

2º CONGRESSO INTERNACIONAL DE ATIVIDADE FÍSICA

2nd INTERNATIONAL CONGRESS OF PHYSICAL ACTIVITY



LIVRO DE RESUMOS



Instituto Politécnico
de Castelo Branco
Polytechnic University

II CONGRESSO INTERNACIONAL DE ATIVIDADE FÍSICA

“Do conhecimento científico à empregabilidade sustentável”

Editores

**João Petrica, João Serrano, António Faustino, André Ramalho,
Bruno Trindade, Helena Mesquita, João Rocha, Jorge Santos,
Marco Batista, Miguel Lucas, Paulo Silveira, Pedro Mendes, Rui
Paulo, Samuel Honório**

INSTITUTO POLITÉCNICO DE CASTELO BRANCO
PORTUGAL

28, 29 E 30 DE SETEMBRO DE 2023

IPCB – 2023. Todos os Direitos Reservados.

Proibida a reprodução, cópia ou transmissão, sem a permissão escrita dos autores individuais.

Os resumos das comunicações foram submetidos a processo de avaliação, antes da apresentação final no II Congresso Internacional de Atividade Física e o seu conteúdo é da responsabilidade dos autores. O nosso maior e mais sincero agradecimento aos colaboradores que ajudaram a garantir a qualidade das comunicações

Mais exemplares desta publicação podem ser acedidos a partir do site:

<https://repositorio.ipcb.pt>

Editores

João Petrica
João Serrano
António Faustino
André Ramalho
Bruno Trindade
Helena Mesquita
João Rocha
Jorge Santos
Marco Batista
Miguel Lucas
Paulo Silveira
Pedro Mendes
Rui Paulo
Samuel Honório

Capa: Ana Margarida da Costa Teixeira

Edição Gráfica: Bruno Trindade, Jorge Santos, Marco Batista, Samuel Honório

ISBN

978-989-35406-0-2

Publicado pelo Instituto Politécnico de Castelo Branco
Av. Pedro Álvares Cabral, nº 12
6000-084 Castelo Branco

ÍNDICE

Editorial	4
Organização e Comissão Organizadora	5
Comissão Científica	6
Programa do Congresso	7
Conferências	9
Mesa de Debate Temático	9
Comunicações	9
E-Poster	14
Abstracts das Comunicações e Posters	15

EDITORIAL

O 2º Congresso Internacional de Atividade Física, realizado nos dias 28, 29 e 30 de setembro de 2023, em Castelo Branco, sob a organização da Escola Superior de Educação do Instituto Politécnico de Castelo Branco e da *Sport, Health & Exercise Research Unit – SHERU*, receberam a participação de docentes, investigadores e estudantes europeus, no domínio da atividade física e do desporto, provenientes de Portugal, Espanha e Itália. Tendo como tema central “*Do conhecimento científico à empregabilidade sustentável*” foram apresentados e debatidos temas como o exercício e saúde, bem-estar e estilos de vida saudáveis, fatores de treino e desempenho competitivo no desporto, desporto adaptado, pedagogia e psicologia do desporto, motricidade infantil e gerontomotricidade. O debate científico destas temáticas foi uma constante ao longo do congresso, discutindo-se quer a robustez das investigações, quer a evidência empírica com vista à intervenção no contexto ecológico de aplicação.

Para além das investigações apresentadas, especial ênfase para as três conferências do Congresso, apresentadas por docentes e investigadores de craveira internacional. O Doutor Tomás Garcia Calvo apresentou toda uma vasta experiência de investigação empírica sobre motivação e programas para jovens e adolescentes com vista à promoção de estilos de vida fisicamente activos. O Doutor António Camilo Cunha apresentou-nos uma reflexão ponderada e amadurecida sobre desporto, tempos e espaços de inscrição humana. O Doutor Manuel João Coelho e Silva contagiou todos os congressistas com o seu profundo conhecimento sobre o tema talento desportivo e culturas juvenis.

Outro momento alto do congresso foi a mesa de debate temático sobre formação de qualidade e alto rendimento, protagonizada pelo Diretor Executivo da FPF, Pedro Dias, o Seleccionador campeão da Europa de futsal Sub 19, José Luís Mendes, o ex-árbitro profissional de futebol, Carlos Xistra e o internacional de futebol, Jorge Andrade.

O 2º Congresso Internacional de Atividade Física, como evento científico teve um natural compromisso com a apresentação e disseminação de conhecimento científico. Face a esses objetivos elaborámos o presente livro de resumos, que acreditamos ser um contributo original e plural de vários autores vinculados à ciência e ao empirismo da atividade física, como académicos, investigadores, professores, treinadores ou alunos. Expressamos os votos de boas leituras e que encontrem nestes resumos detalhes úteis para o vosso campo de pesquisa, ou mesmo, alguma inquietação para o desenvolvimento de futuras investigações.

Prof. Doutor João Petrica

Professor Coordenador Principal com Agregação

Coordenador da *SHERU - Sport, Health & Exercise Research Unit*

Coordenador do Departamento de Desporto e Bem-estar do IPCB

ORGANIZAÇÃO

SHERU - Sport, Health & Exercise Research Unit, Instituto Politécnico de Castelo Branco,
Portugal

Escola Superior de Educação, Instituto Politécnico de Castelo Branco, Portugal

COMISSÃO ORGANIZADORA

João Petrica
João Serrano
António Faustino
Rui Paulo
Pedro Mendes
Marco Batista
Samuel Honório
Helena Mesquita
Jorge Santos
João Rocha
André Ramalho
Miguel Lucas
Paulo Silveira
Patrícia Coelho
Sónia Mateus
Bruno Trindade
Carla Nascimento
Carlos Farinha
Elsa Almeida
Francisco Rodrigues
Paulo Rodrigues
Pedro Pires
Sónia Mateus
Tiago Machado
Nuno Silva
Rosário Quelhas

STAFF DE APOIO À ORGANIZAÇÃO

Sónia Balau
Alunos da Licenciatura de Desporto e Atividade Física
Alunos da Licenciatura em Secretariado

COMISSÃO CIENTÍFICA

Abel Figueiredo	Henrique Neiva	Miguel Lucas
Abel Santos		
Aldo Costa	Isabel Condessa	Natalina Casanova
Alfonso Monge	Isabella Sbagliato	Nicolás Bores Calle
Alfredo Aguado		Nuno Pimenta
Ana Teixeira	Javier Garcia	Nuno Serra
André Ramalho	João Brito	
André Seabra	João Carvalho	Patrícia Coelho
António Antunes	João Serrano	Paulo Pereira
António Camilo	João Petrica	Paulo Rodrigues
António Faustino	João Moutão	Paulo Silveira
Antonino Pereira	João Rocha	Pedro Bezerra
António Rosado	Jorge Rojo	Pedro Esteves
António Sérgio Damásio	Jorge Santos	Pedro Mendes
	Jose Adsuar	Pedro Pires
Beatriz Pereira	José Alberto Parraça	Pedro Morouço
Bruno Travassos	José Delfa de la Morena	Pedro Sequeira
Bruno Trindade	José Martín Gamonales	
	Puerto	Ricardo Ferraz
Carolina Vila-Chã	José Rodrigues	Rita Cordovil
Carla Nascimento	Juan Pulido	Rita Rocha
Carlos Farinha	Juarez Nascimento	Rui Garcia
Carmen Galán	Júlio Martins	Rui Matos
César Sá		Rui Mendes
	Linda Saraiva	Rui Paulo
Dalton Nascimento	Luís Carvalhinho	Ruth Jimenez Castuera
Daniel Bores García	Luís Cid	
Daniel Marinho	Luís Coelho	Samuel Honório
Diogo Monteiro	Luís Murta	Sebastián Feu
	Luís Paulo Rodrigues	Sergio Ibañez
Edison Roberto de Souza	Manuel João Coelho-e-Silva	Sergio Souza
Elsa Pereira	Márcio Kerkoski	Sónia Mateus
Emmanuel Fernandes	Marco Batista	Susana Franco
	Maria Caire	Teresa Figueiredo
Francisco Leo Marcos	Maria Helena Mesquita	Teresa Fonseca
Francisco Mendes	Mário Costa	Tomás Garcia Calvo
Francisco Rodrigues	Mário Espada	
	Mário Marques	Valmir Oleias
Graça Carvalho	Marta Leyton	Vasco Vaz
Gilberto Gaertner	Miguel Gajardo	Vânia Loureiro
		Vítor Ferreira

PROGRAMA DO CONGRESSO

Dia 28 de setembro – 5ª feira	
13:30/15:30 – Abertura do Secretariado / Recepção aos Participantes	
14:00 – Momento Musical	
14:15/15:00 - Sessão de Abertura	
15:00/15:45 - Conferência (Auditório Comenius) Motivación y programas para ser físicamente activos en jóvenes y adolescentes Tomás Garcia Calvo – Universidad de Extremadura	
16:15/17:45 Comunicações Livres	
Sala P2 <u>Gerontomotricidade</u> 2, 14, 15,16, 18	Pavilhão <u>Desporto Adaptado</u> 6, 53, 54, 78, 79
17:45/18:00 Coffee Break	
18:00/18:45 – Conferência - Pavilhão <u>“Desporto: Tempos e espaços de inscrição humana”</u> António Camilo Cunha – Universidade do Minho	

Dia 29 de setembro – 6ª feira	
9:00 / 10:00 Apresentação de Posters	
Apresentação na Sala P2	
10:00 / 11:30 Comunicações Livres	
Sala P2 <u>Pedagogia do Desporto</u> 8, 9, 13, 69	Pavilhão <u>Psicologia do Desporto</u> 3, 29, 30, 45, 63, 65
11:30/11:45 - Coffee Break	

**11:45/12:45 – Conferência (Auditório Comenius)
“Talento desportivo e culturas juvenis”
Manuel João Coelho e Silva – Universidade de Coimbra**

12:45 / 14:30 – ALMOÇO

14:30/15:45 Comunicações Livres

Sala P1 <u>Treino Desportivo</u> 67, 80, 84, 85	Sala P2 <u>Pedagogia do Desporto</u> 72, 74, 76, 86	Pavilhão <u>Motricidade Infantil</u> 10, 11, 73, 77
--	--	--

15:30 / 16:30 Comunicações Livres

Sala P1 <u>Treino Desportivo</u> 51, 52, 58	Sala P2 <u>Exercício e Saúde</u> 4, 39, 50, 60	Pavilhão <u>Motricidade Infantil</u> 64, 68, 70, 75
--	---	--

16:30/16:45 - Coffee Break

16:45/18:00 Comunicações Livres

Sala P2 <u>Exercício e Saúde</u> 19, 37, 61, 62	Pavilhão <u>Treino Desportivo</u> 47, 49, 55, 56, 57
--	---

21:00 – Jantar do Congresso

Dia 30 de setembro – sábado

**10:00/12:30 – Mesa de Debate Temático (Pavilhão ESE)
“Formação de qualidade e alto rendimento”
Pedro Dias (Diretor Executivo da FPF)
José Luís Mendes (Selecionador Sub 19 futsal)
Carlos Xistra (ex-árbitro profissional de futebol)
Jorge Andrade (ex-jogador profissional de futebol)**

12:45 – Sessão de Encerramento (Pavilhão)

CONFERÊNCIAS

	Título	Autor(es) - Instituição
1	Motivación y programas para ser físicamente activos en jóvenes y adolescentes	Tomas Garcia Calvo – Universidad de Extremadura
2	Desporto: Tempos e espaços de inscrição humana.	António Camilo Cunha – Universidade do Minho
3	Talento desportivo e culturas juvenis	Manuel João Coelho e Silva – Universidade de Coimbra

MESA DE DEBATE TEMÁTICO

	Título	Autor(es) - Instituição
1	Formação de qualidade e alto rendimento.	Pedro Dias (Diretor Executivo da FPF) José Luís Mendes (Selecionador Sub 19 futsal) Carlos Xistra (ex-árbitro profissional de futebol) Jorge Andrade (ex-jogador profissional de futebol)

COMUNICAÇÕES

n.º	Título	Autor(es)
2	Effect of a community dual-task exercise program on physical fitness of elderly: the MEMO_MOVE program	Catarina Rondão, Dulce Esteves, Maria Paula Mota
3	Recognition of sponsors' brands among runners of different distances athletics races	Alfredo Silva
6	Inclusion in Physical Education: the teacher's profile	Tadeu Celestino, Esperança Ribeiro, Antonino Pereira
8	Despite everything... competing is important	António Camilo Cunha, Zenaide Galvão

9	The return to physical, leisure and sporting activity in nature: the necessary (re)encounter	António Camilo Cunha, Zenaide Galvão
10	The body/movement object and instrumental reason: Implications for Physical Education/Sport	Zenaide Galvão, António Camilo Cunha
11	The body/movement subject and communicative reason: Implications for Physical Education/Sport	Zenaide Galvão, António Camilo Cunha
13	Perceptions about School Physical Education and its Relationship with the Construction of Professional Identity in Future Teachers	Gustavo González-Calvo, Nicolás Julio Bores-Calle, Lucio Martínez-Álvarez, Alfonso Jorge García-Monge
14	Step by step: an ecological momentary assessment physical activity in rural elderly	André Ramalho, João Afonso, Pedro Duarte-Mendes, João Serrano, Rui Paulo, João Petrica
15	Youthful souls: Gerontopsychomotricity intervention in institutionalized elderly	André Ramalho, Daniela Parente, Rui Paulo, Pedro Duarte-Mendes, João Serrano, César Serrão, João Petrica
16	Making a splash: a multiple case study on the acute mood-boosting effects of aquarobics in seniors	Juliana Martins, André Ramalho, Rui Paulo, Pedro Duarte-Mendes, João Serrano, João Petrica
18	Happy feet: a multiple case study on the acute mood-boosting effects of a physical exercise session in institutionalized elderly	João Martins, André Ramalho, Rui Paulo, Pedro Duarte-Mendes, João Serrano, João Petrica
19	The effect of body and muscle composition indices at the beginning of a sports season associated with the risk of injury in futsal players - A pilot study	Catarina Marques, João Serrano, Miguel Rebelo, Rute Crisóstomo
29	Perceived well-being and motives for physical activity - A sex-differentiated approach for young students	Isabel Condessa, Zélia Anastácio
30	Educate through the Movement in Higher Education - A proposal for the improvement of well-being	Isabel Condessa, Zélia Anastácio
37	Description of Portuguese Students' Health-Related Behaviors During the COVID-19 Confinement	Catarina Marques, Miguel Rebelo, Marco Batista

