyball players influence their specific sport efficacy. Participants were 35 female volleyball players from 3 women's volleyball clubs in Sofia. The characteristics studied were trait anxiety (measured by the Bulgarian version of Spielberger's STAI-Y), extraversion, neuroticism, psychoticism, lie (measured by Bulgarian version of Eysenck's EPQ), general intelligence (measured by Raven Progressive Matrices), speed, precision and styles of tactical thinking (measured by "Three" test of Rodionov & Yanev), styles of problem solving and strategy building (defined during solving "Tower of Hanoi" task). These parameters have been compared with the indicators of specific sport efficacy – quantitative and qualitative characteristics of individual volleyball play in defence and attack. Results showed that different combinations of personality and intellectual characteristics differentiate types of volleyball players who deal successfully with novel tactical tasks or learn fast from mistakes and significantly improve executions of already known tasks; who deal successfully with simple tasks or who are better in solving complex tasks. Implications for simulation training and sport practice in female volleyball are discussed in the paper.

#### **43. The influence of self-talk and observational learning on long jump performance**

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Cognitive theories of learning generally argue that performers rely mainly on visual and verbal cues during the early stages of learning. According to Bandura's social learning theory (1977), modeling influences produce learning principally through their informative function. Self-talk can enhance skill acquisition, by reminding the performer of specific key aspects of the movement. The aim of this study was to examine the effectiveness of self-talk and observational learning on long jump performance. Sixty-nine young, novice track and field athletes were randomly assigned to four groups. The 'self-talk group' (N1=18) accompanied physical practice of long jump with self-talk. The participants of 'video group' (N2=16) before every training session watched a videotape of a skilled model performing specific exercises of long jump. The 'self-talk + video group' (N3=18) combined physical practice with self-talk and video. Control participants (N4=17) attended only to physical practice. The intervention was applied over an 8-week period, during 24 practice sessions, for each group. Concerning physical practice, long jump has been divided into manageable segments that were performed successively. For each segment self-talk scripts were different, as well as videotapes for every training session. Two skill assessment sessions were conducted, including pre and post tests. In both sessions, participants completed three trials; best jump distance was taken into consideration. All trials were video recorded in order to examine specific kinematic variables for further analysis. Pretests revealed no significant differences in performance. However, significant differences were found between pre and posttests. Posttests revealed better performances for all groups.

#### **44. Personality characteristics of athletes, sport reliability and finances of a sport club**

Evelina Savcheva\* & Zshivka Zsheliaskova-Koynova

*\*National Sports Academy, Sofia, Bulgaria*

The financial support the state in our country gives to sport clubs corresponds to the scores the competitors of this club win during some most important competitions every year. We hypothesized that it is possible to predict financial support of a sport club on the base of the relationships between important for sport performance personality characteristics. The aim of the study was to compare personality characteristics of 22 young fencers (12-18 years old) with the amount of money they won for the club during competitions in the period of 4 years. The indicator of reliability was the average score this fencer won during competitions previous year. Personality characteristics studied were extroversion, neuroticism, psychoticism, lie, trait anxiety, locus of control, coping

with positive and negative factors of competitive environment. The results show that reliability, neuroticism, lie, and coping are significantly related (coefficients of multiple correlation vary between .648 and .853) to the amount of money the sport club receives by the state every year. Possible implications of these findings for psychological preparation and management of the sport club are discussed in the paper.

#### 45. Mental training for fencing beginners

Evelina Savcheva\*, & Zshivka Zsheliaskova-Koynova

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Mental training is sometimes misunderstood as something that only sport psychologist does with athletes, while the organization of the sport practice remains the same. We have changed the system of mental training incorporating it fully in the structure of the sport practice of 30 fencing beginners. The modules of mental training are goal setting, imagery, activation management, concentration, and confidence. Sport - and personality development of these fencers is compared with the development of 30 fencers of their level and age from other clubs who are not engaged in mental training. The main findings and their implications are discussed in the paper.

