

1st World Congress for Future Leader Volunteers (WCFLV) 2019

Holistic Health, Sports Science and
Sustainability: The Way Forward

10 October 2019





1st WORLD CONGRESS FUTURE LEADER FLV 2019



Vision & Mission of the Future Leader/ Volunteer (FLV) Program

The Future Leader/Volunteer (FLV) Program recognizes and mentors' emergent global scholars dedicated to continuing research and development of their profession, passionate about serving local and global communities, and chosen for their innovative and interdisciplinary approach, active participation and contribution to active and healthy living strategies.

Vision

To empower people worldwide to advocate and live healthy active lifestyles.

Mission Statement

To serve as ambassadors of change to educate and empower children, adults and groups of special needs globally with holistic, innovative, evidence-based, cultural-sensitive and enjoyable solutions designed for improved health status and quality of life.

History of the FLV program:

The FLV program was initially implemented at the 6th Asia Pacific Conference on Exercise and Sports Science meeting in Taiwan, China (2013) and has been an important part of 7 other international meetings including the recent inaugural BRICSCESS (2017) meeting in Brazil. FLVs must be actively involved in promoting health and wellness in their community by working closely towards the goals of the Foundation for Global Community Health (GCH) to implement the SDGs. A recent report from the World Health Organization (WHO) provides added support to the GCH initiative for implementation of the SDGs. The WHO encourages the private sector to provide sustainability in financing



and to share knowledge, expertise, and technology by providing service to social programs as the SDGs relate to chronic disease. Both the GCH and the WHO initiatives provide added support for FLVs completing projects in their respective countries.¹⁰ Currently, FLVs from 16 countries including Brazil, Bulgaria, Czech Republic, Indonesia, Republic of Korea, Macedonia, Malaysia, New Zealand, Philippines, Poland, Romania, South Africa, Spain, United States, Turkey and Zimbabwe are actively engaged in this program. The FLV program was developed in recognition for the importance of mentoring emerging young scholars who are dedicated to research, the development of their profession, are passionate about serving local and global communities, are chosen for their innovative and interdisciplinary abilities, and are actively participating in active and healthy living strategies. Part of each FLV's experience is the inclusion of a holistic, innovative, and cultural-sensitive experience that is designed to improved overall health status and quality of life in BRICS countries. The FLV program allows the young scholar to discover differences in culture while taking leading roles in decision making, problem solving, and critical thinking, action planning, and participating in collaborative projects.

Uniqueness of this conference:

For the first time ever will the young academics be ask to take part in group discussion were we will try to develop a working document regarding a Consensus statement of young academics over the world. During the discussion we will focus on the UN Sustainable development goals number 3 and 4. For more information regarding the UN 17 sustainable development goals please visit the following website: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>



Welcome Message from the Patron, Professor dr. Dan Kgwadi, Vice-Chancellor of the North-West University in SouthAfrica

After the success of the first BRICSCESS conference in Brazil, we look forward with great expectancy to a productive and enjoyable follow-up in Cape Town, South Africa.

As patron of the 2019 BRICSCESS Conference, I can assure you of the North-West University's commitment not only to the conference's success but also the achievement of BRICSCESS' objectives.

In particular, BRICSCESS seeks to promote communication among young researchers, future leaders and students. This falls squarely in the realm of universities. It is, therefore, my university's firm goal to help facilitate this objective on an on-going basis.

I look forward seeing you in our country and wish the organisers well.



Prof. Dr. Dan Kgwadi
Vice-Chancellor and Principal of the North-West University,
South Africa

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Welcome Message from the International Adviser, Prof. Dr. Ming-Kai Chin

As the Founding President of BRICSCESS and International Adviser of BRICSCESS 2019 & 1st World Congress of Future Leader/Volunteer (WCFLV 2019), and on behalf of the President Prof. Dr. Hans de Ridder, North-West University and Co-President Prof. Dr. Maya van Gent, University of Fort Hare, of the Organizing Committee of the 2nd BRICS Conference of Exercise and Sports Science (BRICSCESS 2019), it is my great pleasure to welcome you to attend this global event.

"With the full support of Vice-Chancellor, Prof. Dr. Dan Kgwadi and the Dean of the Faculty of Health Sciences, Prof. Awie Kotze, BRICSCESS 2019 and WCFLV 2019 will be organized by the North-West University (NWU) in Cape Town, South Africa from 10-13 October 2019 with the theme "Holistic Health, Sports Science and Sustainability: The Way Forward" .

The economies of Brazil, Russia, India, China and South Africa (BRICS) are ranked not only for their global competitiveness and influence but most notably for their guiding commitment to connect advances in economic growth to enhanced quality of life for their citizens. Phenomenal and rapid development and emphasis in the fields of exercise and sports science underscore this priority which the rest of the world may positively view as a movement and mandate to strive for. The BRICS Council of Exercise and Sports Science (BRICSCESS) responds to regional health and wellness needs while providing proven and replicable strategies worldwide.

For the first time, BRICSCESS 2019 will be jointly organized with South African Sports Medicine Association (SASMA) in conjunction with their SASMA 2019 Conference as well as the WCFLV 2019. Young scholars of our profession are our future. The Future Leader/Volunteer (FLV) program started in 2013 with the vision to "empower people worldwide to advocate and live healthy active lifestyles".

BRICSCESS 2019 and WCFLV 2019 are exploring the co-operation of an interdisciplinary approach for promotion of holistic health through sports science with sustainability in BRICS and global perspective. BRICSCESS is proud to work closely with different global partners including The Foundation for Global Community Health (GCH) and UN Global Sustainable Index Institute (UNGSI) to promote the 17 Sustainable Development Goals (SDG) to 193 countries.

26 internationally renowned speakers and 18 FLV representing 23 countries and regions worldwide have lent support to BRICSCESS 2019 and WCFLV 2019 committed to establishing a Global Exercise Science Network. The three-and-a-half-day conference is formatted to interweave thought-provoking group sessions with colleague interaction and impromptu dialogue exchange in informal settings.



We are confident that the beautiful natural setting and harbor view in Cape Floristic Region such as Table Mountain and Cape Point in Cape Town and the hospitality of the South African people will warm and enrich what portends to be a momentous and change-producing experience. I look forward to personally greeting you in Cape Town, South Africa in October 2019.

In anticipation of our shared discovery,



Prof. Dr. Ming-Kai Chin
International Adviser, BRICSCESS 2019 & 1st WCFLV 2019
Founding President, BRICS Council of Exercise & Sports Science (BRICSCESS)
Hong Kong-China



Welcome Message from the President of BRICSCESS 2019, Prof. Dr. Hans de Ridder

Dear friends from around the world

It is my privilege and honour to welcome you all, to the BRICSCESS 2019 Conference as well as the 1st World Congress of Future Leader/Volunteer (WCFLV 2019). We are looking very much forward to having you all here in Cape Town, South Africa in October 2019. This will be a first for Africa and it is indeed a great honour to have this truly global event sponsored by my own institution, the North-West University. We also feel very honoured to be the second country in the BRICS family, to present this BRICSCESS World Conference. I really hope that we can live up to the high standards of our Brazilian predecessors, Professors Ricardo Uvinha and Nara de Oliveira which presented a fantastic conference in 2017 in Santos.

Both BRICSCESS 2019 as well as WCFLV 2019, promises to be fantastic events and also an experience that will live in our memories for many years to come. My wish is also that in the future we will remember our time in Cape Town in 2019, as the event that changed the lives of the people of Africa for the better. Enjoy your time in our beautiful country and make time after the conference to travel in South Africa and experience one of the most fantastic countries in the world.

With kind regards
Vriendelike groete
Sala Sentle
Hamba Kahle



Prof. Dr. Hans de Ridder
Professor and Director, School of Human Movement Sciences, North-West University,
Potchefstroom, South Africa.
President BRICSCESS 2019
Founder Secretary-General and Vice-President (South Africa) BRICS Council of Exercise and Sport
Science
Senior Vice-President, ISAK
Member of the Board of Directors of the GCH Foundation
President, GoFPEP 2014



Welcome Message from the Chair of the Scientific Committee, Prof. Dr. Maya Van Gent

Dear attendees

I would like to welcome “old” and “new” friends to the BRICSCESS 2019 Conference as well as the 1st World Congress of Future Leader/Volunteer (WCFLV 2019). We are very excited to host you in Cape Town, the number one city in Africa for business tourism events in 2017 (ICCA), and showcase our beautiful country, South Africa to you!

It is truly a great privilege to be part of the Organising Committee and I am very honoured to be chairing the Scientific Committee for BRICSCESS 2019 Conference, supported by national and international experts in various subject areas related to sport and physical activity. I would also like to sincerely thank all the members of the Scientific Committee for the contribution that you made to ensure that BRICSCESS 2019 Conference met the high scholarly standard we all expect!

I, on behalf of the Scientific Committee, hope that you will enjoy the conference, that you will be actively involved in discussions with fellow academics, researchers and practitioners, all for the advancement of sport and physical activity in the world. And after all the work is done, I hope that you also find some time to experience our beautiful country!

Kindest regards



Prof. Dr. Maya VAN GENT
Associate Professor
Human Movement Science Department
University of Fort Hare
South Africa
Email mvangent@ufh.ac.za



Welcome message from the International Chair, 1st WCFLV 2019

Dear distinguished delegates and dear friends,

It is with honour and excitement to warmly invite you to attend the 2nd BRICS Conference of Exercise and Sports Science (BRICSCESS 2019) and the 1st World Congress of Future Leader/Volunteer (WCFLV 2019), organized by the North-West University (NWU) in Cape Town, South Africa.

The theme of these events is generous and challenging, aiming to connect the holistic health promotion with the UN Sustainable Development Goals (SDG) through an interdisciplinary and international co-operation approach. A dynamic program, with keynote and invited speakers, workshops, oral presentations and group discussions, will offer the opportunity for interactive participation and shared experiences.

WCFLV 2019 is the first congress organized around the Future Leader / Volunteer (FLV) Program. Considering the FLV's history, what started as an international program six years ago, became a collaborative network, then a social movement through community involvement. Wishing the same growth for the WCFLV, we hope this will start a biennial tradition in organizing it.

As Senior Team Leader & Senior Future Leader/Volunteer, I know that the success of any great project depends on the joint efforts of a dedicated team. The people who have worked in guiding, planning and organizing both the scientific and social program and the FLV team deserve acknowledgement. In particular, we express our gratitude to Prof. Dr. Ming Kai Chin, Founder of FLV program for believing in us and coordinating us through personal example; our special thanks to Prof. Dr. Hans de Ridder, from NWU, President of BRICSCESS 2019 and WCFLV 2019, for his wise advice and role model; deepest appreciation to Prof. Dr. Larry Durstine, International Scientific Adviser, who kindly guided us to present our work in the best form; and our recognition to the Organizing Committee from the NWU, who made efforts to provide us this opportunity. Likewise, our great appreciation goes to all the International Scientific Advisers and Supervisors, for their mentoring in the process of our personal and professional development.

We look forward to meeting and welcoming you in Cape Town, October 2019, to a meaningful and memorable experience!

Sincerely,



Mariana Tudor, Ph.D
Lecturer, University of Pitesti, Romania
International Chair, 1st WCFLV 2019
Senior Team Leader & Senior Future Leader/Volunteer (SFLV)
The Foundation for Global Community Health (GCH)



Welcome message from the National Chair, 1st WCFLV 2019

Dear distinguished delegates and dear friends,

I am honoured and delighted to welcome all of the great scientists, young researchers, students and sponsors attending the 2nd BRICS Conference of Exercise and Sports Science (BRICSCESS 2019) and the 1st World Congress of Future Leader/Volunteer (WCFLV 2019), in conjunction with the 2019 South African Sports Medicine Association (SASMA) Conference that will be held in Cape Town, South Africa from the 10 – 13th of October 2019. The theme of the conference is “Holistic Health, Sports Science and Sustainability: The Way Forward”. These 3 and a half days promise to have an exciting and action-packed program including renowned keynote speakers, invited speakers, workshop presenters, oral and poster presentations, group discussions and social events.

The 1st WCFLV 2019 will mark a historical milestone for the Future Leader/Volunteer (FLV) Program because this will be the first time that the WCFLV will take place. The Future Leader/Volunteer (FLV) Program first and foremost recognizes and mentors emergent global scholars dedicated to continuing research and development of their profession, passionate about serving local and global communities, and chosen for their innovative and interdisciplinary approach, active participation and contribution to active and healthy living strategies. This program also strives to empower people worldwide to advocate and live healthy active lifestyles. Therefore, the 1st WCFLV 2019 will provide the perfect forum for you as a young researcher to build up your knowledge base and provide you with the opportunity to meet and interact with leading scientists and researchers in different disciplines. One of the aims of the 1st WCFLV 2019 will be to connect the holistic health promotion with the UN Sustainable Development Goals (SDG) through an interdisciplinary and international co-operation approach, and therefore also linking up with the mission of the FLV program that is to serve as ambassadors of change to educate and empower children, adults and groups of special needs globally with holistic, innovative, evidence-based, cultural-sensitive and enjoyable solutions designed for improved health status and quality of life. Being part of a global family I know that nothing happens without sacrifices, late nights, hard work and an awesome team steering it all in the right direction. I would like to acknowledge and express my appreciation to all the people working behind the scenes to make the WCFLV a reality, starting with the founder of the FLV program, Prof. Mingkai Chin; Prof Hans de Ridder, President of BRICSCESS 2019 and WCFLV 2019; Prof. Dr. Larry Durstine, International Scientific Adviser; all the International Scientific Advisers and Supervisors and the Organizing Committee. Without you, this dream would not have become a reality.

We're looking forward to excellent meetings, sharing knowledge, learning something new, meet old and new friends and having fun! Lastly, I hope you make a little time to explore the beautiful Cape Town, drink some South African wine and enjoy our South African cuisine.