39	Self-reported Physical Activity of University Education Students: Comparative Study between Portugal, Italy and Spain	Rui Paulo, André Ramalho, Isabella Scursatone, Maria Caire, Nicolás Bores Calle, Daniel Bores García, Miguel Rebelo, Pedro Duarte-Mendes
45	The impact of objectively-measured physical activity and sedentary behaviour in cardiovascular risk and health-related quality of life in adults: a systematic review protocol	Beatriz Santos, Diogo Monteiro, Fernanda Silva, Gonçalo Flores, Pedro Duarte-Mendes
47	Differences in neuromuscular load in basketball according to player's sex	Sergio Ibáñez, María de los Ángeles Arenas-Pareja, Pablo López-Sierra, Javier García-Rubio
49	Load differences in basketball according to the final outcome	Pablo López-Sierra, María de los Ángeles Arenas-Pareja, Sergio Ibáñez, Antonio Antúnez
50	Boxing injuries in portugal	Ricardo Sottomayor, Diogo Monteiro, Élio Alexandre, Gilda Soromenho, Pedro Duarte-Mendes
51	Characterization of External and Internal Load Metrics during the Preparation for a Male International Elite Rink Hockey Championship.	António Ferraz, Pedro Duarte-Mendes, João Nuno Ribeiro, Farzad Yousefian, João Valente-Dos-Santos, Bruno Travassos
52	Correlation between squat jump and agility tests in soccer and futsal players	Tiago Ramalho, Rafael Freire, Gonçalo Ramalho, Fernanda Silva, Rui Paulo, Miguel Rebelo, André Ramalho, Pedro Duarte-Mendes
53	Self-perception and perceived leadership behaviours of special olympics portugal coaches: influence of formal training	Pedro Pires, Helena Mesquita, Sergio Ibáñez
54	Formal training on coaches' leadership and self-determination and well-being of athletes with intellectual disabilities	Pedro Pires, Helena Mesquita, Sergio Ibáñez
55	Correlation between the countermovement jump and agility tests in soccer and futsal players	Rafael Freire, Tiago Ramalho, Gonçalo Ramalho, Fernanda Silva, Rui Paulo, André Ramalho, Miguel Rebelo, Pedro Duarte-Mendes
56	Comparison between the countermovement jump in soccer and futsal players	Rafael Freire, Tiago Ramalho, Gonçalo Ramalho, Fernanda Silva, Rui Paulo, André Ramalho, Miguel Rebelo, Pedro Duarte-Mendes

57	Comparision of squat jump between soccer and futsal players	Tiago Ramalho, Rafael Freire, Gonçalo Ramalho, Fernanda Silva, Rui Paulo, André Ramalho, Miguel Rebelo, Pedro Duarte-Mendes
58	Analysis of the finalist shots of the Qatar Major Premier Padel 2023	Adrián Escudero-Tena, Carlos Amaya, Rafael Conde-Ripoll, Diego Muñoz, Sergio Ibáñez
60	Assessment Tools for Functional Ankle Instability. What they evaluate!	Élio Alexandre, Diogo Monteiro, Ricardo SottoMayor, Miguel Jacinto, Fernanda Silva, Pedro Duarte-Mendes
61	Association of Serum Adipokines Levels with Fat Mass, Lipid and Glycemic Profiles in Middle-Aged Sedentary Adults	Fernanda Silva, Pedro Duarte-Mendes, José Ferreira, Carlos Soares, Rafael Rodrigues, Carlos Farinha, Ana Teixeira
62	Normal Range Glycated Hemoglobin A1c is Associated with Reduced Pulmonary Function in Middle-Aged Adults	Fernanda Silva, José Ferreira, Ana Teixeira, Carlos Soares, Rafael Rodrigues, Carlos Farinha, Pedro Duarte-Mendes
63	Effects of a combined training program on pain, stiffness, fatigue and well-being in women with fibromyalgia	Mónica Sousa, João Moutão, Rafael Oliveira, Susana Alves
64	Do teaching model, and out-of-school practice time influence tactical knowledge in school soccer?	Juan García-Ceberino, David Mancha-Triguero, Olga Calle, Sebastián Feu
65	Understanding physical activity of patients followed in Psychiatry/Psychology consultation	Sílvia Baptista, Catarina Costa, António Lains, Roberta Frontini
67	Importance of an Intervention for the Development of Strength and Impulse of the Lower Limbs in Acrobatic Gymnastics	Miguel Rebelo, João Petrica, Pedro Duarte-Mendes, Rui Paulo, Jorge Santos, João Serrano
68	The Importance of an Intervention for the Development of Flexibility in 7- and 15-Year-Old Children	Miguel Rebelo, João Petrica, Samuel Honório, Marco Batista, João Rocha, António Faustino, João Serrano
69	Teacher-Student Contact as a Pedagogical Tool in the Physical-Motor Expression Classroom and in the Aquatic Environment in a Portuguese School	María Emilia Fernández López, Lucio Martínez Álvarez, Miguel Rebelo, Virginia Castro Fernández
70	Effects of the Order of Execution of Endurance Training and Resistance on the Development	Antonio Sousa, Daniel Marinho, Susana Ferrinho, Mário Marques

	of Physical Condition in Secondary School Students	
72	Validation of a program for teaching an alternative invasion team sport	Olga Calle, Adrián Escudero-Tena, Antonio Antúnez, Sebastián Feu
73	The good game as content of a lesson in the aquatic environment	Virginia Castro Fernández, Miguel Alexandre Rebelo Lucas, Maria Emilia Fernández López
74	Exploring School PE Beliefs and Their Impact on Professional Identity in Future Physical Education Teachers	Gustavo González-Calvo, Nicolás Julio Bores-Calle, Lucio Martínez-Álvarez, Alfonso Jorge García-Monge
75	Sociocultural Animation and the interaction of Playing with Football: the importance of multidisciplinary in child	Bruno Trindade, Ricardo Pocinho, André Marques, Ricardo Ferraz, João Serrano, Rui Paulo
76	What do students pay attention in physical education classes?	Jorge Santos, Marco Batista, Samuel Honório, João Rocha, Paulo Silveira, Miguel Rebelo, João Serrano, João Petrica
77	The level of Physical Activity of Primary School Students	Diogo Neves, Jorge Santos, Marco Batista, Samuel Honório, João Serrano, António Faustino, João Rocha
78	Does shooting on goal influence sports performance in soccer for blind people?	José Gamonales, Jesús Muñoz-Jiménez, Mário Espada, José Fernández-Cortés, Víctor Hernández-Beltrán
79	External and internal loading of wheelchair basketball players	José Gamonales, Sergio Ibáñez, Jesús Muñoz-Jiménez, Mário Espada, Víctor Hernández-Beltrán
80	Training to win. Analysis of performance indicators in elite football	José Fernández-Cortés, David Mancha-Triguero, Juan Manuel García-Ceberino, Javier García-Rubio
84	Differences in Agility Performance Tests between Soccer and Futsal Players: A Comparative Study	Pedro Duarte-Mendes, Rui Paulo, Fernanda Silva, João Petrica, Miguel Rebelo, André Ramalho, João Rocha, João Serrano
85	Imagery ability in collective sports: Comparison among soccer and futsal young practitioners	Pedro Duarte-Mendes, Rui Paulo, Fernanda Silva, João Serrano, Daniel Marinho, André Ramalho, Miguel Rebelo, João Rocha, João Petrica
86	Analysis of pedagogical behaviors among swimming teachers	Samuel Honório, Jorge Santos, João Serrano, João Petrica, Miguel Rebelo, Marco Batista

E-POSTER

	Título	Autor(es) - Instituição
5	Objective Internal Load in Female Skydiving Athletes	Tiago Machado, Sergio Ibáñez, Paulo Silveira, Jose Pino-Ortega, João Serrano
17	Exercising the blues away: a multiple case study on the acute mood-boosting effects of multi-component exercise in elderly women	Mafalda Padilha, André Ramalho, Rui Paulo, Pedro Duarte-Mendes, João Serrano, João Rocha, João Petrica
48	Land Evaluation of Suitability for the Practice of Foot Orienteering Using a Spatial Multicriteria Method. A Case Study in the Central Eastern Region of Continental Portugal	Luis Quinta-Nova
66	Asymmetry in handgrip strength in children in the 2nd and 4th years of schooling	Paulino Rosa, Sergio Ibáñez, Rui Matos, Nataniel Lopes, João Serrano
81	Analysis of the predominance of technical actions used in the 2021 European Judo Championship depending on combat time and golden score	Marco Batista, Diana Torres, Katia Sombra, Samuel Honório, Jorge Santos, Carmén Galan-Arroyo, Miguel Rebelo, Paulo Silveira, Hugo Louro
82	Biomechanical analysis of technical actions used in the 2021 European Judo Championship as a function of combat time and golden score	Marco Batista, Ana Conceição, Katia Sombra, Diana Torres, João Petrica, João Serrano, Samuel Honório, Jorge Santos, Hugo Louro
83	Analysis of the frequency and effectiveness of the technical actions used in the 2021 European Judo Championship according to the elapsed time of combat	Bruno Gaspar, Marco Batista, Katia Sombra, Helena Mesquita, Rui Paulo, Pedro Mendes, André Ramalho, João Rocha, António Faustino, Luís Vaz, Hugo Louro

ABSTRACTS DAS COMUNICAÇÕES E POSTERS

Memo_Move: Effect of a dual-task exercise program on physical fitness in people aged ≥ 65 years from the community

CATARINA RONDÃO^{1,2}, DULCE ESTEVES^{1,3}, MARIA PAULA MOTA^{3,4}

¹*Universidade da Beira Interior, Portugal,*

²*Câmara Municipal do Fundão,*

³*Research Center in Sports Sciences,*

⁴*Health Sciences and Human Development (CIDESD), Portugal*

ABSTRACT

The elderly experience a progressive loss of cognitive and physiological functions, including cognitive impairment and loss of functional motor skills. It is estimated that by 2050 the number of people with dementia will reach 131.5 million worldwide (World Health Organization, 2015). In addition to cognitive and behavioral deficits, people with dementia have increased deficits in balance, gait and motor coordination, leading to an increased risk of falls. Physical activity offers several important benefits for individuals with Dementia. The aim of this study was to determine the effect of a tailored dual-task exercise program on physical fitness in people over 65 years of age in the Fundão community. There was an overall improvement in all tests from pre-test to post-test. Significant differences were found in all the physical fitness tests, 6-minute walk, bending the arms, sitting and walking 2.44 m, sitting and getting up from a chair, sitting and reaching and reaching behind the back ($P < 0.05$). There were significant improvements in cognitive functions in the parameters Visuospatial/executive, Nominations, Attention: sequence of numbers, Attention: subtraction, Abstraction: similarities, Memory: deferred recall, Orientation, MOCA Total Score, MOCA1 Normative Score ($P < 0.05$). Dual task exercise programs may improve cognitive and physical functions and is an important contributor to functional independence.

Key words: Mild Cognitive Impairment, Physical Fitness, Aging.

Recognition of sponsors' brands among runners of different distances athletics races

¹ ALFREDO SILVA

¹ Sport Science School of Rio Maior - Polytechnic Institute of Santarém, Portugal, Department of Sport Management.; Life Quality Research Center (CIEQV), Santarém, Portugal

ABSTRACT

Running is a popular and convenient leisure physical activity. The most popular distance is the 5 km that accumulated 8.9 million records in 2018. Investments by companies in sponsorship around the world exceeded \$ 65 billion. Increasing brand awareness is one of the main goals for companies to get involved in sponsorships. Most of the research of sponsorship has not been done from the of participation-based sport perspective. Some results obtained remain contradictory and the dependency between the sponsor's brand recognition rate and the distance of the race: half marathon, 10 km or 5 km has not been evaluated. This research aims to show the effects of race distance on sponsor brand recognition rates in runners in the athletics race contexts. A sample of 567 runners from one of Portugal's most popular athletics races completed an online questionnaire designed to measure brand recognition, used in previous studies (e.g. Biscaia et al., 2013). 421 were men (43 in the 5km race, M=45.37 years old and 257 in the 10km race; M=41.49 years old) and 145 were women (102 in the 5km race, M=42.82 years old and 165 in the 10km race, M=38.72 years old). A Chi-square Test and T-Test was carried out to evaluate the differences between the groups of runners. Runners who completed the 5 km race obtained a higher average recognition of the sponsoring brands than runners of the 10 km, this difference being statistically significant ($t = 3.212$, $p = .001$). Sponsorship of the athletics race mass participation-based sport is an impressive tool to raise sponsors brand awareness. The shortest distance runs (5 km) were those whose brand sponsor recognition rates were higher. This result underlines an unquestionable need for sponsoring companies to focus their brand activation efforts on the 10km runner segment

Key words: Athletics races; Brand recognition; Race distance; Sponsorship effectiveness; Sport events.