#### 46. Optimism and sport career

Zshivka Zsheliaskova-Koynova

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Scheier & Carver (1985) define optimism as “the global generalized tendency to believe that one will generally experience good versus bad outcomes in life”. The other way to define optimism is to use the concept of “explanatory style” (Buchanan & Seligman, 1995) - the relative stable manner each individual explains the positive or negative events. The optimistic explanatory style refers to the preference to explain good events with causes that are stable in time, global in effect, and internal and to explain bad events by external, unstable, specific causes. Studies in last 20 years show that optimism is moderately to strongly correlated to characteristics as: physical and mental health; longevity; quality of life; self-esteem; subjective well-being; life satisfaction; mood; aspirations, persistence, goals attainment; resilience and stress- tolerance. The studies on the relationship between optimism and performance in the field of sports suggest that they are related. Our paper presents results of a study on the attributional style and dispositional optimism of 365 athletes (265 males and 98 females) with different levels of sport qualification. The sport achievements of the athletes have been registered during three years. Results show that the improvement of their sport performance is related to higher scores of dispositional optimism (measured by the LOT-R test of Scheier, Carver & Bridges, 1994) and to more optimistic explanatory style (measured by the sport-specific attributional test of Hanrahan, Grove & Hattie, 1989). The application of results in the fields of sport selection and psychological preparation is discussed in the paper.

#### 47. Competitive state anxiety in male basketball players

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The purpose of the present study was to investigate the different levels of tension and direction of the competitive state anxiety in basketball players, in relation to their role and position in the game. The sample of the study consisted of 119 basketball players of the Second Male Division of the Greek Championship. For the data collection the Competitive State Anxiety Inventory-II (CSAI-II, Martens, Burton, Vealey, Bump & Smith, 1983; Martens et al., 1990; Kakkos & Zervas, 1996; Jones & Swain, 1992) was used as modified for the Greek population by Stavrou, Zervas, Kakkos & Phychoudaki (1998), which measures the cognitive-somatic anxiety and self-confidence, as well as the direction of this state anxiety. The subjects filled in the questionnaire one hour before each game. Results: The factor analysis revealed three factors, which interpreted 58,59% of the total variance on the tension scale and three factors interpreting 51,7% of the direction of this tension. The Cronbach's alpha internal consistency indicator of the questionnaire was satisfactory. The multivariate analyses showed statistically significant differences concerning cognitive anxiety and self-confidence between the starters and non-starters ( $F_{(1,118)}=5,074, p<.01$ ,  $F_{(1,118)}=9,468, p<.01$ ) and concerning self-confidence and its direction ( $F_{(2,116)}=5,442 p<.01$  and  $F_{(2,116)}=7,798 p<.001$ ), between players of different positions. In conclusion, the psychological preparation of basketball players must be taken into serious consideration, during the coaching procedure. Professional help and programming of the psychological preparation of the athletes and observation of their emotional condition before and during a game, reduces competitive anxiety and contributes to the high effectiveness of basketball players.

**48. Parents' influence on their child's optimism in the context of high level tennis competition**

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Over the last fifteen years, numerous scientific publications relating to optimism have appeared in the general psychology literature. However, little has been published on the subject of optimism in sport. Furthermore, in recent years considerable attention has been given to the role that parents play in youth sport (Weinberg & Gould, 2007). Taking this into consideration, the purpose of the present study was to explore qualitatively the parents' influence on their child's optimism in regard of their tennis development. The sample comprised five families, each of them having an athlete aged between 15 and 18 years engaged in high level tennis competition. Semi-directed interviews were carried out with each member of the family (child, mother, father) in order to gather information about parents' reactions to the successes and obstacles encountered by their child during a certain period of time. The results were presented in the manner of five case studies and a cross-case analysis was used to bring out similarities and differences between cases. Interestingly, the results showed that parents express their optimism in different ways, depending on the events they go through and the context in which they occur. As well, the results revealed that parents are able to influence the manifestation of optimism of their child either directly (encouraging or persuading their child to choose an optimistic behaviour) or indirectly (acting as a role model by adopting an optimistic behaviour themselves). Practical implications for interventions will be offered and new research paths will be suggested.

