



# The 11th INSHS International Christmas Sports Scientific Conference

*“A Conference in the spirit of Science and Christmas”*



## **“Recent Developments in Sport Science”**

1-2 December 2017, Szombathely

## **Programme and Book of Abstracts**

Edited by Mike Hughes, Henriette Dancs, Gabriella Sarai, Zsuzsanna  
Sipos, Ursula Szegner



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## Foreword

It is 12 years since a group of us retired to a restaurant in Opatija in Croatia, to bemoan the lack of presentation skills and research methods knowledge in the current crop of postgraduate students. We had just attended a Research Methods session in the “Kinesiology” Conference hosted, by the University of Zagreb, and were all surprised by the poor levels of performance by the attending presenters. Fortunately, in the group was Henriette, the last true action person, who decided to tackle the problem.

Here we are now – back in Szombathely for the 11<sup>th</sup> time to implement the Concept of knowledge and experience through ‘doing’ – to learn about the pitfalls of presenting scientific material by actually doing it at an international Conference and receiving positive feedback after the experience. All these Conferences have been aimed at giving young researchers the positive experience of addressing an international audience and in the process perhaps gaining a publication. The way that Henriette has integrated the Conference into the start of the Christmas season has become a huge bonus and a blessing.

In the last 11 years we have staged over 1000 presentations in all disciplines of sport science, and of these, over 600 have resulted in publications in books or journals. These are looked upon as useful additions to developing CV’s.

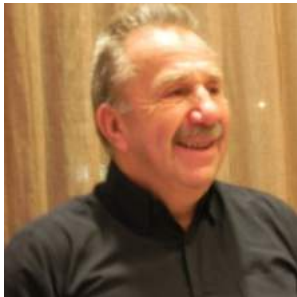
The Xmas Conference is now the main conference of INSHS, our international network. Despite the success and tradition established, we are entering new phases and are ready (eager?) to embrace new ideas and technologies (e.g. app). We have already established e-posters as acceptable, and are exploring other forms of e-presentations through our rapidly developing website, social media. Currently we are sponsored by SPN, our own website, and Pressenger, a communications application, but are looking for more to welcome into our community.

Enough waffle, enjoy yourself in Szombathely, enjoy your presentation, appreciate the efforts of others in theirs and, most of all, have a great Christmas.

Mike



## Invited Keynote Speakers:



Prof. Mike Hughes  
Ireland



Prof. Arnold Baca  
Austria



Prof. Joel Gaillard  
France



Prof. Ferenc Koteles  
Hungary



Prof. Irena Valantine  
Lithuania



Prof. Abdul Waheed  
Pakistan



## Scientific Committee:

**Chairperson:** PROF. MIKE HUGHES  
Institute of Technology, Carlow, Ireland

**Secretary and Treasurer:** PROF. HENRIETTE DANCS  
Institute of Sport Science, Szombathely, University of Eotvos Lorand, Hungary

PROF. ARNOLD BACA  
Institute of Sport Science, University of Vienna, Austria

Prof. MARIAJOSE MARTINEZ PATINO  
Faculty of Sport and Education, University of Vigo, Spain

PROF. FERENC IHASZ  
Institute of Sport Science, Szombathely, University of Eotvos Lorand, Hungary

PROF. JUAN JOSE CHNCHILLA  
Faculty of Education, University of Alicante, Spain

PROF. JOEL GAILLARD  
Faculty of Education, University of Lorraine, France

PROF. ALFONSO PENICHER TOMAS  
Faculty of Education, University of Alicante, Spain

PROF. JOSE ANTONIO PEREZ TURPIN  
Faculty of Education, University of Alicante, Spain

PROF. ZSOLT DEMETROVICS  
Faculty of Pedagogy and Psychology, Eotvos Lorand University, Hungary

PROF. COVADONGA MATEOS PERDORNO  
University of Las Palmas de Gran Canaria, Spain

PROF. IRENA VALANTINE  
Academy of Physical Education, Lithuanian Sports University, Kaunas, Lithuania

PROF. TIBOR POLGÁR  
Institute of Sport Science, Szombathely, University of Eotvos Lorand, Hungary

PROF. FERENC KÖTELES  
Faculty of Pedagogy and Psychology, Eotvos Lorand University, Hungary

PROF. ATTILA SZABO  
Faculty of Pedagogy and Psychology, Eotvos Lorand University, Hungary



## **General topics:**

- Sport Medicine
- Sport Training/Coaching
- Sport and Social Sciences
- Sport Management
- Olympic Movement, Olympism
- Healthy Lifestyle, Active aging, Recreation
- Sport Tourism
- Performance Analysis in Sport
- University Sport

## **Special Sessions:**

- University Sport (1st and 2nd December 2017): presentations – linked to AAA University Sport Forum and Teachin –University Sport Erasmus Plus project
- Performance Analysis (1st and 2nd December 2017): presentations
- E-poster Session with presentation: (2nd December 2017)
- E-poster session for e-participants in the lunch and coffee breaks

## **Awarding:**

- Special award for “The best presentation”
- Special award for “The most interesting new area of research”

## **Xmas Special:**

- Coffee breaks Xmas cakes and sweets, gala dinner with xmas mulled wine
- Orange, cinnamon massage (on Sat evening only for full pass holders who signs up at registration)
- Xmas market visit on the main place in the city center (optional individual program)
- Xmas ambiance on the venue with music in the breaks

## **Planned Interconnecting Scientific Programs:**

1. Erasmus Plus „Teachin” Project meeting (29th – 30<sup>th</sup> of Nov)
2. University Sport in Alpe-Adriatic Alliance regions/countries: Sport Forum (30th of Nov)
3. INSHS Introduction : open for all participants who are already INSHS partners or those who would like to become one: (1st of Dec.)



**Programme suggestion for Sunday (flying from Budapest or Vienna):**

- Visit the famous Vienna Xmas Market (Austria) [More info](#)
- Hungarian Advent Feast at the Basilika (Budapest, Hungary) [More info](#)

**Registration at the conference venue:**

Tovendeglo Conference Center/groundfloor : Szombathely, Rumi Rajki Sétány 1. 9700)

<https://maps.me/catalog/food/amenity-restaurant/tovendeglo-593026160/>

**Registration is open** from 8.00 am- 12.00 (Friday, Saturday):

(20 mins walk from Parkhotel Pelikan and from the City Center at the lake or 5 minutes by taxi ( 3 EUR)

**Conference telephone number:** +36 30 570 20 44

**free- Wifi:** Tovendeglo , no password needed

**Conference website:** <http://xmasconference.com/en/>

**Conference email:** [xmasconference@gmail.com](mailto:xmasconference@gmail.com)

**HUF/EUR Exchange:** 1 EUR/ 325 HUF



## Academic Programme

Tovendeglo Conference Center – conference venue is on the ground floor

### **1<sup>st</sup> December 2017. (Friday) 10:00-13:00**

*Chair: Mike Hughes*

#### **OPENING / KEYNOTE PRESENTATIONS**

##### **1000 – 1030 Opening Speeches**

**Prof. Ferenc Köteles, Prof. Tibor Polgár, Prof. Henriette Dancs, Prof. Joel Gaillard, Prof. Mike Hughes)**

##### **1030 – 1100 The mobile motion advisor as a tool for motivating people to be more physically active.**

Arnold Baca,  
Institute of Sport Science, University of Vienna, Austria.  
[arnold.baca@univie.ac.at](mailto:arnold.baca@univie.ac.at)

##### **1100 - 1130 COFFEE BREAK**

##### **1130 – 1215 Introduction of the International Network of Sport and Health Sciences.**

Joel Gaillard,  
General Manager of INSHS,  
Faculty of Education, University of Lorraine, France.  
[joel.gaillard@univ-lorraine.fr](mailto:joel.gaillard@univ-lorraine.fr)

##### **1215 – 1230 Cross-national relations between the social significance of sport and socio-economic development in the European Union.**

Michael Nader,





University of Vienna, Department of Sport Science – Sociology of Sport and Sport Psychology.

[michael.nader@univie.ac.at](mailto:michael.nader@univie.ac.at)

**1230 – 1245 Evaluation of increased physical activity lessons in school.**

Astrid Reif,

University of Vienna, Department of Sport Science – Sociology of Sport and Sport Psychology.

[astrid.reif@univie.ac.at](mailto:astrid.reif@univie.ac.at)

**1245 – 1300 Reliability and validity of field-based strength tests for elderly to be used in younger adults.**

Sandra Unterberger, Cornelia Holl, Paco Cerletti, Antonio De Feo, Kaltrina Feka, Harald Tschan and Barbara Wessner,  
Centre for Sport Science and University Sports, Dpt. Sports and Exercise Physiology, University of Vienna.

[sandra.unterberger@univie.ac.at](mailto:sandra.unterberger@univie.ac.at), [barbara.wessner@univie.ac.at](mailto:barbara.wessner@univie.ac.at)

**1300 - 1400 LUNCH BREAK**

**ORAL PRESENTATIONS**

**1.Sport and Society**

**Chair: Joel Gaillard**

**KEYNOTE PRESENTATION**

**14:00-14:45 Trending sport governance: athletes' involvement in decision making.**



Valantine, Irena,  
Academy of Physical Education, Lithuanian Sports University, Kaunas, Lithuania  
[irena.valantine@lsu.lt](mailto:irena.valantine@lsu.lt)

**1445 – 1500 Olympic education at the regional level.**

Karaulova A., Ershova N.G., Belykov D.A. and Smirnova E.Yu.,  
Foreign languages department,  
Department of Humanitarian and Socio-Economic Disciplines,  
Velikie Luki State Academy of Physical Education and Sport, Russia.  
[kylie.89@bk.ru](mailto:kylie.89@bk.ru)

**1500 – 1515 Effects of a multicomponent intervention to improve physical performance and dietary habits in young children.**

Klinger, K., Hauer, R. and Tschan, H.,  
University of Vienna, Centre for Sport Science and University Sports, Department  
of Training Science, Vienna, Austria.  
[katharina.klinger@univie.ac.at](mailto:katharina.klinger@univie.ac.at)

**1515– 1530 Development of educational tourism in Pskov region**

Kobiakina O., Smirnova E.Yu., Shitova L.Sh. and Ershova N.G.,  
Physiology and Sport Medicine Department,  
Foreign Languages Department,  
Velikie Luki State Academy of Physical Education and Sport, Russia.  
[kylie.89@bk.ru](mailto:kylie.89@bk.ru)

**1530 – 1545 Post-activation potentiation across repeated complex pairs - influence of the strength level.**

Aschauer, R., Bauer, P., Mitter, B. and Tschan, H.  
University of Vienna, Centre for Sport Science and University Sports (Vienna,  
Austria)  
[rudi.aschauer@gmx.at](mailto:rudi.aschauer@gmx.at)

**1545 – 1600 The “Flexibility Trainer”: Isocinetic Sport Device to Enhance Hip Joint Flexibility**

Hoelbling Dominik,  
Institute of Sport Sciences, University of Vienna, Austria.  
[dominik.hoelbling@univie.ac.at](mailto:dominik.hoelbling@univie.ac.at)



**1600 - 1615 Analyses of accounting reports of Sport Organizations in 2016 supported by TAO (Corporate Tax).**

Zsuzsanna Gósi  
Eötvös Loránd University, PPK-ESI.,  
University of Physical Education, Department of Sport Management  
[gosi.zsuzsanna@ppk.elte.hu](mailto:gosi.zsuzsanna@ppk.elte.hu)

**1615– 1630 Sport and Sport Media as a Culture Industry Product**

Selami Özsoy University of Abant İzzet Baysal, Faculty of Communication,  
Department of Journalism

[ozsoy\\_s@ibu.edu.tr](mailto:ozsoy_s@ibu.edu.tr)

**1630- 1645 Development and evaluation of a feedback system for endurance running (PerPot-live). A pilot study**

Martin Dobiasch<sup>1</sup>, Stefan Endler<sup>2</sup> and Arnold Baca<sup>1</sup>

<sup>1</sup> Institute of Sport Science, University of Vienna, Austria

<sup>2</sup> Institute of Sport Science, Johannes Gutenberg University of Mainz,  
Germany

[martin.dobiasch@univie.ac.at](mailto:martin.dobiasch@univie.ac.at)

**1645 -1700 Combining strength and power training: a systematic review of findings from complex training studies**

Bauer, P.1, Übellacker, F.1, Mitter, B.1; Seitz, L.B.2 & Tschan, H.1

1: University of Vienna, Centre for Sport Science and University Sports (Vienna, Austria)

2: Edith Cowan University, Centre for Exercise and Sport Science Research (Joondalup, Australia)

[pascal.bauer@univie.ac.at](mailto:pascal.bauer@univie.ac.at)

**1700-1715**

Prof. TSCHAN Harald	<a href="mailto:harald.tschan@univie.ac.at">harald.tschan@univie.ac.at</a>		Oral
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**1715 – 1730 International Issues: Sportgo, Alpes Adriatic Alliance, Teachin, Xmas Conference, SportProfNet**

Henriette Dancs  
Institute of Sport Science, ELTE , SEK, Szombathely, Hungary  
[dancs.henriette@ppk.elte.hu](mailto:dancs.henriette@ppk.elte.hu)

**17.30- 19.30 XMAS CONFERENCE RECEPTION - Tovendeglo Conference Center**



**2nd December 2017. ( Saturday) 9.30 - 13:00**

**Chair: Irena Valantine**

## **2. Sport Pedagogical and Psychological aspects**

### **KEYNOTES**

**0930- 10.15 The psychological profile of young players in urban and rural areas of Pakistan.**

Abdul Waheed Mughal<sup>1</sup>, Zafar Iqbal But<sup>2</sup>, Abdul Qayum Khan<sup>1</sup> and Pervez Aslam Shami<sup>1</sup>,

<sup>1</sup>Sarhad University of Science & Information Technology (SUIT), Peshawar Pakistan

<sup>2</sup> University of the Punjab, Lahore Pakistan Corresponding email:

[dean.ss@suit.edu.pk](mailto:dean.ss@suit.edu.pk)

**1015 -1100 Disability in sport and physical activities, the Law of February 2005, the inclusion of French approaches, and the European Sport for All Charter.**

Gaillard Joel,

Educational Sciences, Faculty of Sport Nancy France,

LISEC: Laboratoire des Sciences de l'Education et de la Communication (EA 2310).

[Joel.gaillard@univ-lorraine.fr](mailto:Joel.gaillard@univ-lorraine.fr).