Objective Internal Load in Female Skydiving Athletes

TIAGO MACHADO^{1,2}, SERGIO IBÁÑEZ³, PAULO SILVEIRA ^{1,2}; JOSE PINO-ORTEGA⁴; JOÃO SERRANO^{1,2}

¹ Sport, Health & Exercise Research Unit (SHERU/RECI), Castelo Branco, Portugal

² *Castelo Branco Polytechnique Institute, Castelo Branco, Portugal*

³ *Research Group in Optimization of Training and Sports Performance (GOERD), Faculty of Sports Sciences, University of Extremadura, Caceres, Spain*

⁴ Department of Physical Activity and Sport, University of Murcia, Murcia, Spain

Summary

The study's objectives were: to know the HR (Max. Min. and AVG) in female parachuting athletes and to analyse the HR (Max. Min. and AVG) during the different moments of the jump. Three skydivers with an advanced level of experience (competition athletes) aged between 20 and 45 participated in the study. After collecting sociodemographic and BMI data, the WIMU devices were placed before the first jump of the day in order to collect HR measurements at different times. Exploratory descriptive analyses of the mean and standard deviation were used. We recorded an HR AVG during all moments of the jump of 140bpm, with moment 3, which corresponds to the moment of free fall, being recorded as the highest HR AVG with a value of 156bpm. We conclude that a parachute jump produces cardiac stress, manifested by an increasing increase in HR moments before entering the plane until the moment the parachute opens, stabilizing until the moment of landing and decreasing slightly after landing.

Keywords: Skydiving, objective internal load, HR

Inclusion in Physical Education: the teacher's profile

TADEU CELESTINO ^{1,3}, ESPERANÇA RIBEIRO ^{2,3}, ANTONINO PEREIRA^{2,3}

¹*Agrupamento de Escolas de Nelas;*

²*Escola Superior de Educação de Viseu;*

³*Centro de Estudos em Educação e Inovação - CI&DEI, Portugal.*

ABSTRACT

The subject of Physical Education (PE), due to its characteristics, dynamics and values, can be a powerful support for inclusion. Thus, the challenge for the teacher is to demonstrate the ability to incorporate different resources, strategies and methodologies into their pedagogical practices that respond to diversity. However, little is known about the particularities and specificities that should characterize the PE teacher who aims for inclusion. The present study aimed to identify and understand what training, values, practices and representations are likely to be associated with the profile of the inclusive PE teacher. Mixed research design was used, combining qualitative and quantitative methodologies. 3 university teachers participated in this study, to whom semi-structured interviews were administered, 151 PE teachers who responded to a questionnaire and 7 PE teachers specializing in inclusion to whom a semi-structured interview was administered. Analysis of the results allowed us to identify the following: 1) there are deficits in training for inclusion; 2) the profile of the inclusive teacher is characterized by valuing the dimensions of human values, inclusive mentality and being ethical; 3) the ethical dimension is an important catalyst for inclusion. In conclusion, it is inferred that the success of inclusion in PE closely depends on the teacher's operational intentionality and modelling action in mitigating barriers.

Key words: Teacher training, physical education; inclusive education, inclusive ethics, inclusive teacher profile

Despite everything... competing is important

ANTÓNIO CAMILO CUNHA¹; ZENAIDE GALVÃO²

¹*Universidade do Minho – Instituto de Educação - CIEC, Portugal*

²*Universidade do Minho – Instituto de Educação - CIEC, Portugal*

ABSTRACT

Competition is one of the most used words in the history of life on earth (and mankind), both in a positive and negative sense. Through competition, the mythological and utopian universe was formed; species, it seems, evolved; the economy/productivity, the media, ideological and political theories and practices emerged; the axiological sense clarified and diversified; culture/cultures emerged, these extraordinary creations of humanity in "confrontation/complement" with nature. Through competition, games/physical education/sports were structured. Although there are pedagogical positions for and against competition in play/physical education/sport, in this reflection we are going to praise competition. In spite of everything... competing is important. The main aim of this reflection, in the form of a short essay, will be to help raise awareness of the importance of competition in games, physical education and sport. The methodology used is based on theoretical/hermeneutic reflection on the praxis of competition and the possibilities it can contain for the Game, Physical Education and Sport to be humanly rewarding. It is a reflexive, qualitative methodology that departs from the canons of scientific/empirical/quantitative research methodology. We believe that play, physical education and sport absorb and reflect individual, community, social, political, economic, ideological and cultural issues in an effervescent (animal/human) way. Competition enshrines the "game" - be it a social, organizational, business, pedagogical or sporting game.

Key words: Game; Physical Education; Sport; Competition; Nature; Evolution

The return to physical activity, leisure and sports in nature: the necessary (re)encounter

ANTÓNIO CAMILO CUNHA¹, ZENAIDE GALVÃO²

¹*Universidade do Minho – Instituto de Educação - CIEC, Portugal*

²*Universidade do Minho – Instituto de Educação – CIEC, Portugal*

ABSTRACT

Nature is now beginning to be seen not as an object to be exploited, but as a "subject of rights" who must be respected, welcomed and protected. Physical, leisure and sporting activity in nature is yet another link between man and nature. A link that benefits both. For nature, through care, protection and interaction; for man/woman (children, the elderly) through the quality of life it provides - particularly in terms of mental, emotional and relational quality of life. The methodology used is based on theoretical/hermeneutic reflection on nature and the possibilities it can contain so that Physical Activity, Leisure and Sport are humanly rewarding. It is a reflective, qualitative methodology. The main aim of this reflection, in the form of a short essay, was to help raise awareness of the importance of nature - and the possibilities it contains for physical, leisure and sporting activity. We believe that physical, leisure and sporting activity in nature is certainly an activity that suits men and women (children, young people, adults and the elderly). It's good for their mental, physical, emotional and relational health; it's good for protecting and respecting nature itself and, above all, it's good for giving nature/humanity a future. These conveniences need to be (are beginning to be) on the political, educational, sporting and social agendas.

Key words: Man/woman; Nature; Care; Relationship; Quality of life; Physical activity

The body/movement object and instrumental reason: Implications for Physical Education/Sport

ZENAIDE GALVÃO¹, ANTÓNIO CAMILO CUNHA²

¹*Universidade do Minho – Instituto de Educação - CIEC, Portugal*

²*Universidade do Minho – Instituto de Educação - CIEC, Portugal*

ABSTRACT

The body has always been the object of representation and analysis, particularly in Physical Education and Sport. When we look at the history of the body, we see that there are three major representations: i) the negative body - the body seen as a receptacle for the soul, as something fragile, manipulable, an instrument, an object, a machine - "the object body". This representation lasted until modern times; ii) the positive body - the body seen with respect, as something to be treated/care for, protected, with the same dignity as thought and soul - "the subject body"; iii) the body as language/text - the body as a form of communication, dialogue, argument, emotion, feelings - diversity and plurality of bodies - the bodies of today/post-modern bodies. Our reflection focused on the representation of the body/movement object (machine) that exists and subsists today in many areas of human activity (almost all of them) and also in Physical Education and Sport. Thus, the main objective of this study was to reflect on/contribute to the awareness that the paradigm of the object body/machine body (fueled by instrumental reason), despite being predominant in schools and clubs, should not be the only and exclusive one. The methodology used is based on theoretical/hermeneutic reflection on the body and movement object and instrumental reason. We believe that it is essential for Physical Education and Sport with children and young people to teach how to live and feel natural, phenomenological, hermeneutic and existential corporeality. To this end, we need to look at "other forms" of curriculum orientation and construction.

Key words: Body; Movement; Physical education; Sport; Object; Instrumental reason

The body/movement subject and communicative reason: Implications for Physical Education/Sport

ZENAIDE GALVÃO¹, ANTÓNIO CAMILO CUNHA²

¹Universidade do Minho – Instituto de Educação - CIEC, Portugal

²Universidade do Minho – Instituto de Educação - CIEC, Portugal

ABSTRACT

The body has always been the object of representation and analysis, particularly in Physical Education and Sport. When we look at the history of the body, we see that there are three major representations: i) the negative body - the body seen as a receptacle for the soul, as something fragile, manipulable, an instrument, an object, a machine - "the object body". This representation lasted until modern times; ii) the positive body - the body seen with respect, as something to be treated/care for, protected, with the same dignity as thought and soul - "the subject body"; iii) the body as language/text - the body as a form of communication, dialogue, argument, emotion, feelings - diversity and plurality of bodies - the bodies of today/postmodern bodies. Our reflection will centre on praising the representation of the positive body - the body looked upon with respect, as something to be cared for, to be protected, with the same dignity as thought and soul - the subject body. This subject body is "nourished" by a type of language/reason that we will call communicative reason and, consequently, has particular implications for the educational, pedagogical and didactic act. Thus, the central objective of this reflection was to contribute to the realisation that the "body-subject" is an ideal path for the total and global/integral expression of the student. The methodology used is based on theoretical/hermeneutic reflection on the body and subject movement and communicative reason. We believe that it is essential for Physical Education and Sport with children and young people to teach them how to live and feel natural, phenomenological, hermeneutic and existential corporeality.

Key words: Body; Movement; Physical education; Sport; Subject; Communicative reason

Perceptions about School Physical Education and its Relationship with the Construction of Professional Identity in Future Teachers

GUSTAVO GONZÁLEZ-CALVO¹, NICOLÁS JULIO BORES-CALLE², LUCIO MARTÍNEZ-ÁLVAREZ³ y ALFONSO JORGE GARCÍA-MONGE⁴

¹*Facultad de Educación de Palencia, Universidad de Valladolid, España*

²*Facultad de Educación de Palencia, Universidad de Valladolid, España*

³*Facultad de Educación de Palencia, Universidad de Valladolid, España*

⁴*Facultad de Educación y Trabajo Social de Valladolid, Universidad de Valladolid, España*

ABSTRACT

Physical Education (PE) teachers have previous experiences that condition their pedagogical practice. The students, far from being a “blank slate”, show how their previous period of socialization, their subjectivities and identities create a particular culture of PE teaching. The objective of this study is to understand and delve into the previous ideas that future Physical Education teachers have and that condition their pedagogical practice and intentionality. 23 second-year students of the teacher's degree, PE specialty, participated in a qualitative design, using a questionnaire, a life history and a semi-structured individual interview as data collection tools. The results show that the participants approach the profession from different professional perspectives: a sports perspective, a health-oriented perspective, a pedagogical perspective and a perspective oriented to critical pedagogy and social change from PE.

Key words: Professional identity, sport; health, initial training, reasons for professional choice.

Step by step: an ecological momentary assessment physical activity in rural elderly

ANDRÉ RAMALHO^{1,2}, JOÃO AFONSO¹, PEDRO DUARTE-MENDES^{1,2}, JOÃO SERRANO^{1,2}, RUI PAULO^{1,2}, JOÃO PETRICA^{1,2}

¹ *Department of Sports and Well-being, Instituto Politécnico de Castelo Branco, Portugal.*

² *SHERU - Sport, Health & Exercise Research Unit, Instituto Politécnico de Castelo Branco, Portugal*

ABSTRACT

The adoption of a sedentary lifestyle has led to significant health consequences for the population. However, research shows that being more physically active can help prevent falls, improve cardiovascular capacity, and increase muscle strength in older adults. To better understand these behaviors, it is important to consider the social and environmental context in which they occur. The aim of this study was to describe the daily physical activity of older adults living in rural areas of Portugal using ecological momentary assessment. A total of 19 participants with an average age of 74.7 years ($SD = 8.5$) were included in the study. Data were collected using diary entries at 20-minute intervals. Results showed that older adult's physical activity is mainly focused on housework, tending the vegetable garden, and occasional outdoor walks, most of which take place at home and occasionally outdoors. This information demonstrates the importance of promoting physical activity specifically to ensure the overall health and well-being of this population.

Key words: Ecological Momentary Assessment; Patterns; Physical Activity; Elderly

Youthful souls: Gerontopsychomotricity intervention in institutionalized elderly

ANDRÉ RAMALHO^{1,2}, DANIELA PARENTE¹, RUI PAULO^{1,2}, PEDRO DUARTE-MENDES^{1,2}, JOÃO SERANO^{1,2}, CÉSAR SERRÃO³, JOÃO PETRICA^{1,2}

¹ *Department of Sports and Well-being, Instituto Politécnico de Castelo Branco, Portugal.*

² *SHERU - Sport, Health & Exercise Research Unit, Instituto Politécnico de Castelo Branco, Portugal*

³ *Santa Casa da Misericórdia do Fundão, Portugal*

ABSTRACT

This intervention project aimed to improve psychomotor factors in older people living in nursing homes. We carefully randomly selected six participants to obtain a heterogeneous group consisting of three women and three men with an average age of 86 years ($SD = 1.4$ years). In order to assess the effect of psychomotor activities, we conducted an initial study using the Geronto-Psychomotor Examination. At the end of the project, a re-evaluation was conducted to measure the effectiveness of the intervention. The intervention consisted of weekly sessions over a three-month period, with each session lasting 45 minutes. We developed a comprehensive application protocol based on a thorough assessment and observation methodology that included both quantitative and qualitative measures. The results of our study suggest that this intervention project has the potential to make a positive contribution to the well-being of older people in residential care, particularly in a preventive context. We believe that these findings should be incorporated into programs for the elderly to better serve this population.

Key words: Aging, play, intervention, psychomotricity, functionality

Making a splash: a multiple case study on the acute mood-boosting effects of aquarobics in seniors

JULIANA MARTINS¹, ANDRÉ RAMALHO^{1,2}, RUI PAULO^{1,2}, PEDRO DUARTE-MENDES^{1,2}, JOÃO SERRANO^{1,2}, JOÃO PETRICA^{1,2}

¹ *Department of Sports and Well-being, Instituto Politécnico de Castelo Branco, Portugal.*

² *SHERU - Sport, Health & Exercise Research Unit, Instituto Politécnico de Castelo Branco, Portugal*

ABSTRACT

In this study, we aimed to examine the effects of aquarobics on the mood of elderly people. Using the POMS – Profile of Mood States questionnaire, we collected data from three participants, two men and one woman, all over 65 years old. The questionnaire was completed at four different time points: 5 minutes before water exercise, 5 minutes after, 30 minutes after, and 60 minutes after. Our results showed that a single session in water had a positive effect on the state mood of seniors. It was observed that fatigue, depression and tension decreased, while vitality increased. These results are of great importance to medical professionals, sports scientists and advocates of active aging, especially with regard to psychological and emotional well-being.