**49. Goal orientation and its influence in sport commitment\***

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Sport commitment, as a "psychological construct representing the desire and decision to continue sport participation", has been studied to explain which factors contribute to continue athletes' participation and consequently, help to avoid sport dropout. Although, there are few studies about sport commitment with European athletes we think that goal orientation could also be a determinant of commitment. Considering that an athlete task orientated persist in face of failure conversely to an athlete ego orientated that reduced persistence in the same situation, we hypothesized that task orientation correlates and predicts sport commitment positively and ego orientation correlates and predicts sport commitment negatively. This study was conducted in two seasons with two comparable samples in order to test the stability of the findings. A total of 852 ( $n_1=437$ ;  $n_2=415$ ) soccer players, between 14 and 16 years old, completed the Sport Commitment Questionnaire (SCQ, Scanlan, et al., 1993) and the Perceived Orientation Sport Questionnaire (POSQ, Roberts et al., 1998). Results of the two studies are similar regarding to the task orientation, which is positively related with sport commitment, sport enjoyment and negatively with involvement alternatives. Task orientation is also a powerful predictor of sport commitment. Results concerning to the ego orientation are not consistent. In the first study predict moderately and in the second study does not predict sport commitment. This study underlines the importance of coaching the young athletes for the success based on effort, individual improvement and intrinsic motivation to maintain the athletes' practice and avoid the sport dropout.

*\* This work was partly funded by the grant BSO2003-04301 (Plan Nacional de Investigación + Desarrollo).***50. The Relationship Between Passion and Mood**

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The purpose of this study was to examine the relationship between passion and mood, especially in terms of the dual types of passion, "obsessive" and "harmonious". One hundred and four high school baseball players with an average aged 16.8 year from five different high school teams, including two seed teams participated in this study. All participants completed the Chinese version of the Passion Scale as well as the Chinese version of POMS during the Division 1 high school baseball tournament. According to the Pearson correlation analysis, the first result indicated that two types of passion had significant high positive correlation. The second result showed that both obsessive passion and harmonious passion had significant positive correlation with vigor and self-esteem, but not with confusion, fatigue, anger, tension, and depression. These results revealed the initial application of the relationship between the dualistic conceptualization of passion and mood to sports domain. In the future, coaches may try to teach young athletes how to properly deal with their passion and mood.

**51. Possibilities for measurement of Telic/paratelic dominance in Bulgarian athletes**

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One of the leading theories in sport psychology is reversal theory, which posits a bistable pair of "metamotivational states" that account for the complex relations among arousal, motivation and emotion (Apter, 1982). Individual metamotivational states are shown to be important psychological constructs in sport. Studies show that they play a critical role in people's preference for participation in certain sports and in the way individuals experience their sport involvement. We believe that an in-depth study of metamotivational tendencies will enrich the understanding of athlete's behavior. The aim of the present study is to validate for Bulgarian population Telic Dominance Scale (Murgatroyd, Rushton, Apter, & Ray, *Journal of Personality Assessment*, 42, 519-528, 1978) and Paratelic Dominance Scale (Cook & Gerkovich, *Advances in Reversal Therapy*, Swets & Zeitlinger, Amsterdam, 1993), as well as to study their possible correlations with sensation seeking, self-efficacy and long-term motivation. In the study took part 253 athletes with different level of qualification, practicing 9 different sports. The following psychological methods were used: Method for measurement of psychological impulsivity and sensation seeking (A. Velichkov, M. Radoslavova, 2005), Methodology for Self-efficacy research in sport (T. Iancheva, Tzv. Misheva-Aleksova, 2005), Scale for evaluation of long-term motivation of individual behavior (A. Velichkov, 2005). The results demonstrate specific correlations among the studied parameters depending on the sport, qualification and the gender of the athletes and thus reveal opportunities for improving the effectiveness of the training cycle through taking into account the levels of the studied psychological parameters.