**11:00-11:30**

**COFFEE BREAK**

**1130 – 1145 The recreational function of nature trails.**

Éva Fodor <sup>1</sup>, László Révész <sup>2</sup>

<sup>1</sup> Eszterházy Károly University, Doctoral School of Education

<sup>2</sup> Eszterházy Károly University, Institute of Sport Science

[fodor.eva@uni-eszterhazy.hu](mailto:fodor.eva@uni-eszterhazy.hu)



**1145 – 1200 Role of hippotherapy in rehabilitation of children with a spastic form of cerebral palsy.**

Ivanova V., Lanskaya O.V., Dytko E.V. and Ershova N.G.,  
Physiology and Sport Medicine Department,  
Foreign Languages Department,  
Velikie Luki State Academy of Physical Education and Sport, Russia.  
[kylie.89@bk.ru](mailto:kylie.89@bk.ru)

**1200 – 1215 Psychometric characteristics of body imaging in consideration of satisfaction and self-esteem.**

Zita Domonkos and Ferenc Ihász,  
István Széchenyi University Health-and Sportscience Faculty, Győr.  
[dzitus96@gmail.com](mailto:dzitus96@gmail.com)

**1215 – 1230 Sauna, massage, yoga, meditation, relaxation as common recreational activities to overcome stress among students in Szombathely.**

Tibor Polgar, Katalin Nagyvaradi and Miklos Koltay,  
Departments of Pedagogy and Psychology at Eotvos Lorand University, Institute  
Of Sport Science, Szombathely.  
[polgar.tibor@ppk.elte.hu](mailto:polgar.tibor@ppk.elte.hu)

**1230 – 13.00 Physiological work areas in professional beach volleyball: a case study.**

José Antonio Pérez-Turpin,  
Sports Research Group, Department of Didactics, Faculty of Education,  
University of Alicante, Spain.  
[joseantonioperezturpin@gmail.com](mailto:joseantonioperezturpin@gmail.com)

**1300 - 1400**

**LUNCH BREAK**



## 4. Sport Physiology

**Chair: Abdul Waheed Mughal**

### KEYNOTE PRESENTATION

**1400 – 1445 The placebo phenomenon in sports and exercise.**

Ferenc Kőteles,  
Institute of Health Promotion and Sport Sciences, ELTE Eötvös Loránd  
University, Hungary  
[koteles.ferenc@ppk.elte.hu](mailto:koteles.ferenc@ppk.elte.hu)

### ORAL PRESENTATIONS

**1445 – 1500 The relationship between body posture and balance stability at student age.**

Agron Kasa,.Genti Pano and Elton Spahiu,  
Faculty of Physical Activity and Recreation,Sports, University of Tirana, Albania.  
[arbores.line@gmail.com](mailto:arbores.line@gmail.com)

**1500 – 1515 Innovative conditioning training methods during pre season preparation of Slovak national ice hockey players from u18 ice hockey project.**

Brúnn David, Sýkora Jozef, Pupiš Martin, Švantner Roman and Juraj Moravčík,  
Department of Physical Education and Sports, Faculty of Arts, Matej Bel  
University in Banská Bystrica, Slovakia.  
[david.brunn@hotmail.sk](mailto:david.brunn@hotmail.sk)

**1515 – 1530 Fitness level of junior ice hockey players – differences between league and national teams.**

Sýkora Jozef, Brúnn David and Pupiš Martin,  
Department of Physical Education and Sports, Faculty of Arts, Matej Bel  
University in Banská Bystrica, Slovakia.  
[Jozef.Sykora@umb.sk](mailto:Jozef.Sykora@umb.sk)



**1530 – 1545 The relationship between physical activity and attention at student’s age.**

Ferdinand Canaj<sup>1</sup>; Elvira Barka<sup>2</sup>; Andi Baze<sup>1</sup>; Kostandin Canaj<sup>3</sup>.

1. Sports University of Tirana, Faculty of Physical Activity and Recreation.

2. University of Gjirokastra “Eqerem Çabej”,

3. University of Medicine, Faculty of Technical Medical Sciences

[ferdcan@gmail.com](mailto:ferdcan@gmail.com)

**15:45-16:15 COFFEE BREAK**

**KEYNOTE**

**1615 – 1700 Performance Profiling in sport, using rugby union half-backs as a validation exemplar.**

Gordon Smyth and Mike Hughes,  
Centre for Performance Analysis, ITC, Carlow, Eire.

[mikehughes@data2win.org](mailto:mikehughes@data2win.org)

**1700 – 1715 An evaluation method of the damping behavior of the female breast.**

Seraphina Stöger, Michaela Hassmann  
Department of Biomechanics, Kinesiology and Computer Science in Sport, ZSU,  
University of Vienna, Austria

[seraphina.stoeger@univie.ac.at](mailto:seraphina.stoeger@univie.ac.at)

**1715- 1730 Stability of skill performance based on some muscular and biomechanical variables of freethrow for basketball female players.**

Eman Mostafa Aboelalaa, Sami Hamed Bassiouni and Maha Mohamed Amin,  
Department of Athletic Training and Movement Science,  
Faculty of Physical Education for girls,  
Alexandria University-Egypt.

[Dremanaboelalaa@yahoo.com](mailto:Dremanaboelalaa@yahoo.com)





**1730-1745 Impacts of obligatory Physical Education on sport at the University in Zagreb.**

Romana Caput-Jogunica, Sanja Ćurković and Davor Pavlović,  
University of Zagreb, Croatia.  
[rcaput@agr.hr](mailto:rcaput@agr.hr)

**1745 – 1845 - e-POSTER SESSION (2-3 minutes/presentation/presenter)**

**Chair: Ferenc Köteles**

**Balance improvements through proprioceptive training**

Kostandin Canaj<sup>1</sup>, Andi Baze<sup>1</sup>., Kristian Andrea<sup>1</sup> and Elvira Barka<sup>3</sup>,  
1. University of Medicine, Faculty of Technical Medical Sciences  
2. Sports University of Tirana, Faculty of Physical Activity and Recreation.  
3. University of Gjirokastra “Eqerem Çabej”,  
[ferdcan@gmail.com](mailto:ferdcan@gmail.com)

**What’s next? Life after the degree.**

Orsolya Némethné Tóth college associate professor  
ELTE SEK Institution Sport Sciences  
Szombathely  
[nemethne.toth.orsolya@ppk.elte.hu](mailto:nemethne.toth.orsolya@ppk.elte.hu)

**PE project. Measuring impact and effectiveness.**

H. Ekler Judit,  
Eötvös Loránd University, Hungary.  
[heszterane.ekler.judit@ppk.elte.hu](mailto:heszterane.ekler.judit@ppk.elte.hu)

**Body composition and cardiorespiratory performance characteristics of elite team handball players**

Eliza Tóth, Ferenc Ihász, Lili Kósa, Gergely Sándor Gabnai, Katalin Nagyvárad and Zita Domonkos,  
Eötvös Loránd University, Szombathely.  
[eliza.toth0823@gmail.com](mailto:eliza.toth0823@gmail.com)



### **The development of judo since the Olympic Games (2012) based on systematic competition analysis of recent major events.**

Florian Doppelhammer and Michael Stöckl,  
Department of Biomechanics, Kinesiology and Computer Science in Sport, ZSU University of Vienna, Austria.

[florian.doppelhammer@univie.ac.at](mailto:florian.doppelhammer@univie.ac.at)

### **Accuracy and validity of wearables and apps for tracking physical activity.**

Raphael Berger,  
Department of Biomechanics, Kinesiology and Computer Science in Sport, ZSU, University of Vienna, Austria.

[raph.berger@gmx.net](mailto:raph.berger@gmx.net)

### **Investigating cardiovascular characteristics in men of different ages.**

Lili Kósa, Eliza Eszter Tóth, Gergely Sándor Gabnai, Katalin Nagyváradí and Ferenc Ihász,  
Eötvös Loránd University, Szombathely.

[eliza.toth0823@gmail.com](mailto:eliza.toth0823@gmail.com)

### **Eye hand reaction in comparison of the 5th and 8th school level.**

Tribelnig Johannes,  
Department of Biomechanics, Kinesiology and Computer Science in Sport, ZSU, University of Vienna, Austria.

[a09000740@unet.univie.ac.at](mailto:a09000740@unet.univie.ac.at)

### **A comparison of the anthropometric parameters between basketball players, handball players and volleyball players.**

1. Florian Miftari, 2. Juel Jarani, 3. Dhimitraq Stratoberdha  
1 .Faculty of Physical Education and Sports, University of Prishtina, Kosovo  
2-3. University of Sports Tirana, Alabania

[florian.miftari@uni-pr.edu](mailto:florian.miftari@uni-pr.edu)



## **e-POSTER SESSION of e-participants (2-3 minutes/presentations without presenters)**

### **The Olympic values in the sport coach as a way to combat doping.**

Teresa Cristina Tourais de Afonso Rocha<sup>1</sup>, Xesús Pena-Pérez<sup>2</sup> and Maria José Martínez Patiño<sup>1</sup>  
1Faculty of Physical Activity and Sports Sciences, University of Vigo, Spain  
2Faculty of Psychology, University of Santiago de Compostela, Spain  
[teresadesporto@gmail.com](mailto:teresadesporto@gmail.com)

### **Analysis of Graph Theory in professionals soccer's semifinals: World cup 2014.**

Carlos Elvira-Aranda\*, José Antonio Pérez-Turpin, Luis María Campos-Gutiérrez, Juan José Chinchilla-Mira and María José Gomis-Gomis,  
Sports Research Group, Department of Didactics, Faculty of Education, University of Alicante, Spain.  
[joseantonioperezturpin@gmail.com](mailto:joseantonioperezturpin@gmail.com)

### **The fall risk assessment using virtual reality and modelling.**

Frédéric Muhla<sup>\*a</sup>, Fabien Clanché<sup>a</sup>, Arnaud Cosson<sup>b</sup>, Gêrôme Gauchard<sup>a</sup>  
<sup>a</sup> Faculty of Sport Sciences of Nancy & EA 3450 DevAH  
30 rue du Jardin Botanique – 54600 Villers-lès-Nancy  
<sup>b</sup> HRV Simulation - 21 rue Ferdinand Buisson - 53810 Changé  
[frederic.muhla@univ-lorraine.fr](mailto:frederic.muhla@univ-lorraine.fr)

### **Impact of block periodized explosive power training program on dynamic variables and performance to snatch for weightlifters.**

Ebada Khaled<sup>1</sup> and Abdel Hadi Ibrahim<sup>2</sup>,  
<sup>1</sup>Prof. Dr., Training weightlifting in Department of theory and applications Compats and individual sports, Faculty of Physical Education in Port Said University, Egypt. E-mail: [Kebada@phyd.psu.edu.eg](mailto:Kebada@phyd.psu.edu.eg)  
<sup>2</sup> Prof. Dr., Department of Athletic Training and Movement Science, Faculty of Physical Education. Port Said University, Egypt. E-mail: [ibrahimfawzy2011@gmail.com](mailto:ibrahimfawzy2011@gmail.com)



### **Investigation of the relationship between adolescents' physical activity and perceived stress levels.**

Neslihan Lök\*, Kerime Bademli\*\* and Sefa Lök\*\*\*,  
\*Selcuk University Health Sciences Faculty, Konya  
\*\*Akdeniz University Nursing Faculty, Antalya  
\*\*\*Selcuk University Sport Sciences Faculty, Konya

### **Stakeholders engagement in Slovak sport organizations.**

Patrik Ferenc, Michal Varmus and Roman Adámik,  
<sup>a</sup>Faculty of Management Science and Informatics, University of Zilina, Univerzitna 82  
[patrik.ferenc@gmail.com](mailto:patrik.ferenc@gmail.com)

### **Mental training, the arithmetic mean and a scientific basis for testing.**

Brahimi Tarek,  
University of Djelfa, I.S.T.A.P.S Djelfa.

### **Factor analysis of growth rates and biomechanical variables to snatch the elite weightlifters in Rio 2016.**

Abdel Hadi Ibrahim<sup>1</sup> and Ebada Khaled<sup>2</sup>,  
<sup>1</sup>Department of Athletic Training and Movement Science, Faculty of Physical Education. Port Said University, Egypt. E-mail: [ibrahimfawzy2011@gmail.com](mailto:ibrahimfawzy2011@gmail.com)  
<sup>2</sup>Training weightlifting in Department of theory and applications Compats and individual sports, Faculty of Physical Education in Port Said University, Egypt.  
[Kebada@phyd.psu.edu.eg](mailto:Kebada@phyd.psu.edu.eg)

### **Effect of 6-weeks plyometric training in youth soccer players.**

Alejandro Martínez-Davó\*, Sergio Sellés-Pérez, José Manuel Jiménez-Olmedo, and Roberto Cejuela,  
Area of Physical Education and Sports, University of Alicante, Spain.  
[joseantonioperezturpin@gmail.com](mailto:joseantonioperezturpin@gmail.com)

### **Comparative analysis of physical fitness in young handball players according to competitive level**

Antonio Morales-Morales\*, Alfonso Penichet-Tomás and José Julio Espina-Agulló,.



Area of Physical Education and Sports, Department of General and Specific Didactics, Faculty of Education, University of Alicante, Spain.

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### **The relative age effect in elite triathletes**

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### **A proposed predictive model of performance in men`s 100 metres.**

Juan José Chinchilla-Mira\*, J.F. Arroyo-Valencia, C. Mateos-Padorno, C. Rodríguez Fernández, María José Martínez-Patiño, O. Abadía García de Vicuña, José Antonio Pérez-Turpin<sup>1</sup>, Carlos Elvira-Aranda and Luis María Campos-Gutiérrez, Sports Research Group, University of Alicante, Spain.