Key words: Aging; Acute effects; Mood; Aquarobics

Exercising the blues away: a multiple case study on the acute mood-boosting effects of multi-component exercise in elderly women

MAFALDA PADILHA¹, ANDRÉ RAMALHO^{1,2}, RUI PAULO^{1,2}, PEDRO DUARTE-MENDES^{1,2}, JOÃO SERRANO^{1,2}, JOÃO ROCHA^{1,2}, JOÃO PETRICA^{1,2}

¹ *Department of Sports and Well-being, Instituto Politécnico de Castelo Branco, Portugal.*

² *SHERU - Sport, Health & Exercise Research Unit, Instituto Politécnico de Castelo Branco, Portugal*

ABSTRACT

In this study, we examined the effects of multi-component training on the mood state of older women. As part of a multiple-case study, we collected data from three elderly women over the age of 65 using the Profile of Mood States (POMS) questionnaire. The questionnaire was completed at four different time points: 5 minutes before exercise, 5 minutes after, 30 minutes after, and 60 minutes after exercise. The results showed that multi-component training had a positive effect on the vitality-activity factor, as all participants experienced improvements. These results have important implications for medical professionals, technicians, and sports scientists interested in promoting active aging, especially from an emotional perspective.

Key words: Aging; Acute effects; Physical exercise; Mood

Happy feet: a multiple case study on the acute mood-boosting effects of a physical exercise session in institutionalized elderly

JOÃO MARTINS¹, ANDRÉ RAMALHO^{1,2}, RUI PAULO^{1,2}, PEDRO DUARTE-MENDES^{1,2}, JOÃO SERRANO^{1,2}, JOÃO PETRICA^{1,2}

¹ *Department of Sports and Well-being, Instituto Politécnico de Castelo Branco, Portugal.*

² *SHERU - Sport, Health & Exercise Research Unit, Instituto Politécnico de Castelo Branco, Portugal*

ABSTRACT

The aim of this study was to examine whether physical activity has a positive effect on the mood of elderly people living in institutions. The Profile of Mood States (POMS) questionnaire was used to study a sample of three individuals over the age of 65. The questionnaire was completed at four different time points: 5 minutes before an aquatic exercise session, 5 minutes after the session, 30 minutes after, and finally 60 minutes after the session. The results of the study showed that depression and fatigue decreased significantly, while little change was observed in tension, hostility, vitality, and confusion. These findings have important implications for medical professionals, exercise scientists, and professionals working with older adults. In particular, they offer insights into promoting active aging, especially with regard to psychological and emotional well-being.

Key words: Physical exercise; POMS; Mood; Depression; Fatigue

The effect of body and muscle composition indices at the beginning of a sports season associated with the risk of injury in futsal players - A pilot study

CATARINA MARQUES¹, JOÃO SERRANO^{1,2}, MIGUEL REBELO^{1,2}, RUTE CRISÓSTOMO³

¹*Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Rua Prof. Dr. Faria de Vasconcelos, Castelo Branco 6000-266, Portugal*

²*SHERU - Sports, Health and Exercise Research Unit – Polytechnic Institute of Castelo Branco, Portugal*

³*AGE.COMM- Interdisciplinary Research Unit - On Building Functional Ageing Communities*

ABSTRACT

Futsal is a modality that requires the athlete to perform at a certain level as quickly as possible, causing excessive training after a long break, increasing the risk of contracting various traumas to the musculoskeletal system, increasing the risk of sports injuries, which according to Woods et al., (2002) happens more regularly in the preparatory period of sports seasons, closely associated with low body composition (WC) and muscle capacity (CM) indices of players in this phase of the season.

The objective of this study is to verify if the existence of injury in the first 3 months of the sports season in futsal players is related to the low rates of WC and CM in the pre-season evaluation.

The sample will be admission, of approximately 70 players, from 5 clubs in the district of Castelo Branco, participating in 4 competitive levels. The InBody, the Chronojump and the isokinetic dynamometer will be used to collect the WC and CM data and, for the existence of an injury, a recording grid created for the purpose. After collecting the data, the normality of the sample will be verified and the multiple linear regression test will be applied to verify the relationship between the dependent variable and the independent variables.

We intend that the results alert all professionals involved in training that the initial WC and CM data may be associated with the risk of injury and, naturally, with sports performance.

Key words: Sports; Injury prevent; Futsal; Body composition; Muscle strength.

Perceived well-being and motives for physical activity - a sex-differentiated approach for young students

ISABEL CONDESSA^{1,3}, ZÉLIA ANASTÁCIO^{2,3}

¹ FCSH, Faculdade de Ciências Sociais e Humanas - Universidade dos Açores, Portugal

² IE, Instituto de Educação - Universidade do Minho, Portugal

³ CIEC, Centro de Investigação em Estudos da Criança - Universidade do Minho, Portugal

ABSTRACT

With this study we aimed analyze the perception that a group of young Portuguese students had about their physical well-being and adherence to physical activity (PA) in a pandemic context, as well as to study the factors and motivations with influence, based on an analysis by sex. We have counted with 213 participants, (18.0 ± 1.46 years; both sexes). A questionnaire, applied in Google Forms, which allowed collecting data on: body mass index (BMI), weight changes and body image (BI), experiences in PA in childhood, adherence to regular PA practice and motivation factors, in the year of application (2020), period after the 1st confinement (Cnf) by COVID-19. Data were analyzed in SPSS (version 28) with descriptive, comparative and correlational statistics. We found that many young people had an increase in weight in the Cnf (2.32 ± 1.39 kg), with higher values for boys. Girls adhere less to PA and sport ($p=.006$; 19.8% less) and in the Cnf there was a punctual adherence of young people, without control or monitoring, and girls were the ones who more followed PA tutorials ($p=.001$). PA was perceived as one of the most relevant factors for well-being and health ($p=.003$). As for the reasons for adherence, the following stand out: 1st "to feel good" (80,3%); 2nd "having practice with accessible exercises" (74.7%); 3rd "improving/maintaining repertoire and/or motor skills" (73.7%). We conclude that asymmetries were observed between boys and girls, regarding physical well-being, adherence to practice and reasons for their involvement.

Key words: Young students; Covid-19; well-being; physical activity adherence; sex differences.

Educate through the Movement in Higher Education

A proposal for the improvement of well-being

ISABEL CONDESSA^{1,3}, ZÉLIA ANASTÁCIO^{2,3}

¹ FCSH, Faculdade de Ciências Sociais e Humanas - Universidade dos Açores, Portugal

² IE, Instituto de Educação - Universidade do Minho, Portugal

³ CIEC, Centro de Investigação em Estudos da Criança - Universidade do Minho, Portugal

ABSTRACT

The need to acquire motor and social literacy was fundamental in the years of fundamental schooling, however, we believe that, given the reality of young higher education students regarding the practice of physical activity (PA), we need to reflect on new strategies to encourage more active involvement in different practices, raising awareness of the relevance of moving activities and their impact on the individual and social well-being of the population. In this study, we first tried to analyze the evolution of non-adherence to PA of a group of students in the 1st year of higher education and to know the factors that influenced their non-practice. It was a transversal study, with quantitative methodology. We resorted to a questionnaire applied at the beginning of a cycle of studies to 573 participants, of both sexes, but predominantly girls. We started an evolutionary analysis in 1999 and confirmed this information with post-pandemic data. These data were analyzed with descriptive statistics and later we proposed an intervention program.

Keywords: Higher education; physical activity, program, well-being.

Description of Portuguese Students' Health-Related Behaviors During the COVID-19 Confinement

CATARINA MARQUES^{1,2}, MIGUEL REBELO², MARCO BATISTA²

¹*Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Rua Prof. Dr. Faria de Vasconcelos, Castelo Branco 6000-266, Portugal*

²*SHERU - Sports, Health and Exercise Research Unit – Polytechnic Institute of Castelo Branco, Portugal*

ABSTRACT

Introduction: Social distancing and confinement measures were key to combating the spread of COVID-19. However, these measures could lead to side effects in other dimensions of health, with radical changes in lifestyle behaviors, namely in physical activity (PA) and eating habits. **Objective:** The aim of this study was to describe the health-related behaviors of Portuguese students, with regard to PA habits and eating habits before and during confinement due to COVID-19. **Methods:** 174 students (mean = 21.58; SD = 2.58) residing in Portugal, answered the lifestyle and intention to be physically active questionnaire. **Results:** Of the 174 respondents, 35.1% did not practice regular PA before the 1st confinement, 22.4% practiced regular PA for less than 6 months, and finally, 42.5% subjects practiced regular PA for more than 6 months. Subjects who practiced PA before the first confinement, for more than 6 months, had better PA habits, better eating habits and higher levels of intention to be physically active. For PA habits, level of intention and eating habits during confinement, between genders, there were no statistically significant differences ($p = 0.131$; $p = 0.398$; $p = 0.424$, respectively) **Conclusion:** Although there were no statistically significant differences, male students showed better PA habits and more intention to be physically active, while female students showed better eating habits.

Key words: COVID-19; Physical activity; Eating habits; Intention; Students

Self-reported Physical Activity of University Education Students: Comparative Study between Portugal, Italy and Spain

RUI PAULO¹, ANDRÉ RAMALHO², ISABELLA SCURSATONE³, MARIA CAIRE⁴, NICOLÁS BORES CALLE⁵, DANIEL BORES GARCÍA⁶, MIGUEL REBELO⁷, PEDRO DUARTE-MENDES⁸

¹Rui Paulo. Sport Health & Exercise Research Unit (SHERU) - Instituto Politécnico de Castelo Branco; -Portugal

²André Ramalho. SHERU; - Instituto Politécnico de Castelo Branco - Portugal;

³Isabella Scursatone. SUIISM - Struttura Universitaria di Igiene e Scienze Motorie – Italy;

⁴Maria Caire. SUIISM - Struttura Universitaria di Igiene e Scienze Motorie – Italy;

⁵Nicolás Bores Calle. Facultad de Educación de Palencia. Universidad de Valladolid – Spain;

⁶Daniel Bores García - Rey Juan Carlos University, Madrid; – Spain;

⁷Miguel Rebelo. SHERU; - Instituto Politécnico de Castelo Branco; - Portugal

⁸Pedro Mendes. SHERU; - Instituto Politécnico de Castelo Branco; -Portugal

ABSTRACT

The aim of this study was to describe and compare the self-reported physical activity of Portuguese, Italian and Spanish students who attend higher education.

Participated in the study 1440 higher education students. Of this total, 424 subjects study in Portugal; 407 study Italy; and 609 study in Spain. The short version of the International Physical Activity Questionnaire (IPAQ) was applied, validated and translated into Italian, Portuguese and Spanish. Using SPSS (v.23.0), descriptive statistics were performed, as well as verification of the normality of data distribution (Kolmogorov-Smirnov) Since all variables have a non-normal distribution, the Kruskal Wallis test was used (Mann-Whitney).

We verified that, regarding the variables “Vigorous PA Days”, “Moderate PA Days”, “Sitting Time per day, during the week” and “Sitting Time per day, on the weekend”, it is the Italian students who present the mean values more favorable, with significant differences ($p \leq 0.05$), compared to Spanish and Portuguese students. We conclude that Portuguese, Italian and Spanish university students present moderate levels of physical activity, combined with high amounts of daily sedentary behavior.

Key words: Physical Activity; Higher Education Students; Sedentary Behaviour

The impact of objectively-measured physical activity and sedentary behaviour in cardiovascular risk and health-related quality of life in adults: a systematic review protocol

Beatriz Santos¹, Diogo Monteiro^{1,2}, Fernanda Silva^{3,4}, Gonçalo Flores¹, Pedro Duarte-Mendes^{5,6}

¹ ESECS - Polytechnic of Leiria, Leiria, Portugal

² Research Centre in Sport, Health and Human Development (CIDESD), Vila Real, Portugal

³ University of Coimbra, Faculty of Sport Sciences and Physical Education, Coimbra, Portugal

⁴ Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal

⁵ Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal

⁶ Sport, Health and Exercise Research Unit—SHERU, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal

ABSTRACT

Physical activity has been associated with better health outcome, like low risk of many diseases and low mortality, while sedentary behaviour has been considered a risk factor to health. The aim of this systematic review is to analyse the association between physical activity and sedentary behaviour (objectively measured) with cardiovascular risk and health-related quality of life (HRQoL) in adults without previous cardiovascular disease (CVD). Additionally, we intend to analyse the impact of the intensity of the physical activity in this association. This systematic review will follow the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines (Page et al., 2021). The search will be carried in three electronic databases (Web of Science, SCOPUS and PubMed) in order to find studies with an observational design, that investigated the association between physical activity and/or sedentary behaviour (objectively measured) and cardiovascular risk and/or HRQoL in adults without history of cardiovascular disease. For quality assessment we will use The National Institute of Health (NIH) Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (National Heart Lung & Institute, 2019). This review will clarify the impact of physical activity and sedentary behaviour in the cardiovascular risk and HRQoL of adults, especially the impact of physical activity intensity. The results of this review will influence the promotion of behavioural change in population.

Key words: quality of life, accelerometry, cardiovascular risk factors, sitting time, adults

Differences in neuromuscular load in basketball according to player's sex

SERGIO J. IBÁÑEZ¹, MARÍA DE LOS ÁNGELES ARENAS-PAREJA¹, PABLO LÓPEZ-SIERRA¹ AND JAVIER GARCÍA-RUBIO¹.