**52. The prediction of 2 X 2 achievement goals and on intensity and direction of precompetitive anxiety**

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The purposes of this research were to explore the prediction of 2 X 2 achievement goals on intensity and direction of competitive state anxiety and to confirm the overall fit and reliability of Revised Competitive State Anxiety Inventory-2 (CSAI-2R). Two hundred and twenty eight adolescent handball athletes were voluntarily participated in the study. Their average age was 16.34 years. All the participants were asked to complete CSAI-2R and 2 x 2 Achievement Goal Questionnaire for Sport. The results of exploratory factor analysis revealed that three-factor solution, namely state self-confidence, state somatic anxiety, and state cognitive anxiety, accounted for 65.98% of variance. Using confirmatory factor analysis, the results showed the three-factor oblique measurement model of CSAI-2R was validated to have its good overall fit and acceptable reliability. Using multiple regression analysis, mastery-approach goals were shown to positively predict intensity of precompetitive self-confidence and negatively predict intensity of precompetitive somatic anxiety. Mastery-avoidance goals were shown to negatively predict intensity of precompetitive self-confidence and cognitive anxiety. Performance-approach goals were shown to positively predict direction of precompetitive cognitive anxiety. Thus, it is suggested that CSAI-2R demonstrated its good construct validity, whereas the specialized goal pattern of multiple goal perspective (Barron & Harackiewicz, 2000, 2001) was partially supported.

**53. A study of emotional operation of music in the women marathon races: An analysis of difference in the effects of rhythms between the gold medalists and other elite runners**

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Many athletes usually listen to their favorite music until the last minute before the game starts. By listening to music, athletes try to block aversive stimulus from external circumstances in order to create a psychological state most suitable for concentration and self-control. Especially music with  $1/f$  fluctuation characteristic is believed to be a factor that can make them feel balanced and comfortable. Making such a mental condition with music can be called a sort of emotional operation which facilitates operant behavior. In order to examine a relation between emotional operation and performance, we have analyzed a  $1/f$  fluctuation characteristic in the rhythm of music that each Japanese women runner listened to before the marathon race. The data that we used for rhythm analysis are 13 phrases (one phrase 25-120 seconds) of music that the four gold medalists (respectively in 2004 Athens Olympics, 2000 Sydney Olympics, 1994 and 1998 World Championships in Athletics) listened to and 57 phrases that other elite runners listened to. In the analysis, we used the "zero cross analyses program" developed in the Brain Functions Laboratory, Inc. (Japan). It was demonstrated that the music listened to by the gold medalists indicated the  $1/f$  fluctuation characteristic most conducive to concentration while those



listened to by the elite runners did not. As a result, the correlation between 1/f fluctuation characteristic in music, emotional operation, and performance was established. Thus comfortable music with a 1/f fluctuation characteristic can help the athletes to control their emotions and improve their physical performance.

#### 54. Goal achievement of Brazilian young athletes

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The purpose of this study was to examine the frameworks of achievement goals theory: goal orientation and perceived motivational climate, of young Brazilian athletes. A total of 594 young athletes participated in this study (46.3% males, 53.7% females), aged between 13 and 18 years old ( $M = 15.86; \pm 0.5$ ), and participated in 4 sports modalities: running, table tennis, basketball and handball. The TEOSQ and the PMCSQ were used to assess goal orientations and motivational climate. In general, the athletes demonstrated high levels of task orientation ( $M = 4.17; \pm 0.71$ ), moderate levels of ego orientation ( $M = 2.10; \pm 0.71$ ), high task-involving ( $M = 4.27; \pm 0.46$ ) climate and high ego-involving ( $M = 4.12; \pm 0.42$ ) climate. Analyses were conducted to test for differences in achievement goals variables for the different sports. The results showed that running and table tennis athletes demonstrated significant higher ego orientation compared to basketball and handball players ( $p < 0.001$ ). No significant differences emerged in task orientation. Furthermore, the handball players had a significant ( $p < 0.01$ ) higher perception of ego-involving climate than running and table tennis athletes. On the other hand, table tennis athletes had significant differences ( $p < 0.009$ ) compared to handball players in task-involving climate. Finally, ego orientation was negatively associated with perception of ego-involving climate. This study is a preliminary research about the relationship between coaches and athletes in competitions. There is a premise that shows that shouting at the athletes or showing appreciation only for the stars of team, can damage the relationship with the coach, affect the performance and consequently the results.