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### **Physiological response of ultra-distance world record in indoor rowing.**

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### **Relationship between ankle injuries and ankle flexibility in young trail-runners.**

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### **Change of hand and direction skill in basketball: pilot study on teaching methods by verbal/visual stimulus versus verbal one.**

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## **Judgement and opinion on PE teachers and PE as a subject in the schools in Szombathely – a longitudinal study.**

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## **Analysis of the Olympic Games of Rio de Janeiro: Legacy of an Olympic experience.**

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## **The level of physical activity, results of a survey among middle Schools in Algiers**

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## **Plurale project - Physical Literacy in Lifelong Education**

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Università degli studi di Salerno  
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## **Relationship between self-esteem, self-image and body mass index in adolescents: a case study**

Ana Velez Capilla, José A. Pérez-Turpin, María José Gómis-Gómis, Concepción Suárez-Llorca  
Research group in Sports Sciences, University of Alicante (Spain)



## **Perceptions of adolescents about the Olympic values associated with martial arts versus football**

Xesús Pena-Pérez<sup>1\*</sup>, Teresa Rocha<sup>1</sup>, María José Martínez-Patiño<sup>1</sup>, Constantino Arce Fernández<sup>2</sup>

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<sup>2</sup>Faculty of Psychology, University of Santiago de Compostela, Spain

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## **Tactical Analysis in Beach Volleyball: advanced Technology**

José Antonio Pérez-Turpin\*, María José Gomis-Gomis, Concepción Suárez-Llorca, Juan José Chinchilla-Mira, Carlos Elvira-Aranda and Luis María Campos-Gutiérrez, Sports Research Group, University of Alicante, Spain.

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# **BOOK OF ABSTRACTS**

## **Conference Themes:**

- 1. Sport and Society**
- 2. Sport Pedagogical and Psychological aspects**
- 3. Performance Analysis**
- 4. Sport Physiology**
- 5. Teaching , coaching methodology**





**1<sup>st</sup> December 2017. Oral presentation**

## **KEYNOTE**

**The mobile motion advisor as a tool for motivating people to be more physically active.**

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### **Abstract**

The original intention of the Mobile Motion Advisor (MMA; Baca et al., 2010) was to support physically active people during their activity by providing appropriate feedback. Sensors measure different parameters like heart rate, number of steps or positions of exercising persons. These parameter values are collected by a smart phone application and are then transmitted to an application server. Based on the data, feedback is auto-generated in almost real-time or deduced by experts and sent back to the persons. Coaches, teachers, course instructors, etc. are thus able to guide a number of persons individually.

Ongoing developments aim at using the MMA for motivating school pupils and students to be more physically active. In a study involving school pupils, a team sport game accompanied by a certain self-developed virtual game was part of the physical education lessons. The MMA-based game was designed to give every pupil the chance to win. Performance was rated in comparison to efforts and physical abilities of the classmates.

Currently, novel games to be used in university sports are under development.

Within the lecture, different applications of the MMA will be shown. Focus will be put on the usage in school and university sports environments.

Results of the evaluation in a school sports setup will be bespoken.

**Keywords: mobile motion advisor, motivation, physically active**

### **Reference**



Baca, A., Kornfeind, P., Preuschl, E., Bichler, S., Tampier, M. and Novatchkov, H., (2010), A Server-Based Mobile Coaching System, *Sensors*, 10, 10640-10662.

## 1.Sport and Society

### Cross-national relations between the social significance of sport and socio-economic development in the European Union.

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#### Abstract

Sport plays an important role in different areas of European societies (e.g. health, economy, education, politics). To operationalize the social significance of sport in the 28 member states of the European Union, Weiß et al. (2016) developed an indicator-based statistical benchmarking model: the European Sport Index. Based on this index, the present study analyses the relationship between the social significance of sport and the socio-economic development in the 28 members of the EU. By means of a comprehensive desk research, a set of important socio-economic indicators was identified (e.g. Human Development Index, All-Cause-Mortality). Beside content-related considerations, the availability, actuality and comparability of the data were crucial criteria for the selection of the indicators. Pearson's correlation coefficient ( $r$ ) was calculated to examine the relations between the European Sport Index and the selected economic indicators. Additionally, a hierarchical cluster analyses (Ward-Method) was applied to group the nations concerning their data structure. Strong positive correlations ( $r > 0,7$ ) between the European Sport Index and the socio-economic indicators were found. In particular, northern and western European countries (e.g. Denmark, Netherlands, Sweden) reach higher scores on the European Sport Index and the socio-economic indicators. Countries from southern and eastern Europe (e.g. Bulgaria, Romania, Lithuania), on the other hand, score lower on all observed indicators. The results of the cluster analysis support the northwest-southeast trend. The identified macro-level correlations highlight that in socio-economically higher developed countries, sport plays a more important role. However, deeper research needs to be done to analyze causality and robustness of these correlations.

**Keywords:** European Sport Index, socio-economic indicators, European Union, cross-national comparison

#### References:



Weiss, O., Norden, G., Nader, M. & Arnusch, F. (2016). European Sport Index: The social significance of sport in 28 European countries. *European Journal for Sport and Society*, 13(2), 167-182.

### **Evaluation of increased physical activity lessons in school.**

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#### **Abstract**

Less than a fifth of Austrian students (17,4%) fulfil the WHO (2010) physical activity recommendations for children and adolescents, which amount to a daily minimum of 60 minutes of physical activity in moderate intensity. About a quarter feels psychical strongly loaded due to the school, associated with less physical movement (Ramelow, Teutsch, Hofmann & Felder-Puig, 2015). The implementation of a daily physical education (PE) lesson aims to reach young people of all social classes and to encourage them to more physical exercise. To show the influence of a daily PE lesson on physical and psychosocial factors, this longitudinal study aims to observe the development of motor ability and self-esteem of students at the age of 12-14 years (n=134) throughout three semesters. The used data collection tools are the Deutscher Motorik-Test 6-18, the ALS Test (a tool measuring self-esteem) and a questionnaire to collect data about the movement behavior outside school. An observation group with five PE lessons and a control group with three PE lessons weekly form the sample. The chosen method makes it possible to show a potential difference in the development of self-esteem and motor-ability. The study is still in progress but due to the provisional results, it can be said that the increased number of PE lessons has positive influence on the children's motor ability. In June 2017, after finishing the entire observation period, the final tests can give further results.

**Keywords:** physical education, self-esteem, motor ability

#### **References:**

Ramelow, D., Teutsch, F., Hofmann, F. and Felder-Puig, R. (2015). *Gesundheit und Gesundheitsverhalten von österreichischen Schülerinnen und*



*Schülern. Wien: BMG. WHO (2010). Global Recommendations on Physical Activity for Health. Genf: WHO Press.*



## **Reliability and validity of field-based strength tests for elderly to be used in younger adults.**

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Field tests to assess functional performance in elderly are increasingly used in sport science and clinical practice. However, a general standardization of tests over a broader age range is largely lacking, but would be necessary to follow changes in fitness over time. Therefore, the aim of the study was to investigate whether the assessment of the senior fitness tests (Rikli & Jones, 1999) provides reliable and valid data also in a young population.

Thirty-nine healthy females and males (20-35 years) were included in the test-retest reliability study and conducted several tests [30s chair stand (CS), 30s arm curl (AC), handgrip strength, 6-minute walking test (6MWT), 2-minute step test (2MST)] twice separated by at least 5 but maximal 14 days. Validity was assessed in comparison to an increment treadmill test and isokinetic torque measurements. For statistical analysis ICC, change in mean, typical error of measurement, and Pearson correlation were used to assess test-retest reliability and validity (Hopkins, 2000).

There was a good to excellent reliability with significant test-retest difference in CS, AC, and 2MST. CS, AC and handgrip strength correlated significantly with isokinetic torque measurements as did 6MWT and 2MST with treadmill test.

We have shown that the field-based strength tests included in the senior fitness test are reliable and valid in young adults similar to an older population. We conclude that the evaluated tests are suitable to assess strength over a broad range of age groups in situations where laboratory tests would be too demanding or expensive.

Keywords: Reliability, Validity, Vienna Active Ageing Study II (VAAS II), functional exercise performance

### References

Rikli RE, Jones J (1999). J Aging Phys Activity. 7:129–61.

Hopkins WG (2000). Sports Medicine 30:1-15.



## KEYNOTE

### **Trending sport governance: Athletes involvement in decision making**

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Sport governance has become an increasingly widespread subject for research (King, 2017) as governance is a key component of the effective sport organization management (Mu Yeh & Taylor, 2008). Therefore, more and more researchers are focusing on issues related to good governance in sport. Initiative – Action for Good Governance in International Sports Organizations (AGGIS, 2013) has set down guidelines for good governance, incorporating democratization processes. One of the growing concerns about good governance and its democratization is the involvement of stakeholder's, in this case – athletes. Due to the fact that governance decisions usually affects athletes directly, they have relatively low decision – making power (Thibault, Kihl & Babiak, 2010). Decision-making is a fundamental element of any sport. The aim of this research is to highlight the importance of the athlete's involvement in decision – making process that more and more becomes trending in sport organisations.

Methods. Literature analysis has been used to comprehend athlete's role in organizations decision – making and how it has evolved in recent years. Theoretical framework allowed to create survey with a purpose to assess current situation in national sports federations.

Results and conclusions. Literature analysis revealed increasing democratization within sport organizations which affects greater involvement of athletes in decision – making. Theoretical framework allowed to make recommendations for sport organizations, in order for them to become more athlete-centered. Although increasing democratization within sport organizations have led greater athlete's involvement in decisions making, some issues still remains unresolved.

Key words: Sport, good governance, athletes involvement, decision making.

Jens Alm (ed.) (2013). Action for Good Governance in International Sports Organisations. Danish Institute for Sports Studies.

King, N. (2017) Sport Governance. Routledge, p. 202.

Thibault, L., Kihl, L., & Babiak, K. (2010). Democratization and governance in international sport: addressing issues with athlete involvement in organizational policy. *International Journal of Sport Policy*, 2(3), 275-302.

Yeh, C. M., & Taylor, T. (2008). Issues of governance in sport organisations: A question of board size, structure and roles. *World Leisure Journal*, 50(1), 33-45.



## **Olympic education at the regional level.**

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### **Abstract**

Mark out the features of Olympic education at the regional level.

Results. In Russia the system of schoolchildren Olympic education began to be formed since 1992 and base on the interaction of different levels: the Federal level; the level of subjects of the Russian Federation; regional Olympic academies and educational authorities.

Annually since 2007, sports competitions “Young olympionics” among preschool educational institutions are held in Velikie Luki. The program of this competition includes: motor activity, complex zone of obstacles, and a theoretical quiz «Experts of Olympism». At the higher educational establishments of Velikie Luki the Olympic education got its development in Sports Academy. It is realized through teaching educational disciplines, creative contests during extracurricular time, the scientific work on studying the Olympic movement, and informative activity for the dissemination of Olympic knowledge among different population groups.

It was concluded that the peculiarity of Olympic education in Russia at the regional level is between regional Olympic academies, secondary schools and non-physical higher educational establishments.

**Keywords:** Olympic education, regional level, Pskov Region



## **Effects of a multicomponent intervention to improve physical performance and dietary habits in young children.**

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### **Abstract**

Eddy Young is an intervention study with the aim to assess whether a school-based multicomponent intervention can help to improve diet and exercise parameters in young children. The study focus lies on the changes in exercise performance resulting from specific and structured sport lessons and dietary classes. Furthermore, results should show if a school based intervention can prevent obesity and secondary diseases in elementary school children.

A Total of 162 children aged between 8 and 10 years participated in the study. The group was split in an intervention and control group. The Intervention group received two blocks of an 8-week combined exercise and nutrition program while the control group only participated in physical assessment tests. The tests were conducted using the German Motor Test and took place before, in-between and after the 16-week intervention period. Eating habits and dietary knowledge were examined through questionnaires.

All children improved significantly in every subtest of the German Motor-test-battery with the exception of the sit and reach test, where both groups showed significant loss of flexibility ( $p=0.000$ ). The baseline values of the control group were significantly better within the 20m-sprint ( $p=0.020$ ), sit-and-reach-test ( $p=0.020$ ), push-up-test ( $p=0.009$ ), standing-long-jump-test ( $p=0.043$ ) and the six-minutes-run ( $p=0.000$ ). Further results showed significant more improvement in the push-up-test ( $p=0.000$ ), lateral-quick-jump ( $p=0.000$ ) and the overall Z-values ( $p=0.000$ ) for the intervention group.

The results of this study strongly suggest that a multicomponent intervention involving exercise and nutrition classes held by experts improves the motor performance in young children.

**Keywords:** exercise, health, motor performance, physical fitness

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## **Development of educational tourism in Pskov region**

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### **Abstract**

The cultural and historical potential of Pskov region should necessary be used against the backdrop of negative trends in tourist services market development. There are special opportunities to create and promote a new tourist product in educational tourism, which is backed by many architectural monuments of antiquity, places associated with the life and work of famous people. One of the most interesting objects for a tourist product creation are old post stations.

A test excursion and tourist postal route were created and implemented with the participation of students and teachers of Velikie Luki Sports Academy. Then consumer properties of the tourist and excursion program were assessed.

It is planned to devise an information retrieval and educational system based on a special website by creating an interactive communication zone considering historical and cultural heritage of Pskov region. The system will offer access to collections of various categories of people who do not have the opportunity to visit real museums, people with disabilities and residents of remote regions. A postal tourist product is important for popularization of unique monuments of history and art of Pskov region and effective interaction with the media.

**Keywords:** Pskov region, educational tourism, postal tourism, tourist product, interactive communication



## **Post-activation potentiation across repeated complex pairs - influence of the strength level.**

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### **Abstract**

In the last few years there has been a growing interest in the phenomenon of post-activation potentiation (i.e., PAP), which is believed to be influenced by the strength level and muscle characteristics of the athlete (Seitz et al., 2014)). However, to date only few studies have investigated the influence of strength level on repeated PAP-effects across a complex training session.

Therefore, PAP effect was studied with 60 resistance trained male subjects (age  $23.3 \pm 3.3$  years; weight:  $86.1 \pm 13.9$  kg; 1 repetition maximum [1RM] half-squat/bodyweight:  $1.80 \pm 0.19$ ), using a randomized cross-over design. After baseline assessment, subjects performed either three sets of a squat protocol with moderate intensity (MI: 6x60% 1RM), or high intensity (HI: 4x90% 1RM), or 20 seconds of rest (CTRL). After each set of squats or rest, countermovement jumps (CMJs) were performed on a force platform at different time points (i.e.: 15 seconds, and 1, 3, 5, 7, 9 and 11 minutes, respectively). On the basis of a median split athletes were divided into two groups (“stronger” and “weaker”) for statistical comparison.

A 3-way ANOVA showed no significant interaction of strength level, conditioning activity and time. Additionally, no correlations between relative strength level and PAP-response were found. However, further analysis of the data-set revealed that stronger athletes might be responding better to repeated complex pairs and can sustain PAP effects longer.