¹*Optimization of Training and Sports Performance Research Group (GOERD), Faculty of Sports Science, Universidad de Extremadura, 10003 Cáceres, Spain.*

ABSTRACT

Understanding and effectively managing the neuromuscular load in basketball empowers players to elevate their performance, mitigate the risk of injuries, and extend the longevity of their playing careers. The objective of the present study was to analyze the differences that may occur on neuromuscular load according to the player's sex in a basketball game. Using an ex post facto design, 17 professional male and female players were analyzed during an official game. Inertial devices were used to measure the external and internal load of each player. A Student's t-test was used to analyze the dissimilarities. Significant differences were found, mainly with higher values within the female players. By conducting comprehensive studies in this field, coaches and sports scientists can gain valuable insights into the specific physiological and biomechanical responses of basketball players during training and competition. This knowledge can inform the development of evidence-based training strategies that optimize player performance.

Key words: Basketball, Sex Differences, External Load, Neuromuscular Load, Competition.

Land Evaluation of Suitability for the Practice of Foot Orienteering Using a Spatial Multicriteria Method. A Case Study in the Central Eastern Region of Continental Portugal

QUINTA-NOVA LUÍS¹

¹Polytechnic University of Castelo Branco. Castelo Branco. Portugal

ABSTRACT

Orienteering is a sport in which the orienteer completes a course of control points in the shortest possible time, aided only by a map and compass, involving the choice of itineraries, through reading and interpreting the map and its relationship with the terrain. The most important factors for selecting areas for orienteering are difficult and challenging terrain that enables good course setting. Finding a suitable area for foot orienteering involves multiple criteria. The main features that provide the athlete greater opportunities for testing navigation skills are, among others, a detailed representation of the terrain, containing rich landforms, and its cover, since foot orienteering is a sport organized in forests or natural areas. Based on these principles, this study aims to assess the suitability of the Central Eastern Region of Continental Portugal for the practice of Foot Orienteering. The suitable areas and their constraints were identified based on integrating a set of criteria using multicriteria spatial analysis tools in a GIS environment. For this purpose, the following descriptors were integrated: land cover, slope, slope variation, Topographic Position Index (TPI), and aspect variation. The criteria were classified into four levels of suitability, calculated by applying the Hierarchical Analytical Process. Based on the results obtained by the proposed methodology, we concluded that 52.5% of the study area presents high suitability for foot orienteering at a competitive level. That is a notable potential resource for the advancement of the sport, and for further refinement of the presented methodology based on additional data and criteria.

Key words: land cover, multicriteria analysis, foot orienteering, suitability, terrain modeling.

Load differences in basketball according to the final outcome

PABLO LÓPEZ-SIERRA¹, MARÍA DE LOS ÁNGELES ARENAS-PAREJA¹, SERGIO J. IBÁÑEZ¹
AND ANTONIO ANTÚNEZ¹

¹Optimization of Training and Sports Performance Research Group (GOERD), Faculty of Sports Science, Universidad de Extremadura, 10003 Cáceres, Spain.

ABSTRACT

Basketball is a sport that involves five players per team in order to score more points than the opponent. The objective of the present study is to analyze the differences that may occur according to the outcome in a women's basketball game. Using an ex post facto design, 19 professional female players were analyzed during an official game. Inertial devices were used to measure the external and internal load of each player. A Student's t-test was used to analyze the dissimilarities. Significant differences were found, with higher values within the winner. A greater individualization of training is recommended, modulating the intensity and the volume. More research should be done in professional women's basketball.

Key words: Women, Load monitoring, Training, Competition, Match Outcome.

Boxing injuries in Portugal

Ricardo Sottomayor¹, Diogo Monteiro^{1,2,3}, Élio Alexandre¹, Gilda Soromenho⁴, Pedro Duarte-Mendes^{5,6}

¹ School of Education and Social Sciences (ESECS), Polytechnic of Leiria, Leiria, Portugal.

² Life Quality Research Centre (CIEQV), Leiria, Portugal.

³ Research Center in Sport Sciences, Health Sciences and Human Development (CIDESD), University of Trás-os-Montes and Alto Douro, Vila Real, Portugal.

⁴ Lisbon University

⁵ Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

⁶ Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

ABSTRACT

Boxing has been popular among athletes and spectators for centuries, as well as the injuries that come with it. The aim of this study was to quantify the injuries incidence (II) over the past 3 years and to detect common injury patterns and risk factors among boxing performers (BP). It was produced a 66-item questionnaire shared by BP. Statistical analysis was performed using IBM SPSS software version 29.0. The significance level was 5%. Data is presented with average \pm standard deviation for quantitative variables and as frequency and percentage for qualitative variables. Normality was verified using the Kolmogorov-Smirnov test. A three-step hierarchical linear regression was performed. After selection we obtained 583 answers (76.0 % male; 29.15 \pm 10.99 age; 173.65 \pm 13.29 cm height; 74.42 \pm 14.83 kg weight). There were 146 B (21.4%) one injury, 21 (3.6%) two injuries. We found an injuries incidence of 0.53 injuries per 1000 training hours per year. The highest number of injuries was during sparring (34.3%) and the most frequent was inflammation (28.1%). The following risk factors were significant: athletes' height ($p \leq 0.001$), competition ($p \leq 0.047$), and strength training ($p \leq 0.036$). In our study, we concluded that the lesions incidence was low, compared to previous studies and it supports the literature regarding the decrease of II, namely in amateur boxing.

Key words: boxing; sport injuries; fights; sparring.

Characterization of External and Internal Load Metrics during the Preparation for a Male International Elite Rink Hockey Championship.

António Ferraz^{1,2}, Pedro Duarte-Mendes^{5,6}, João Nuno Ribeiro², Farzad Yousefian², João Valente-Dos-Santos^{3,4} and Bruno Travassos²

1 CIFD, Sports Research and Training Center, Jean Piaget University of Angola, Luanda 2177, Angola; antferraz@hotmail.com; 2 CIDESD, Research Center in Sports Sciences, Health Sciences, and Human Development, Department of Sport Sciences, University of Beira Interior, Covilhã 6201-001, Portugal; brunotravassos@hotmail.com; 3 Faculty of Physical Education and Sport, Lusófona University, Lisbon 1749-024, Portugal; j.valente-dos-santos@hotmail.com; 4 University of Coimbra, CIDAF Coimbra 3040-248 Coimbra, Portugal; j.valente-dos-santos@hotmail.com; 5 Department of Sport and Well Being, Polytechnic Institute of Castelo Branco, Castelo Branco 6000-266, Portugal; pedromendes@ipcb.pt; 6 Sport, Health, and Exercise Research Unit—SHERU, Polytechnic Institute of Castelo Branco, Castelo Branco 6000-266, Portugal

ABSTRACT

It is important to manage the training process and ensure positive adaptation according to competitive demands to improve players' performance in a team sport such as rink hockey. This research aimed to investigate the training load through external (EL) and internal load (IL) dynamics during preparation for a top-level national team during the 2021 Rink Hockey European Championship. A non-experimental descriptive method was developed. A two-way mixed design ANOVA was utilized to compare EL and IL across microcycles during training sessions: In general, results revealed significantly higher values between training match day -3 (TMD-3) to TMD-1 for Player Load (PL) ($p \leq 0.05$) distance covered (DT) and high-speed skating (HSS) ($p \leq 0.001$). Significant differences were observed on s_RPE on TMD when compared to TMD-3, -2, and -1. In conclusion, different EL and IL dynamics were observed during the preparation weeks; however, s_RPE did not present a "U" wave tendency from TMD-3 until TMD.

Such results highlight the need to understand each sport's competitive dynamics and use the most appropriate metrics to monitor the preparation process.

Keywords: indoor team sports, physical performance, load monitoring, local position system, fatigue

Correlation between squat jump and agility tests in soccer and futsal players

TIAGO RAMALHO¹, RAFAEL FREIRE¹, GONÇALO RAMALHO¹, FERNANDA SILVA^{2,3}, RUI PAULO^{1,4}, MIGUEL REBELO^{1,4}, ANDRÉ RAMALHO^{1,4}, PEDRO DUARTE-MENDES^{1,4}

¹ *Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.*

² *University of Coimbra, Faculty of Sport Sciences and Physical Education, Coimbra, Portugal.*

³ *Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.*

⁴ *Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.*

ABSTRACT

Futsal, with its tactical dynamism and agility, demands motor mastery and quick thinking. Soccer, on expansive fields, requires endurance and precise strategy. Physical condition is a crucial foundation in both, optimizing performance and preventing injuries. Both modalities exemplify the symbiosis between body and mind in the sporting context. Agility ability is associated with jumping, resulting in improved time in agility drills with increased jumping in players. Squat Jump (SJ) training was shown to improve physical ability in soccer players in pre-season. The purpose of this study was to verify the correlation between SJ (Jump Height (JH), Flight Time (FT), Power (P), Initial Speed (IS)) and the agility tests (T Test, Three Cone Test and Reactive Agility Test) in young soccer and futsal players. Fifty-seven young people (soccer: $n = 34$; age = 14.09 ± 2.68 years old, height = 1.63 ± 13.91 m, body mass = 55.33 ± 14.67 kg; futsal: $n = 23$; age = 14.13 ± 2.69 years old, height = 1.66 ± 13.18 m, body mass = 56.76 ± 15.79 kg). The subject performed the "Squat Jump" (SJ) from a contact mat using the Chronojump system, followed by three agility tests, T-Test, Three-Cone Test and Reactive Agility Test. The results show that there is a more significant correlation between explosive power and agility in futsal players than in soccer players. Taking this into consideration coaches should continue to work on strength through jumping which will help with their agility.

Key words: Agility, Jumping, Significant, Futsal, Soccer.

Self-perception and perceived leadership behaviours of special olympics portugal coaches: influence of formal training

Pires, Pedro¹, Mesquita, Helena² e Ibàñez, Sergio³

¹ Associação Portuguesa de Pais e Amigos do Cidadão Deficiente Mental (APPACDM) de Castelo Branco e Sport, Health & Exercise Research Unit (SHERU); Portugal

² Instituto Politécnico de Castelo Branco. Portugal. Sport, Health & Exercise Research Unit (SHERU). Centro Interdisciplinar de Ciências Sociais da Universidade Nova (CISC.NOVA)

³ Facultad de Ciencias del Deporte, Universidad de Extremadura, España. Grupo de Optimización del Entrenamiento y Rendimiento Deportivo (GOERD)

ABSTRACT

Coaches play a fundamental role in the holistic development of their athletes, and when we talk about adapted sport, this prerogative is even more important, as sport is a transformative vehicle in the lives of athletes. However, the subject of the leadership behaviours of coaches of athletes with intellectual disabilities has been little explored scientifically. The main purpose of this study is to identify the coaches' self-perception and the athletes' perception of the leadership behaviours of Special Olympics Portugal coaches. It also aims to examine the relationship between self-perception and perception and the coaches' formal training. The research is descriptive and cross-sectional, with a sample of 50 coaches and 94 athletes from the Special Olympics Portugal universe. The self-perception and perception versions of the sports leadership scale were used in the study. The results show that in the versions analysed, coaches of athletes with intellectual disabilities show more leadership behaviours in the dimensions of reinforcement, training, instruction and social support. Coaches with specific training in the field of disability have behaviours that are more suited to the specific needs of their athletes.

Key words: Leadership; Adapted Sport; Intellectual Disability; Coaches; Formal Training

Formal training on coaches' leadership and self-determination and well-being of athletes with intellectual disabilities

Pires, Pedro¹, Mesquita, Helena² e Ibàñez, Sergio³

¹ Associação Portuguesa de Pais e Amigos do Cidadão Deficiente Mental (APPACDM) de Castelo Branco e Sport, Health & Exercise Research Unit (SHERU); Portugal

² Instituto Politécnico de Castelo Branco. Portugal. Sport, Health & Exercise Research Unit (SHERU). Centro Interdisciplinar de Ciências Sociais da Universidade Nova (CISC.NOVA)

³ Facultad de Ciencias del Deporte, Universidad de Extremadura, España. Grupo de Optimización del Entrenamiento y Rendimiento Deportivo (GOERD)

ABSTRACT

Coaches are widely recognised as one of the most important social agents in the sporting landscape. It is essential to analyse the coach-athlete relationship, as it is essential for athletes with intellectual disabilities. The study has as main objective to identify the leadership of coaches, to know the degree of self-determination, basic psychological needs, satisfaction with life and affections of athletes with intellectual disability and to examine the relationship of formal training of coaches in the aforementioned variables. The research is descriptive and cross-sectional, with a sample consisting of 50 coaches and 94 athletes from the universe of Special Olympics Portugal. Several instruments were used to measure leadership, self-determination, basic psychological needs, life satisfaction and affections. In view of the results obtained, it can be seen that coaches perceive themselves as having a leadership tending more towards reinforcement and training-instruction. The athletes have an autonomous motivation for sport, they privilege the autonomy provided by the sport activity. These premises allow athletes to show high values of life satisfaction and positive affect. In short, sport for athletes with intellectual disabilities has a transformative effect, not only in the sport but also in the social context.

Key words: Leadership; Adapted Sports; Intellectual Disability; Coaches; Athletes; Self-determination

Correlation between the countermovement jump and agility tests in soccer and futsal players

RAFAEL FREIRE¹, TIAGO RAMALHO¹, GONÇALO RAMALHO¹, FERNANDA SILVA^{2,3}, RUI PAULO^{1,4}, ANDRÉ RAMALHO^{1,4}, MIGUEL REBELO^{1,4}, PEDRO DUARTE-MENDES^{1,4}

¹ Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

² University of Coimbra, Faculty of Sport Sciences and Physical Education, Coimbra, Portugal.