#### 55. The relationships of goal involvements and perceived competence to intensity and direction of competitive state anxiety and sport performance

Chun-Nan Tung\*, Likang Chi, & Shih Hsin Chen

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The purpose of this study was to investigate the relationships of goal involvements, perceived competence, the intensity and direction of competitive state anxiety, and performance among college volleyball players. Participants were 18 college volleyball players (males=9, females=9). This study was designed as a within-subject and longitudinal study. The data was collected throughout the whole season period. A series of stepwise multiple regression analyses and curve estimation regression analyses were conducted. The major findings were as follows: First, female players' task involvement negatively predicted the intensity of somatic anxiety (SA-I) and positively predicted the direction of somatic anxiety (SA-D). Furthermore, both task involvement and ego involvement negatively predicted the intensity of cognitive anxiety (CA-I). In addition, perceived competence and ego involvement positively predicted the direction of cognitive anxiety (CA-D). Second, male players' ego involvement positively predicted sport performance evaluated by players and coaches. Female players' task involvement positively predicted sport performance evaluated by players. On the other hand, ego involvement and perceived competence positively predicted sport performance evaluated by coaches. Third, male players' SA-I significantly predicted sport performance evaluated by players and revealed negative linear relationship. Female players' SA-D effectively predicted sport performance evaluated by players and revealed quadratic relationship. Moreover, the CA-I effectively predicted sport performance evaluated by coaches and revealed negative linear relationship. Discussions are provided, and practical implication and future research directions are also recommended.

#### 56. The Athlete's Psychological Needs Questionnaire (APNQ)

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The use of questionnaires is one of the usual forms of evaluating the psychological skills of athletes. We designed a new questionnaire with the aim of assessing the level of those psychological skills frequently mentioned in the scientific literature: The *Athlete's Psychological Needs Questionnaire* (APNQ). Participants: The questionnaire was distributed to a total of 276 in the Galician Autonomous Community (Spain) during the 2006 season. The sample was composed of 187 males and 86 females between the ages of 9 and 41. Procedure:

Our first meeting with the athletes were in the form of a reunion with the coaches of each modality (runners, basket, handball, soccer, gymnastic, judo, swimming, rowing, surf, volley, tennis, and sailing), explaining to them the methodology this study would follow. The coaches offered us the opportunity to give out the APNQ Questionnaire to their athletes, explain to them what sport psychology consists of and how it can help them, offering an information and guidance service. Results: In its original form, *The Athlete's Psychology Need Questionnaire* (APNQ) consisted of 47 items grouped in the following 5 factors: motivation, activation level, self-confidence, concentration, and social skills. The factorial analysis showed low loadings in the social skills factor. For this reason, the final version of our Questionnaire has only 4 factors and 26 items. Regarding the psychometric characteristics of the questionnaire, it is worth highlighting its total explained variance (51.8%), as well as its internal consistency measured by Cronbach's Alpha Coefficient (0.87).

### **57. Superstitious Behavior Questionnaire in Sport: A preliminary study**

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Athletes, competing under stressful conditions, tend to believe that any little thing or ritual can make the difference between winning and losing. Research has shown that the adoption of superstitious behavior is a mode that athletes use to cope with the sport competition uncertainty. The aim of this study was to examine the adoption of superstitious beliefs, behaviors and rituals in sport using Greek athletes. For the purpose of this study, a new instrument was developed based on the items of Bleak and Frederick's (1998) questionnaire, as well as, some additional items suitable for the Greek culture. The questionnaire was administrated to a sample of 290 athletes. Based on the criteria of items loadings and content validity, 10 items were kept for further analysis. Validity and reliability of the 10 items inventory were examined using a new sample of 176 athletes (M=20.28 years, SD=3.05), participating in 18 sports and a variety of competing experience. All athletes had at least two years of competitive experience, as a criterion for participating in the study. Principal component analysis results indicated the existence of two factors (eigenvalues over 1) explaining 50% of the total variance. Items loadings ranged from .43 to .88. The first factor included 6 items concerning superstitious rituals and the second factor comprised of 4 items concerning superstitious objects. The Cronbach's  $\alpha$  values were .71 and .77, respectively. Future research should examine the construct validity of the instrument through confirmatory factor analysis, as well as, concurrent and discriminant validity.