In conclusion, results of the current study suggest that an athlete’s strength level is not influencing PAP across a complex training session.

### **References**

Seitz L., et al. (2014). *J Strength Cond Res*, 28(3).

**Keywords:** post-activation potentiation, complex training, repeated complex pairs, strength level, peak power, jump height

Thibault, L., Kihl, L., & Babiak, K. (2010). Democratization and governance in international sport: addressing issues with athlete involvement in organizational policy. *International Journal of Sport Policy*, 2(3), 275-302.

Yeh, C. M., & Taylor, T. (2008). Issues of governance in sport organisations: A question of board size, structure and roles. *World Leisure Journal*, 50(1), 33-45.



## The “Flexibility Trainer”: Isokinetic Sport Device to Enhance Hip Joint Flexibility

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### Abstract

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Prototyping and testing the “Flexibility Trainer” is part of the author’s dissertation project “Martial Arts: Investigations in Matches, Techniques and Product Development”. Hip joint flexibility is crucial for most martial arts comprising kicking techniques, e.g. karate, kickboxing and MMA, but adequate training, especially in advanced sportsmen age, is difficult. The “Flexibility Trainer” is a sports device invented by the author and aimed to solve this issue. An isokinetic hydraulic damper is used to decelerate the movement velocity of abduction/adduction or flexion/extension alongside a track, so that the practitioner is able to train agonists and antagonists at each exercise. It is believed that this practice leads to the usage of autogene and reciprocal inhibition as reflexes in order to enhance the outcome during a training session. Moreover, full range of motion strength training is expected to cause a structural enlargement of the muscles. Based on findings of Gärtner (2013) and Fatouros et al. (2007), the Flexibility Trainer is supposed to bring even greater improvements considering that training with a device which supports optimal movement patterns leads to better training results.

Gärtner, D. (2013). Einfluss verschiedener Dehnmethode auf ausgewählte Leistungsparameter im Kampfsport (Dissertation). Technische Universität, München.

Fatouros, I. G., et al. (2002). The effects of strength training, cardiovascular training and their combination on flexibility of inactive older adults.

Keywords: flexibility, sport device, biomechanics, martial arts, karate, kickboxing.



## **Analyses of accounting reports of Sport Organizations in 2016 supported by TAO (Corporate Tax)**

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Hungarian sport financing has changed significantly in recent years. To comprehend the extent of these changes it is essential to study the economic data of these organizations. This study has been undertaken by the analyses of the relevant documentation. All the accounting reports and enclosures of the selected 5 spectator team sports, have been reviewed. The analytical instruments used were as follows: traditional financial indicators, vertical balance analysis and efficiency indicators.

The total income of all the sport federations reviewed, increased from 2015 to 2016 and this growing trend has continued. The commercial financing component of this growth has been very small with some Federations recording zero activity. The examination of the income structure has shown deviations between the federations. In the case of the Hungarian Football Association, the highest income ratio, where the direct financial support was 46,11%, with commercial financing, mainly from TV broadcastings, rights forming 35,64% of the total. The received direct financial supports were over 50% in the cases of handball, basketball, ice hockey and water polo. The asset analyses shows similarities in the case of all 5 federations i.e, in 2016, similar to previous years, the ratio of cash was the highest.

In conclusion, the structure of the accounting reports of the 5 sports show significant similarities in the fields of growth tendency, income sources and the structure of the assets.

Keywords: Accounting report, balance analyses, nonprofit income and expenses, sport financing



## **Sport and sport media as a culture industry product.**

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### **Abstract**

Today, the concept of sports is associated with commercialized and industrialized elite sports instead of the activities that are required to sustain healthy lives. Sport is the first area in which capitalism can deepen its hold on society and renew it. Method: This conceptual study examines how Marxist critical theorists, led by Frankfurt school of thought and French structuralism, address sports.

According to critical theorists; culture industry products such as cinema, television and music entertain and divert the masses from thinking about the realities of life. Today's culture industry which is based on commodification serves to spread a shallow culture instead of a culture with depth. Sports, transmitted to the masses via the media, are now a part of this shallow culture. According to culture industry, first conceptualized by the representatives of the Frankfurt school of thought Adorno and Horkheimer, masses have become the objects that are shaped by the culture instead of subjects that establish it. In today's society, individuals cannot establish the culture but rather; culture shapes the individuals it harbors. When considered as a part of the culture industry, sports are one of the mass entertainment and diversion tools that define the lifestyle of individuals. Since their birth, individuals are regarded as possible fans of one of the football clubs and "commercialized sportive ownership" determines most of their consumption from food to clothing. Clubs market their fans to advertisers and television companies that broadcast football contests to provide income. French structuralist thinker Althusser regards sports as a cultural ideological state apparatus such as educational institutions and the media while citing the Ideological State Apparatus (ISA). According to Althusser, ISAs cause incorrect assumptions about the world and society in which individuals live in. Sports are regarded as tools for entertainment in totalitarian regimes as well. Literature includes quotations from Franco in Spain and Salazar in Portugal about the use of football for this purpose while continuing their dictatorship. According to Chomsky, sports are used for brainwashing. Sports hold individuals from thinking and being concerned about the real important issues in their lives.

According to critical thinkers, sports such as football -the focus of interest for the masses- is a field in which injustice in income distribution is legitimized.

**Keywords:** Sports, Culture Industry, Critical Theory



## **Development and evaluation of a feedback system for endurance running (PerPot-live). A pilot study**

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### **Abstract**

Due to miniaturisation and modern communication protocols mobile coaching systems are becoming more and more applicable for recreational athletes. One area of application is endurance running, where they can help athletes with aiding them with a suitable pacing strategy. Choosing a good pacing strategy is essential for achieving the best possible outcome during a competition. The meta model PerPot can be used for the computation of an individual pacing strategy for an athlete. This paper presents the results of a pilot study aiming to validate PerPot-live. The developed feedback system uses data captured during a run in order to update the pacing strategy, i.e. perform live updates rather than following the same pacing strategy for a whole run. These updates are based on the physiological responses of the athlete to changes in speed. 22 (16 male, 6 female) moderately trained recreational athletes had to complete two trials on the same track in a randomised order. While one trial had to be completed using the pacing strategy given by PerPot, the other trial was completed using a strategy chosen by each participant. PerPot-live showed a significant improvement for runners needing more than 50 min for their trial, but a non-significant improvement for faster runners. However, data shows a possible problem in the implementation responsible for scheduling of the updates. Nevertheless, the results show an indication that the live version of PerPot can help recreational runners achieve personal bests in paced runs.

**Keywords:** Pegasos, feedback systems, running, PerPot, pacing strategy



## **Combining strength and power training: a systematic review of findings from complex training studies**

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### **INTRODUCTION**

It is well established that athletes should perform both, power and strength training to maximize sports performance (1). Most recently, the concept of complex training (CT) has received much attention as an effective strategy combining power and strength exercises in the same workout (2). However, it has not been established whether CT is superior to other training methods and there is a clear need for summarized evidence.

### **METHODS**

We conducted a systematic review according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines in five electronic databases (MEDLINE, Web of Science, SportDiscus, CINHALL and Scopus). Additionally, the methodological quality was assessed by the 11-item PEDro scale. The article selection process, data extraction and quality assessment were performed by two independent investigators (BP, ÜF).

### **RESULTS**

Of the original 8196 articles screened, 29 met the in- and exclusion criteria. Overall the quality of included trials was poor to fair. However, CT seems to be effective for improving jump, sprint and strength performance compared to no-training control groups. Surprisingly, our analysis indicates that CT and other training methods are equally effective in improving performance.

### **CONCLUSIONS**

In conclusion, CT is effective in improving sports performance but is not superior to other training methods. However, the organizational benefits of combining strength and power exercises in one training session could still remain, even without the presence of higher performance improvements. Future studies should confirm our findings using statistical techniques (i.e.: meta-analysis). Additionally, further CT studies with improved trial design and reporting are warranted.

**References**1: Cormie P, et al. (2011). Sports Med, 41(2).



2: Lim J, et al. (2016). Strength Cond J, 38(6)**KEYWORDS:** complex training, contrast training, combined training

## 2<sup>nd</sup> Dec - Oral Presentations

### KEYNOTE

#### **The psychological profile of young players in urban and rural areas of Pakistan.**

Abdul Waheed Mughal<sup>1</sup>, Zafar Iqbal But<sup>2</sup>, Abdul Qayum Khan<sup>1</sup> and Pervez Aslam Shami<sup>1</sup>

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### **Abstract**

The increased stress and anxiety in athletes have proven to create negative impacts on their sporting performance. The worry about the outcome of the competition and inability to concentrate on the given task in a tense situation, has led researchers to focus this area of interest. In order to understand the talent development process, psychological factors are well studied throughout the world. There are many psychological factors which can predict the ability of an athlete to perform in the top level sports competitions (Macnamara, Button, & Collins, 2010). Recent developments in the area of social cognitive theory relating to achievement and motivation, highlights the relevance of task and ego goal perspectives in sport. Pakistan is a developing country with rapid growth in the urban population (Qutub, 1992) but the performance of their sportsmen has been in a state of decline. The objective of this study was to find out task and ego perspective among the players of secondary school sports in urban and rural areas of Pakistan, in order to sketch policies for future sports development. In this study n =524 players from urban schools aged 15.4±0.8 years and n=451 from rural schools aged 16±1 were examined. TEOSQ (Task and Ego Orientation in Sport Questionnaire) has been used under the supervision of researchers. Participants were assured confidentiality and desired to be honest. The results showed no significant difference in relation to ego goal perspectives between Urban and Rural groups. However, significant difference has been found in task orientation  $p < 0.05$ . The results suggest, that the rural school players are more task oriented as compared to the urban school players. To be the task oriented players, the key factor in predicting the talent for competitive success, primarily it is the motivation that helps during the whole developmental process. Therefore, the government and sports association should consider, even though as the urban population is increasing, the more potential they can find in rural areas.





**Key words:** Psychology, Anxiety, Rural, Urban, Performance, Motivation.

## **KEYNOTE**

### **Disability in sport and physical activities, the Law of February 2005, the inclusion of French approaches, and the European Sport for All Charter.**

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#### **Abstract**

We cannot find a unique definition of the concept of handicap in Europe. Even within individual countries, many approaches are generally observed according to now this term is applied.

Handicap is a generic concept which can comprise heterogeneous groups of people. Any international comparison reveals itself to be an arduous task. In fact the groups of people concerned are not the same everywhere and practices vary according to this specific cultural, social and economic backgrounds. Public policies depend on the different representations of the notion of handicap and are influenced by both disabled people themselves as well as by policy makers as well. For example in France from the early 1960s the word « handicap » was progressively replaced by other nouns such as “infirmes” (disabled) or “inadaptés” (disabled, maladjusted).

The shift in meaning of the word “handicapé” seems to be related to the distressing ordeals experienced by some, which have led to somatic and mental weaknesses and to the idea that ways can be found to compensate for handicaps and allowing ways to live as an able-bodied person. Beyond the widely spread social norms and behaviour, the handicapped person faces constraining representations almost stereotypical which lead to the sense of enclosure. Being born triggers or handicapped generates a whole set of psychic disorders provoking an inner and collective moral suffering.

The human body can be considered as the prevailing pillar of identity for both handicapped and valid people. A two-fold psychological mechanism seems to be at the root of the handicapped person's self-acceptance and his/her relationships to others and to social groups. Through a mechanism of objectification the subject rediscovers his/her own and full identity within the world of able-bodied persons. Through the mechanism of appropriation the handicapped person accepts his/her self-experienced own image as he experienced it.



The construction of this new identity is internally nurtured and is strengthened by the close personal interactions which certainly contribute playing an important role in the development of our identity. The process is firstly generated

among family members and then it is progressively more widely encouraged by social relations. In this perspective sport will fully impact the process. This is the

main goal of the Act No. 2005-102 of 11 February 2005 on equal rights and equality of opportunities and the inclusion and citizenship of persons with disabilities

**Key words:** disability, sport and physical activities, Law of February 2005, inclusion, French approaches, European Sport for All Charter.



### 3. Sport Pedagogical and Psychological aspects

#### The recreational function of nature trails

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#### **Abstract**

The first nature trails appeared in the 1920's, the main goal of their existence was at the time informing citizens and opening people's eyes to the importance of nature conservation. According to the different challenges of civilization and the diverse needs of population they resulted, nature trails have changed a lot both in their appearance and function.

In order to carry out the theoretical research we have chosen document and content analysis based on relevant Hungarian and international literature. The research consists two parts: a study about the connection between the use of concept and the main function regarding nature trails in different countries (Hungary, Germany and the USA) and a second part which examines the appearance and rate of recreational function in the abovementioned countries.

Results show that the use of concept regarding nature trails is quite diverse in the chosen countries but in many cases the different expressions refer to the main functions of the trails. Nature trails in the examined countries have several functions: recreation, environmental education, nature conservation, etc. The recreational function appeared in each country, though the rate of it showed a great diversity according to different aspects (country, period and type of the trail).

**Keywords:** recreation, nature trail.



## **Role of hippotherapy in rehabilitation of children with a spastic form of cerebral palsy.**

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### **Abstract**

Recently, there has been a significant growth of the amount of children with cerebral palsy in the world. This fact makes the problem of their complex motor rehabilitation very important. We consider hippotherapy to lead in this process.

Our hippotherapy rehabilitation study is based on the analysis of Pskov equestrian club “Rodina” infrastructure and selected literature on the topic to obtain the necessary knowledge and further embody the data in question in Velikie Luki rehabilitation center for children and adolescents with disabilities and the stables “Balandino” in Velikie Luki area.

At first a sample of a hippotherapy rehabilitation program for children with a spastic form of cerebral palsy of preschool and primary school age was created. Then the obtained knowledge and information helped successfully implement the program in Velikie Luki rehabilitation center. The sample program and implementation data increased the probability of further successful development of the rehabilitation center and made it easier for disabled children and their parents.

**Keywords:** cerebral palsy, rehabilitation, hippotherapy, sample program, Pskov Region



## Psychometric characteristics of body imaging in consideration of satisfaction and self-esteem.

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### Abstract

Body image is a subjective „picture” that people have their own body, regardless of how their body actually looks. [Cash TF, Pruzinsky TE. (1990), Menzel JE, at. al., (2011) Smolak L., (2011)., Schilder P. (2013)]. Negative body image is expressed in one or more of the components of body image and is often characterised by a dissatisfaction with appearance and engaging in behaviours such as frequent self-weighing or mirror checking, or avoidance of public situations .