Kind regards,



Prof. Dr. Dané Coetzee
Associate Professor, North-West University
National Chair 1st WCFLV 2019
Senior Future Leader/Volunteer (SFLV)
The Foundation for Global Community Health (GCH)



Keynote Speaker



Prof. Dr. Ming-Kai CHIN

Founder and President, The Foundation for Global Community Health (GCH)
Founding President, BRICS Council of
Exercise & Sports Science (BRICSCESS)
Co-Founder & Former President
Asian Council of Exercise & Sports Science (ACCESS)
Vice President, Global Affairs & Research
HOPSports Inc., USA
Hong Kong-China
E-mail: chinmingkai@yahoo.com

Prof. Dr. Ming-Kai Chin received his Ph.D. in exercise physiology from University of Wisconsin-Madison, USA in 1985. Previously he served as the Head of Sports Science at the Hong Kong Sports Institute; Head and Principal Lecturer, Department of Physical Education and Sports Science at the Hong Kong Institute of Education; and Professor, School of Health, Physical Education and Leisure Services, University of Northern Iowa, USA. Currently, he is the Vice President, Global Affairs and Research, HOPSports, Inc., USA. Prof. Chin's research interests lie in integrated and holistic approaches in the fields of physical activity, sports, exercise science, leisure, health, and technology to promote active living in school and community. An editor of 8 books and author of over 190 publications in scientific and sports journals in English and Chinese, Prof. Chin has offered over 130 keynote and invited presentations, and over 90 conference paper presentations in North America, South America, Africa, Europe and Asia Pacific Region. A Fellow of AIESEP and Research Consortium of SHAPE America, he is one of the four Founders and Former President, Asian Council of Exercise and Sports Science (ACCESS) and former Editor-in-Chief of the Asian Journal of Exercise & Sports Science (AJESS) (2002-2016). Prof. Chin is the Senior Co-editor of the book "Physical Education and Health: Global Perspectives and Best Practice" in 2014 of which scholars of 40 countries are contributing their chapters on the new direction of physical education and health in their respective country. In April 2015, Prof. Chin was awarded the Medail of Manuel Gomes Tubino by FIEP for his contribution of global work in physical education. He has been elected in 2015 as the Founding President, BRICS Council of Exercise & Sports Science (BRICSCESS) and is the Founder and President, The Foundation for Global Community Health (GCH) in partnership with UN Global Sustainable Index Institute (UNGSII) to promote the 17 Sustainable Development Goals (SDG) to 193 countries.



FUTURE LEADER/ VOLUNTEER (FLV): “CHANGING AGENTS” IN GLOBAL PROMOTION STRATEGIES OF HOLISTIC HEALTH AND WELL-BEING

Young professionals are our future and many times we underestimate what they can do and their contribution in a significant role with passion, creativity and innovation in this global world. The vision of FLV is “To empower people world-wide to advocate a healthy active lifestyle” and their mission statement is “To serve as ambassadors of change to educate and empower children, adults and groups of special needs globally with holistic, innovative, evidence-based, cultural-sensitive and enjoyable solution designed for improved health status and quality of life”. FLV started at the 6th Asia Pacific Conference on Exercise and Sports Science (APCESS 2013)-Taipei and continued at APCESS 2015-New Delhi, APCESS 2017-Bangkok; ICPESS 2015-Jakarta, ICPESS 2018-Cappadocia, ICSPHW 2016-Manila; GoFPEP 2014-Potchefstroom; GoFPEP 2016-Ankara, Turkey and BRICSCSS 2017-St. Paulo. FLV are actively involved in projects in promoting health and wellness of children and community in their respective countries by working closely with The Foundation for Global Community Health (GCH). Currently there are 19 FLV from 14 countries (Brazil, Bulgaria, Czech Republic, Luxembourg, Macedonia, Malaysia, New Zealand, Philippines, Poland, Romania, South Africa, Spain, Turkey & Zimbabwe) currently engaged in the program. The evolution of FLV with the unique characteristics and their impacts in the implementation of UNSDG 17, especially in health and wellness will be presented.

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Invited Speaker



Prof. Dr. James HEBERT, MSPH, ScD

Health Sciences Distinguished Professor, Department of Epidemiology and Biostatistics
Arnold School of Public Health and Director of the South Carolina State-wide Cancer
Prevention & Control Program, based at the University of South Carolina and
President, Scientific Director and Chair of the Nutrition Department
Connecting Health Innovations LLLC (CHI)
USA
Email: jhebert@chi-llc.net

Prof. Dr. James Hébert's career in epidemiology and public health began in South India in the late 1970s. His thesis work (based at the University Madras while he was matriculated as a masters student at the University of Washington in Seattle) focused on the effect of environmental degradation in water and sanitation on growth of children living in fishing villages along the Bay of Bengal Coast near Madras (now Chennai). During this time he also became interested in the role of nutritional factors in modulating environmental factors that were thought to determine child growth and development. This body of work, which derived from studies that formed the basis of his dissertation (from Harvard University), was the first to show that water contamination during the critical period around weaning was a major determinant of child health and that vegetarian children were less likely to be stunted and wasted than children eating non-vegetarian diets. Over the ensuing three decades, Dr. Hébert has developed a keen interest and strong track record of methodologic breakthroughs in the study of diet and health. While much of his research has focused on cancer-related health disparities, the contributions made to the field are broadly applicable across a wide variety of health outcomes and unique populations. While conducting this work, which has resulted in over 600 peer-reviewed papers, he has never lost interest in the importance of childhood exposures in determining the health and well-being of children and their eventual susceptibility or resistance to chronic diseases of adulthood. At the same time, he also has come to understand that one cannot consider diet as an isolated cause of disease or disability. Indeed, the connections to environmental exposures, physical activity, circadian factors, psychosocial stress (including from racism and discrimination), immune function, and inflammation create a web of causality that must be understood in order to solve major public health problems facing humanity in the 21st century.



THE DEVELOPMENT, VALIDATION AND DISSEMINATION OF THE DIETARY INFLAMMATORY INDEX (DII®): IMPLICATIONS FOR THE FUTURE OF HOLISTIC HEALTH AND SUSTAINABILITY

Over the past several decades, interest in the role of inflammation as the substrate for many disease-related mechanisms has exploded. Dr. Hébert and his group in USC and CHI have been on the vanguard of developing methods, designing studies and implementing programs to deepen understanding of the role of diet-related inflammation in health. In this talk, Dr. Hébert will describe the genesis of the Dietary Inflammatory Index (DII®), and its use in over 300 studies in more than 36 countries and encompassing disease outcomes ranging from asthma to inflammatory markers; severe mental illness, depression and cognition; cancers of numerous anatomic sites and histopathologic types; cardiovascular diseases; in maternal and child health. He also will discuss the methodologic breakthroughs that led to the development of the energy-adjusted DII (E-DIITM) and the children's DII (C-DIITM), including its use in studies focusing on child health and development. In addition to focusing on methodologic innovation, Dr. Hébert will train his attention on the expansion in thinking about the role of diet in health that working with the DII and its derivatives has brought about. This includes expansion into likely areas of intersection, including physical activity. However, it also has entailed deepening appreciation of the connections between diet, inflammation, psychosocial stress, circadian biology and sleep, racism, discrimination, environmental degradation and injustice, personal sense of self-mastery, and psychoneuroimmunology. So, in addition to presenting a synopsis of results of past work, Dr. Hébert will engage conference participants in thinking more broadly about the idea of indexing to deepen understanding of disease causation and health promotion. He also will invite conference participants to assist in devising means for improving community health and child well-being and development, and to broaden the scope of indexing to include other important determinants of inflammation including physical activity, psychosocial stress, and environmental factors.

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Future Leaders / Volunteers



Dr. Mariana TUDOR (Romania) - Senior Team Leader & Senior FLV International Chairperson, WCFLV 2019 Lecturer, Department of Medical Assistance and Physical Therapy, University of Pitesti



Assoc. Prof. Dr. Dané COETZEE (South Africa) - Senior FLV National Chairperson, WCFLV 2019, Associate Professor in Human Movement Science School of Human Movement Sciences, Program Leader: Kinderkinetics, North-West University Potchefstroom



Assoc. Dr. Elena CARRILLO (Spain) - Team Leader & Senior FLV Assoc. Professor in Sports Nutrition, Sociology & Community Nutrition Faculty of Health Science Universitat Ramon Llull



Assoc. Dr. Biljana POPESKA (Macedonia)-Senior FLV Assoc. Professor in Methodic of Physical Education Goce Delcev University-Stip



Future Leaders / Volunteers



Karolina CHLEBOSZ (POLAND)
Sport Psychologist, Lecturer, WSB University/ Uni Terra
University PhD Candidate, University School of Physical
Education in Poznan



Asst. Prof. Dr. Bijen FILIZ (Turkey)
Assist. Professor, Department of Training Education University of
Kocatepe, Campus of Ahmet NecdetSezer, Afyon, Turkey



Çiçek DUMAN (Turkey)
Administrative Assistant, Department of Physiotherapy and
Rehabilitation, Bahcesehir University



Asst. Dr. Agata KORCZ (Poland)
Assistant Professor
Poznań University of Physical Education



Future Leaders / Volunteers



Dr. Garry KUAN (Malaysia) – Senior FLV
Lecturer, Exercise and Sports Science Programme School of
Health Sciences, Universiti Sains Malaysia, Malaysia.



Dr. Antonin KUBAN (Czech Republic)-Senior FLV
Ph.D. in Physical Education and Sports Charles University-
Prague PE Teacher and Trainer Co-owner, Co-founder
Kindergarten HOUSENKA & IMAGO School



Mona Liza Adviento MAGHANOY (Philippines)
Assistant Professor
Department of Sports Science College of Human Kinetics
University of the Philippines, Diliman



Dr. Zorniza MLADENOVA (Bulgaria)-Senior FLV
President of Association of Touristic Animatours PhD in
Leisure, Sport Animation & Tourism National Sports Academy
“VasilLevski”



Future Leaders / Volunteers



Tholumusa Favoured MLALAZI (Zimbabwe)
MSc Student in Exercise and Sports Science Kenyatta University,
Kenya



Dr. Sunday Olawale ONAGBIYE (Nigeria)
Postdoctoral Research Fellow Department of Sport, Recreation
& Exercise Science University of the Western Cape, South Africa



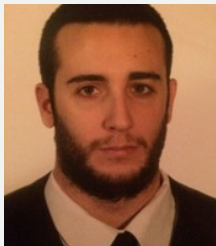
Cheo, NG YEW (Singapore)
Physical Education & Sports Science, National Institute of
Education, Singapore



Larissa Cavalcante Pires (Brazil)
MSc Student in Health Sciences Federal University of São Paulo,
Brazil



Future Leaders / Volunteers



Oriol SANSANO-NADAL (Spain)
Ph.D. Student in Physical Activity and Sport Science Research
Group on Health, Physical Activity and Sport Faculty of
Psychology, Education and Sports Science Universitat Ramon
Llull



Michelle Slunecko (Luxemburg)
Research Assistant, Department of Biomechanics, Kinesiology
and Computer Science in Sport, University of Vienna



Dr. Susannah STEVENS (Susie) (New Zealand)
Physical Education New Zealand (PENZ) Lead Advisor College
of Education, Health and Human Development University of
Canterbury





1st World Congress for Future Leader Volunteers (WCFLV) 2019 - Cape Town, South Africa



Holistic Health, Sports Science and Sustainability: The Way Forward

Thursday, Oct 10, 2019 (1ST WCFLV 2019)				
07:15 am 07:40 am		Registration		
07:45 am 08:15 am	WELCOME & INTRODUCTION of 1st WCFLV 2019 PROGRAM	Opening Address: Prof. Dr. Refilwe Phaswana-Mafuya (DVC Research and Innovation - NWU) CHAIRPERSON: Prof. J. Hans de Ridder		
08:15 am 08:45 am	KEYNOTE SPEAKER	Prof. Dr. Ming-Kai CHIN (USA) Future Leader/ Volunteer (FLV): "Changing Agents" In Global Promotion Strategies of Holistic Health and Well-Being Session Chair: Assoc. Prof. Dr. Dané Coetzee (South Africa)		
08:45 am 09:15 am	INVITED SPEAKER	Prof. Dr. James HEBERT, MSPH, ScD (USA) The Development, Validation and Dissemination of the Dietary Inflammatory Index (DII®): implications for the Future of Holistic Health and Sustainability Session Chair: Dr. Marianna Tudor (Romania)		
09:15 am 09:25 am	BRAIN BREAKS Dr. Antonin Kuban (Czech Republic) & Mr. Tholomusa Favoured Mlalazi (Zimbabwe)			
09:30 am 10:45 am	FLV ORAL PRESENTATIONS I	Parallel 1: Room 8 Session Chair Dr. Antonin Kuban (Czech Republic)	Parallel 2: Room 9 Session Chair Assoc. Prof. Dr. Elena Carrillo Alvarez (Spain)	Parallel 3: Room 11 Session Chair Dr. Olawale Sunday Onagbiye (South Africa)
	09:30	SFLV: Asst. Prof. Dr. Agata Korcz (Poland), Grzesiak J, Laudanska-Krzeminska I, Chin MK, Edginton CR, Mok MMC, Bronikowski M Brain Breaks® Classroom-Based Physical Activities and its impact on Attitudes toward Physical Activity in 3rd and 5th grade learners	SFLV: Assoc. Prof. Dr. Biljana Popeska (Macedonia), Barbareev, K Being a volunteer – perspective of Macedonian students	FLV: Asst. Prof. Mona Maghanay (Philippines) Lived Experience of Student-Athletes under a state University Varsity Sports Program



	09:45	Roodt O, Duncan M, Africa E Actual motor competence versus perceived motor competence in 6- to 7-year old children in the Stellenbosch region	FLV: Mr. Tholumusa Favoured Mlalazi (Zimbabwe) "Walk for life" - Phase One: An Alternative Church-led Health Promotion Community Exercise Programme	Fikreyesus A Training Load and Quality of Recovery in Ethiopian Higher League Football Players
	10:00	FLV: Mr. Oriol Sansano-Nadal (Spain), Carrillo Alvarez E, Chin MC, Badia Castell J, Gilbert Pitarch MJ, Buch Romeu L, Guerra-Balic M Implementation of a Brain Breaks® program in a Catalan Public School. Effects of the Intervention and Attitudes towards Physical Activity in 5-6th Grade Children	SFLV: Dr. Zornitza Mladenova (Bulgaria), Markov A, Rangelov P, Chin MC Sustainable Development and Holistic Health in Bulgarian Schools and Communities	FLV: Ms. Michelle Slunecko (Luxembourg) A new possibility for the determination of the mechanical and morphological properties of the Achilles tendon
	10:15	Botha S & Africa E The effect of a perceptual-motor intervention on the letter recognition and -formation in selected Grade 1 children.	Osinaike J Exploring the Physical Activity Counselling Practices of Foundation Doctors: A Qualitative Study	Broodryk R & Kruger A Exploring the Quiet Eye parameters during the rugby union goal kicking task
	10:30	SFLV: Dr. Garry Kuan (Malaysia), Rizal H, Hajar MS Effects of using technology supported Brain-Breaks on physical activity behaviour among primary school children: a transtheoretical perspective	FLV: Dr. Susannah Stevens (New Zealand) The joy of movement, the enlashed body and wellbeing in physical education	
10:45 am 11:15 am	TEA BREAK POSTER SESSION	Session Chair: Prof. Dr. Larry Durstine (USA)		
		Poster #1 du Plessis, A	The usefulness of the Movement ABC-2 checklist and developmental coordination disorder questionnaire'07 for parents' as screening tools to identify developmental coordination disorder in Grade 1 learners	