### **58. Self and collective efficacy: Relationships with team cohesion and performance**

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The purpose of the present study was threefold. The first purpose was to examine the relationship between self and collective efficacy with cohesion. Secondly, the interaction with performance was also investigated on the basis of previous research. Finally, athletes' competitive experience, time participating in the particular team, as well as the importance that each player assigns to the specific game was examined in relation to team cohesion. Sixty-four male basketball players, participating in six recreational clubs, voluntarily participated in the present study. Athletes' age ranged from 17 to 35 years (M = 24.12 years, SD = 4.58 years) and their competitive experience from 4 to 17 years (M = 12.52, SD = 4.15). Group Environment Questionnaire was used to measure team cohesion (GEQ; Carron *et al.*, 1985; Ageloniadis, 1995). In non competitive situation, during a training session, athletes completed GEQ based on how they usually felt. Self and collective efficacy were measured prior two competitions. Self-efficacy was estimated based on a self-rating scale, whereas collective efficacy was measured on the basis of win or loss of each team. Statistical analysis indicated significant correlations. Specifically, significant correlation between performance and efficacy were emerged, particularly in terms of collective efficacy, as well as between self-efficacy and the social dimension of cohesion. However, non significant correlations were revealed between performance and cohesion. Further research should examine the relation, as well as, the mediating role of additional variables between efficacy, cohesion, and performance.

### **59. The relationship between team cohesion and competitive state anxiety**

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The main purpose of the present study was to determine if athletes' perceptions of team cohesion are related to their levels of competitive state anxiety. In addition, perceived psychological benefits and/or psychological

costs of cohesiveness serve as mediating variables in cohesion – anxiety relation. In order to examine the two purposes, a sample of one hundred and six (N=106) team sport athletes participated in the present study. Athletes' age ranged from 15 to 36 years ( $M = 23.13$ ,  $SD = 5.06$ ), with a mean of competitive experience of approximately 12 years ( $SD = 4.87$ ). In non-competitive situations, the athletes completed the Group Environment Questionnaire (GEQ; Carron *et al.*, 1985; Ageloniadis, 1995). In addition, the athletes completed four (4) items related to the perceived psychological benefits and costs of membership in teams. Finally, the Greek short edition of Competitive State Anxiety Inventory (Martens *et al.*, 1990; Kakkos & Zervas, 1996) was completed by the athletes based on how they felt 30-45 minutes prior to competition (intensity and facilitative-debilitative dimension). Correlational analysis showed that both task and social cohesion were related to the psychological benefits and psychological costs ( $p < .001$ ). Furthermore, results indicated that psychological costs were associated to competitive state anxiety ( $p < .01$ ). Non-significant correlations were revealed between cohesion and cognitive anxiety, somatic anxiety, and self-confidence. However, psychological costs seems to have a mediating role regarding the relationship between cohesion and competitive anxiety, either intensity or facilitative-debilitative interpretation. Future research should examine the relationship between cohesion, competitive state anxiety and performance on the basis of structural equation modeling.

### 60. Preferred and perceived coaching leader style in high level basketball

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The purpose of the present study was to examine the possible differences in perceived and preferred coaching behavior in basketball. 207 basketball players ( $M_{\text{age}} = 23.77 \pm 4.88$ ) from A1 and A2 national division, completed the modified Greek version of the LSS (Tsorbatzoudis & Barkoukis, 1998) in non-competitive conditions to examine perceived and preferred leadership styles. Exploratory factor analysis for both questionnaires confirmed the existence of five factors (training and instruction, positive feedback, democratic behavior, autocratic behavior, social support) (48% of the variance). The internal validity of both scales was satisfactory. Paired samples t-test showed significant differences at all factors among the perceived and preferred leader styles ( $t_1=10.16$ ,  $p < .001$ ,  $t_2=8.68$ ,  $p < .001$ ,  $t_3=9.23$ ,  $p < .001$ ,  $t_4=3.49$ ,  $p < .01$ ,  $t_5=9.51$ ,  $p < .001$ ). According to the results, perceived leadership styles of high level basketball coaches fall sort of their players' expectations. Therefore, it is proposed that basketball coaches may explain more clearly what they require from their players and increase their guidance during the training, use more positive feedback, be more interested in the players' opinions and spend more time dealing with the possible personal problems each player may be facing.