The whole sample ( $n_s=253$ ) person, ( $n_f=73$ ) male; ( $30.02\pm 10.17$ ) and ( $n_n=179$ ) were female, ( $29.75\pm 10.42$ ) years old, whose are were measured from Győr, Hungary. We measured their body components “InBody720” (Biospace Co. Inc., Seoul, South Korea) with Bioelectrical Impedancia method. we asked subjective factors with “*Body Shape Questionnaire*”, Cooper, P., at al., (1987) and the “*Rosenberg Self-esteem Scale*”, Rosenberg, (1965) scale.

The difference between the age groups were significant. Regardless of the relative body fat average age from (1) [ $28.57 \pm 8.67$  - age (2)  $30.08 \pm 8.04$  - age (3)  $34.15 \pm 9.03$ ];  $p < 0.0003$  is not significant. The measured (MTTs) - and the required body weight average (KTTS) during their life shows more difference (~10kg). The Body Shape Questionnaire (BSQ) with the exception of the answers given (BSQ 3,7,9,11) show a significant gender difference. Between age groups was no statistic difference.

Dissatisfaction with body image during our life is significantly, independent of gender. This fact in itself, and together even some measurable physical form a significant impact on satisfaction and self-esteem.

**Keywords:** Psychometric characteristics, body imaging, satisfaction, self-esteem.



## **Sauna, massage, yoga, meditation, relaxation as common recreational activities to overcome stress among students in Szombathely.**

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### **Abstract**

There have been relatively few inquiries and publications found for graduate students in our nation as to how to overcome stress with recreational activities. Therefor this presentation is the genesis of research on this particular topic.

The importance of motor activities were de-emphasized in the past years by the “walk of life” (living conditions), changes in the everyday activities, a hectic lifestyle, stress, the decrease of physical activities and the increase of psychological surfeits. The best remedies for mental strains could not only be active recreational activities but relaxing techniques and procedures as well. We are looking for answers in our research as to what kind of recreational activities the students in Szombathely are using in their free time to overcome stress.

The questionnaires were sent out on line (through the Neptune system) to 1825 people, those who received are people enrolled in ELTE at the campus of Szombathely in the departments of Arts, Sport Science, Nature of Arts, Pedagogy and Liberal Arts. We received back 185 completed questionnaires.

We obtained all the data from the questionnaires with the SPSS 23 mathematical and statistical program. Beyond the normal statistics – widespread, relatively widespread – we used the cross examination method for analyzing the similarities among the chosen recreational activities. The significance was established at 0.05 percent.

The benefits of psychological recreational activities such as meditation and relaxations are hardly used by anyone. We received very similar results obtaining information regarding useful knowledge about the benefits of sauna, massage and yoga. Our results are overshadowed by the fact that we only received 10 percent of the questionnaires.

We expected a much larger interests in and answers to our questionnaires from our audience. Among the 26 mental/psychological recreational activities – only the above mentioned recreational activities were introduced in this research. Since we asked the students for their one month activity schedule, it does not show constant frequency concerning the time they use for recreational activities and the time they use for studying.

**Keywords:** Sauna, massage, yoga, meditation, relaxation, recreational activities, stress, students in Szombathely.



**Physiological work ares in professional beach volleyball : a case study**  
**Jose Antonio Perez Turpin**



## KEYNOTE

### **The placebo phenomenon in sports and exercise.**

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#### **Abstract**

This paper aims to provide the reader with a comprehensive summary of the importance and possible role of the placebo phenomenon in sports. The placebo response is a learned reaction to certain symbolic characteristics of an intervention or environment, which can stem from personal experience or social transmission. Although certain elements of the response may reach consciousness, a considerable proportion of the entire process is involuntary, automatic, and often non-conscious. Responsivity to placebos shows considerable individual differences due to inherited attributes (gene polymorphism) and personality characteristics, which makes placebo related research particularly difficult. Moreover, subjective (perceived) body responses are often not in accordance with objective (measured) changes; thus, these aspects of sport-related placebo responses should be considered independently. Practical and theoretical challenges to finding an ethical standpoint on the involvement of deception and the possibility of placebo-based doping are also summarized. It is concluded that placebo-related responses may play a role in performance enhancement in competitive sports and may also contribute to the long-term maintenance of recreational physical activity.

**Keywords:** expectations, placebo, nocebo, sport, recreation





## **The relationship between body posture and balance stability at student age.**

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### **Abstract**

Low level of physical activity, frequent and long lasting sitting position and higher educational requirements make the postural defects more common. The main purpose of this studies was to define the connection between body balance and postural defects in the body trunk.

The examined group consisted of 120 students at the Sports University of Tirana: 85 boys and 35 girls in courses I-III Bachelor level. Zebris System with software WinSpine 2.3 was used to examine the body posture; to assess the balance Leonardo Mechanography Ground Reaction Force Platform was used. Postural stability, static plantar pressure distribution and dynamic foot loading patterns were measured. The subjects were asked to stay on a force platform for 10 seconds. Postural control was evaluated in two conditions: open and closed eyes. The kinetic data carried out from the force platform (i.e., ground reaction forces and Center of Pression (COP) displacements) were both evaluated in time domain and in frequency domain.

The correlation between the increase of diferent posture deviations and the increase in the average deviation measure of the foot pressure in the frontal plane was observed.

The lack of correlations between body posture and balance parameters in examined group were stated.

**Keywords:** posture defects, postural stability,balance.



## **Innovative conditioning training methods during pre season preparation of Slovak national ice hockey players from u18 ice hockey project.**

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Department of Physical Education and Sports, Faculty of Arts, Matej Bel University in Banská  
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### **Abstract**

Pre season period is one of the most important part of the macrocycle in ice hockey, therefore it is necessary to choose best possible training program for developing crucial abilities which are affecting performance on ice. The main purpose of this study was to apply innovative training protocol during pre season period in order to create better improvement than previous years. Eight national team ice hockey players from under 18 hockey project of slovak ice hockey federation participated in 10 weeks training program divided into 3 microcycles per 3 weeks with 1 deload microcycle after sixth week. First three weeks were targeted on improving eccentric strength (10 training sessions per week), Second 3 weeks were targeted on maximal strength with energy system development and finally after 1 recovery week last microcycle was targeted on improving explosive strength and high intensity working capacity. During the program, traditional tools but also specific innovative training tools had been used for example Vert, Vertimax and isokinetic ergobike. For complex diagnostics were used FMS, isokinetic ergobike, Benchpress, Back squat, Squat jump, Counter-movement jump, grip strength and sprints on 5 and 10 meters. Results showed, that players significantly improved in all tests with low to moderate effect sizes ( $p < 0.05$ ,  $r = 0.17 - 0.49$ ) and in Benchpress we achieved higher statistical significance ( $p < 0.01$ ,  $r = 0.23$ ). Used training program periodization seems to be efficient way for pre season preparation, but still more research needs to be done on wider samples.

**Key words:** ice hockey, periodization, eccentric strength, power



## **Fitness level of junior ice hockey players – differences between league and national teams.**

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### **Abstract**

Every single sport game has a specific scouting system, which is crucial for choosing best possible players with the highest potential for future success. The main purpose of this study was to compare fitness level of Slovak national U18 ice hockey team with Slovak league youth team and to determine whether there are any differences in maximal and explosive strength between them or not. Two samples (19 players each) were intentionally chosen according age criterion and participated in pre season testing in Squat jump test, Counter-movement jump test, Back squat and Benchpress 1 repetition maximum. Myotest Pro and Fitrodyne devices had been used. National U18 team players achieved significant better score in Squat jump ( $p = 0.0001$ ,  $\eta^2 = 0.55$ ), Counter-movement jump ( $p = 0.001$ ,  $\eta^2 = 0.3$ ) and Benchpress 1RM ( $p = 0.004$ ,  $\eta^2 = 0.23$ ). There were no significant differences in Back squat 1RM test, however large effect size was achieved ( $p = 0.17$ ,  $r = 0.52$ ). National U18 team players did better in maximal strength and explosive strength tests, than same age Slovak league team players. Results might serve as a prerequisites for joining the national team supported by high level performance during ice hockey game.

**Key words:** ice hockey, physical condition level, league team, national team, junior players



## **The relationship between physical activity and attention at student's age.**

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2. University of Gjirokastra “Eqerem Çabej”,

3. University of Medicine, Faculty of Technical Medical Sciences

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Introduction: Attention as a cognitive function is related to the biological parameters and physical condition of the individuals. Biology and Medicine Sciences speak of an atrophy and deterioration of cognitive functions caused from inactivity and place emphasis on the use of physical exercises in the prevention and preservation of those functions, especially the cognitive and executive functions associated with the daily activity of each individual. Many studies confirm, in this regard, the hypothesis, (left open) that skills and functions that are not used, weaken and lose. But in this context, it is not clear where the loss occurs when these functions break down or weaken, or the improvement of cognitive functions including attention to one's attention as a key function in determining the quality of everyday life in the locomotor system (responsible for the movement) or in the SNQ (responsible for the mobility programs)? In another plan we should discern whether physiological or psychological changes occur. Material and methods: 164 students, athlete & nonathlete; male & female, were tested in a period of six weeks intervention of PA for 90min 2 time/week. Continuous Attention test DAUF - Vienna Test System was employed to Measure long-term selective attention and concentration and general ability. Home Step Test to evaluate heart rate response of the cardiovascular system in athletes vs non-athletes. Results: Evaluation of difference of cardiac frequency change for athletes vs nonathletes, for nonathletes was found  $\Delta=38.5$ ;  $SD=\pm 14.8$ ,  $r=0.85^{***}$ ; for athletes were found  $\Delta=21.33$ ;  $SD=\pm 6.53$ ,  $r=0.79^{***}$ . Evaluation of errors made in DAUF athletes vs non athlete's attention test showed that nonathletes improve about 50% attention compare to 30% to athletes. Conclusions: This study found that athletes have a better improvement in DAUF making in general fewer errors than nonathletes while athletes showed to perform fewer errors than base-line evaluation.

Key words: attention, submaximal load, physical activity, heart rate response, VO<sub>2</sub>max.



### 3. Performance Analysis

#### KEYNOTE

#### **Performance Profiling in sport, using rugby union half-backs as a validation exemplar.**

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#### **Abstract**

An exploratory method of quantifying the impact of individual players in rugby union was developed and applied to both half-back positions in 2015 Rugby World Cup matches with a view to firstly test the validity of these systems by profiling players, and secondly, if successful, to assess the impact of substitutions. A match impact scoring system was devised using questionnaire responses of an expert group of professional rugby analysts and experienced international coaches. The scoring system weighted each game action in a positive or negative manner according to the impact on team performance.

It was found that the proposed method produced valid and reliable data concerning player performance. As a validation exercise, it was applied to half-backs substituted with more than 20 mins playing time left, the two 20 min period, before and after substitution, were compared. A “non-substituted” control group were also analysed, in both the first and final 20 minutes of competition. It was found that for the scrum-half position, the starting players produced a higher median ‘efficacy’ score than replacement players 27.46, (std. dev.  $\pm 10.06$ ) and 20.42, ( $\pm 12.45$ ). The best performing scrum-half group were the 60-80 minute non-replaced players 29 ( $\pm 9.0$ ). For the out-half position, it was found that the highest median ‘efficacy’ was achieved by the replacement player group 18.80, ( $\pm 11.00$ ), with the non-replaced 60-80 minute group performing worst 14.40, ( $\pm 7.09$ ).

Future research should develop the methods applied in this study to define player profiles for each position on the rugby field. It is suggested that these profiles should use score difference between the teams to take into account the strength of the teams involved. The concept of a weighted individual player efficacy system has been demonstrated in the sport of rugby union, but could be applied in any team sport where greater individual player performance data is required.

**Keywords:** player profiling, substitutions, rugby union



## Post-activation potentiation across repeated complex pairs - influence of the strength level.

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### Abstract

In the last few years there has been a growing interest in the phenomenon of post-activation potentiation (i.e., PAP), which is believed to be influenced by the strength level and muscle characteristics of the athlete (Seitz et al., 2014). However, to date only few studies have investigated the influence of strength level on repeated PAP-effects across a complex training session.

Therefore, PAP effect was studied with 60 resistance trained male subjects (age  $23.3 \pm 3.3$  years; weight:  $86.1 \pm 13.9$  kg; 1 repetition maximum [1RM] half-squat/bodyweight:  $1.80 \pm 0.19$ ), using a randomized cross-over design. After baseline assessment, subjects performed either three sets of a squat protocol with moderate intensity (MI: 6x60% 1RM), or high intensity (HI: 4x90% 1RM), or 20 seconds of rest (CTRL). After each set of squats or rest, countermovement jumps (CMJs) were performed on a force platform at different time points (i.e.: 15 seconds, and 1, 3, 5, 7, 9 and 11 minutes, respectively). On the basis of a median split athletes were divided into two groups (“stronger” and “weaker”) for statistical comparison.

A 3-way ANOVA showed no significant interaction of strength level, conditioning activity and time. Additionally, no correlations between relative strength level and PAP-response were found. However, further analysis of the data-set revealed that stronger athletes might be responding better to repeated complex pairs and can sustain PAP effects longer.

In conclusion, results of the current study suggest that an athlete’s strength level is not influencing PAP across a complex training session.

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**Keywords:** post-activation potentiation, complex training, repeated complex pairs, strength level, peak power, jump height

## **An evaluation method of the damping behavior of the female breast.**

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### **Abstract**

One out of five women aged between 18 to 65 years does not participate in physical activity (Burnett, White & Scurr, 2015) due to discomfort caused by breast movement. Insufficiently supported breasts can cause pain in the neck, back and shoulders while moving (McGhee & Steele, 2010). Wearing an everyday bra during sports, what 59% of women do (Bowles, Steel & Munro, 2008), can cause vertical movements up to 8 cm. These can be reduced by 2 cm when wearing a sports bra (Scurr, White & Hedger, 2011). A finite element simulation model should help to prevent these conditions. Therefore a female torso wearing a sports bra will be simulated. Accurate knowledge regarding the involved soft tissue's material properties – such as the female breast's damping behavior – is essential in order to achieve realistic simulation results. Therefore, a method has been developed for the damping parameter's evaluation (Stöger, 2015). All subjects were filmed with a high speed camera after releasing the raised breast. The damping factor was then calculated by using the tracked nipples' trajectories during the oscillating movement. This method was tested on three women and will now be used in the FEM-Sports-Bra project where the damping behavior of about 60 women will be collected. Within the context of a master thesis further considerations about the damping of female breasts such as relations between damping and breast volume or differences in damping between right and left breast will be done.