		Poster #2 Adula, F	Recovery and Overtraining in Ethiopian Higher League Football	
		Poster #3 Denysschen M & Coetzee, D	The relationship between Developmental Coordination Disorder and obesity among children aged 10-11 years: NW-CHILD study	
		Poster #4 du Plessis, W	The state of 4-year old children's fundamental movement skills and the effect of gender	
		Poster #5 Shen, DH	Research on promoting the development of sports social organization by venture philanthropy	
		Poster #6 Gerber, BP	The possible effects of biological maturation on the physical activity levels of 12-13 year- old boys and girls	
11:15 am 12:15 pm	FLV ORAL PRESENTATIONS II	Parallel 1: Room 8 Session Chair Assoc Prof. Dr. Biljana Popeska (Macedonia)	Parallel 2: Room 9 Session Chair Asst. Prof. Dr. Agata Glapa (Poland)	Parallel 3: Room 11 Session Chair Dr. Zornitza Mladenova (Bulgaria)
	11:15	SFLV: Assoc. Prof. Dané Coetzee (South Africa), Bonnema J & Lennox A The effect of a three month HOPSports Brain Breaks® intervention programme on the physical fit- ness levels of Grade 6- learners	SFLV: Assoc. Prof. Dr. Elena Carrillo Alvarez (Spain), Costa- Tutusaus L, Sansano- Nadal O, Violant Holz V, Voltas PJ, Guerra Balic M Shared social determinants of lifestyle and academic performance in a sample of Catalan adolescents	FLV: Ms. Çiçek Duman (Turkey), Badıllı Demirbaş FŞ The effects of connective tissue manipulation on balance and proprioception among healthy individuals
	11:30	Mavingire C, De Ridder JH, Monyeki MA & Makaza D The relationship between body composition, physical fitness and levels of physical activity of Zimbabwean children aged 10-12 years old.	FLV: Ms. Ng Yew Cheo (Singapore), Balasekaran G, Sai-Chuen Hui S, Govindaswamy VV, Boey P, Lim J Are Obesity Levels Related to Living Habits of Adolescents in Singapore?	FLV: Ms. Karolina Chlebosz (Poland) Motivation and quality of life in sport
	11:45	SFLV: Dr. Marianna Tudor (Romania) Classroom-based strategies to increase the level physical activity among children	FLV: Asst. Prof. Dr. Filiz Bijen (Turkey) The Effect of Dance on Social-Emotional Skills	FLV: Ms. Larissa Pires Cavaleante (Brazil), Oliveira NRC Competitive anxiety among Brazilian elderly athletes



	12:00	FLV: Dr. Antonín Kubaň (Czech Republic), Novotná V Creation and verification of effectiveness of our new “Music-based physical educational (MBPE) program for pre-school children”	FLV: Dr. Olawale Sunday Onagbiye (South Africa), Moss SJ, Cameron L Correlation between selected anthropometric variables and health related quality of life in Tswana speaking adults	Ms. Çiçek Duman Comparison of the muscle activation threshold and pain level of temporomandibular joint, balance and posture between healthy individuals and individuals with temporomandibular joint dysfunction
12:03 pm 1:30 pm	LUNCH POSTER SESSION	Session Chair: Prof. Dr. Myriam Guerra-Balic (Spain)		
		Poster #7 Chang, F	The successful application of the Beijing winter Olympics to the development of mass sports in china	
		Poster #8 Qian, W	Research on the supply of public sports service in Chinese sports parks	
		Poster #9 Weng, Y	Shanghai amateur games a hallmark sports event for residents	
		Poster #10 Lei, Y	Study on the participation of sever disabled people in rehabilitation physical exercise	
		Poster #11 Sang, X	Prospects for the development of youth sports clubs under the strategy of strengthening the country with sports	
		Poster #12 Kuang J, Zhong J, Wang X, Chen W	Differences between Fourth-grade Girls and Boys in terms of the Effect of Brain-Break in Classroom on Selective Attention — Based on Experimental Research	
		Poster #13 Haohui L, Zhou Y, Wang X	Experimental study on improving the influence of sedentary behavior on the physical fitness of college students in Shanghai	
		Poster #14 Gua M, Wang X	Experimental study on using wearable device to improve students physical fitness	
		Poster #15 Wang Y, Wang X, Guo M	Study on dynamic changes of physical fitness of Chinese high school students	
1:30 pm 4:00 pm	GROUP DISCUSSION	Divide into 10 groups as per instructed		
4:00 pm 4:15 pm	BRAIN BREAKS Asst. Prof. Mona Maghanay (Philippines) & Ms. Karolina Chlebosz (Poland)			
4:15 pm 4:30 pm	TEA BREAKS			
4:30 pm 5:30 pm	GROUP REPORT			
5:30 pm 6:15 pm	Back to Hotel			
6:15 pm 9:00 pm	DINNER & SOCIAL NIGHT SPONSORED BY THE NORTH-WEST UNIVERSITY			



Future Leader Volunteers Abstracts

CLASSROOM-BASED STRATEGIES TO INCREASE THE LEVEL PHYSICAL ACTIVITY AMONG CHILDREN

Tudor M¹

1. Luminita Georgescu, University of Pitesti

Introduction: With the ever-increasing rates of child obesity and other health risks of sedentary habits, there is an evident need for effective actions to improve the participation of children in physical activity (PA). The aim of this study was to evaluate the effects of implementing PA during school breaks on the children's global level and enjoyment of physical activity.

Methods: Our pretest-posttest experimental study was conducted on a sample of 112 children (47 boys and 65 girls), aged 10-12 years, arbitrary divided into experimental (N=52) and control (N=62) groups. For the experimental group, we introduced short PA brain-breaks of 3-5 minutes performed during each school day, for three mounts. The level of PA (Physical Activity Questionnaire for Older Children; PAQ-C) (Kowalski et al., 2004), enjoyment of PA (Physical Activity in Children Enjoyment Scale; PACES) (Moore et al., 2009), body mass index (BMI) and waist circumference (WC) were assessed.

Results & Discussion: Overall, the data support positive results ($p < 0,01$) for PAQ-C, PACES and WC in the experimental group compared with the control one.

Conclusion: Short time dynamic and fun physical activities can represent an enjoyable way for the children to spend the time during school breaks and also an effective strategy in the process of adopting a healthy active lifestyle.

Key words: classroom strategies, physical activity, children



THE EFFECT OF A THREE MONTH HOPSPORTS BRAIN BREAKS® INTERVENTION PROGRAMME ON THE PHYSICAL FITNESS LEVELS OF GRADE 6-LEARNERS

Coetzee D¹, Bonnema J¹ & Lennox A¹

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Introduction: Notwithstanding the numerous health benefits of physical activity (PA) and the role it plays in a child's life; it is still evident that South African children are not adequately active. Various research studies have been conducted which indicate that children's PA levels increase but reach a peak at the age of 12-years, after which they start to decline. Although extensive research has been done to study the effect of various technology-based intervention programmes, the findings of the studies vary with little to no improvements. Therefore, this study determined the effect of a three month HOPSports Brain Breaks® intervention programme on the physical fitness levels of Grade 6-learners.

Methods: Physical fitness was measured with the EUROFIT test battery. The experimental group consisted of 79 (26 boys and 47 girls) and the control group 47 children (16 boys and 33 girls). Mean age for the total group was 11.92 (± 0.36) years. HOPSports Brain Breaks® intervention programme was conducted every day for 5-10 minutes for 3 months on the experimental group's school hall.

Results & Discussion: The results indicated that there was a statistically ($p \leq 0.05$) and practically ($d \geq 0.20$) significant difference between the experimental and control group after the completion of the intervention program for percentage body fat; stork balance; plate tapping; sit-and-reach; standing jump; sit-ups; 10 x 5m shuttle run and 20m shuttle run between the pre- and post-test. The current study's results reported that HOPSports Brain Breaks® intervention programme improved all the physical fitness components of the EUROFIT test battery which could contribute to an increase in PA levels.

Conclusion: Therefore, HOPSports Brain Breaks® is an effective programme that teachers can incorporate in their PE periods or during class time to address the concern of inactivity as well as to improve physical fitness skills.

Key words: Physical activity; EUROFIT; children; physical fitness; intervention programmes; Brain Breaks



LIVED EXPERIENCE OF STUDENT-ATHLETES UNDER A STATE UNIVERSITY VARSITY SPORTS PROGRAM

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Introduction: This research sought to find out how it is to be a student-athletes in a premier state University. It is an exploratory study that looked into the lived experiences of student-athletes under a Varsity Sports Program.

Methods: Data-gathering was conducted in two ways: 1) narrative interviews of 12 selected student-athletes and 2) a survey on what student-athletes perceive to be important and ratings of satisfaction in these aspects of their experience. A total of 230 student-athletes participated in this study.

Results & Discussion: Results from the survey were analysed through an examination of differentials in importance and satisfaction ratings and was purely descriptive in nature. Results show that differentials were the largest in the importance and satisfaction ratings on Team Management. The data gathered from the narrative interview were content-analyses. Finding showed that student-athletes perceived their lives as stressful yet their involvement in sports satisfies the basic psychological needs of autonomy, competence and relatedness.

Conclusion: The positive benefits of sport participation enables them to endure difficult situations as student-athletes however, they are at risk for psychological problems with the kind of short-term and reactive coping style that participants use. Findings further show that central to their identity is being an athlete. Factors that challenge this identity are present in their environment as student-athletes and are part of the stress that they continuously face.

Key words: Student-athletes, mixed-methods, lived experiences



GENDER DIFFERENCES IN THE ASSOCIATION OF LIFESTYLE AND ACADEMIC ACHIEVEMENT WITH PSYCHOLOGICAL DISTRESS, SOCIAL CAPITAL AND PARENTAL EDUCATION IN A SAMPLE OF CATALAN ADOLESCENTS

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Introduction: A tight interplay has been observed between social, educational and health outcomes throughout the lifespan, which has been suggested as one of the mechanisms leading to inequalities in adulthood. Social capital has been posited as a factor that could leverage the impact of unfavorable conditions on health and education, however, its relation to individual characteristics like age, gender, psychosocial dispositions or family characteristics is unclear. The aim of this study was to investigate the association of lifestyle and academic achievement, social capital and individual features in a sample of Catalan adolescents, exploring potential differences in this relation based on other social determinants of health.

Methods: A descriptive cross-sectional study was carried out in a sample of 646 adolescents from different socioeconomic contexts' public and private high schools in Barcelona (Spain). Adolescents were handed a folder that included the VISA-TEEN lifestyle questionnaire; two scales to assess overall and family social capital, the Kessler K-6 scale for psychological distress, and basic sociodemographic questions. Multiple regressions were run for each of the two main output variables, stratifying by gender.

Results & Discussion: Our results indicate that the relation between health-related lifestyle and academic achievement, and psychological distress, social capital, age and parental education influence vary by gender.

Conclusion: These results can help to better tailor community interventions addressed to improve both health and educational outcomes in adolescents from different socioeconomic contexts.

Key words: adolescents, healthy lifestyle, academic achievement, social capital, social determinants, gender.



ARE OBESITY LEVELS RELATED TO LIVING HABITS OF ADOLESCENTS IN SINGAPORE?

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Introduction: Regular physical activity (PA) is often emphasized and encouraged for adults, adolescents and children. This Asia Fit study focused on the physical fitness index of adolescents in Singapore and gave an indication of the living habits that may affect obesity levels among adolescents in Singapore.

Methods: A total of 1648 participants (age: 13.49 ± 1.21 years, height: 159.76 ± 8.94 cm, weight: 51.98 ± 13.41 kg, body mass index: 20.21 ± 4.22 $\text{kg}\cdot\text{m}^{-2}$, body fat percentage: $21.54 \pm 10.21\%$) that volunteered for this study were recruited from various local secondary schools. A PA questionnaire, a series of physical tests ((single sit-and-reach test, handgrip strength test, 1-minute sit-ups test, Youth 15m Progressive Aerobic Cardiovascular Endurance Run (PACER) test)) and anthropometric measurements were recorded during their physical education (PE) lessons.

Results & Discussion: Results indicated that a higher percent of adolescents (89.5%) participated in moderate PA, whereas a smaller group of the total cohort (10.5%) did not indicate if they participated in any PA. 70.7% of adolescents indicated that they partake in vigorous PA between 1 to 6 days in a week, whereas 12.1% of adolescents did not partake in vigorous PA at all. 9.0% of adolescents did not indicate if they participated in vigorous PA. Additionally, a low percentage of adolescents (2.8%) adhered to the American College of Sports Medicine (ACSM)'s recommendation of 60 minutes of PA daily. Results have also shown that a slightly higher percentage of adolescents who sit for more than 8 hours daily (48.9%) as compared to adolescents who stay seated for 1 to 8 hours daily (43.0%). 9.1% of adolescents did not report their sedentary duration.

Conclusion: The percentage of sedentary behaviour that these adolescents indulge in that may have an effect of obesity levels. Although Singapore adolescents have a relatively low body fat percent, they should increase their levels of PA to improve their cardiovascular fitness to lower the risk of obesity in adulthood. This study can be used as an indicator for the government to design or upgrade current policies to ensure that adolescents receive sufficient PA time in schools.

Key words: youths, physical activity, fitness, body fat percentage



MOTIVATION AND QUALITY OF LIFE IN SPORT

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Introduction: Physically active lifestyle can influence mental health, social relations, and self-confidence, leading to increased quality of life (QoL). Adult physical activity (PA) levels are declining globally. Numerous studies have examined people's PA participation. Often, measures used were not broad enough to reflect all the reasons for PA participation.

Methods: First part of the project shows literature review investigated relationships between motivation, physical activity, and health-related QoL. The aim of Study 2 in this program is to validate the PALMS in the cultural context of Poland. The 40-item Physical Activity and Leisure Motivation Scale, created as a comprehensive tool measuring motives for PA participation, is designed for adolescents and adults. Five items constitute each of the eight sub-scales (mastery, enjoyment, psychological condition, physical condition, appearance, others' expectations, affiliation, competition/ego), reflecting motives for PA participation that can be categorized as features of intrinsic and extrinsic motivation based on self-determination theory.