### 61. Motivational and mood changes of the participants involved in a "Special Program" and selected psychological variables

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People's beliefs about their personal efficacy constitute a major aspect of their self-knowledge (Bandura, 1997). In sport, self-efficacy beliefs are constructed from four major sources of information: mastery experiences, vicarious experiences, social persuasion and physiological states. The "Specific Program" is mainly based on these four sources and its main task is to increase the level of self-efficacy among track and field athletes. The aim of the study was to establish motivational and mood changes described in the "Specific Program" as well as to analyse the relationship between motivation and mood level and psychological variables such as self-efficacy, hope of success, generalized expectancies for control and optimism. The sample consisted of 27 track and field athletes (11 women and 17 men) aged 17 to 25. General Self-Efficacy Scale (Schwarzer and Jerusalem, 1995), The Locus of Control Scale (Rotter, 1966), LOT-R (Scheier, Carver, & Bridges, 1994) and The Hope Scale (Snyder, Sympson, Ybasco, Borders, Babyak, Higgins, 1991) were used. The part of the program was to fill in a special form. Over three months prior to Polish Track and Field Championships the athletes had to fill in an every day special form. This form contained five questions: two of them concerned their level of motivation (willingness to trainings and willingness to competition) and three questions affected their level of mood. The results show that level of motivation among athletes increased evenly trough three months prior to Championships. The closer to championships the higher the level of motivation was. The level of mood didn't change significantly.

## 62. Comparative Effect Of Mental Practice and Physical Practice On Learning Motor Skills In Volleyball

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The comparative effect of mental and physical practice on learning motor skills of volleyball was studied by carrying out experiments with randomly selected men as participants. Participants were divided into three equal groups of thirty, each named as group of mental practice, physical practice and control group. Participants were administered mental practice and physical practice for a duration of thirty minutes over a period of twelve weeks. The AAPHER volleyball skill test was selected as criterion variable to test the skills ability of subjects for the experiment. Mental practice and physical practice method was found to be significantly better in improving learning motor skills i.e., volleying, serving, passing, and setup in comparison to control group. The effect of mental practice and physical practice method on the learning rate in the motor skills of volleyball at periodic interval of first two weeks of duration of an experiment revealed that there was no significant improvement in any of the skills mentioned above due to mental practice, physical practice and control group. However, significant improvement was found in all the skills performance due to mental practice and physical practice method, from fourth week onwards. The findings revealed that there was no periodic significant improvement in volleying and serving due to mental practice method between the fourth week and sixth week, sixth week and eighth week, eighth week and tenth week, and tenth week and twelfth week. However, periodic significant improvement was noticed in passing and setup skills due to mental practice method between the above mentioned training phases. The findings also revealed that there was no significant improvement in learning of motor skills of volleyball neither over a period of twelve weeks duration nor at a periodic interval of two weeks duration in the case of control group. It was concluded that the twelve weeks of mental practice and physical practice was effective method to improve performance and learning rate in motor skills of volleyball. Finally, the mental practice and physical practice method is comparatively a better method to improve performance and skill acquisition of motor skills in volleyball.

## 63. Recreational physical activity as a psychosocial situation

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In the research about psychosocial conditioning of recreational physical activity, the problem should be considered not only as manifestation of psychosocial human activity but also investigation in a definite situation context. The research enabled stating that the group of basic psychosocial dimensions of physical recreation contains: the rest, entertainment/ amusement, self improvement, free time activities, and physical activity. The research of the situational dimensions in the sphere of various forms of the recreational activity, i.e. skiing, tennis, and sailing, was carried out in 2002-2005. A group of 122 individuals has been subjected to tests. From the point of view of a statistical criterion of the Kruskal-Wallis test, significant differences between average values of intensities of the particular dimensions are found at the level of  $H=18.80$ . The data acquired this way enable finding that the levels of particular situational dimensions of various forms of motion recreation may be significantly differentiated. The highest differentiation occurs in tennis (27.66) and the lowest in skiing (19.86). Previous results show that the level of intensity and hierarchy of investigated situational dimensions of particular form of the recreational physical activity indicate occurrence of different situational prototypes, according to the type of the activity. Recognition of psychosocial structure of the situational dimensions typical for various particular forms of recreational physical activity may enable their easier matching to individual properties of the individual and, in consequence, to ensure the required improvement of the feeling of quality of life.

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