**Keyword:** female breast, damping behavior, finite element method

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## **Stability of skill performance based on some muscular and biomechanical variables of free throw for basketball female players.**

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### **Abstract**

The aim of the research is to determine the stability degree of the skill performance through the relative change in the skill and mechanical characteristics of the movement. The plays condition was changed and they reached the fatigue stage as they do during the match through the free throw shooting during 60 seconds. It is a test to measure fatigue during shooting.

A synchronization analysis for muscle and biomechanical characteristics were used for the best 3 players at the aiming skill and the free throw skill in season 2016 - 2017. The electrodes were placed on 8 muscles, namely, (Deltoid-poterior, antherior, Triceps brachii, Bicepbrachii, Extensor of the writ, Flex carpiulnairs, Gastrocnemius- medil, Quadriiceps femoris).

Results shows significant statistical correlation between the Mean Power Frequecy (MPF) index and the movement quantity index of the body weight centers during the first attempt. 45 coefficients of values ranged between (0.751 \*: 0.978 \*). There was a significant statistical correlation between the Averaged EMG (AEMG) and the motor index of the body weight centers during the first attempt. 39 coefficients with values ranged between (0.764 \*: 0.997 \*). Based on the results it seems that the trainers need to train their players to perform in different circumstances until their skill level is stable to overcome these conditions, so the coaches will not need to replace their tired players to perform free throw.

**Keywords:** performance stability, fatigue, biomechanical analysis, muscle analysis



## **Impacts of obligatory Physical Education on sport at the University in Zagreb.**

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### **Abstract**

Entering University, most athletes have the problem with being successful both in study programme and sports career. The physical education professors at the University have an important role in shaping both careers for active athletes as well as to motivate former athletes to be active in university sport and guiding them toward study diploma.

The studies provided on the sample of university students athletes in Zagreb, have determined that athletes are included in different types of health hazardous behaviour (2005, 2008). The aim of the article was to analyze the impacts of obligatory physical education on the quality of university sport in Zagreb by analysing: the structure, educational policies and study results on the sample of student athletes at the University of Zagreb.

The result of the analysis showed that period of higher education entails most difficulties in the pursuit of a dual career. Analysis of sport results of University of Zagreb have confirmed the importance of several factors such as: to implement the regulations, related to dual career, in acts of the University members (34 faculties), to develop service offices and support model for athletes in the frame of the institutions and university sports organisation.

**Keywords:** dual career, structure, policies, analysis, sport results



## ABSTRACTS OF e-POSTERS

### Balance improvements through proprioceptive training

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  6. University of Gjirokastra “Eqerem Çabej”,

#### **Abstract:**

**Introduction:** This study stays in focus of the general posture balance especially related to the knee joint reposition sense (knee proprioception), core muscle strength in dynamic balance cooperation which is related to quality of voluntary neural impulses sent to muscles. Proprioception, (sense of self) use sensors that provide information about joint angle, muscle length and muscle tension, which gives the brain information about the position of the limb in space at any given time. Thus, from proprioception improvement can benefit athletes, accident-prone or clumsy individuals, the elderly, those with diseases and even children can benefit from proprioceptive training. Everyone can benefit from proprioceptive work because proprioceptive signals from the joints, muscles, tendons and skin are essential for movement, either way the loss of proprioceptive awareness may affect the control of muscle tone, disrupt reflexes and severely impair voluntary movement. **Material and methods:** Subjects, were students randomly assigned using stratified randomization of bachelor study program (total n=93, males n=44 and females n=49). Experimental group performed training program three day per week during four-weeks proprioceptive training with Swiss ball (top on) and other two days per week performed stability exercises training. Both experimental and control group passed, Leonardo Mechanograph GRFP Balance stabilometry tests of path length for a specified duration (BT Romberg & BT Tandem, stand, eyes-open/eyes-closed), pre&post-training to monitor the center of pressure on the ground. **Results:** Measurement: Pearson Correlation was employed to compare data collected from the four Test sheets obtained for pre and post-training four-week period assessment. Experimental group improved balance comparing control group. **Conclusions:** Proprioceptive training has a positive correlation to posture and balance improvement. Men got better improvement in Balance than Females. Proprioceptive training provides improvement to core strengthening, which sway overall balance. These findings are limited because further research examining neuromuscular function related to, are needed.

**Key words:** knee proprioception, proprioceptive training, balance,

**What's next? Life after the degree.**



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### **Abstract**

Before the introduction of the Bologna Process (2006), there were classes of 70-80 students in teacher training specialization in the Savaria University Centre of the University of Western Hungary. However, the number of students per class dropped to 15-20 nowadays. In the last two academic years, there is a slight increase in the number of students, correspondence trainings could be launched, too.

The aim of the research is to gain information about the positioning of our graduated students in the labour market. Naturally, other topics are involved in the questionnaire, too. The method of the research is online questionnaire, adopted from social sciences (opened and closed questions and the Likert-scale). The questionnaire is divided between the following topics: general questions, study-related questions (high school graduation, college studies, and other courses), foreign plans, employment (full-time, part-time), and relations with the institution, satisfaction and the prestige of the profession. We calculate frequency from the answers and try to identify further correlations from other statistical experiments (Chi- square test).

„Szombathely visszavár”, an application of the local government of Szombathely is an important antecedent of our research, it tries to encourage the local youngsters to proceed their studies on a specialty, which suffers from a shortage of professionals. These fields can be: teacher, kindergarten teacher, ethnic kindergarten teacher, children and adult GP (General Practitioner), mechanical engineer, electric engineer.

**Key words:** teacher training specialization, shortage of professionals, career tracking



## **PE project. Measuring impact and effectiveness.**

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### **Abstract**

The aim of PE is to develop students' competence and knowledge to achieve an active and healthy lifestyle in their entire life. In addition to this, Quality PE might be of crucial importance in the development of 21st century skills.

Thirty teachers participated in the research, using the project approach in activities related to competence development and leisure sport in 30 classes. Adequate to the method the content of the project was negotiated by the learners and the PE teacher and they also shared the tasks and the responsibilities during the project. Besides the PE lessons they organized out-of-school programmes and used the project method in other classes. The efficiency of the project was measured by a pre-test and a post-test. We also used psychomotor skills tests and the perceived motivational climate in PE with the help of a PMCSQ-2 questionnaire. The data have been processed by the Paired Samples test.

In the field of psychomotor skills 85% of the learners performed significantly better at the post-test ( $p=0,02$ ) than at the pre-test. The PMCSQ-2 analysis suggested that the Task-Involving climate increased and the Ego-Involving climate decreased during the PE project. The Cooperative Learning, the Effort/ Improvement and the Important Role subscales of Task-Involving climate increased significantly ( $p=0,00$ ). The rate of Intra-Team Member Rivalry and Unequal Recognition decreased significantly ( $p=0,01$ ;  $0,002$ ). Only the Punishment for Mistakes subscale of Ego-Involving climate remained unchanged ( $p=0,691$ ).

The results prove the efficiency of the PE project in achieving the aims of PE.

**Keywords:** PE project, perceived motivational climate in PE, 21st century skills



## **Body composition and cardiorespiratory performance characteristics of elite team handball players.**

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### **Abstract**

The performance structure of different sports requires that you have well-trained cardiovascular system and technical- tactical intelligence. Particularly important is the well-coordinated execution of movements (running, jumping, throwing, directional change), as the varying intensity of the game can only be performed with a high level of cardiorespiratory performance and rapid adaptation. Various sports have a specific load profile, which is essential to be taken into account during the tests.

The aim is to examine the body composition and cardiorespiratory performance of the Hungarian and foreign women handball athletes according to player positions.

The examination have been performed from 2012 and 2015 with Hungarian ( $n_H=14$ ) and foreign ( $n_F=14$ ) handball players of AUDI ETO handball club before the preparation period using the same protocol. Body composition was measured with „Inbody 720” bioimpedance analyser and cardiorespiratory fitness was measured by „Marquette” 2000 treadmill to maximal fatigue. The resting ( $HR_0$ ), and the maximal heart rate ( $HR_{max}$ ), “Cardiosoft”, aerob capacity ( $VO_{2max}$ ), ventilation (VE) and its components were measured by Sensor Medics “Vmax 29C”. The differences between posts were analyzed with Repeated ANOVA, Post Hoc, Tuckey HSD method at  $p < 0.05$  of the random error.

There are no significant differences in the respiratory and circulatory characteristics of the five groups (center backcourt ( $n = 4$ ), right and left backcourt ( $n = 8$ ), wing ( $n = 7$ ), pivot ( $n = 4$ ), goalkeeper ( $n = 5$ )). Relative standard deviation around the average is significant for body composition and cardiorespiratory indicators. The wing players have the most optimum fat (F%) and muscle (M%) ratio. Between the posts there was a significant difference between body mass index and the body weight ( $p < 0.05$ ). The running time difference between Hungarian ( $8.49 \pm 1.23$ ) and foreign ( $9.87 \pm 1.60$ ) players was significant ( $p < 0.05$ ) as well as absolute aerobic averages ( $VO_{2h} = 2.77 \pm 0,51$ ;  $VO_{2f} = 3.13 \pm 0.50$ ).

The post-analysis is as important as the effective use of tactical elements built on them. Team's efficiency increases and this allows for more tactical elements using.

**Keywords:** team sport, body composition, performance, cardiorespiratory system



## **The development of judo since the Olympic Games (2012) based on systematic competition analysis of recent major events.**

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### **Abstract**

The International Judo Federation (IJF) changed the book of rules several times between 2009 and 2013 to make judo more attractive by promoting “positive” judo actions such as attacks/scores instead of “negative” judo actions and penalties. However, the aim of the IJF was not achieved according to comparisons between the Olympic Games 2012 and 2016, which reveal that the rule changes resulted in an increase of penalties, but not in scores. Thus, after the Olympic Games 2016, the IJF further adjusted the book of rules that are applied since 2017 and, however, the rules will be changed again in 2018.

This research aims at investigating the development of judo since 2012 with respect to all rule changes, especially with respect to the new rules that will be applied from January 2018 on.

For this, a systematic performance analysis will be conducted considering the Olympic Games 2012, the Olympics 2016 and the World Championships 2018, including comparisons between the competitions, the weight classes, and sexes.

Judo fights of all weight classes from the quarterfinals up to the finals will be analysed using video footage. A systematic observation system will be used to collect the data including the variables “*Fighter*”, “*Type of attack*”, “*Resulting scores*”, “*Penalties*” and “*Time of action*”. To account for the reliability of the collected data its interrater reliability will be tested against the data collected by a second judo expert. The data processing and statistical analyses will be performed with MS Excel and MATLAB.

**Keywords:** judo, Olympic Games (2012), systematic analysis, recent events.



## **Accuracy and validity of wearables and apps for tracking physical activity.**

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### **Abstract**

The aim of this research is to explore the available studies about accuracy and validity of wearables and apps for tracking physical activity.

There are a few explicit products specifically designed for tracking physical activity available on the market and many apps use inertial sensors of the smartphone for monitoring activity and documenting the personal training progress.

1) How accurate are the individual measuring methods of the available fitness trackers?

(2) How accurate are smartphones relatively to the fitness trackers?

It is being researched in terms of three different categories. 1. Motion-based (e.g. physical activity, sport, running, walking), 2. type of the device (e.g. wearable, activity tracker, smartwatch, smartphone) and 3. the characteristic of the testing (accuracy, precision, exactness, reliability, validity). Only peer reviewed studies from 2012 and later with a suitable title and abstract are used.

In search for peer reviewed studies I came across a number of studies which only focus on a small variety of the available products. At the moment, the main focus is on collecting relevant data. The next step is concerned with comparing and evaluating the methods used in the previously mentioned studies.

**Keywords:** Wearable, tracking, physical activity, validity, accuracy.





## **Investigating cardiovascular characteristics in men of different ages.**

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### **Abstract**

Personalized physical activity, on a regular basis the only tool to slow down the consequences of physiological aging processes. Among other things, it is capable of maintain maximum oxygen uptake ( $VO_2\max$ ) or simply "aerobic endurance", which is a major indicator for the cardiovascular system performance.

In the study several men ( $n = 444$ ), (12.01-56.32), were involved. The sample was divided into three groups based on the level of physical activity: (npea = 147); performance athletes, physically active (npa = 243), and hypoactive (nha = 54). The body composition was fitted with a "InBody 720" and the characteristics of the cardio respiratory system on the "Marquette" 2000 series (Pittsburgh, PA, USA) until full fatigue. Resting ( $P_o$ ), (blow  $\cdot$  minute $^{-1}$ ), and maximum pulse (Mp) (blow  $\cdot$  minute $^{-1}$ ) "Cardiosoft" (Milwaukee, USA); aerobic capacity ( $VO_2\max$ ), ventilation VE (BTPS l-min $^{-1}$ ) body components were measured with Sensor Medics "Vmax 29C" (Yorba Linda, CA, USA).

In terms of cardiovascular characteristics of males, we observed a significant difference between the mean of the subgroups, either in the circulatory or in the respiratory system. Especially true for the pulse (MP) measured at the peak of the load ([Pa]); (Pea) 177.3 - (Hyp.a.) 163.3 blow  $\cdot$  minute $^{-1}$ ;  $p < 0.000$ ]. As for relative aerobic endurance ( $rVO_2\max$ ), the difference between the groups selected on the basis of physical activity, in each case (10 ml  $\cdot$  kg $^{-1}$   $\cdot$  minute $^{-1}$ ).

As regards the speed of physiological processes associated with aging, for example, the deterioration in the quality of myocardial contractility is much faster in the hypoactive group than between performance athletes and physically active.

**Keywords:** physiological processes, performance athletes, and relative aerobic endurance



## **Eye hand reaction in comparison of the 5th and 8th school level.**

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### **Abstract**

The research question in the diploma thesis is: "How will the eye-hand reaction time change between 5th and 8th school level?" In the first part the theoretical background regarding eye, arm, hand, stimulus reaction transmission and measuring instrument (FITLIGHT Trainer) will be illuminated.

In the second part measurable make (operationalization) and data acquisition takes place with the help of the FITLIGHT trainer.