Results & Discussion: We invited 434 participants from different sport disciplines, gender, and age to examine whether PALMS demonstrates acceptable factor structure, internal consistency, test-retest reliability, and criterion validity in Polish using a confirmatory approach. Data collection was conducted in Polish. PALMS was first translated into Polish using standard forward and backward translation procedures. Participants then completed the PALMS. Confirmatory factor analysis (CFA) was conducted, using SPSS software, on the 8-motive PALMS-M model. The hypothesized model consisted of 40 observed items, and 8 latent variables. Employing CFA, this model did not result in a good fit to the data. Further examination of CFA results suggested modifications to the path model to improve fit indices. This modification included deleting two problematic items (items 10 and 18) and co-varying the error terms for items 19 and 31. The final measurement model consisted of 38 items. The majority of the items were retained and were considered acceptable for the present sample.

Conclusion: Literature review shows significant correlation between motivational factors of physical activity, level of satisfying psychological needs and the general sense of life quality and enjoyment of athletes. The final measurement model for the PALMS questionnaire in the present sample consists of 38 items. The majority of the items were retained and items were considered a sound fit to the sample in this study. Future research on motives for participation can use the PALMS to examine the motives for engaging in any form of physical activity and leisure, interpreting their responses within the 8-factor framework of subscales.

Key words: Motivation, Sport, Physical Activity, Quality of Life.



THE EFFECTS OF CONNECTIVE TISSUE MANIPULATION ON BALANCE AND PROPRIOCEPTION AMONG HEALTHY INDIVIDUALS

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Introduction: Connective Tissue Manipulation (CTM) is a type of manual therapy used in different problems. Despite the well-known effects of CTM, its effects on proprioception and balance have not been investigated as far as, we know. The aim of the study to investigate the effects of CTM on balance and proprioception among healthy individuals.

Method: 40 volunteers studying in Bahcesehir University were divided into exercise and study (CTM with exercise) groups equally. Biodex Balance System was used for evaluation of static and dynamic balance. The cervical proprioception was measured by using a cervical range of motion (CROM) device while lumbar proprioception was measured by StabilizerTM Pressure Biofeedback Unit. Additionally, at the beginnig and end of the study, heart rate and blood pressure were measured by M3 Comfort Digital blood Pressure Monitor. Both study and exercise groups were instructed to perform home exercises for 2 sessions in a week for 6 weeks (12 sessions in total). Additionally, CTM was applied to the volunteers in study group for 6 weeks, 2 sessions in a week.

Results & Discussion: At the end of the study, a significant difference between heart rate or blood pressure measurements of the groups cannot be found. On the other hand, a significant difference between groups were found in cervical flexion with ($p \leq 0,01$) and without ($p \leq 0,05$) vision and lumbar proprioception with and without vision ($p \leq 0,01$). Since the “overall” scores are more reliable than the “anteroposterior” and “mediolateral” scores of the Biodex Balance System, intergroup comparison of the groups were interpreted according to the overall scores. Improvement in static and dynamic balance on right foot ($p \leq 0,01$), bilateral dynamic balance ($p \leq 0,05$), and static balance on left foot ($p \leq 0,01$) were found significant between the groups. On the other hand, when all scores (overall, anteroposterior, mediolateral) were examined, pre-and-post measurements of both dynamic and static balance were found significant ($p \leq 0,05$) in study, while exercise group showed a significant improvement mostly in dynamic balance scores.

Conclusion: Considering all of these, we believe that the application of CTM with exercise improves proprioception and balance, especially static balance, in healthy subjects. Further studies are needed to be done with larger groups and addition of a control group to the study will in- crease the strength of the study

Key words: Connective tissue massage, Connective Tissue Manipulation, Postural Balance, Proprioception



BRAIN BREAKS® CLASSROOM-BASED PHYSICAL ACTIVITIES AND ITS IMPACT ON ATTITUDES TOWARD PHYSICAL ACTIVITY IN 3RD TO 5TH GRADE LEARNERS

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Introduction: The school has been recognized as the main setting providing physical activity (PA) opportunities. Therefore, creating an enjoyable and attractive PA environment in schools may impacts student attitudes toward PA, which is crucial in maintaining participation in lifetime PA. This study examines the effectiveness of Brain Breaks® Physical Activity Solutions in changing children's attitudes toward PA in a community in Poland.

Methods: A sample of 326 pupils, aged 9-11, were selected from 19 classes at three primary schools and assigned to control and experimental groups at random. Children in the experimental group performed physical activities two times per day for four months in sessions three to five minutes long using Brain Breaks® videos, while the control group did not use the videos during the same test period. Using the "Attitudes toward Physical Activity Scale", students' attitudes were assessed before and after the intervention and repeated measures of ANOVA were used to examine the change from pre- to post-intervention.

Results & Discussion: This indicated time-by-group interaction effects in 'Self-efficacy on learning with video exercises', $F(1.32) = 75.28$, $p = 0.00$, $\eta^2 = 0.19$. Although the changes are minor, the definite benefits of the intervention were detected.

Conclusion: It may be concluded that HOPSports' Brain Breaks® contributes to better self-efficacy on learning while using video exercises of primary school children.

Key words: primary schools; children; physical activity; video games; exercise; Brain Breaks®



EFFECTS OF USING TECHNOLOGY SUPPORTED BRAIN-BREAKS ON PHYSICAL ACTIVITY BEHAVIOUR AMONG PRIMARY SCHOOL CHILDREN: A TRANSTHEORETHICAL PERSPECTIVE

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Introduction: Brain Breaks® Physical Activity (PA) Solutions is an interactive online, web-based PA videos developed to help revitalise students' behaviour by moving and engaging students cognitively in the context of health and has been specifically designed for the classroom setting. The transtheoretical model (TTM) is a theory of behavioural change processes occurring in stages and acts as the instrument in the study. The model includes Stages of change, processes of change, and decisional balance (pros and cons). Brain Breaks® integrates a wide range of diverse culture into the PA videos including traditional dance, sports and contemporary movement. It not only provides teachers with a wide selection of PA videos to choose from but also adds variety while improving students' attitude and self-esteem in participating in PA. In this study, TTM will be used to measure the effects of this intervention.

Methods: The is an interventional study (pre-mid-post) with randomised schools across Kelantan State in Malaysia. Primary school children in grades four to five volunteered to participate. The sample of 463 was calculated using G Power 3.1.7 (power = 0.80, effect size = 0.117). The study begins with translation and validation process of the Malay version of TTM on primary school children. Then, two schools (A - intervention, B - control) in the district of Kota Bharu are randomly selected to participate. Both undergo pre-test of TTM questionnaires. School A will then undergo brain-breaks intervention (3-5 mins daily) for three months. While school B undergo normal school routine. Mid-test data collected at half-way (1.5 months) and post-test data collected at the end of three months.

Results & Discussion: From the study, the expected outcomes are: Intervention group, PA improvement: 1) Higher progression in stages of change, 2) Higher cognitive/behaviour process, 3) Higher perceived pros, fewer cons, and 4) Higher self-efficacy.

Conclusion: This programme achieved the third goal of the United Nations' Sustainable Development Goals (SDG), which is to ensure healthy lives and promote well-being for all ages. Besides, it enhanced the self-awareness and the self-confidence, especially among the Asian perspectives.

Key words: Brain-breaks, trans theoretical modal, stages of change, self-efficacy



CREATION OF A MUSIC-BASED PHYSICAL-EDUCATIONAL (MBPE) PROGRAMME FOR PRE-SCHOOLERS AND VERIFICATION OF ITS EFFECTIVENESS

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Introduction: The main aim is to create and validate a comprehensive interventional programme for preschool children. The programme is aimed at all-round personal development of the children. The research also intends to validate applicability of the programme in practice as it aims to establish the impact of the programme on rhythmical, motor, sensor-motor, musical and memory skills of preschool children. The research also aims to clearly define conditions under which the programme can be performed as it focuses on the support of a preschool child's natural kinetic, sensor-motor, musical and rhythmical competencies with the stress on personal health and hygiene.

Methods: The results are based on and both qualitative and quantitative research results. The quantitative research used a test battery of musical-motor skills. The thesis consolidates results of our observations, observations by teachers and parents throughout the school year, interviews with children, expert analysis of videos, discussion with experts in pedagogy and child's psychology.

Results & Discussion: The results ascertain that our MBPE programme has a positive influence on, not only a child's musical/motor skills, but it also allows them to acquire a wide set of new physical and musical competencies. It provides them with a lot of new experiences and through those it broadens their mind in the areas of natural sciences and social communication. We were able to observe and video-record major improvement in the children's motor skills after one-year implementation of the MBPE programme in selected kindergartens. The positive effect was also very noticeable in a variety of musical skills, such as singing (technique and breathing), rhythm and tune perception and their feel of music itself. We witnessed considerable improvements in aesthetical motor exhibitions, in the quality of motor and musical skills, in music perception skills and feelings towards the music. Social interaction amongst the children was more positive and it also led to their ability to exercise self-control and self-discipline.

Conclusion: The results of pre and posttest modified test battery, showed noticeable improvement in musical-motor skills, in music perception abilities and aesthetic quality of movement. Test results before and after our musical- motor programme intervention were ANOVA analysed. Median analysis showed the following. 'Rhythmical perception' median in MŠ Housenka (MŠ - H) improved by 2 points and in MŠ Zeměkoule (MŠ - Z) by 3,5 points on our evaluation scale. There was a reduction in the 'rhythm adaptability test time' median by 8 s in MŠ - H and in MŠ - Z by 9 s. 'Musical-motor memory' median in MŠ - H improved by 2 points and in MŠ - Z by 1,5 points on our evaluation scale. 'Motor-sensor memory' median in MŠ - H improved by 4 points and in MŠ - Z by 2,5 points on our evaluation scale. There was a reduction in the 'motor-sensor regulation test time' median by 23 s in MŠ - H and in MŠ - Z by 7,5 s and reduction in the 'Dynamic balance test time' median by 21 s in MŠ - H and in MŠ - Z by 18 s.

Key words: music-based PE, educational programme, pre-school, all round personal development, comprehensive kinetic development, musical-motor skills



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Introduction: Globalization is one of the most important feature of twenty- first century. As Edington and Chin wrote, "Globalization refers to the connection of ideas, concepts, and thinking and is greatly influenced by the rapid transfer of information that occurs in our society today. Today more than ever, we faced the challenges to reshape the shape of physical education true holistic approach and using the new technologies. One of the best practice in holistic health education is the Global School Educational Program based on the UN Sustainable Development Goals. Such interactive digital platform was impossible without the new technologies but on the other hand, the collection of best local practices and the unit of the intellectual potential of prominent stakeholders in the area of PE and sports science are the engine of this program. On March 2018 was signed the memorandum for strengthening the partnership relations and developing cooperation for presenting and implementing the Global School Educational Program based on the UN Sustainable Development Goals in Bulgarian schools between Sofia Metropolitan Municipality - Vazrazhdane District and the Foundation for Global CommunityHealth.

Methodology: The aim of our research is to explore the main goals of the implementation of this program: enhancing the PA among the young generation, building healthy habits, prevention of violence and racism, building self - awareness as a „citizen of the world“, self-assertion and personal motivation for adolescent development, connect the children from all over the world true culture and sport. For this purpose, we are using a self-report survey instrument entitled "Attitudes toward Physical Activity Scale (APAS)" before and after intervention. The survey included two Bulgarian schools with six experimental and six control groups - primary school students from 3rd to 5th grades.

Conclusion: We are convinced that the Global School Educational Program based on the UN Sustainable Development Goals is very well accepted both by the schools, as well as the institutions, related to the problems of sport for youth, and last but not least, the representatives in the field of public health.

Key words: holistic health, sustainable development, physical activities, new technologies



“WALK FOR LIFE BULAWAYO” - PHASE ONE: AN ALTERNATIVE CHURCH-LED HEALTH PROMOTION COMMUNITY EXERCISE PROGRAMME

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Introduction: The Seventh-Day Adventist Church recommends a lifestyle based on health-related concepts which include regular open air exercise and the need for temperance. Group open-air brisk-walking based aerobic exercises are associated with minimal injuries while moving most muscles and improving outlook on life. The purpose of this study was to provide an alternative community open air exercise programme centered on brisk walking coupled with strengthening and flexibility exercises.

Methods: A 12-week voluntary participation programme informed by church Counsels on Health, the Global Recommendations on Physical Activity for Health and the American College of Sports Medicine was formulated by two congregate Human Movement Specialists. This was moderated by a team of participant medical doctors, specialist clinical, mental and community health nurses, public health practitioners and religious counselors. It consisted of brisk-walking based cardiovascular (moderate intensity continuous walking), muscular endurance (2-4 sets of 12 -15 repetitions to the point of volitional fatigue or max reps per unit time 15 seconds) and flexibility (static stretching 15-30 seconds hold) exercises. Muscular endurance exercises often punctuated continuous walking at different points along the route. Sessions were preceded and terminated by a supervised 10 and 5-7 minute warm-up and cool-down respectively. Participants were encouraged to repeat the practiced activities 5 - 6 days a week for between 30 and 60 minutes a day at moderate intensity. They were also apprised of various ways of tracking their progress and monitoring exercise intensity through exposition seminars and discussions (Health Expos) and during practices. Complementary exercise variations and guidance were distributed online through group-chat-apps. Descriptive statistics reporting means and standard deviations of body mass index, waist to hip ration, were calculated using Microsoft Excel 2010.

Results & Discussions: Initial participation was 78 Participants with women making the bulk). By the 3rd week the numbers had reduced to 35.9%. The average peak attendance between week 2 and 6 was 28 ± 5.42 females (23 adults mean BMI 29.32 ± 3.38 ; Waist to Hip Ratio 0.91 ± 0.13) and 5 children) plus 10 ± 3.0 Males (5 adults mean BMI 23.32 ± 3.36 ; Waist to Hip Ratio 0.81 ± 0.15 and 5 children). The average distance walked ranged between 2 ± 16 km and 3 ± 22 km at the termination. The programme was aimed at providing a viable low cost systematic exercise regime for sedentary urban dwellers. The first phase of implementation was not focused on collecting any measurements from participants but to capacitate them to be in charge of their own exercise regimen. The walk for life programme was initially designed to run for at least 12 weeks, but had to be cut short by 4 weeks due to implementation logistics.

Conclusions: The participants welcomed the programme as an option to improving their health. Most participants expressed improved knowledge on exercising. Congregates were conservative and reluctant to subjecting themselves to kinanthropometric measurement. There was a need to attract more men to the programme to reflect the population dynamics of churches.

Key words: Health Promotion, Brisk-walking, Seventh Day Adventists



CORRELATION BETWEEN SELECTED ANTHROPOMETRIC VARIABLES AND HEALTH RELATED QUALITY OF LIFE IN TSWANA SPEAKING ADULTS

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Introduction: The relationship between individual anthropometric variables and health related quality of life (HRQoL) has been addressed and has generally shown harmful effect. But no studies have reported on the relationship between anthropometric variables and HRQoL among Setswana populations in South Africa. The purpose of this study was to determine the relationship between selected anthropometric variables [height, body weight, body circumferences] and HRQoL of adult Setswana speaking population from a low resourced community in Potchefstroom, North West Province of South Africa.