³ Research Unit for Sport and Physical Activity (CIDAF, uid/ntp/04213/2020), University of Coimbra, Coimbra, Portugal.

⁴ Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

ABSTRACT

Futsal, with its tactical dynamism and agility, demands motor mastery and quick thinking. Soccer, on expansive fields, requires endurance and precise strategy. Physical condition is a crucial foundation in both, optimizing performance and preventing injuries. Both modalities exemplify the symbiosis between body and mind in the sporting context. Agility ability is associated with jumping, resulting in improved time in agility drills with increased jumping in players. The countermovement jump (CMJ) is used to measure the explosive power of the lower limbs in an individual. The purpose of this study was to verify the correlation between CMJ (Jump Height (JH), Flight Time (FT), Power (P), Initial Speed (IS)) and the agility tests (T Test, Three Cone Test and Reactive Agility Test) in young soccer and futsal players. Fifty-seven young people (soccer: n = 34; age = 14.09 ± 2.68 years old, height = 1.63 ± 13.91 m, body mass = 55.33 ± 14.67 kg; futsal: n = 23; age = 14.13 ± 2.69 years old, height = 1.66 ± 13.18 m, body mass = 56.76 ± 15.79 kg). The subject performed the “Countermovement jump” (CMJ) from a contact mat using the Chronojump system, followed by three agility tests, T-Test, Three-Cone Test and Reactive Agility Test. The results show that there is a more significant correlation between explosive power and agility in futsal players than in soccer players. Taking this into consideration coaches should continue to work on strength through jumping which will help with their agility.

Key words: Futsal, Soccer, Agility, Jumping

Comparison between the countermovement jump in soccer and futsal players

RAFAEL FREIRE¹, TIAGO RAMALHO¹, GONÇALO RAMALHO¹, FERNANDA SILVA^{2,3}, RUI PAULO^{1,4}, ANDRÉ RAMALHO^{1,4}, MIGUEL REBELO^{1,4}, PEDRO DUARTE-MENDES^{1,4}

¹ Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

² University of Coimbra, Faculty of Sport Sciences and Physical Education, Coimbra, Portugal.

³ Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.

⁴ Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

ABSTRACT

Futsal, with its tactical dynamism and agility, demands motor mastery and quick thinking. Soccer, on expansive fields, requires endurance and precise strategy. Physical condition is a crucial foundation in both, optimizing performance and preventing injuries. Both modalities exemplify the symbiosis between body and mind in the sporting context. The countermovement jump (CMJ) is used to measure the explosive power of the lower limbs in an individual. The purpose of this study was to analyse the differences in the CMJ outcomes (Jump Height (JH), Flight Time (FT), Power (P), Initial Speed) between young soccer and futsal players. Fifty-seven young people (soccer: n = 34; age = 14.09 ± 2.68 years old, height = 1.63 ± 13.91 m, body mass = 55.33 ± 14.67 kg; futsal: n = 23; age = 14.13 ± 2.69 years old, height = 1.66 ± 13.18 m, body mass = 56.76 ± 15.79 kg) took part of this study. The participant performed the CMJ from a contact mat using the Chronojump system (Chronojump-Boscosystem, Spain). Mann-Whitney and T-Test for Independent samples were used to verify differences between groups. We found that futsal players demonstrate notably higher power than soccer players ($p < 0.05$; 640.85 ± 238.25 vs 566.62 ± 166.23 watts, respectively), while other jump-related variables remain similar.

Key words: Futsal, Soccer, CMJ, Power, Motor Skills

Comparision of squat jump between soccer and futsal players

TIAGO RAMALHO¹, RAFAEL FREIRE¹, GONÇALO RAMALHO¹, FERNANDA SILVA^{2,3}, RUI PAULO^{1,4}, ANDRÉ RAMALHO^{1,4}, MIGUEL REBELO^{1,4}, PEDRO DUARTE-MENDES^{1,4}

¹ *Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.*

² *University of Coimbra, Faculty of Sport Sciences and Physical Education, Coimbra, Portugal.*

³ *Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.*

⁴ *Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.*

ABSTRACT

Futsal, with its tactical dynamism and agility, demands motor mastery and quick thinking. Soccer, on expansive fields, requires endurance and precise strategy. Physical condition is a crucial foundation in both, optimizing performance and preventing injuries. Both modalities exemplify the symbiosis between body and mind in the sporting context. Squat Jump (SJ) training was shown to improve physical ability in soccer players in pre-season. The purpose of this study was to analyse the differences in the SJ outcomes (Jump Height (JH), Flight Time (FT), Power (P), Initial Speed) between young soccer and futsal players. Fifty-seven young people (soccer: $n = 34$; age = 14.09 ± 2.68 years old, height = 1.63 ± 13.91 m, body mass = 55.33 ± 14.67 kg; futsal: $n = 23$; age = 14.13 ± 2.69 years old, height = 1.66 ± 13.18 m, body mass = 56.76 ± 15.79 kg) took part of this study. The participant performed the SJ from a contact mat using the Chronojump system (Chronojump-Boscosystem, Spain). Mann-Whitney and T-Test for Independent samples were used to verify differences between groups. We found that soccer players demonstrate higher power than futsal players, and the futsal player higher jump height than the soccer group, while other jump-related variables remain similar.

Key words: Futsal, Soccer, CMJ, Ability, Motor Skills

Analysis of the finalist shots of the Qatar Major Premier Padel 2023

ADRIÁN ESCUDERO-TENA¹, CARLOS AMAYA¹, RAFAEL CONDE-RIPOLL¹, DIEGO MUÑOZ¹
AND SERGIO J. IBÁÑEZ¹.

¹*Facultad de Ciencias del Deporte, Universidad de Extremadura, Cáceres, Spain.*

ABSTRACT

The objective was to analyze the characteristics of the finalist shots, through the validated OASP instrument, according to their effectiveness in men's professional padel. To do this, 880 finalist shots corresponding to matches of the Premier Padel Major tournament played in Qatar during the 2023 season were analyzed, performing a descriptive and inferential analysis. The results indicate that 73.18% of finishing shots are winners, while only 26.82% of finishing shots are errors. In addition, the winning finalist shots are made from the areas close to the net (zones 3 (RTC=4.9) and 4 (RTC=5.3)) and to a lesser extent from the middle areas of the court (zones 2 (RTC=2.6) and 5 (RTC=2.6)) and are usually flat (RTC=8.4), parallel (RTC=5.4) and ending X3 (RTC=6.2) or X4 (RTC=5.0). While finalist shots that end in error are usually made from the back areas of the court (zones 1 (RTC=8.9) and 6 (RTC=6.7)) and are usually cut (RTC=11.9), crossed (RTC=5.4) and that end in their own field (they stay in the net; RTC=3.9) or the opposite field (the ball hits the glass or fence directly; RTC=3.5). Thus, padel players should know these results to perform effective shots in real competition situations to promote success in the match.

Palabra clave: racket sports, game analysis, performance, game actions, air strikes.

Assessment Tools for Functional Ankle Instability. What they evaluate!

Élio Alexandre¹, Diogo Monteiro^{1,2,3}, Ricardo SottoMayor¹, Miguel Jacinto^{1,2,4}, Fernanda M. Silva^{4,5}
Pedro Duarte-Mendes⁶

¹ School of Education and Social Sciences (ESECS), Polytechnic of Leiria, Leiria, Portugal.

² Life Quality Research Centre (CIEQV), Leiria, Portugal.

³ Research Center in Sport Sciences, Health Sciences and Human Development (CIDESD), University of Trás-os-Montes and Alto Douro, Vila Real, Portugal.

⁴ Faculty of Sport Sciences and Physical Education, University of Coimbra, Coimbra, Portugal.

⁵ Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.

⁶ Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

ABSTRACT

Functional Ankle Instability (FAI) is a subject of extensive research, both in sports and other fields. In that context, the aim of this revision was to analyze profoundly the six most cited self-report survey tools. Peer-reviewed articles published before November 2022 were searched to identify the six most cited FAI assessment questionnaires: Lower Extremity Functional Scale (LEFS), Foot and Ankle Ability Measure (FAAM), Foot Function Index (FFI), Foot and Ankle Outcome Score (FAOS), Olerud and Molander Ankle Score (OMAS) and Cumberland Ankle Instability Tool (CAIT). In addition, bibliometric data was calculated, including the weighted average impact factor, and other indicators such as references per year were also considered to analyze the relevance of each questionnaire. Bibliometric analyses suggested that the FAOS occupies the first place and the FFI occupies the sixth place in the weighted average of impact factors of their original publications. Consideration of psychometric strengths/limitations of each questionnaire and the conceptualization of instability in the context of specific research questions should guide investigators in selecting the most appropriate instrument to estimate functional instability in sport. The weighted average impact factor of each questionnaire also presents itself as a relevant metric to be considered. With these considerations, guidance for investigators is provided.

Key words: ankle, functional instability, questionnaire

Association of Serum Adipokines Levels with Fat Mass, Lipid and Glycemic Profiles in Middle-Aged Sedentary Adults

Fernanda M. Silva^{1,2}, Pedro Duarte-Mendes^{3,4}, José P. Ferreira ^{1,2}, Carlos M. Soares ^{1,2}, Rafael N. Rodrigues ¹, Carlos Farinha ¹, Ana M. Teixeira ^{1,2}

¹ *University of Coimbra, Faculty of Sport Sciences and Physical Education (FCDEF), Coimbra, Portugal.*

² *Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.*

³ *Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.*

⁴ *Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Portugal.*

ABSTRACT

This study aimed to investigate the circulating levels of adiponectin and leptin levels and their association with fat mass, and lipid and glycaemic profiles in sedentary middle-aged adults without diabetes. Forty middle-aged sedentary adults (82.5% women; 53.4 ± 7.18 years old; BMI: 27.4 ± 3.9 kg/m²) took part in this study. Anthropometric measures including body mass, stature, waist circumference, and body mass index (BMI) were measured. Fat mass was determined by bioimpedance. Fasting blood samples were collected to determine adipokines and lipid and glycaemic profile outcomes. Pearson and Spearman's correlations were used to determine the associations between variables. Our results suggested that leptin is positively associated with BMI, waist circumference, fat mass, glucose, HbA1c (%), and total cholesterol. Regarding adiponectin levels, we found a negative association with BMI and triglycerides and a positive association with HDL-C levels. No significant associations were observed between adiponectin and glycaemic profile outcomes. Adiponectin/leptin ratio showed to be associated negatively with BMI, waist circumference, fat mass, fasting glucose, and triglycerides. This study has important clinical and public health implications supporting the importance of adopting a healthy lifestyle to maintain satisfactory levels of leptin and adiponectin, and consequently, a normal glycaemic and lipid profile.

Key words: adiponectin, leptin, T2DM, glucose metabolism, lipid metabolism

Normal Range Glycated Hemoglobin A1c is Associated with Reduced Pulmonary Function in Middle-Aged Adults

Fernanda M. Silva ^{1,2}, José P. Ferreira ^{1,2}, Ana M. Teixeira ^{1,2}, Carlos M. Soares ^{1,2}, Rafael N. Rodrigues¹, Carlos Farinha ¹, Pedro Duarte-Mendes ^{3,4}

¹ *University of Coimbra, Faculty of Sport Sciences and Physical Education, FCDEF, Coimbra, Portugal.*

² *Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.*

³ *Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.*

⁴ *Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Portugal.*

ABSTRACT

Glycated hemoglobin (HbA1c) has been related to impaired lung function in the diabetic population. Few studies have analysed the association between lung function and HbA1c in the non-diabetic population. We investigated whether HbA1c below the diagnostic threshold is associated with lung function parameters. Forty non-diabetic adults took part in this study. Fasting blood samples were drawn to determine the HbA1c level. Lung function was assessed by spirometry using the Spiropalm 6MWT (Cosmed, Italy) Spirometer. One-way ANOVA was performed to detect significant differences between the groups according to their HbA1c level (%). Pearson and Spearman's correlations were used to determine the associations between variables. Participants were divided into 3 groups according to HbA1c level as follows: Group 1 (n=18), ≥ 5.0 to $\leq 5.5\%$; Group II (n=10), > 5.5 and $\leq 5.7\%$; and Group III (n=12), > 5.7 and $\leq 6.2\%$. Group I had the higher FVC ($108.33 \pm 13.81\%$ pred.), FEV1 ($108.11 \pm 14.92\%$ pred.), PFE (7.63 ± 2.25 L/s) and the lowest FEV1/FVC ratio ($80.03 \pm 5.52\%$) compared to other groups; however, there were no significant differences between groups. Bivariate correlation analysis showed that HbA1c was negatively related to FVC (L) ($r = -0.465$, $p = 0.002$ [low]), FVC% prev. ($r = -0.377$, $p = 0.016$ [low]), and FEV1 (L) ($r = -0.375$, $p = 0.017$ [low]) but not to PFE and FEV1/FVC ($p > 0.05$). Our results suggest that HbA1c (%) level is associated with lower FVC and FEV1 in middle-aged adults, which may be a potential predictor of poor lung function.

Key words: lung function, spirometry, glycaemic profile, diabetes, sedentary behaviour.