The FITLIGHT Trainer consists of an Android tablet, which triggers sensors. The flashing sensors triggers a stimulus in the receptor eye. The stimulus transmission to the effector and the following arm-hand movement (reaction) leads to the measurement of the time difference between the illumination of the sensor and the end of the movement execution, which is stored on the tablet.

The basis of the research project consists of 400 pupils (50 % each female / male) of the 5th (about 10 years) and 8th school level (about 13 years). The group will undergo practical testing in November / December 2017.

The third part is about the statistical processing of the quantitative measurement data, which is done with a spreadsheet and statistics program.

It is hoped that the research will increase the knowledge of biomechanics and training theory. It is expected that the test results between 5th and 8th grade and girls and boys will be clearly. In addition, the eye-hand-stimulus reaction relationship including for its expected improvement should be recognized as a performance reserve in sports.

**Keywords:** Stimulus response relationship, 10-14 year old students, eye-hand-reaction, fitlight trainer,



## **A comparison of the anthropometric parameters between basketball players, handball players and volleyball players.**

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### **Abstract**

The purpose of this study was to compare the anthropometric measurement to the professional players of the three different disciplines of basketball, handball and volleyball. . For each player anthropometric measurements such as weight, body height, waist circumference, BMI and skin fold calculations on different sports are performed. Differences in terms of anthropometric measurements were assessed by independent static tests and the differences for each variable for each sport were evaluated with the ANOVA method with the Post Hoc test. As a conclusion in this study, the results of this study showed that the antropometric measurements of professional players of the three main sports varied among them, while there were no significant differences between sports for the measurement of biceps and supralillac fat. According to this study, sports have different demands on antropometric attributes, which are specific to each professional player of three basketball, volleyball and handball sports. Therefore, for these variety of outcomes, coaches need to create training programs according to the sport's specifications and every sportsman in the field.

Keywords, anthropometrics, weight, height, BMI, skin fold



## **e-poster session of e-participants (2-3 minutes/presentations without presenters)**

### **The Olympic values in the sport coach as a way to combat doping.**

Teresa Cristina Tourais de Afonso Rocha<sup>1</sup>, Xesús Pena-Pérez<sup>2</sup> and Maria José Martínez Patiño<sup>1</sup>

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#### **Abstract**

The sporting reality, especially in the high competition, is increasingly complex and challenging, the doping disturbs in a worrying way the sporting truth and the health of the athletes. The Olympic Charter (CA) assists the mission of the Olympic Movement (MO), not a sense of building a better world, through the values associated with the pursuit of excellence, friendship, respect, sports practice and a high interest education tool. . While the agents with particular intervention, this is the responsibility. In the conduction and teaching of sports activity, coaches are crucial elements in the process of developing the values that are expressed through sports practice. In a world that is constantly changing, the role of educators is more important than ever. Because just as education is key to the future of our societies, it is also key to the healthy development of the Olympic Movement. The present study seeks to know in which way coaches through their knowledge of Olympic ideals and values can combat doping. A collection was made through the questionnaire together with the sports trainers, of 26 sports modalities, 24 modalities. Atreves from this study it was proved that the sports teams have a poor knowledge of the Olympism and Olympic movement, 31% no matter that an athlete took a doping product to win an Olympic medal, 68.78% of the coaches do not transmit the Olympic values to their athletes. Athletes.

**Keywords:** Olympism, Ethics, Olympic Values, Coach, Doping



## **Analysis of Graph Theory in professional soccer's semifinals: World cup 2014**

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Sports Research Group, Department of Didactics, Faculty of Education, University of Alicante, Spain.

### **Abstract**

The passing variables have been used to create social networks that represent relationships established by the teammates, with the aim to understand how the collective performance may be optimized (Duch et al., 2010). The aim of this study is understand a behavior and team network passing by Graph Theory.

The semifinal of the FIFA World Cup 2014 (Brazil-Germany and Holland-Argentina) were analyzed. The data used in this study were obtained through the official website of FIFA World Cup 2014. Players were distribute in defense's block (BD), midfielder's block (BM) and forward's block (BF). Graph analysis were assess by software *Grafos*.

The final classified team had fewer passes in BD (6.9% and 13.8%) and more passes in BM, BF and between both (22.6% and 47.1%). Team network passing is important to understand a behavior of teams against opponent. Complete passing near opponent goal is a useful to improve probability to win. Style's type seem to affect a team network passing.

**Keywords:** network, passing, team, soccer, graph theory.

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## **The fall risk assessment using virtual reality and modelling.**

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### **Abstract**

In France, the fall is a major societal issue. Because of ageing process or pathologies, the fall affects primarily the elderly and people with Parkinson's disease. Today, the detection of the risk of falling uses tools that essentially measure the motricity of the subjects, but the fall is multifactorial, and it seems important to us to evaluate the subjects in interaction with the constraints of the environment. To offer a rich, controlled and reproducible environment, we will use virtual reality through several scenarios of everyday life. We will then be able to measure cinematic, kinetic, physiological, visual and psychological parameters inspired by existing tests such as the observables of the Get Up and Go test or the parameters of the clinical gait analysis. The subjects will be aged between 65 and 85 years classified in 3 groups: no fall, 2 or more falls previous year, Parkinson's disease. The data collected will be processed with machine learning technics. We will be able to create models of classification of the subjects with fall risk or not, using the number of falls that will occur the following year. The final goal of this study is to provide data to identify where are the lack of performance in the Perception-Cognition-Decision-Action motor control closed loop to propose a more appropriate physical activity management.

**Keywords:** Falls, Ageing, Parkinson's disease, Virtual Reality, Human Metrology, Modelling.



## **Impact of block periodized explosive power training program on dynamic variables and performance to snatch for weightlifters.**

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### **Abstract**

This study aims to develop the explosive power using the Block Periodized training program and knowledge their impact on dynamic variables performance to lifting snatch for weightlifters. Applied study on a sample of (14) weightlifters from the area Canal and Sinai cities / Egypt of the season 2015/2016, the researchers used experimental method to design two groups, one experimental consisted of (7) weightlifters and the other control group of (7) weightlifters. Where the average age of ( $19.00 \pm 1.63$  years), height ( $158.00 \pm 5.57$  cm) and weight ( $66.00 \pm 14.61$  kg) for the experimental group, while the average age ( $19.00 \pm 1.00$  years), height ( $160.29 \pm 2.69$  cm), weight ( $67.71 \pm 14.27$  kg) and age training ( $16.83 \pm 12.92$  month) for the control group.

The experimental group underwent a Block Periodized explosive power training program for the explosive power development of the muscles involved in the snatch, while the control group underwent a tradition-training program. Block Periodized explosive power training program Continued for 8 Weeks 3 times per week and the training session lasted 2 hours. The pre and post photograph for the two control and experimental used a video camera Brand Panasonic, frequency 25 frames in the second. The DYNAMIC Analysis used Maxtraq on line Manual Version 5.5, measured physical tests and performance tests for the two groups.

The results showed a statistically significant differences between the experimental and control groups in explosive power and dynamic variables of the performance of the snatch for the experimental group where the value of  $p < 0.05$ . The results also showed the effectiveness of Block Periodized explosive power training program to increase the explosive power and improve the dynamic performance and the level of achievement for the snatch Youth weightlifters.

These results must be taken into account by the coaches and weightlifters to use the Block Periodized training program for the development explosive power to improve the dynamic performance and the level of achievement lifting snatch for Youth weightlifters in childhood and adolescence.

**Key Words:** Weightlifters, Block Periodized training program, Explosive power, Snatch, dynamic.



## **Investigation of the relationship between adolescents physical activity and perceived stress levels**

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### **Abstract**

It is important to gain appropriate physical activity habits for children and young people and to ensure that this behavior becomes a habit for the protection of the strut (Baltacı ve Düzgün 2008). The aim of this study was to determine the relationship between adolescents, physical activity and perceived stress levels.

The study was conducted in a descriptive relational type. The research was carried out in any high school in Konya. The sample of the study consisted of adolescents in the 14-18 age group. There were 286 students who accepted to participate in the research of the research sample and returned with the questionnaires. In gathering the data; Socio-demographic information form, "International Physical Activity Questionnaire Short Form" and "Perceived Stress Level Scale" were used. The data of the study were evaluated using the SPSS 18.0 package program. Number, percentage, mean and standard deviation were calculated from descriptive statistical methods and the relationship between two scales was tested by pearson correlation analysis.

When the socio-demographic characteristics of adolescents are examined, the mean age is  $16.2 \pm 1.24$  and 67.8% is the girl. When physical activity levels of adolescents were examined, 46.3% were found to be inactive and 39.6% were found to be the least active. When the average scores of the adolescents' perceived stress level scale subscales were examined, it was found that the mean of self-confident approach was  $11.42 \pm 3.05$ , helpless approach  $9.74 \pm 4.62$ , submissive approach  $7.45 \pm 2.46$ , optimistic approach  $8.27 \pm 3.74$  and social support  $5.47 \pm 2.64$ . There was a strong correlation between physical activity level and perceived stress level on the negative side ( $r: 0.764, p < 0.01$ ).

There was a negative correlation between physical activity and stress levels of adolescents. Stress levels increased when physical activity levels decreased. Casey et al. (2016) and Takeda et al. (2016) reported that the level of physical activity of students was reduced by stress.

As the level of physical activity of adolescents decreases, perceived stress level increases. As a result, it is considered that students will be able to get rid of the stricken by increasing their physical activity activity levels.

**Key words:** Adolescent, physical activity, Stress level





## **Stakeholders engagement in Slovak sport organizations.**

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### **Abstract**

Stakeholder management is very complex. Stakeholders have different demands and expectations from organizations. In the field of sport, this is even more complicated because the sport product is very specific. The main problem is the failure to meet mutual expectations that organizations and stakeholders set. This often results in failure to achieve the desired business goals. The importance of addressing this issue is also confirmed by the growing trend of the sports sector and the growing number of stakeholders in relationship with sports organizations. This paper focuses on relationships and communication between sports organizations and their stakeholders through the Internet. The paper analyses the websites of the sports teams of the most popular Slovak sports. 13 parameters were determined for the evaluation. The sentiment analysis was used to evaluate. The results of this analysis show not only the various shortcomings, but also the common features and positive attitudes of different clubs regarding the approach to solving the problem. Results that have been identified by the analysis have helped set recommendations. These recommendations will help managers of Slovak sports organizations manage their relations with stakeholder properly.

**Keywords:** Stakeholder engagement, Stakeholders, Sport organizations, Sport, Sentiment analysis,

### **Form of presentation:**

e-poster



## **Mental training, the arithmetic mean and a scientific basis for testing.**

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### **Abstract**

The importance of the research is to go to the field of junior education in the game handball and try to facilitate the educational mission 'as well as mental training link in the operations control the thought sand movement physical and organization of motor behavior and exploitation of phrases and positive thought sand appropriate models to assist in the ability to mental training and regular process compatibility between training mental and learning skill practice.

That physical training only on the performance of motor skills is not enough to learn and master the full' as the educational and training process in the field of Physical Education rely mainly on physical and mental coherence and diversification in the use of methods and this require attention to these two sides and focus on the aspects of mental especially while learning new skills and during research experience for being a teaching aid for several years to material handball note that mental training excludes within the modules used in the college curriculum, along with the piece lack of attention means learning(visual 'audio' sensory), which is an important means and effective learning hand ball skills when combined with training mental therefore felt researcher studying this problem through the use of mental training as a means associated with the teaching skill and improve the educational process for the better((The mental practice strategy of knowledge more effective than non-practice and should be used complementary way with the practice of physical to give the best)) results

Research Objectives:

- numbers program for training associated with mental skill education for the students of the second stage in the Faculty of Physical Education-University of Djelfa
- determine the impact of mental training associated with teaching the skill to learn some basic skills Hand Reel.

Hypotheses: Mental training program associated with the teaching skill positive impact on learning some basic skills - the human sphere a sample of students from the second stage-Teaching.

**Key words:** mental training, the arithmetic mean, the scientific basis for testing.



## **Factor analysis of growth rates and biomechanical variables to snatch the elite weightlifters in Rio 2016.**

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### **Abstract**

This study aims to identify the simple factorial growth rates variables to lifting snatch by Rio 2016 Olympic lifters in different weight categories (77, 85, 94, 105 kg) in weightlifting. Identify the most important factors contributing to growth rates characterization derived biomechanical variables (kinematics, Kinetics) of the quadrature and weight raised during the phase of the performance snatch lifting. Applied study on lifting snatch weightlifters participating in Rio 2016 Olympics in different weight categories (77, 85, 94, 105 kg), Sample search weightlifters lift Rio 2016 Olympics participants snatch in different weights categories, with average age of ( $25.18 \pm 3.16$  years), height ( $177.25 \pm 10.59$  cm) and weight ( $104.27 \pm 35.26$  kg). The researchers used descriptive.

Biomechanical Analysis, using Maxtraq on line Manual Version 5.5 for measured biomechanical variables performance tests for weightlifters. The researchers used the SPSS software package on the statistical treatment of the data by using the arithmetic mean, standard deviation, vein and correlation coefficient of Pearson, simple correlation, factor analysis method of basic ingredients and method of perpendicular Altidore.

Key findings identified resulted in growth rates and biomechanical variables for weightlifters and raised weight to lift snatch weight categories (77, 85, 94, 105 kg) to lifters.

These results must be taken into account by the coaches and weightlifters of the most important factors extracted from the factor analysis of growth rates and biomechanical variables for snatch of Olympic lifters

**Key Words:** Weightlifters, Snatch, growth rates, biomechanical variables, kinematics, Kinetics.



## **Effect of 6-week plyometric training in youth soccer players**

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### **Abstract**

Plyometric training has been studied as a valid method to improve sport performance in jumping and sprint. The aim of this study is to analyze the effects of a progressive plyometric training program in youth soccer players. Thirty youth football players were randomized and divided in Experimental group (EG) (n=10; age=17.40 ± 0.5; weight: 69.21 ± 7.7) and control group (CG) (n=12; age=18.58 ± 0.51; weight: 68.37 ± 7.17). Jump test were performed with My Jump movil app and strint test were performed with video-analysis 2-D using software Kinovea to determinate the time. Test used were Squat Jump (SJ), Countermovement Jump (CMJ), Drop Jump (DJ) from 45cm and 60cm of height, and 20-meter sprint test. The training period lasted a total of 6 week with 3 plyometric training session per week. The difficulty of exercises and training load were increased weekly. A pre and posttest was carried out to assess the effect of the intervention. Data analysis were performed with Mixed ANOVA test of repeat measures. Results showed a significant flytime differences between groups in SJ (p>0.01), CMJ (p>0.01), DJ45 (p=0.02) and 20-meter sprint (p=0.01), but not in DJ60 (p=0.084). These results show that progressive plyometric work in youth football players has positive effects in jumping and sprint performance.