Methods: The participants in this descriptive study were fifteen (15) men and thirty-nine (39) women aged 35-65 years. Anthropometric parameters measured were, height, weight and body circumferences at the waist and hip with a standard protocol. Tswana version of Short Form 8 (SF-8) HRQoL survey instrument was administered and completed by the participants. Association between age, height, body weight, and circumferences were explored by univariate and multivariate analyses at $\alpha = 0.05$.

Results & Discussion: There was a significant negative correlation between body pain (BP), vitality (VT), mental health (MH), mental component summary (MCS) and age ($r = -0.406$, $p < 0.01$; $r = -0.301$, $p < 0.05$; $r = -0.323$, $p < 0.05$ and $r = -0.277$, $p < 0.05$) but a significant positive correlation between BP, physical component summary (PCS) and height ($r = 0.301$, $p < 0.05$; $r = 0.274$, $p < 0.05$). Role emotional (RE) had positive significant correlation with body mass index (BMI) ($r = 0.272$, $p < 0.05$) and waist circumference (WC) ($r = 0.275$, $p < 0.05$). In the regression model for all participants, age, height, BMI, and WC in total accounted for 21.4% of the variance in the BP of HRQoL.

Conclusion: Age, height, body mass index, and waist circumference are predictors of individual's health related quality of life.

Key words: Health related quality of life, Body composition, Adults, Low resourced community, South Africa



COMPETITIVE ANXIETY AMONG BRAZILIAN ELDERLY ATHLETES

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Introduction: Over the past few years there have been numerous studies analyzing the impact of competitive anxiety on sports performance, however, few studies have investigated this topic among elderly athletes (over 60 years of age) who regularly compete. This study examines the competitive anxiety among elderly athletes from Santos city, Brazil.

Method: A cross-sectional study was conducted on 37 elderly athletes (17 male and 20 female), aged 60-90, participants of 2017 Sao Paulo State Elderly Games in volleyball (n=21) and athletics (n=16). Participant athletes filled out a Brazilian version of Athletic Coping Skills Inventory-28 (ACSI-28BR) 35 minutes before a competitive event.

Results & Discussion: Our data revealed that women obtained higher scores on cognitive and somatic domain (negative indicators) than men, while self-confidence (a good performance indicator) was higher among men. Trainability scores were higher among women, while performance under pressure, concentration, freedom of worries and motivation were higher among men. These results revealed that gender differences are relevant on development of coping skills.

Conclusion: Despite the maturity status, elderly athletes seem to have similar challenges regarding competitive anxiety and coping skills. Future research is needed in order to contribute more robust evidence regarding this topic.

Key words: Anxiety, Aged, Sports.



BEING A VOLUNTEER - PERSPECTIVE OF MACEDONIAN STUDENTS

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Introduction: Being a volunteer means being able to give yourself for others: giving your time, talents, energy, effort and knowledge without expectation for financial reward. Being a volunteer is a privilege and responsibility in the same time. It's a personal choice to give, help and share, and commitment to be dedicated and responsible. The number of reasons for being a volunteer is diverse as the number of volunteers. In last decade, there is a steady increased of rates of formal volunteering among young people, mainly as a result of establishment of many youth-focused volunteering programs and organizations (CAF World giving index, 2018). Volunteers, particularly volunteers in sport declare positive feedback in sense of higher self - esteem, emotional wellbeing, feeling of importance of their work, meaningful life (Delta value and moral research, 2014, www.joinuk.org). Considering different aspect of volunteering and motives to be involved in, we design this study with purpose to determine students' opinions for volunteering, including volunteering in sport, their reasons to become volunteers and motives to continue to volunteer.

Method: The study was realized on a sample of 250 university students (51% males, 49% females), with different volunteering background, from eight different Faculties at Goce Delcev University in Stip, specially designed questioner, was designed and administrated. Descriptive - explicative method was applied. Basic descriptive statistic parameters were used to process obtained data.

Results & Discussion: According the obtained results, only small percent of university students (15,6%) have served as volunteers so far, from whom 58% will definitely be volunteers again. From students with volunteering background, 35% declare that volunteering has both positive and negative aspects. From non -volunteering students, more than 64,5% will volunteer in future if they have a possibility. Following reasons were identify as leading motives for volunteering: new experiences and learning (53%), possibility to help and be useful (24%), social interaction and opportunity to meet new people (16%), easier access to certain event (7%). Reasons for quit volunteering were also identified. Most of the students (70%) declare positive for participating as volunteers at sport events organized by the university. Receiving certificates as confirmation for their work and free access to university events are underlined as additional motives for students to volunteer.

Conclusion: Volunteering should be support in any age, especially in periods when young people are defining their personal identity. Promoting volunteering at university has multiple benefits not just for personal development of students - volunteers but also for the social recognition of the university as environment that promotes positive values and actions. Promoting the benefits of volunteering, supporting students' initiatives and actions, recognizing student's actions to help, give and share are pathways to recognize volunteering at university. Support can be also done in a form of formal recognition (certification), creating university office for volunteers, developing network of students - volunteers etc.

Key words: volunteering, university students, motivation, actions



IMPLEMENTATION OF A BRAIN BREAKS® PROGRAM IN A CATALAN PUBLIC SCHOOL. EFFECTS OF THE INTERVENTION AND ATTITUDES TOWARDS PHYSICAL ACTIVITY IN 5-6th GRADE CHILDREN

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Introduction: The Information and Communication Technologies (ICTs) can be applied for modeling children's lifestyle habits. Brain Breaks uses technology for a healthy life through interactive videos based on physical activity. Healthy lifestyle habits, including physical activity and nutrition, have a significant impact on their growth and development. Nowadays, the increasing tendency of children's inactivity is a health problem in our society that have to be modified in the schools. The aim of this study was to introduce Brain Breaks® program based on HOPSports as a new methodology in a Catalan public primary school.

Methods: Quasi-experimental design was adopted for this study including 150 children from 5-6th grade (10-12 years old). Brain Breaks® video exercises were applied to the whole sample during a period of three months three times per week. The assessment was before and after the intervention using the Alpha Fitness Battery, the VISA-TEEN Questionnaire and the self-report survey instrument entitled "Attitudes toward Physical Activity Scale" (APAS).

Conclusions: Results showed that the Brain Breaks® program based on HOPSports is positive in their fitness level, their lifestyle habits and attitudes towards physical activity change to a better self-perception.

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Key words: children, primary school, physical activity, Brain Breaks®, healthy lifestyle



A NEW POSSIBILITY FOR THE DETERMINATION OF THE MECHANICAL AND MORPHOLOGICAL PROPERTIES OF THE ACHILLES TENDON

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Introduction: In the literature, we find that the determination of the mechanical and morphological properties of tendons is often conducted with ultrasonography and dynamometry based on the acquisition of the force-elongation relationship. Considering, that this method is costly, time-consuming and can only be used in a laboratory, the implementation of a simplified method to estimate these properties would be of great use. The stiffness is a property of the tendon depending on different factors, such as density of the material and cross-sectional area. These factors also influence the propagation speed of shear waves in the tendon.

Method: The presented study analyses the correlation between the shear wave propagation speed and the longitudinal stiffness of the Achilles tendon in a healthy adult population (n=16). The propagation speed of a standardized wave induced by mechanical tapping on the tendon is measured with two piezo pickups placed at a fixed distance from each other on the skin over the tendon. Using the time difference of the registration of the wave by the two sensors and the known distance between them, we can calculate the velocity of the wave. To determine the stiffness of the tendon, the standard method with ultrasonography and dynamometry is used.

Conclusion: If a correlation between the two measurements is found, there would be a new inexpensive and easy to conduct possibility to estimate the tendon stiffness, that can be further explored and validated.

Key words: Measurements, tendon stiffness, dynamometry, ultrasonography



ENFLESHED MOVEMENT PLEASURE IN PHYSICAL EDUCATION; ASSUMPTIONS, ASSESSMENT AND ATHLETICISM

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Introduction: Movement pleasure is a human construct. Just as we learn behaviours, customs, cultures and social norms in learning environments, we too learn 'movement pleasure'. So what type of movement pleasure does physical education typically permit? A pleasure that conforms to assumptions, assessment and athleticism. This reproduces paradigms of performance and success in movement, and advocates for a singular movement meaning in regards to the joy of movement. In an age where we question the content, context and pedagogical approaches that we use in physical education; do we actually stop to question our assumptions around pleasure and the joy of movement?

Method: This study investigated secondary school students' experiences of the joy of movement in physical education. A total of 21 participants were observed for 8 months in physical education classes. Data generation included observation, field notes, video and image analysis and recurrent conversations with participants. Purposive sampling was used to capture a range of perspectives. Data was analysed using an Epicurean theoretical framework and a hermeneutical research approach.

Results & Discussion: Results revealed that the joy of movement was enlashed; a combination of physiological and psychological factors that are shaped by the space, time, context, socio-cultural and political parameters in which they occur. In physical education, this joy of movement is institutionalised. Movement pleasure is not typically seen as an objective of lessons, however it is valued in physical education. The type of movement pleasure analysed, conformed to behaviours that could be considered typical of traditional sporting, able and performative bodies meeting curriculum/assessment objectives. The students however, did expose an aberration of spontaneity and playfulness in physical education; a desire to disrupt this 'performative joy'.

Conclusion: These findings advocate that movement pleasure in physical education is not exempt from social construction. Physical education shapes the way students experience their enlashed joy of movement and this is commonly connected to assessment tasks, athleticism and assumptions entrenched within the movement culture.

Key words: movement pleasure; wellbeing; physical education; enlashed; joy



Oral Abstracts

TRAINING LOAD AND QUALITY OF RECOVERY IN ETHIOPIAN HIGHER LEAGUE FOOTBALL PLAYERS

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Introduction: It has been suggested that player fitness and the quality of training offered by coaches could pose a barrier to the performance standard in Ethiopian football. There is no research-based approach to the methods used to monitor maximum and minimum intensity and volume of training imposed on the players and their recovery during the season. The purpose of this study was thus to monitor training load and recovery among football players in the Ethiopian Higher League over a pre-season and in-season period of the competition.

Methods: A squad of twenty-five male footballers (age 22.08 ± 1.41 years, weight 70.24 ± 6.45 kg, height 175.60 ± 7.01 cm, BMI 22.78 ± 1.77) playing for a professional team in the Ethiopian Higher Football League were tracked over a macrocycle of the season comprising ten weeks. Rating of Perceived Exertion (RPE) and Total Quality of Recovery (TQR) scores were recorded for 40 days. Session training load (sTL) was subsequently calculated as the product of session Rated Perceived Exertion (sRPE) and session training duration (sTD) in Arbitrary Units (AU).

Results & Discussion: Similar perceived exertion mean values of 11.62 ± 1.56 and 12.20 ± 2.34 RPE ($p > 0.05$) corresponding with 'fairly light' and 'somewhat hard', were recorded in pre-season and in-season, respectively with 'poor recovery' similar 'poor' TQR recovery recorded for both the pre-season (11.09 ± 0.64) and in-season (11.2 ± 1.53). A higher mean sTL incorporating duration of sessions was registered for the in-season (1009.34 ± 193.28 AU ($p \leq 0.0001$)) than for the pre-season (887.3 ± 117.09 AU). Variations across the in-season showed a decrease ($p \leq 0.05$) in sTL from 3009.6 ± 750.69 AU at the beginning (week 3) to the middle (week 6) with 2610.0 ± 717.86 AU followed by an increase ($p \leq 0.05$) to 23369.6 ± 1773.99 AU at the end (week 10) of the season. Corresponding perceived exertion and recovery at week 3 was somewhat hard (RPE 12.53 ± 3.10) and poor (TQR 10.44 ± 3.1) followed by a less taxing fairly light (RPE 10.97 ± 3.08) but poor recovery (TQR 10.31 ± 3.30) at week 6, and at week 10 perceived exertion was higher, but still approximating fairly light (RPE 11.36 ± 4.80) and recovery scores improved ($p > 0.05$) slightly (TQR 11.39 ± 3.11) showing a matched perceived intensity of training and the degree of recovery. Over the in-season, compared to week 3 and 4, a higher mean sTL was recorded in week 5 (4039.2 ± 193.28 AU ($p \leq 0.0001$)) followed by a reduction in week 6 (2610.0 ± 717.86 AU ($p \leq 0.0001$)) and another increase at the end of the season in week 9 and 10 (3369.6 ± 1773.99 AU ($p \leq 0.0001$)).

Conclusion: Monitoring the sessional training loads over the pre- and in season macrocycle showed evidence of periodization in the form of cyclic progression with respect to higher and lower volumes of training. Corresponding perceptions of improved recovery during lighter phases of training were, however, not evident and requires further analysis to identify the specific aspects of fatigue experienced.

Key words: Training loads, macrocycle, periodization, recovery, higher football players



THE EFFECT OF A PERCEPTUAL-MOTOR INTERVENTION ON THE LETTER RECOGNITION AND -FORMATION OF SELECTED GRADE 1 CHILDREN.

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Introduction: Physical activity in schools has steadily declined in recent years due to the increasing focus on academic tasks. This has negative implications on children's physical health as well as their academic achievement. Evidence suggests that the combination of movement with learning is an effective way in promoting physical activity and academic performance. Thus, the aim of this study was to determine the effect a perceptual-motor intervention will have on the participants' letter recognition and -formation.

Method: Two schools were conveniently selected to participate from the Western Cape area. In each school one class was randomly assigned to the control group and one class to the experimental group. The total sample consisted of 100 Grade 1 learners (N=100) between the ages of 6-7 years. The study followed an experimental study design and was a triple blinded study. It consisted of a 12-week perceptual-motor intervention performed by Kinderkineticists. The sessions occurred twice a week per school for 60 minutes. The Beery-Buktenica Developmental Test of Visual-Motor Integration, Sixth Edition (DTVMI-6) and the ESSI Reading and Spelling Test was used to assess the children's visual-motor Integration (VMI) skills and reading and spelling skills for pre- and post-testing. Repeated measures ANOVA was applied to examine the effects of the intervention on the outcome measurements.

Results & Discussion: A significant difference was seen between the experimental and control groups from pre- to post-testing in the participants' VMI, reading and spelling scores ($p \leq 0.05$). The experimental group also showed statistically significant improvement in all subtests after the intervention ($p \leq 0.05$). Furthermore, before the intervention 98% of the experimental group scored in the Average and lower categories in the DTVMI-6, whereas after the intervention 98% of the experimental group scored in the Average and higher categories. Another major finding of the research was that pre-test results indicated that 67% of the experimental group scored below average in the reading test and 46% scored below average in the spelling test. This shows that 67% of the children did not meet the average requirements for a Grade 1 child to read and 46% did not meet the average Grade 1 requirements for spelling. Post-test results indicated that only 25% of the experimental group scored below average, whereas 75% scored average and higher in the ESSI Reading test. In the ESSI Spelling test, only 17% scored below average and 83% scored average and higher.