Effects of a combined training program on pain, stiffness, fatigue and well-being in women with fibromyalgia

Mónica Sousa¹, João Moutão^{1,2,3}, Rafael Oliveira^{1,2,3}, Susana Alves^{1,2}

¹ Sport Science School of Rio Maior, Polytechnic Institute of Santarem, 2040-413 Rio Maior, Portugal; monicasousa@esdrm.ipsantarem.pt; jmoutao@esdrm.ipsantarem.pt; rafaeloliveira@esdrm.ipsantarem.pt; salves@esdrm.ipsantarem.pt

² Life Quality Research Center, 2040-413 Rio Maior, Portugal

³ Research Center in Sport Sciences, Health Sciences and Human Development, 5001-801 Vila Real, Portugal

ABSTRACT

Fibromyalgia is a rheumatic disease characterized by chronic widespread muscle pain and its treatment is carried out through pharmacological interventions. Physical exercise and the adoption of a healthy lifestyle influence the reduction of the symptoms of the disease. The main objective of this study was to analyze the effects of a combined training program on health and functional capacity in female individuals diagnosed with Fibromyalgia. It was a quasi-experimental study with a duration of 8 months with a sample of six participants between 43 and 58 years old, who did not practice any type of physical exercise program. The following instruments were used in baseline and post intervention: Fibromyalgia Impact Questionnaire (FIQ), Short Form Health Survey Questionnaire (SF-36v2) and functional physical fitness tests (30-second chair stand, arm curl, sit and reach, 8-ft up-and-go, back scratch and 2-minute step test). Wilcoxon non-parametric test (intra-group comparison) was used, with a significance level of $p < 0.05$ to compare baseline and post intervention effects. Significant improvements were observed: in 2-minute step test ($p = 0.21$); physical function; physical performance; physical pain and general health, the mental component, vitality; social function of the SF-36v2 (all, $p < 0.05$). Moreover, FIQ showed a significant reduction in all scales at the end of the program compared to the baseline ($p < 0.05$). Combined training program can reduce the impact of fibromyalgia while improving health and aerobic performance.

Key words: Combined Exercise Program; Fibromyalgia; Functional Capacity; Health.

Do teaching model, and out-of-school practice time influence tactical knowledge in school soccer?

JUAN M. GARCÍA-CEBERINO^{1,2}, DAVID MANCHA-TRIGUERO^{3,4}, OLGA CALLE⁴, SEBASTIÁN FEU^{1,4}

¹ *Universidad de Extremadura, Facultad de Educación y Psicología, Avenida de Elvas s/n, 06006 Badajoz, Spain*

² *Faculty of Education, Psychology and Sports Science, University of Huelva, 21007 Huelva, Spain*

³ *Cardenal Spínola CEU San Pablo. CEU Andalucía, Glorieta de Ángel Herrera Oria s/n, 41930 Bormujos, Spain*

⁴ *Optimization of Training and Sports Performance Research Group (GOERD), Faculty of Sports Science, University of Extremadura, 10003 Cáceres, Spain*

ABSTRACT

This quasi-experimental study determined the influence of the teaching model, and out-of-school soccer practice time on the tactical knowledge of primary school students. It included 41 fifth-grade students ($M = 10.41$, $SD = 0.50$ years), from a Spanish public school. They were distributed into two groups according to the teaching model: fifth grade A learned soccer by the Tactical Games Approach, and fifth grade B learned soccer by the Direct Instruction model. The “total tactical knowledge” of the students was measured using the Soccer Tactical Knowledge Test, after the application of the two learning situations (11 sessions each). The interaction Teaching model * Out-of-school soccer practice time and intergroup differences were calculated using a General Linear Model and Tukey’s Post Hoc test, respectively. There were no differences in tactical knowledge according to the teaching model. There were differences in tactical knowledge according to the out-of-school soccer practice time, in favor of the students who played soccer “a lot” versus those who played soccer “never, ever and enough”. Post Hoc comparisons (interaction) indicated differences, in favor of students who learned by the traditional model and played soccer “a lot” versus those who learned by the tactical model and played soccer “never, ever, and enough”. More soccer experience implied greater tactical knowledge.

Key words: Physical education, Tactical Games Approach, Direct Instruction, sport experience.

Understanding physical activity of patients followed in Psychiatry/Psychology consultation

Sílvia Baptista¹, Catarina Costa¹, António Lains¹, Roberta Frontini^{1, 2}

¹ *Clínica de Neurociências e Saúde Mental, Hospital Cruz Vermelha, Lisboa, Portugal*

² *Center for Innovative Care and Health Technology (ciTechCare), Polytechnic of Leiria, 2411, Leiria, Portugal*

ABSTRACT

Aim: Characterise the levels of PA of 189 patients (44.77±15.07 years) followed in a mental health clinic. Participants self-reported sociodemographic data and data regarding PA. Results: 51.3% reported practicing no PA. The sub-sample of participants who reported practising at least one hour of PA per week, on average, people reported practising PA 3.18 times and 3.39 hours per week. When compared sex assigned at birth differences in the amount of PA, men reported superior levels of PA practice. It is of utmost importance to understand the PA levels practised by patients when seeking psychiatry and psychology. Searching for the context of the overall health and well-being of the individuals served, as well as the assessment of the patient's physical health and lifestyle, is crucial to creating better treatment protocols. The results of the present study emphasize the importance of working with multidisciplinary teams in mental health, specifically with exercise physiologists.

Keywords: exercise, mental health, psychopathology, physical activity

Asymmetry in handgrip strength in children in the 2nd and 4th years of schooling

PAULINO ROSA^{1,2}; SERGIO IBÁÑEZ³; RUI MATOS^{1,2}; NATANIEL LOPES¹; JOÃO SERRANO⁴

¹ *Centro de Investigação em Qualidade de Vida (CIEQV), Leiria, Portugal*

² *Instituto Politécnico de Leiria, Leiria, Portugal*

³ *Research Group in Optimization of Training and Sports Performance (GOERD), Faculty of Sports Sciences, University of Extremadura, Cáceres, Spain*

⁴ *Sport, Health & Exercise Research Unit (SHERU/RECI), Instituto Politécnico de Castelo Branco, Portugal*

ABSTRACT

The objective of the present study is to evaluate handgrip strength and asymmetry in students in the 2nd and 4th grades of the 1st CEB. In general, genetic and non-genetic factors have been proposed to explain hand preference in humans (Papadatou-Pastou et al, 2020). On the other hand, evidence from several studies shows that lateral asymmetries vary throughout development, with a somewhat predictable phasing, but with some inconsistencies yet to be explained. Sex, the subject's neurological status and the type of society in which they are inserted are factors that seem to interfere in the development of manual preference and the consequent manual asymmetry. It can therefore be said that asymmetry results from biological, social and cultural factors characteristic of a given geographic space and historical-cultural contextualization. Therefore, for this study, thirty children were evaluated, attending the 2nd and 4th years of the 1st cycle of basic education (18 girls and 12 boys). Fifteen are in the second year and another fifteen in the fourth year of school.

Palavras-chave: Asymmetry, grip strength, children.

Importance of an Intervention for the Development of Strength and Impulse of the Lower Limbs in Acrobatic Gymnastics

MIGUEL REBELO¹, JOÃO PETRICA^{1,2}, PEDRO DUARTE-MENDES^{1,2}, RUI PAULO^{1,2}, JORGE SANTOS^{1,2}, JOÃO SERRANO^{1,2}

¹ Sport, Health & Exercise Research Unit (SHERU) - Polytechnic Institute of Castelo Branco, Portugal

² Department of Sports and Well-being - Polytechnic Institute of Castelo Branco, Portugal

ABSTRACT

The objective of this study was to verify if there were differences in terms of the development of strength and impulsion of the lower limbs in athletes practicing Acrobatic Gymnastics. In this study participated 12 athletes aged between 10 and 15 years (12.50 ± 0.97) all female, divided into two groups, an Experimental Group (N=5, 12.40 ± 0.92) and a control group (N= 7, 12.57 ± 0.36). To assess the strength of the lower limbs, the Chronojump software was used and to verify the body composition, the “Inbody” Bioimpedance scale was used. Athletes in the experimental group performed 20 specific training sessions for different types of strength over approximately 3 months. The Shapiro-Wilk test was applied to verify normality and the Wilcoxon test was used (to assess intra-group differences). The main results obtained refer that both groups evolved, however it was the experimental group (subject to complementary training) that obtained better results and greater evolution, with statistically significant differences.

Key words: Strength, Impulse, Acrobatic Gymnastics, Intervention.

The Importance of an Intervention for the Development of Flexibility in 7- and 15-Year-Old Children

MIGUEL REBELO¹, JOÃO PETRICA^{1,2}, SAMUEL HONÓRIO², MARCO BATISTA², JOÃO ROCHA^{1,2}, ANTÓNIO FAUSTINO^{1,2}, JOÃO SERRANO^{1,2}

¹ Sport, Health & Exercise Research Unit (SHERU) - Polytechnic Institute of Castelo Branco, Portugal

² Department of Sports and Well-being - Polytechnic Institute of Castelo Branco, Portugal

ABSTRACT

The objective of this study was to verify whether the application of additional sessions of flexibility training improves this capacity in athletes who practice acrobatic gymnastics.

The study included 28 children (10.57 ± 2.5 years), aged between 7 and 15 years, of both genders (F, N=24, 11.00 ± 0.5 years; M, N=4, 8.00 ± 0.4 years), divided into two groups, experimental group (N=14, 8.43 ± 1.01) and control group (N=14, 12.71 ± 1.51). The athletes in the experimental group performed 20 specific training sessions for different types of flexibility over approximately 3 months. The Shapiro-Wilk test was applied to verify normality and the Wilcoxon test (to assess intra-group differences) was used.

After analyzing the results, we found that although there were not many statistically significant differences, on average the experimental group presented better results after the intervention in the various variables evaluated, whereas the control group presented, on average, and in some of the study variables, little or no evolution. These results agree with the study by (Publio, 1988) who carried out an investigation evaluating the flexibility of Olympic gymnasts through training, where they obtained significant results in gymnasts with an average age of ten years.

Key words: Flexibility, Childrens, Acrobatic Gymnastics, Intervention.

Teacher-Student Contact as a Pedagogical Tool in the Physical-Motor Expression Classroom and in the Aquatic Environment in a Portuguese School

MARÍA EMILIA FERNÁNDEZ LÓPEZ¹, LUCIO MARTÍNEZ ÁLVAREZ², MIGUEL REBELO³, VIRGINIA CASTRO FERNÁNDEZ⁴

¹*María Emilia Fernández López. Facultad de Educación de Palencia. Universidad de Valladolid – Spain;*

²*Lucio Martínez Álvarez. Facultad de Educación de Palencia. Universidad de Valladolid – Spain;*

³*Miguel Rebelo. Sport Health & Exercise Research Unit (SHERU) - Instituto Politécnico de Castelo Branco – Portugal;*

⁴*Virginia Castro Fernández. Facultad de Educación de Palencia. Universidad de Valladolid – Spain.*

ABSTRACT

Contact is defined as a human need and its use in the educational field is justified against the moral panic that predominates in society. This article deepens into the reality of the use of contact as a pedagogical tool in relationships between the specialist in Physical Education and the student. Its objective is to analyse situations of intergenerational contact in the Physical-Motor Expression classroom and the aquatic environment at a school in Castelo Branco, Portugal.

It was based on the bodily experience of a teacher who carried out her internship with 150 students in an Erasmus mobility. A professional from the school was involved as well. A qualitative method of research is adopted in order to detect the different pedagogical functions of touch, through the Teaching Body Journal and a semi-structured interview with a professional.

We verified that the teacher-student contact has great value in the teaching and acquisition of body techniques, in emotional regulation and in auxiliary tasks. We conclude that contact can occur in multiple ways in the classroom and if it is used properly, its pedagogical value is high.

Key words: Contact; Physical-Motor Expression; Swimming; Body Experience; Teaching Body Journal.

Effects of the Order of Execution of Endurance Training and Resistance on the Development of Physical Condition in Secondary School Students

ANTONIO SOUSA¹, DANIEL MARINHO², SUSANA FERRINHO³, MÁRIO MARQUES⁴

¹ *Department of Sport Sciences, University of Beira Interior, 6201-001 Covilhã, Portugal*

² *Department of Sport Sciences, University of Beira Interior, 6201-001 Covilhã, Portugal*

³ *Department of Letters, University of Beira Interior, 6201-001 Covilhã, Portugal*

⁴ *Department of Sport Sciences, University of Beira Interior, 6201-001 Covilhã, Portugal*

ABSTRACT

The objective of this study is to assess the effect of the order of execution of endurance and resistance training on the development of the physical condition in secondary school students during Physical Education classes. Thirty-one individuals were randomly divided into three groups, group 1 (EG1, n=12) performed resistance training followed by endurance training, group 2 (EG2, n=11) endurance training followed by resistance training and group 3 was the control group (CG, n=8). The training program was performed during physical education classes, twice a week during ten weeks. To evaluate the effects of training, each participant underwent two assessments, in which a test shuttle run, the release of 3kg and 5kg medicine balls, countermovement jump, and 20m sprint were applied. The results of this study revealed that only the groups subject to the workout plan showed significant improvements in performance, with a significance level of $p > 0.01$, whereas the CG showed no improvement. In terms of training purposes, EG1 and EG2 showed significant percentage gains in performance, whereas the CG showed no percentage performance improvements. With this study we can conclude that regardless of the order of application of exercises, nineteen minutes of endurance and resistance training applied twice a week at the beginning of the physical condition classes is sufficient to contribute significantly to improving the physical condition of students.

Key words: Endurance Training, Resistance Training, Physical Condition, Student

Validation of a program for teaching an alternative invasion team sport

OLGA CALLE ^{1,2}, ADRIÁN ESCUDERO-TENA ^{1,2}, ANTONIO ANTÚNEZ ^{1,2}, SEBASTIÁN FEU ^{1,2}

¹ *Department of Music, Plastic and Corporal Expression Didactics, Faculty of Sports Sciences, University of Extremadura, 10003, Cáceres, Spain.*

² *Optimization of Training and Sports Performance Group, Faculty of Sports Sciences, University of Extremadura, 10003, Cáceres, España.*

ABSTRACT

The validation of programmes based on pedagogical models is essential to ensure the effectiveness of the tasks. The aim of the research was to validate a didactic programme using the Game-Centred Model for the teaching of an alternative invasion team sport called "the Rosquilla". The sample consisted of nine expert judges who participated in the validation process. Content validity was achieved by calculating Aiken's V coefficient, using the algebraic equation modified by Penfield and Giacobbi. Internal consistency was obtained through Cronbach's α coefficient. Eleven tasks were eliminated from the intervention programme for not exceeding the exact critical value ($V \geq .73$). Therefore, 49 tasks were included in the programme. The value obtained for internal consistency was excellent ($\alpha = .99$). The programming is established as valid, reliable and suitable for learning "the Rosquilla". It can be used for the implementation of alternative sports, to determine the effects produced in the students and to favour the teaching work in Physical Education.