Keywords: football, specific training, performance, jump.

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## **Comparative analysis of physical fitness in young handball players according to competitive level**

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of Education, University of Alicante, Spain.

### **Abstract**

Throughout the stages of formation of any sport, we found that the teams exercise the different physical capabilities of their players in one way or another, following the objectives that were raised at the beginning of the season. In this project we enter the sport of handball with a specific objective, analyse the physical qualities of strength, speed, agility, and, in addition, the power of launch and lower extremities performing different tests with two teams of cadet category.

Once completed, we will review the results that will allow us to mark the profile of the players. In this case, the teams under study are in the same league: one of these teams is in the first position and the other is in the lower-middle area, which thing will do that the results of the tests are more inferior for ones than for the others. In addition, all the results will be compared with other studies to see if the levels of the players of the teams analysed are correct or the players subjected to our study need to improve.

**Keywords:** bosco, launch, agility, performance, strength.

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## **The relative age effect in elite triathletes**

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### **Abstract**

Relative age effect (RAE) is the smallest presence in a given area of those born in the last months of the year. The following study aims to analyze the effect of relative age on triathlon at elite level in men and women, and according to the position in the ITU 2016 ranking.

The data have been collected from the best triathletes of ITU (International Triathlon Union) point list. Thus, it has been analyzed the top 150 in the male category and the top 150 in the female category, obtaining a total sample of 300 triathletes.

Once the data were analyzed, it has been observed that 57% of the total sample (55.4% in male category and 58.66% in female category) were born in the first half part of the year. In addition, the results showed that, according to the position in the ranking, in the male category 68% of triathletes from the first 50 classified were born in the first six-month of the year.

In conclusion, the results showed the existence of the RAE in triathlon, with a greater presence of triathletes born in the first semester of the year, both in male and female category.

**Keywords:** triathletes, relative age, elite.

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## **A proposed predictive model of performance in men`s 100 metres.**

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Sports Research Group, University of Alicante, Spain.

### **Abstract**

The main objectives of our study on performance in men in 100 meters were two: first was the analysis of the age of the athletes where I achieved the best mark of his entire career, second, we create a predictive model of the results with the biography of the best mark.

The study material consisted of databases that cover male athletics events obtained from the International Association of Athletics Federations. The athletes were World Top 20 of 100 meters, from the year 1997 to 2017. Before checking the prediction of the brand of each athlete, the adjustment of the trend function to empirical data was made verifying the use of the coefficients of convergence.

Phase II of the research consisted in the construction of predictive models. The best marks of the athletes were observed between 23 and 26 years (78.4%). The increase in the trend is only seen from the 20 years of the athlete. In relation to the results with the analysis of the variability of data and results, it can be assumed that, in the near future, the new Olympic cycle (2020-2024), the variability of the age of the personal brand can increase approximately in 2 to 5 years, due to the best practices in today's high performance preparation processes.

**Keywords:** men`s athletes, artificial networks, performance, predictive model.

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## **Physiological response of ultra-distance world record in indoor rowing.**

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### **Abstract**

The lactate threshold is one of the most common physiological factors used in rowing. It is used as an indicator of physical efforts but also to prepare and prescribe the training. Besides, training areas and metabolic thresholds are based on heart rate measurements which are necessary to monitor used energy systems. The following study aims to analyse physiological parameters of athletes during the test, in which they achieved the 100 km World Record on an indoor rowing machine in 6 hours and 22 minutes, by determining main metabolic zones while conducting this test.

The study counts on the participation of two elite rowers: the winner and the third-placed rower in the World Indoor Rowing Championship. Physiological parameters of athletes have been measured by two Polar M400 heart rate monitors, two Polar H7 Bluetooth® Smart heart rate sensors and one Lactate Pro TM 2. The test of the 100 km relay World Record on an indoor rowing machine has mainly an aerobic nature because of recoveries during each relay, even if rowers reached their maximum heart rate just at the end of each series.

This last information has been corroborated by the efforts in Z3 (AeT-AnT) and Z4 (AnT) as they were the main zones used during the pure working time. The intensity of the test is within zones of the aerobic-anaerobic transition. Therefore, the training for a similar test should focus on developing the capacity to bear sustained aerobic efforts in conditions of anaerobic threshold.

**Keywords:** rowing, performance, training, physiology.

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## **Relationship between ankle injuries and ankle flexibility in young trail-runners.**

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of Education, University of Alicante, Spain.

### **Abstract**

Plyometric training has been studied as a valid method to improve sport performance in jumping and sprint. The aim of this study is to analyze the effects of a progressive plyometric training program in youth soccer players.

Thirty youth football players were randomized and divided in Experimental group (EG) (n=10; age=17.40 ± 0.5; weight: 69.21 ± 7.7) and control group (CG) (n=12; age=18.58 ± 0.51; weight: 68.37 ± 7.17). Jump test were performed with My Jump movil app and sprint test were performed with video-analysis 2-D using software, Kinovea, to determinate the time. Test used were Squat Jump (SJ), Countermovement Jump (CMJ), Drop Jump (DJ) from 45cm and 60cm of height, and 20-meter sprint test. The training period lasted a total of 6 week with 3 plyometric training session per week. The difficulty of exercises and training load were increased weekly. A pre and posttest was carried out to assess the effect of the intervention.

Data analysis were performed with Mixed ANOVA test of repeat measures. Results showed a significant flytime differences between groups in SJ ( $p>0.01$ ), CMJ ( $p>0.01$ ), DJ45 ( $p=0.02$ ) and 20-meter sprint ( $p=0.01$ ), but not in DJ60 ( $p=0.084$ ). These results show that progressive plyometric work in youth football players has positive effects in jumping and sprint performance.

**Keywords:** football, specific training, performance, jump.

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## **Change of hand and direction skill in basketball: pilot study on teaching methods by verbal/visual stimulus versus verbal one.**

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### **Abstract**

The dribble with change of hand and direction is a crucial offensive basketball individual that is often used to overcome the opponent (take the lead) in 1v1 situations and actions of counter-attack. It is a fundamental that theoretically has the highest degree of efficiency, either because it is very effective or because it is difficult to hinder; so it is useful to know which training method (verbal and visual feedback or only verbal) allows the best possible learning and performance. The aim of the present study is to evaluate the difference in yields (in terms of improving) on the learning of dribble with changes of hand and of direction in basketball. The method is experimental and the study was conducted on a sample of 24 male athletes (12-14 years) divided into two experimental groups (A and B) of 12 young athletes each. Group A has performed training, in four weeks and for twice training at weekly, receiving verbal and visual feedback, while Group B has received only verbal feedback. They have been collected data of the times realized, individual and of group, utilizing the CODAT Test, at the beginning and at the end of the practice, to verify the improvement of motor learning in the two groups. The result for Group A (training with verbal and visual feedback) resulted in an increase the performance by 11,09%. The result for Group B (training only with verbal feedback) resulted in an increase the performance lower than Group A and was 5,65%. Group A had a steady increase in performance over the four weeks, while Group B have had a limited improvement in performance. The final percentage difference between the two groups has been 5.44%.

**Keywords:** training, motor learning, motor skills, feedback, performance.



## **Judgement and opinion on PE teachers and PE as a subject in the schools in Szombathely – a longitudinal study.**

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### **Abstract**

The professional, social and educational policy expectations of physical education teachers have changed dramatically and are constantly changing. The teacher is not only educator, educator, but manager, psychologist, leisure organizer, social worker a In our opinion, the personality of the child is the most complex in the physical education classes. Accordingly, the physical education of a physical education teacher is a priority in school environments - the school leader and colleagues.

In our present research, we were curious whether the assessment of physical education teachers in Szombathely schools changed.

Anonymous, electronic and paper questionnaire survey in public education in Szombathely with PE teachers (with degree or a graduate degree in physical education). The topic relevant literature review. Data processing with SPSS.

According to the opinion of PE teachers, compared to the 2010 survey, school management did not significantly change the assessment of school physical education and sport. From the point of view of colleagues, the support of the physical education subject averaged 10% in positive direction.

It is regrettable that the introduction of everyday physical education and the changing social expectations did not significantly change the assessment of the physical education subject and the situation of the physical education teacher either from the point of view of school management or the teaching staff.

**Keywords:** framework curriculum, competence areas, everyday physical education, physical education teachers, physical education subject



**Analysis of the Olympic Games of Rio de Janeiro: Legacy of an Olympic experience.**

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## **The level of physical activity, results of a survey among middle Schools in Algiers**

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### **Abstract**

Physical activity is an essential factor in the development of physical condition and health, also to increase energy consumption it can also plays an effective role in the prevention from overweight and obesity and diseases resulting from these cases, As in other countries of the world, Algeria witness experiencing changes in lifestyle, changes that reduce physical activity in favor of physical inactivity. Despite the importance of physical activity, there are only few local studies in Algeria that are concerned with this subject. This can explains the lack of data on the level of physical activity of any category of age and the Absence of any type of recommendations on the daily level of physical activity required by each individual in the community.

The study aimed to identify the level and nature of physical activity in a sample of teenage students in the intermediate stage using the questionnaire designed to detect the level of physical activity known as the Factorial method, through which the researcher can identify the physical activities exercised by the students within 24 hours preceding the interview , The most important results were that the average level of physical activity was 1.65 in males and 1.39 in females with 21% of the sample suffering from physical inactivity compared to only 5% with a level of physical activity that can be described as very active.

The most important activities practiced by adolescents are sleeping at 37% for males, 38.7% for females and sleeping 24.1% for males and 28.3% for females, which reduces the time of physical activities that contribute positively to adolescent health.

### **Key words**

Physical activity, level of physical activity, teenagers



## **Plurale project - Physical Literacy in Lifelong Education**

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### **Abstract**

The concept of physical literacy is rapidly gaining consensus across the globe. Currently, physical literacy is not only seen as the result of physical education but as a concept of health and well-being throughout life, and is therefore gaining importance in educational, medical, psychological and social field.

Physical literacy, in other words, seems to define a common denominator and a common sense horizon to a set of studies (and practices) that, in the international context, acquire a wide variety of denominations: sport science, exercise science, human performance, movement science, human kinetics, kinesiology, kinanthropology, athropomotrics, anthropokinetics, anthropokinesiology, health, physical education, physical culture, recreation, leisure studies, coaching, athletic training, adapted physical education, sport management (Čustonja, Milanović, & Sporiš, 2009)

The work intends to present a unitary approach to the concept of literacy, developing its various and complementary declinations.

The shift from skills to literacy implies further advancement towards a holistic conception of the human being and its interaction in the world as a key to a full and satisfying life (Whitehead, 2010).

From this perspective, the paper deals with "old" and new literacies, investigating how the current situation challenges the idea of different "literacies" as a different set of skills in various fields of knowledge in favor of a unitary, but more global and complex, meaning of literacy as the ability to "read" and "write" our own living environment. These are the premises of the PLuRALE project - Physical LiteRACy project in Lifelong Education, starting at the University of Salerno, presented at the end of the paper.



## **Relationship between self-esteem, self-image and body mass index in adolescents: a case study**

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The purpose of the study is to analyze the influence of body image and physical self-concept with its body mass index (BMI) from the gender in third-grade Primary students. The study involved a total of 167 students, 96 girls (57%) and 71 boys (43%) all from the town of Elche (Alicant). The instruments used were the self-concept scale Form 5 (AF-5) with an internal reliability of Cronbach's alpha ( $\alpha$ :0.815); Test of Bell, Kirkpatrick and Rim Silhouettes and anthropometric assessment. Data analysis techniques include Student's t test for independent samples, Pearson's correlation, and descriptive statistics. The results obtained indicated that there are no significant differences between the gender in the different variables ( $0.678 > p.0.05$ ) ( $0.635 > p.0.05$ ) ( $0.746 > p.0.05$ ). Being the few differences. In addition, there is a positive relationship of average type between variables. Finally, it is concluded that the application of programs will help to improve the results obtained being positive for our objectives and opening a range for future research



## **Perceptions of adolescents about the Olympic values associated with martial arts versus football**

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### **Abstract**

Olympism is a first level educational tool. The values that Olympism transmits can be incorporated into educational programs through sports practice. As a result of the collaboration between the Research Group in Education and Health (GIES-10) of the University of Vigo, the Spanish Olympic Academy, the Spanish Pierre de Coubertin Committee and the Olympic Studies Centres of the University of Vigo and Santiago de Compostela, a research project is being carried out to determine what values or qualities non-university students associate with sports. The objective of this characterization is to prepare training programs in values appropriate to the needs of different educational environments. To do that, we have developed an ad-hoc questionnaire in which we asked young people, between 12 and 18 years, for 30 qualities that are commonly associated with the sport (including those that the bibliography recognizes as "*Olympic values*"). In this work we focus on the comparison between the values transmitted to young people by football versus those that transmit martial arts. Adolescents that we have surveyed associate football (in a significantly greater way) with instrumental values such as: winning, becoming an idol, achieving fame or being admired. However, with the martial arts the adolescents surveyed associate (in a significantly greater way) terminal values closely related to sport (Olympic Values) such as: effort, fair play, and sportsmanship; but also, those social terminal values such as: excellence, equality or justice.



**Key Words**

Olympic Values, Terminal Values, Instrumental Values, Olympism, Martial Arts, Football

**Tactical Analysis in Beach Volleyball: advanced Technology**

José Antonio Pérez-Turpin\*, María José Gomis-Gomis, Concepción Suárez-Llorca, Juan José Chinchilla-Mira, Carlos Elvira-Aranda and Luis María Campos-Gutiérrez, Sports Research Group, University of Alicante, Spain.

**Abstract**

The aim of this study is to introduce advanced technology in which tactical analysis based on patterns in beach volleyball are combined with a statistical analysis aimed at success. Based on an automatic recognition of the type of walk as an indicator of success.

Twenty male players participate in the national winter tournament of beach volleyball in Spain, the type of automatic pass and the analysis of patterns based on the artificial network and emphasizes that it must make several diagnoses according to different situations of competition and after a scientific evaluation

**Keywords:** computer science, beach volleyball, tactics, pattern recognition, neuronal networks.

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