Conclusion: The perceptual-motor intervention is an effective method of improving children's reading, writing and VMI skills. It allows children to be active while learning, reducing sedentary time while upholding educational standards. Future interventions in this field should be developed in collaboration with teachers to allow for a more holistic approach to children's academics and physical activity.

Key words: VMI, Perceptual-motor intervention, reading, ESSI, spelling, writing.



EXPLORING THE QUIET EYE PARAMETERS DURING THE RUGBY UNION GOAL KICKING TASK

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Introduction: Goal-kicking in rugby union contributes immensely towards a team's total score, therefore goal kickers are expected to be successful during rugby union matches. In sport, performers continually explore cognitive-perceptual skills to utilize in order to perform optimally. One such skill is the Quiet eye (QE) which has been investigated in a variety of sporting tasks and delivered promising results. However, none of the available results used the rugby goal kick or anything similar. The aim of the present study is to determine the role of the QE on goal kicking performance among rugby union goal kickers.

Method: A convenience sample consisting of recognized university level goal kickers free from injury was selected to participate. Participants' attempted 15 kicks (3 kicks from 5 different locations) while wearing a wireless eye tracker. All kicks were then divided according to their outcome and compared concerning two QE measurements: QE concentration phase (QE-C) and QE execution phase (QE-E). The QE-C refers to the final fixation on the ball up until the fixation deviates, while the QE-E represent the fixation on the ball but only start during the start of the run-up up to the point of deviation. Independent t-tests will be used with significance set at $p \leq 0.05$ and confidence interval at 95%. Practical significance will then be determined by means of Cohen's effect sizes and further analysed by means of magnitude-based inference.

Results & Discussion: Eighteen participants took part in the study for a total of 270 kicks measured. Equipment related difficulties led to the exclusion of 14 kicks (5%) bringing the total to $n=256$ kicks of which 104 kicks were successful and 152 kicks unsuccessful. Mean QE-C and QE-E durations for successful kicks ($M = 1706.4$ ms, $SD = 1412.9$ ms; $M = 731.4$ ms $SD = 483.3$ ms) were respectively longer than for the unsuccessful kicks ($M = 1522.6$ ms $SD = 1222.6$ ms; $M = 569.5$ ms, $SD = 409.3$ ms). Only the QE-E duration difference was significant ($p = 0.004$) with a small to medium effect size (0.33) while the QE-C measurement did not yield any significant differences ($p = 0.269$, $d = 0.13$).

Conclusion: The results observed confirm that the QE-E differentiate between successful and unsuccessful attempts. Establishing the parameters of the QE-E during the goal kick makes it possible for future studies to continue exploring the QE phenomenon in the goal kicking- and similar tasks. This will enable coaches and sport scientists to integrate the QE skill within a goal kickers' routine and also broaden the literature concerning the QE, goal kicking and attentional control.

Key words: Quiet eye, goal kicking, rugby union, perceptual-cognitive skill, sport performance.



THE RELATIONSHIP BETWEEN BODY COMPOSITION, PHYSICAL FITNESS AND LEVELS OF PHYSICAL ACTIVITY OF ZIMBABWEAN CHILDREN AGED 10-12 YEARS OLD

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Introduction: Health-related physical fitness and physical activity levels are significant determinants of the health status of children. Research studies pertaining to these variables are limited in sub-Saharan African countries, particularly in Zimbabwe. The objective of this study was to determine the relationship between body composition, physical fitness and levels of physical activity of Zimbabwean children aged 10-12 years old.

Methods: Body composition was determined using skinfolds, BMI, sum of skinfolds, %Body fat (BF) and waist circumference. Nine physical fitness tests from the EuroFit test battery were used to measure health-related physical fitness. The test items were namely the: sit and reach, standing broad jump, flamingo balance test, hand grip strength test, sit up, bent arm hang, 10×5m shuttle run, 50m sprint, and the 1.5 mile run. The Physical Activity Questionnaire for Children (PAQ-C) was used to assess levels of physical activity. Data was analysed by means of descriptive statistics and independent t-tests. The relationship between body composition, physical fitness and levels of physical activity were analysed by the use of Spearman's correlation coefficients.

Results & Discussion: Overweight and obesity was 14.8% and grade 1 and 2 thinness 5.9% in the children. Higher proportions of girls tended to be overweight than boys, who were generally thinner. Significant ($p \leq 0.05$) gender differences were found for all of the anthropometrical variables and indices, apart from waist girth. Boys significantly ($p \leq 0.001$) performed better than the girls in the standing broad jump, sit up, bent-arm hang, 10×5m shuttle run, 50m sprint and 1.5-mile run tests. Only 43% of the children played outside for more than 1 hour after school. Measures of body composition, namely, BMI, waist circumference, %BF and Sum of skinfolds were strongly correlated ($r = 51$ to $r = 83$; $p < 0.05$) with one another. Strong positive correlations were found between BMI and scores for the standing broad jump, sit-up, 1.5-mile run and handgrip strength tests ($p < 0.05$). Negative correlations were found between BMI and scores for the bent-arm hang test ($r = -0.15$, $p < 0.05$) and also between %BF and scores for the bent-arm hang test ($r = -0.49$, $p < 0.05$).

Conclusions: The results exhibited the prevalence of obesity and thinness in the Zimbabwean children. Active transportation contributed to the levels of physical activity in which the children engaged. Overweight or obese children performed poorly in strength tests items of standing broad jump and bent arm hang. The health implication of this study in terms of obesity, thinness and physical activity fitness, warrant urgent strategic intervention.

Key words: Body composition, physical fitness, physical activity, correlation, Zimbabwe.



COMPARISON OF THE MUSCLE ACTIVATION THRESHOLD AND PAIN LEVEL OF TEMPOROMANDIBULAR JOINT, BALANCE AND POSTURE BETWEEN HEALTHY INDIVIDUALS AND INDIVIDUALS WITH TEMPOROMANDIBULAR JOINT DYSFUNCTION

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Introduction: For elite athletes, balance and posture are very significant. Temporomandibular joint is thought to be associated with posture and balance through both fascial connections and anatomical chain. The aim of this study was to compare the muscle activation threshold and pain level of temporomandibular joint, posture and balance between healthy individuals and individuals with temporomandibular joint dysfunction (TMJD).

Method: The 44 participants that joined the study were divided into two groups as healthy (21) or with TMJD (23) according to their answers to the Helkimo Index. Demographic data of both groups (gender, age, height, weight, BMI, family history) were obtained. Algometer measurement was done for detection of the pain level and superficial EMG to the masseter muscle done for the understanding of muscle activity level. Neck Pain and Disability Index, New York Posture Analysis and Biodex Balance System were used for evaluation of the general body health comparison between two groups. SPSS 22 for Windows was used to analyze the outcomes. Independent Sample T Test was used to compare socio-demographical measurements of the groups. To compare the groups, all measurement scores were analyzed by Mann-Whitney U test. An overall p-value of equal or less than 0.05 was considered to be statistically significant.

Results & Discussion: The groups are found similar in terms of age, weight, height and BMI ($p>0,05$). Right and left masseter muscle activation level assessed by EMG was found lower in healthy group (127,26±8,50 R, 116,73±7,48 L) than TMJD group (163,29±8,87 R, 160,33±10,47 L) ($p<0,05$), which indicates healthier muscle. According to the algometer measurement results, pain level of right (healthy group 2,44±0,16; TMJD group 1,66±0,12) and left (healthy group 2,40±0,17; TMJD group 1,72±0,10) masseter muscle; right (healthy group 2,44±0,17, TMJD group 1,71±0,10) and left (healthy group 2,52±0,18, TMJD group 1,71±0,93) temporalis muscle, and right (healthy group 2,52±0,16, TMJD group 1,69±0,09) and left (healthy group 2,58±0,17, TMJD group 1,94±0,13) temporomandibular joint were found significantly higher in the TMJD group ($p<0,05$). Moreover, posture of healthy individuals found better (59,39±0,62) than TMJD group (55,33±1,13) ($p<0,05$). Additionally, most of the static and dynamic balance measurement results done on single and double leg were found significantly better in healthy group ($p<0,05$) except static double-leg ($p=0,12$) and dynamic right leg ($p=0,08$) results. There was no significant difference in the Neck Pain and Disability Index ($p=0,09$).

Conclusion: Individuals with TMJD should be approached holistically instead of getting exercises directed to only jaw joint. According to the results, TMJD can also affect the sport ability of an elite athlete. However, follow up studies done with elite athletes are needed.

Key words: Musculoskeletal Pain, Postural Balance, Posture, Temporomandibular joint disorders



EXPLORING THE PHYSICAL ACTIVITY COUNSELLING PRACTICES OF FOUNDATION DOCTORS: A QUALITATIVE STUDY

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Introduction: The evidence in support of physical activity (PA) as an effective modality in the treatment and management of non-communicable diseases (NCDs) is promising and quite robust. Consequently, PA promotion is now seen integral to the role of the physician. The challenge however, has been translating PA as a preventive and therapeutic modality into doctor's routine clinical practice. Therefore, it has been proposed that producing future doctors that will be proficient for practice in this regards will require adequate training at the undergraduate medical level. Thus, the purpose of this study is to explore the PA counselling of newly qualified doctors when in their foundation year to gain more insight into how the undergraduate and foundation training influences their PA counselling practices.

Methods: A qualitative, exploratory study was conducted amongst eleven foundation doctors (FDs) recruited by purposive sampling. This sample was representative of FDs from seven different medical schools in the United Kingdom. Semi-structured interviews were digitally recorded and transcribed verbatim. Thematic analysis was undertaken to identify emerging themes and concept from the interviews.

Results: Three overarching themes were developed from the data. They include: PA counselling attitude and practices, barrier to Pa counselling and enablers to PA counselling in clinical practice.

Conclusion: The attitude and practices of FDs towards PA counselling was poor both in primary and secondary care and this was more evident whilst in the hospital setting. A lack of training and support from clinical supervisors were major reasons for this. However, it was also found that unexplored opportunities exist for FDs to champion PA counselling both in the primary and secondary care settings. Leveraging these opportunities will entail but not limited to only curriculum change and review at both undergraduate and postgraduate medical level. It will involve: adequate mentoring and support by clinical supervisors, understanding of the role of other health professionals in PA promotion and creating an enabling policy that will ensure doctors have time to stay physically active

Key words: Physical activity, attitude, doctors



ACTUAL MOTOR COMPETENCE VERSUS PERCEIVED MOTOR COMPETENCE IN 6- TO 7-YEAR OLD CHILDREN IN THE STELLENBOSCH REGION

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Introduction: According to literature, there is a very strong correlation of how children perceive their movement skills and their actual participation in physical activity (PA). The evaluation of their perceived movement skills can be an indication of their fundamental movement skills (FMS) performance. The higher self-perception children have about their FMS, the greater the chances are that they will be more physically active and participate in sports. PA have a vast number of advantages on one's health during all stages of life. PA, during early childhood development, is beneficial for current and future health. Emphasizing and promoting PA in the everyday routine of children will most probably lead to a positive relationship between PA and perceived motor competence. The aim of the study was to investigate the correlation between 6- to 7-year old children's actual motor competence versus their perceived motor competence.

Methods: This is a descriptive study. Participants were selected from two schools in the Stellenbosch region. The participants were a sample of convenience. A total of N=192 (105 boys and 87 girls) children with a mean age of 6.7 years old were assessed with the Test for Gross Motor Development (TGMD-2) and the Pictorial Scale for Perceived Movement Competence in young children (PMSC). The TGMD-2 assesses proficiency in two motor-area composites, namely: locomotor and object control. The PMSC was designed to determine the capability and consciousness of young children's FMS.

Results & Discussion: Summary statistics were expressed, as means, medians, standard deviations and Pearson's correlations was determined between the variables. The mean locomotor score for all the children's actual motor competence was 9.0, and 19.7 for their perceived motor competence. Their mean score for actual motor competence for object controls was 10.6 and 19.9 for perceived motor competence. This gives an indication that the mean scores for the perceived motor competence are higher than the scores for the actual motor competence. No correlation was found between the actual motor competence and the perceived motor competence of the children in this study. However, there is a $r < 0.01$ correlation between the actual and perceived motor competence of the kicking test item of the boys. This correlation can possibly indicate that the way the boys perceive their kicking skills is the actual motor competence of their kicking.

Conclusion: Therefore, it can be concluded that the PMSC test cannot be used exclusively to assess children's motor competence. It is recommended that the PMSC needs to be used in conjunction with an actual motor competence test, like the TGMD-2. It is, therefore, suggested that future research should include actual and perceived motor competency tools for a more encompassing result.

Key words: Actual motor competence, perceived motor competence, Test for Gross Motor Development, Pictorial Scale for Perceived Movement Competence, skills.



Poster Abstracts

Poster #1

THE USEFULNESS OF TWO SCREENING TOOLS FOR PARENTS' TO IDENTIFY DEVELOPMENTAL COORDINATION DISORDER IN GRADE 1 LEARNERS

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Introduction: Developmental coordination disorder (DCD) is a neuro-motor developmental disorder that interferes with a child's ability to perform daily tasks. One of the challenges associated with DCD is finding the appropriate method of identifying motor difficulties. The aim of the study was to examine the convergent validity of motor difficulties by a movement specialist using the MABC-2 Performance Test and the identification of motor difficulties by parents when completing the (i) MABC-2-Checklist and (ii) DCDQ'07. The purpose was to determine if parents possess the competency to identify Grade 1 learners with motor difficulties and to determine which screening tool yields the best results.

Methods: Random sampling was used to select the schools (n=7) and Grade 1 learners (n=281; 160 girls and 121 boys) between the ages of five and eight years living in a high socio-economic environment in Bloemfontein, South Africa. Furthermore, the parents (n=281) took part in the evaluation of their own child in their home environment. In order to determine the convergent validity of the classification of motor difficulties, the kappa (k-) coefficient was used.

Results & Discussion: The MABC-2-Checklist for parents yielded a kappa coefficient of 0.159, and thus had a small effect size ($r=0.15$). There was only a 16% convergent validity. The DCDQ'07 for parents indicated a kappa coefficient of 0.175, with a small effect size ($r=0.18$). There was only a 17.5% convergent validity.

Conclusion: Therefore, it can be reported that parents using the MABC-2-Checklist and the DCDQ'07 could not identify learners with DCD. Furthermore, it was determined that the convergent validity is low, indicating that the norm-reference test conducted by the movement specialist still provides the best results when compared to the questionnaires. Future research is necessary to determine the use of the MABC-2 Checklist and the DCDQ'07 by parents in low socio-economic environments in South Africa.

Key words: Developmental Coordination Disorder, Movement Assessment Battery for Children-2 Performance Test (MABC-2), Movement Assessment Battery for Children-2 Checklist, Developmental Coordination Disorder Questionnaire'07 (DCDQ'07), parents



MONITORING RECOVERY IN ETHIOPIAN HIGHER LEAGUE FOOTBALL PLAYERS

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Introduction: Football is a very popular and competitive sport in Ethiopia with an emphasis on setting challenging training loads to achieve performance success. However, monitoring recovery from training has not received much focus in the sport. The aim of this study was to monitor exercise training recovery among Ethiopian football players over a pre-season and in-season period of the competition.

Methods: A squad of twenty-five male footballers (age 22.08 ± 1.41 years, weight 70.24 ± 6.45 kg height 175.60 ± 7.01 cm, BMI 22.78 ± 1.77) playing for a professional team in the Ethiopian Higher Football League were tracked over a macrocycle of the season comprising ten weeks. Four observations were made of the players' recovery using the Daily Analysis of Life Demands for Athletes (DALDA) Questionnaire.

Results & Discussion: A significantly ($p \leq 0.005$) better recovery was experienced with a higher mean DALDA score of 1.74 ± 0.07 and fewer "worse than normal" responses ($n=548$; 46.32%) during pre-season than during the in-season, where a lower recovery score of 1.69 ± 0.08 and more "worse than normal" responses ($n= 635$; 53.68%) was registered. Recovery scores decreased ($p \leq 0.005$) from base-line (1.9 ± 0.16) to the early-macrocycle period to the (1.57 ± 0.11), with more 'worse than normal' responses ($p \leq 0.001$) recorded ($n=355$; 64.78%) compared to baseline (193; 16.31%). Recovery scores improved ($p \leq 0.005$) from the early-macrocycle to the mid-macrocycle (1.72 ± 0.13), with fewer 'worse than normal' responses ($p \leq 0.005$) recorded ($n=278$; 43.92%). Recovery scores again decreased from mid-macrocycle to the end of the macrocycle (1.66 ± 0.12), with more 'worse than normal' responses ($p \leq 0.005$) recorded ($n=357$; 56.22%). Overall, during all phases of the macrocycle, more ($p \leq 0.05$) 'worse than normal' responses were recorded for daily aspects of tension and stress as opposed to training related stress-reaction symptoms.

Conclusions: Players showed relatively better recovery in pre-season compared to the in-season and a cyclic pattern of recovery was observed across the different periods of the macrocycle. Further analysis is required to determine the nature of the recovery-stress, wellbeing and potential overtraining of players over closer intervals during the season.

Key words: recovery, pre-season, overtraining, higher league football



THE RELATIONSHIP BETWEEN DEVELOPMENTAL COORDINATION DISORDER AND OBESITY AMONG CHILDREN AGED 10-11 YEARS: NW-CHILD STUDY

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Introduction: Childhood obesity is rising worldwide, and this is especially true among children with developmental coordination disorder (DCD). These children have a higher risk to be overweight or obese when compared to their typically developing peers. Obesity and overweight can lead to various secondary health problems and motor delays.

Method: Two hundred and twenty-two participants formed part of the 2013 measurements of the NW-CHILD study at the age of 10.05 years ($SD=0.41$). Motor proficiency was evaluated using the Movement Assessment Battery for Children second edition (MABC-2), while Body Mass Index (BMI) were determined by using stature (cm) and body mass (kg).

Results & Discussion: For descriptive purposes the mean (M), standard deviation (SD) and maximum and minimum values was used. A spearman correlation was used to determine the relationship between DCD, obesity and overweight. The results indicated that children with DCD had high BMI values ($M=22.18$ vs $M=17.38$) and tended to be more overweight or obese ($p=0.001$) when compared to their typically developing peers. A negative correlation was found between BMI and manual dexterity ($r=-0.09$), which means that as BMI increases manual dexterity decreases. Furthermore, borderline negative relationships between BMI and balance was seen ($r=0.07$)

Conclusion: As seen from the results children with DCD have a higher risk to be overweight or obese and therefore are more likely to suffer from adverse health effects related to high body mass. This research lead to the understanding of DCD and the risks associated with the disorder that are specific to the challenges faced by South African children. It is important to assess health related-fitness as poor fitness levels can lead to obesity and secondary health problems. This research can also be used to address secondary risks associated with obesity such as cardiorespiratory problems and diabetes by developing appropriate interventions to engage these children in physical activity.

Key words: Developmental Coordination Disorder (DCD); obesity; children



THE STATE OF 4-YEAR OLD CHILDREN'S FUNDAMENTAL MOVEMENT SKILLS AND THE EFFECT OF GENDER

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Introduction: Fundamental movement skills is the process where development of basic-, locomotor, posture and manipulation skills take place. Mastering of fundamental movement skills in early childhood, is important for the development of sport skills, physical, social and cognitive development. Controversy exists whether there are differences between 4-year old boys and girls fundamental movement skills. The aim of this study was to determine the state of 4-year old children's fundamental movement skills and the possible effect that gender may have on skill development.

Methods: A profile, convenience sample study design was used for this study. A total of 45 children (19 boys and 26 girls), with an average age of 4.49 (\pm SD=0.30) years were evaluated with the Pre-school Motor Development Assessment test battery (Pienaar, 2012) in the North West province of South Africa. This assessment consists of four sub-tests namely: locomotor-, balance, coordination-, body and spatial awareness skills. Data was analyzed according to descriptive statistics: mean, minimum and maximum and standard deviations and independent t-test was used to determine if there are gender differences.

Results & Discussion: Boys performed better in the long jump, gliding left/right and the caterpillar walk than girls. The girls performed better in two legged jumping, one legged jumping and star jumps. Long jump and the two legged jumping locomotor skills performance increased linearly from 3-to-6 years, however the rest of the skills did not improve with age. The qualitative aspects of the test showed a linear increase in all the skills and ages. In the long jump boys performed statistically significant ($p \leq 0.05$) better than the girls in the quantitative evaluation. In the one legged jump the girls performed better than the boys although not statistically significant but a large practical significance ($d \geq 0.8$) in the quantitative evaluation. In the qualitative evaluation of the star jumps the girls performed statistically better than the boys ($p \leq 0.05$) and during the gliding left and right the girls performed better than the boys which had a large practical significance ($d \geq 0.8$).

Conclusion: To conclude fundamental movement skills such as object control skills remain the same in comparison to previous studies, however balance and locomotor skills have improved slightly compared to previous studies. This study found no statistically significant differences between boys and girls fundamental movement skills, compared to previous studies which found girls to be better in locomotor and boys better in object control skills. Knowledge about the status and effect of gender can support Movement specialists such as Kinderkineticist in developing appropriate motor development programs.

Key words: Fundamental movement skills; children; gender



RESEARCH ON PROMOTING THE DEVELOPMENT OF SPORTS SOCIAL ORGANIZATION BY VENTURE PHILANTHROPY

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Introduction: Since the reform and opening up, China's sports organization has made remarkable progress. As a platform for the development of various sports activities, sports social organizations play a decisive role in promoting the development of sports. However, in recent years, despite the continuous growth of social sports organizations, the existing social sports organizations and public sports services are in short supply due to the increasing demand for sports. Most of sports social organizations are still in the stage of exploration and development, the standardized management and operation system is not yet perfect, and the channels to participate in community management and service are scattered is a new way for the development of sports social organizations, and it is also the transformation of the way for the government to cultivate sports social organizations. In this paper, combined with the case of Suzhou, the government- led venture philanthropy the cultivation of sports social organizations for research, analysis of public venture philanthropy to promote the development of sports social organization mode, characteristics, relationship, significance and experience, put forward to improve the system for cultivating sports social organization, perfecting public venture philanthropy to accelerate the development of sports social organization mode, strengthening the government and venture philanthropy to the sports development of social organizations and strengthen the supervision of social organization self-construction proposal.

Methods: This paper use the methods of literature, interviews and logical analysis methods, taking government office and several sports organizations had ever attended Venture Philanthropy in Jiangsu province as the research object. By studying the operation methods, processes and results of public venture philanthropy in different regions of Suzhou, and analyzing the cases in which previous sports social organizations joined public venture philanthropy, the experience and results of relevant cases were summarized, and the current methods of public venture philanthropy in cultivating sports social organizations were summarized.

Conclusions: Public venture philanthropy to accelerate the development of sports social organization project is the government and the expansion and extension to the sports field of public organization an effective exploration, from the point of view of the past few venture philanthropy project, although there are some problems, but the overall of sports social organizations played an important role in the development of social efficiency is good, the masses are also very active, but also accumulated some precious experience research conclusion. Social sports organizations apply for venture activities for public welfare, which can bring some venture funds to the organization for internal development, activities, and social services. As an intermediary between the government and sports social organizations, the organizer alleviates the problem of insufficient human resources of the government and helps the government share some work and tasks. On the other hand, it encourages and helps social organizations to understand the rigid sports needs of community residents, optimizes the supply of government and society, and avoids the disadvantages such as untimely, out-of-place, low efficiency and high cost when the government directly provides sports public services. Sports social organizations that have been cultivated by public sports social organizations have not only received certain financial support,



but also received relevant ability training to help the organization build a complete organizational structure. To provide constructive Suggestions for the future development planning of social sports organizations.

Key words: sports social organization, venture philanthropy, development



DIFFERENCES IN MOTOR FITNESS CAPABILITIES OF PRE- AND POST-MENARCHE GIRLS DURING MID-ADOLESCENCE: A TWO-YEAR FOLLOW-UP STUDY

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Introduction: Growth as a result of puberty and the onset of menarche influences the physical and motor performance of girls. However, the magnitude of these influences on girls of varying maturity status is not clear. This the study aimed to investigate differences in anaerobic strength, speed, agility and hand-eye coordination between pre- and post-menarche girls over a two-year follow-up period.

Methods: A longitudinal research design was used that included a two-year follow-up period. A convenience sample (N=58) of Grade 8 high school girls aged 13.51 ± 3.51 , divided based on the Status Quo method into a pre- (n=13) and post-menarche (n=45) group, was used. Motor fitness was tested once a year by standardized protocols. Basic statistics, an independent t-test and a repeated measures ANOVA with a post hoc Bonferonni correction were used, where $p < 0.05$ signifies statistical significance. Effect sizes were calculated and determined by Cohen's D-values.

Results & Discussion: Only explosive upper body strength differed significantly between groups during baseline measurements, favoring post-menarche girls. Post-menarche girls further had an advantage in hand-eye coordination and speed ($p > 0.05$) with pre-menarche girls performing slightly better in agility, and explosive leg strength ($p > 0.05$) at 13.51 years. At 15.51 years no significant between-group differences were found with pre-menarche girls surpassing post-menarche girls in hand-eye coordination and 0-40m speed, and post-menarche girls displaying higher explosive leg and upper body strength scores after two years ($p > 0.05$).

Conclusion: Significant differences in girls of differing maturity status, motor capabilities are mostly evident just before and after reaching menarche. The potential to excel in sport based on motor capabilities can only be accurately determined 1-2 years after reaching menarche.

Key words: Growth, Longitudinal, Menarche, Motor capabilities



THE SUCCESSFUL APPLICATION OF THE BEIJING WINTER OLYMPICS TO THE DEVELOPMENT OF MASS SPORTS IN CHINA

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Introduction: With the continuous improvement of China's economic strength, the continuous development of social material civilization and spiritual civilization, more people are keen to participate in sports. In response to the 2022 Beijing Winter Olympics, China put forward the strategic goal of "300 million people participating in ice and snow sports". The number of participants of winter sports has been increased, and the infrastructure to host these events in China has also been improved. Moreover, the successful bid for the Beijing Winter Olympic Games has promoted the rapid development of mass sports in China. This paper mainly studies the significance of the success of the Winter Olympic Games for the development of mass sports in China and raises the public's understanding of the ice and snow sports project.

Methods: In-depth research was carried out using the literature research method and expert interview method. Through the database retrieval system of CNKJ, 32 articles were queried, which fully recognized that the successful bidding of the Winter Olympic Games is of great significance to the development of mass sports in China. The Chinese government is fully promoting the Winter Olympics and vigorously promoting the development of Winter sports.

Results & Discussion: The effective implementation of the national strategy of "300 million people participating in ice and snow sports" will surely set off a wave of mass winter sports, which will effectively improve the physical, psychological and social adaptability of people. The successful bid for the Winter Olympics has enabled more people to understand the charm and fun of winter sports, and has promoted the in-depth development of national fitness, which has laid solid foundation for China's increasingly important role in the world ice and snow sports. Besides, moderately reducing the seriousness and professionalism of ice and snow sports has helped attract more people to participate, has made Winter sports a representative of health industry, and has further promoted the popularization and development of Winter sports.

Conclusion: The application of Beijing winter Olympics plays an important role in the development of China's ice and snow sports, which is conducive to improving the influence of ice and snow sports in China and encouraging people to participate more in these sports.

Key words: successful application; The Beijing winter Olympics; mass sports



RESERACH ON THE SUPPLY OF PUBLIC SPORTS SERVICES IN CHINESE SPORTS PARKS

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Introduction: Sports park is a kind of modern city park combining sports functions. It integrates sports and fitness venues and ecological environment to create healthy, athletic and recreational park green space. China now has a sports population of 300 million, and there is a great demand for sports. As the carrier of public sports services, sports park provides venues, facilities and services for citizens' sports. The aim of this research project was to take the public sports service in Chinese sports parks as the research object, to study the supply problem existing in the public sports service, to promote the efficiency of public services in sports parks, to improve the participation of citizens and to provide suggestions for future development of sports parks.

Methods: This paper uses literature, questionnaires, interviews and case studies. Relevant literature was retrieved through CNKJ, China sports information network and other information platforms. Three sports parks were randomly selected for this case study. Field interviews were conducted with park managers. Questionnaires were made and distributed to 300 citizens who participated in exercise in sports parks to investigate.

Results & Discussion: The service items in the sports park are mainly outdoor fitness tracks and traditional ball games, lacking in indoor stadiums and recreational sports. Besides, the park construction and development are mainly funded by the government, resulting in single financing channels. Moreover, the park is not prompt in the maintenance and protection of site facilities, and lacks solutions to sudden injury accidents. What's more, there is no sports guidance service or related staff in the park. Sports activities held in the park are insufficient in number and small in scale, which are also short of publicity.

Conclusion: The public sports service supply of China's sports parks is single in content and lacking in venues and facilities, without special guidance personnel and sufficient publicity.

Key words: supply; sports service; sports parks



MECHANISM EXPLORATION OF SPORTS EXERCISE TO PREVENT CHILDREN AND ADOLESCENT FROM BEING NEAR-SIGHTED

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Introduction: The global myopia rate has exhibited remarkable regional characteristics. The myopia rate in Asia is much higher than nations and areas such as Europe, America, Africa, etc. China is one of the country with the highest myopia rate in the world, in particular, the myopia rate of Chinese children and adolescents has the great tendency to increase continuously, which has greatly impaired the healthy growth of children and adolescents. This study, starting from exploring the mechanism of out-door sports exercise to prevent children and adolescent from being near-sighted, put forward the theoretical assumption that the out-door sports exercise can enhance the spatial perception to prevent children and adolescents from being near-sighted on the basis of referring to literature. Thereafter, by cohort study and multiple groups of experiments comparison to testify the theoretical assumption, the study extends the current one concerning controlling near-sighted children and adolescents and enriches the contents in the *Big Data of Eye Behavior of Chinese Adolescent*, contributing suggestions and proposals to control the myopia rate of Chinese children and adolescents.

Method: Documentary research, investigation method, experimental methodology

Results & Discussion: It is confirmed in scores of clinical practice conducted home and abroad that out-door sports and physical exercises have played an effective role in preventing children and adolescents from being near-sighted. All the pertinent effect study and mechanism study grounded on this, lay a solid foundation on the research in this field. However, since the cause that leads to the near-sightedness is still unclear, the mechanism study of sports exercise to prevent children and adolescent from being near-sighted is comparatively superficial and stays on the hypothesis level.

Conclusion: The improvement of special perception can take effective control in the development of myopia degree and sports can improve the atrium function; Sports exercise can stimulate the spatial perception in a certain level; Spatial perception is the functional mechanism of sports exercise to prevent children and adolescent from being near-sighted.

Key words: children and adolescent; myopia control; spatial perception



STUDY ON THE PARTICIPATION OF SEVER DISABELD PEOPLE IN REHABILITATION PHYSICAL EXERCISE

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Introduction: Health full coverage is the path and requirement to achieve the 2030 sustainable development goal, and rehabilitation is the key to achieve the national health coverage goal. Rehabilitation sports occupy an important position in rehabilitation services for the disabled, especially for the severely disabled, a variety of forms of physical exercise has become an important means of rehabilitation training. Rehabilitation sports is through the means of physical exercise, in the process of rehabilitation treatment, to help the disabled restore or maintain certain organ functions, and minimize the lack of function caused by the disability of body organs or tissues. It is an important way to promote the rehabilitation of the disabled and improve the participation rate and quality of life of the disabled in social activities. This paper provides a basis for rehabilitation sports services for the disabled by analyzing the participation of severely disabled persons in rehabilitation physical exercise and the factors affecting their participation.

Method: The present situation and main obstacle factors of 332 severely disabled persons in rehabilitation sports activities were investigated by questionnaire and interview.

Results & Discussion: Only 12.7% of the respondents took part in exercise, and the frequency of exercise was low. Among the factors hindering the participation of severely disabled people in rehabilitation physical exercise, the largest number of choices are mobility disabilities and lack of specialized mentors, books, videos, and so on. The respondents who chose this factor accounted for 41.7% and 38.2% of the total respondents, respectively. The second was that they did not find exercise programs suitable for themselves, no one organized exercise for the disabled, no family support and no awareness of exercise, accounting for 25.1%, 23.5%, 22.7% and 22% of the total respondents, respectively.

Conclusion: The situation of severe disabled people participating in rehabilitation physical exercise is not optimistic. Nearly half of them believe that they are unable to move, do not have special guidance personnel and tools, and are not easy to participate in rehabilitation physical exercise; nearly 1/3 believe that they have neither found an exercise program suitable for the severely disabled nor organized exercise. At the same time, the support attitude of family members and personal exercise awareness are also important hindrance factors.

Key words: severely disabled; rehabilitation sports



PROSPECTS FOR THE DEVELOPMENT OF YOUTH SPORTS CLUBS UNDER THE STRATEGY OF STRENGTHENING THE COUNTRY WITH SPORTS

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Introduction: “The body is the carrier of life, health is the quality of the body, and exercise is the right and instinct of life”. Adolescents are the future of the motherland and the hope of the nation. The purpose of this study is to explore the development prospects of youth clubs at this stage, to find out the difficulties and problems encountered in the development of youth sports clubs, and to provide an important carrier for the physical training of young people at various stages of growth and the training of young sports reserve talents.

Method: The specific analysis of this paper includes the construction of the youth sports club management system, the development opportunities of the youth sports club under the sports power strategy, and the development strategy of the youth sports club. The nine major research projects were selected, namely, five sports club management systems, two sports club development opportunities, and two sports club development strategies.

Results & Discussion: The research results show to build a youth sports club management system, it is necessary to improve the club management objectives, and summarize the experience through demand analysis. Follow the theoretical basis of the club's standardized management system, phased implementation plans, implementation plans, and finally check and adjust. Starting from the reality of club management, the management objectives are oriented to realize the monitoring of management objects, management methods and management environment. Finally, the standardization of the management system of youth sports clubs will be realized to maximize the value of sports clubs. The national leaders attach great importance to sports work, personally plan and personally promote it, make important instructions on sports work many times, and make important speeches. The construction of a strong sports country and the construction of a healthy China must strengthen the work of youth sports. It is necessary to comprehensively reform and strengthen youth sports work, and create a new situation in the reform and development of sports. The state encourages the support of social theory clubs and supports clubs to train top talents. The development of youth sports clubs is an important carrier for promoting the all-round development of a healthy generation of young people. The development of youth sports clubs is one of the necessary elements for cultivating sports reserve talents to accelerate the construction of sports power.

Conclusion: Establish a sound working mechanism for youth sports clubs, implement the implementation of various sports club programs, train outstanding sports talents with the national strategy as the main goal, carry out various forms of sports events, strengthen cooperation between sports social organizations and schools, and take the sports power Road, the dream of a sports powerhouse is closely linked to the Chinese dream.

Key words: youth sports club; development prospects



DIFFERENCES BETWEEN FOURTH-GRADE GIRLS AND BOYS IN TERMS OF THE EFFECT OF BRAIN-BREAK IN CLASSROOM SELECTIVE ATTENTION— BASED ON EXPERIMENTALRESEARCH

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Purpose: Using D2 Attention Test to explore the difference between fourth-grade girls and boys in terms of the Effect of Brain-Break in Classroom on Selective Attention.

Methods: According to the principle of no difference in pre-test data, Fourth Grade 2 classes of 24 boy students and 15 girl students from Shenzhen Longhua Primary School were selected as experimental group. They were given five minutes of Brain-Break during their Chinese and English classes respectively. Using literature methods, questionnaires, teaching experiment methods, mathematical statistics and other research methods, in-depth study of the impact of Brain-Break on selective attention of boys and girls in fourth grade.

Results & Discussion: Brain-Break in classroom has a significant effect on the task completion(Boys, $P=0.039$) for boys ;Brain-Break in classroom makes boys own lower percentage of omission errors (Boys, $P=0.007$);Boys have higher percentage of commission errors (Girls, $P=0.057$) than girls in the impact of Brain-Break in classroom; Boys have greater Concentration Performance (Girls, $P=0.047$) under the influence of Brain-Break in classroom; Brain-Break in classroom has a significant influence on the Fluctuation Ratio (Boys, $P=0.116$) to boys.

Conclusion: Brain-Break in classroom has significantly improved the selective attention for both boys and girls in fourth grade, especially for boys. They can finish more tasks and have lower percentage of omission errors, also they perform better.

Key words: Children, Brain-Break, D2 Test, Selective Attention



THE INFLUENCE OF SEDENTARY BEHAVIOR ON PHYSICAL FITNESS OF COLLEGE STUDENTS IN SHANGHAI - AN EXPERIMENTAL STUDY

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Introduction: In recent years, research has found that Chinese students face the dual challenge of lack of physical activity and sedentary behavior. This study aims to track and improve the sedentary behavior of college students, and provide reference and basis for improving students' physical health.

Method: Using literature method, experimental method and mathematical analysis method to study the effect of improving sedentary behavior on the physical health of college students in Shanghai. A total of 800 college students from 4 universities in Shanghai were randomly selected to conduct various behavioral interventions for one semester to improve sedentary behavior. The scores of the physical health tests of the students before and after were taken, and the differences in the results before and after the analysis were compared.

Results & Discussion The total scores of physical health before and after the experiment were significantly different ($T=2.765$, $P=0.000<0.01$). The post-test scores were significantly higher than the previous ones. Speed in physical test results ($T=2.678$, $P=0.000<0.01$), coordination ($T=3.564$, $P=0.000<0.01$), cardiopulmonary function ($T=2.127$, $P=0.000<0.01$), core strength ($T=3.253$, $P=0.000<0.01$) were significant different.

Conclusions: Improving sedentary behavior has a significant effect on improving the health of college students. The behavioral intervention is more obvious in terms of speed, coordination, cardiopulmonary function and core strength.

Key words: sedentary behavior; college students; physical health



USING WEARABLE DEVICE TO IMPROVE STUDENTS PHYSICAL FITNESS- AN EXPERIMENTAL STUDY

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Introduction: In the past few decades, the physical activity level and the fitness level of Chinese college students have declined rapidly. It has become a bottleneck for the improvement of the health status of Chinese college students. At the same time, wearable devices are rapidly evolving, and it has become possible to apply wearable devices to physical activity interventions among college students. Based on this, this study aims to explore the effectiveness of physical activity intervention based on wearable devices in improving the physical activity level and fitness level of Chinese college students, and then put forward effective suggestions for the corresponding health promotion actions.

Methods: A total of 132 college students were selected to participate in the experiment, of which 65 were in experimental group and 67 were in control group. The experiment was carried out for 13 weeks. During the experiment, the students in the experimental group wore smartwatch (iHealth Edge AM3S), and the number of exercise steps was recorded every day. Those who exceeded 10,000 steps were rewarded with virtual credit. The control group did not receive any intervention. Before and after the experiment, the International Physical Activity Questionnaire (IPAQ) was used to measure the physical activity level. The Fitness Test of Chinese Students was used to assess the fitness level.

Results & Discussion: The independent samples t tests showed that there was no significant difference in physical activity level and fitness level between the experimental group and the control group before the experiment. The paired sample T tests showed that the overall physical activity level and medium-intensity physical activity level of the experimental group improved significantly more than the control group after the experiment ($t_{\text{medium intensity}} = 115.08$, $p_{\text{medium intensity}} < 0.01$; $t_{\text{overall}} = 100.84$, $p_{\text{overall}} < 0.05$). Paired sample T tests also showed that after experiment the majority of fitness indicators of experimental group improved significantly more than the control Group ($t_{\text{vital capacity}} = 5.14$, $p_{\text{vital capacity}} < 0.01$; $t_{\text{standing jump}} = 2.37$, $p_{\text{standing jump}} < 0.05$; $t_{\text{50 m female}} = -3.34$, $p_{\text{50 m female}} < 0.01$; $t_{\text{800 m female}} = -2.28$, $p_{\text{800 m female}} < 0.05$; $t_{\text{1000 m male}} = -3.92$, $p_{\text{1000 m male}} < 0.01$).

Conclusions: Physical activity intervention based on wearable devices can effectively improve the overall physical activity level of college students and the level of moderate physical activity. Physical activity intervention based on wearable devices also can effectively improve the cardiopulmonary function and cardiopulmonary endurance, speed and lower limb strength of college students, thereby further improve the fitness level of college students.

Key words: wearable devices, physical activity intervention, physical activity level, fitness level, college students



STUDY OF DYNAMIC CHANGES OF PHYSICAL FITNESS OF CHINESE HIGH SCHOOL STUDENTS

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Introduction: The high school stage is a key period in academics. Poor physical fitness (PF) will seriously affect the study and life of high school students. This study aims to analyze the trend of high school students' PF performance year by year, and then propose corresponding teaching and fitness strategies.

Methods: 284 high school students (142 boys and 142 girls) from the Second Middle School of Changle District, Fuzhou City, China, volunteered to join the study. Each participant participates in 2015, 2016 and 2017 Chinese Students' Physical Fitness Test (CSPFT) that was issued by the Chinese Ministry of Education for their PF, including BMI, 50-meter running (50M), vital capacity (VC), sitting body flexion (SBF), standing long jump (SLJ), 800-meter running (800M), 1000-meter running (1000M), pull-up (PU), and sit-ups (SU). Test scores were converted to a percentage score according to the CSPFT guidelines. A paired-sample T test was used to test the trends in physical fitness of high school students over three years.

Results & Discussion: Paired sample T test shows that Boys' BMI, VC, SBF, 1000M, 50M, and PU were significantly improved, as the average BMI increased from 20.18 in 2015 to 20.84 in 2017 ($P_{\text{BMI-Male}} < 0.01$). The average VC grew moderately from 3790ml to 4435ml ($P_{\text{VC-Male}} < 0.01$), and the SBF went up dramatically from 8.2cm to 10.7cm ($P_{\text{SBF-Male}} < 0.01$). Moreover, there was a gradual increase in the average score of 1000M ($P_{1000\text{M-Male}} < 0.01$). On the one hand, the average score of 50M experienced a slight rise from 7.48s to 7.37s ($P_{50\text{M-Male}} < 0.05$). Finally, the average PU performance increased by 2.65 times (4.17 to 6.82) ($P_{\text{PU-Male}} < 0.01$). Although the remaining indicators have changed, they do not have significant differences. The SBF and SU of female students have significantly improved. The average score of SBF increased from 12.7cm in 2015 to 15.07cm in 2017 ($P_{\text{SBF-Female}} < 0.01$), and the average score for SU increased from 30 in 2015 to 32 in 2017 ($P_{\text{SU-Female}} < 0.05$). But the average score of female students' 50M has decreased from 8.98s in 2015 to 9.15s in 2017 ($P_{50\text{M-Female}} < 0.05$). Although the remaining indicators have changed, they do not have significant differences. The total scores of PF of male and female students reached the peak in the second year of high school, which were 74.43 points and 77.15 points respectively.

Conclusions: The shape and physical function of the boys increase year by year, while the girls perform best in the second year of high school. Boys' speed, endurance, flexibility, strength have improved, the upper limb strength is seriously lacking. Girls' flexibility and waist strength have improved, but speed, endurance, and lower limb strength are declining.

Key words: high school students, physical fitness, dynamic changes