Key words: Pedagogical models, alternative invasion team sport, expert judge, Aiken's V, Physical Education, pedagogical innovation.

The good game as content of a lesson in the aquatic environment

VIRGINIA FERNÁNDEZ ¹, MIGUEL REBELO ², MARIA LÓPEZ ³

¹ *Facultad de Educación de Palencia. Universidad de Valladolid – Spain;*

² *Sport Health & Exercise Research Unit (SHERU) – Instituto Politécnico de Castelo Branco– Portugal;*

³ *Facultad de Educación de Palencia. Universidad de Valladolid – Spain.*

ABSTRACT

The aim of this project consists in creating a new way of structuring Education School Physics lessons, based on a logical whatever pedagogical-didactic, instead of anatomical - physiological way. This plan has been put into practice with students of 4th grade from Padres Redentoristas Social Center, located in Castelo Branco (Portugal) in swimming classes. With this purpose we designed an intervention plan in the water, which consists in four games encouraging them to do it by the good way. As a result, we analyse the results obtained in the planning, intervention and the subsequent hypothetical development of a good game that was carried out. Since due to a series of factors, both personal and external, I have not been able to meet the expectations that I had originally established in my planning.

Key words: game good; Education School Physics; pool; intervention; security; relationships.

Exploring School PE Beliefs and Their Impact on Professional Identity in Future Physical Education Teachers

GUSTAVO GONZÁLEZ-CALVO¹, NICOLÁS BORES-CALLE², LUCIO MARTÍNEZ-ÁLVAREZ³ y ALFONSO GARCÍA-MONGE⁴

¹*Facultad de Educación de Palencia, Universidad de Valladolid, España*

²*Facultad de Educación de Palencia, Universidad de Valladolid, España*

³*Facultad de Educación de Palencia, Universidad de Valladolid, España*

⁴*Facultad de Educación y Trabajo Social de Valladolid, Universidad de Valladolid, España*

ABSTRACT

Physical Education (PE) teachers have prior experiences and backgrounds that influence their pedagogical practice. Students, far from being a 'blank slate,' demonstrate how their previous socialization period, subjectivities, and identities shape a particular culture of PE teaching. This present study aims to understand and delve into the preconceptions held by future Physical Education teachers that influence their practice and pedagogical intentions. The study included 23 second-year students pursuing a degree in education with a specialization in Physical Education, following a qualitative design. Data collection tools consisted of a questionnaire, a life history, and a semi-structured individual interview. The findings reveal that participants approach the profession from different professional perspectives: a sports-oriented perspective, a health-oriented perspective, a pedagogical perspective, and a perspective focused on critical pedagogy and social change within the context of PE.

Keywords: Teacher education; Physical Education; student teachers; career choice motives; professional identity.

Sociocultural Animation and the interaction of Playing with Football: the importance of multidisciplinary in child

Bruno Trindade¹, Ricardo Pocinho², André Marques³, Ricardo Ferraz⁴, João Serrano⁵; Rui Paulo⁶;

¹ *Sport Health & Exercise Research Unit (SHERU)- Instituto Politécnico de Castelo Branco; Agrupamento Escolas Nuno Álvares e Desportivo de Castelo Branco – Portugal;*

² *CICS.NOVA.IPleiria; Escola Superior de Educação e Ciências Sociais do Politécnico de Leiria – Portugal;*

³ *Desportivo de Castelo Branco e Universidade da Beira Interior – Portugal;*

⁴ *Research Center in Sports, Health and Human Development e Department of Sports Sciences University of Beira Interior – Portugal*

⁵ *João Sport Health & Exercise Research Unit (SHERU)- Instituto Politécnico de Castelo Branco; – Portugal*

⁶ *Sport Health & Exercise Research Unit (SHERU)- Instituto Politécnico de Castelo Branco; – Portugal*

ABSTRACT

This article aims to show the pedagogical and social perspective of the interaction between Socio-Cultural Animation and the play associated with football. The possibility of associating play with football enables a more balanced growth at a physical, emotional, and social level.

In this dimension, socio-cultural animation is relevant due to its multiplicity of interventions, in the context of promoting the social relationship and physical-motor development and the cooperative games, in the process of educational construction in the football context, helping in the child's growth, training the norms and rules, supervising and establishing social relationships, for the reinforcement of physical-motor skills and behavioral parameterization.

This study tried to present the value that the action of Sociocultural Animation has in the importance of the play associated with the football context.

Key words: Play; football; socialization; socio-emotional; childhood.

What do students pay attention in physical education classes?

JORGE SANTOS^{1,2}, MARCO BATISTA^{1,2}, SAMUEL HONÓRIO,^{1,2}JOÃO SERRANO^{1,2}, MIGUEL REBELO LUCAS^{1,2}, PAULO SILVEIRA,^{1,2} JOÃO ROCHA,^{1,2} JOÃO PETRICA^{1,2}

¹ *Department of Sports and Well-being, Instituto Politécnico de Castelo Branco, Portugal.*

² *SHERU - Sport, Health & Exercise Research Unit, Instituto Politécnico de Castelo Branco, Portugal*

ABSTRACT

The focused attention arises as a fundamental condition to the learning process, since the greater the power to keep the focus on a certain object or task, the better the chance of success. We intend to know the aspects to which the students pay attention during the different moments of the Physical Education class. The sample consisted of 156 students from the 3rd Cycle of Basic Education, of both genders (84 female and 72 male). We applied the questionnaire ATEST-EF (Petrica, 2010; Santos *et al.*, 2019), in which the students signalized what they were thinking of at certain moments of the Physical Education classes. The final results indicate that there are no significant differences in terms of statistics, because after the application of the test of “Qui-Quadrado” to associate the variable “Attention” and the variable “Signal”, we can verify the value of ($p = .373$). From the analysis performed, we can infer that in relation to students' attention profile study, there are no statistically significant differences.

Key words: Physical Education; moments in class; student's thought; attention

The Level of Physical Activity of Primary School Students

DIOGO NEVES¹, JORGE SANTOS^{2,3}, MARCO BATISTA^{2,3}, SAMUEL HONÓRIO^{2,3}, JOÃO SERRANO^{2,3}, ANTÓNIO FAUSTINO^{2,3}, JOÃO ROCHA^{2,3}

¹Higher School of Education of Castelo Branco, Polytechnic Institute of Castelo Branco, 6000-266 Castelo Branco, Portugal; dioneves.2001@gmail.com

²Department of Sports and Well-being, Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

³ Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Portugal.

ABSTRACT

Extracurricular Activities of Physical Motor Expression are the starting point for students physical, social, and cognitive development. Therefore understanding the characteristics of Physical Motor Expression classes of AEC's (Extracurricular Activities) according to the levels of physical activity, the context of the classes and the teacher's behavior are important elements to help teacher to organize their work. For that we used SOFIT an instrument based on direct observation, developed, and validated for the evaluation of Physical Education classes. Data was analyzed using descriptive statistics. We found that the time students were standing 34% of time, and very active 18.3%. Girls demonstrated that they are more active for longer than boys. The largest proportion of class time was on practicing skills (44.6%) and games (29.4%). In class teacher spent 29.7% on observing situations. The data suggest that students spend in class the same time in motor activities and stopped, and the teacher spends his time in several didactic situations.

Key words: Physical Activity Levels; Extracurricular activities; Physical Motor Expression; Sofit.

Does shooting on goal influence sports performance in soccer for blind people?

JOSÉ M. GAMONALES^{1,2}, JESÚS MUÑOZ-JIMÉNEZ¹, MARIO C. ESPADA^{3,4,5}, JOSÉ FERNÁNDEZ-CORTÉS¹ AND VÍCTOR HERNÁNDEZ-BELTRÁN¹

¹ *Universidad de Extremadura, España*

² *Universidad Francisco de Vitoria, España*

³ *Instituto Politécnico de Setúbal, Escola Superior de Educação, Portugal*

⁴ *Life Quality Research Centre (CIEQV-Leiria), Portugal*

⁵ *CIPER, Faculdade de Motricidade Humana, Universidade de Lisboa, Portugal*

ABSTRACT

The present study analyzes all shots on goal in play (n=424), in 5-a-side Soccer for blind people in the 2021 World Grand Prix international tournament, held in the city of Tokyo (Japan). For this, the IOLF5C instrument was used (made up of fourteen variables to analyze the effectiveness of the shot on goal). A descriptive study and association was carried out between the independent variables of the analysis (Contextual and Game Actions), and the study variable (Result of the launch). The results show how 5-a-side Soccer for blind people is a sports modality with a reduced number of technical-tactical actions. The winning team of the tournament being the one who makes the greatest number of shots on goal. They start the play in the starting zone, and shoot at goal from the offensive zone. To do this, they make a rapid progression with driving and throwing at goal, without blocking, and, mainly, they hit the ball with their right foot and, mostly from the toe/instep. Furthermore, the result of the throw is conditioned by the variables of the team's situation, starting zone, opposition of the throw and body zone. Therefore, it is recommended that coaches design situations that favor quick ball stealing after effective pressure in offensive zones.

Key words: Sports Performance, Sports, Disability, Blind.

External and internal loading of wheelchair basketball players

JOSÉ M. GAMONALES^{1,2}, SERGIO J. IBÁÑEZ¹, JESÚS MUÑOZ-JIMÉNEZ¹, MARIO C. ESPADA^{3,4,5} AND VÍCTOR HERNÁNDEZ-BELTRÁN¹

¹ *Universidad de Extremadura, España*

² *Universidad Francisco de Vitoria, España*

³ *Instituto Politécnico de Setúbal, Escola Superior de Educação, Portugal*

⁴ *Life Quality Research Centre (CIEQV-Leiria), Portugal*

⁵ *CIPER, Faculdade de Motricidade Humana, Universidade de Lisboa, Portugal*

ABSTRACT

Inertial devices (ID) have been widely used in professional sports with the purpose of quantifying external and internal load demands due to their great functionality in the characterization and quantification of players' performance levels. Wheelchair Basketball (BSR) is a sport intended for people with disabilities, who have a functional classification (FC), based on their range of motion and trunk stability (1.0 to 4.5). Therefore, the objective of this work is to analyze the external and internal load of BSR players, depending on the FC of the players. The results show how FC 4.0 players present better values in most of the variables analyzed. FC 1 players, those with the highest maximum values in acceleration and deceleration. Determining the load to which BSR players are subjected in simulated competition situations will allow training sessions to be personalized to the physical demands of the competition. Knowing the internal and external load to which players are subjected during training is of vital importance, since it allows the loads to be personalized based on competitive demands, and to develop a progressive and modular training program of the loads to obtain the best performance of athletes.

Key words: Performance; Player Load; Functional Classification; Training.

Training to win. Analysis of performance indicators in elite football

JOSÉ FERNÁNDEZ-CORTÉS¹, DAVID MANCHA-TRIGUERO^{1,2}, JUAN MANUEL GARCÍA-CEBERINO^{1,3}, JAVIER GARCÍA-RUBIO¹

¹ *Grupo de Optimización del Entrenamiento y Rendimiento Deportivo, Facultad de Ciencias del Deporte, Universidad de Extremadura, 10003, Cáceres, España.*

² *Departamento de Actividad Física y Deporte. CEU Cardenal Spínola. CEU Andalucía. Glorieta de Ángel Herrera Oria S/N. Bormujos (Sevilla), España.*

³ *Faculty of Education, Psychology and Sports Science, University of Huelva, 21007 Huelva, Spain.*

ABSTRACT

As the years go by, football teams are able to improve by working with a greater knowledge of information on their own and the opposing team's performance indicators. To do this, they rely on specialised coaching staffs. The aim of this work was to know any performance indicator that affects the result of a match, and therefore the championship, in order to be able to work on it in training, improve it and thus achieve the objectives at the end of the season. For this research, three seasons of the Spanish First Division of men's football were analysed, using the variables location, result and all the performance indicators, comparing all the groups to find out the significant differences. The main findings show that when the team plays at home it should increase the quantity of passes, set pieces and the quantity of shots, if the team plays away it should be an aggressive team, which makes good counterattacks and must improve the quality of the shot because it will have fewer opportunities to shoot.

Keywords: Training, Football, Performance indicators, Sport, Advantage.

Analysis of the predominance of technical actions used in the 2021 European Judo Championship depending on combat time and golden score

MARCO BATISTA^{1 5}, DIANA TORRES², KATIA SOMBRA², SAMUEL HONÓRIO^{1 5}, JORGE SANTOS^{1 5}, CARMÉN GALAN-ARROYO⁴, MIGUEL REBELO^{1 5}, PAULO SILVEIRA^{1 5}, HUGO LOURO^{2 3}

¹ *SPRINT: Sport, Physical activity and health Research & INnovation cenTer, Melgaço, Portugal*

² *Escola Superior de Desporto de Rio Maior, Instituto Politécnico de Santarém, Portugal*

³ *CIDESD, Portugal*

⁴ *Facultad de Ciencias del Deporte, Universidad de Extremadura, Spain*

⁵ *Polytechnic Institute of Castelo Branco, Portugal*

ABSTRACT

The interest of this study perspective, which allows us to interpret competitive action in more detail, is also important to reflect that according to the legal adaptations dictated by the rules of a modality, it makes its study necessary. The objective was to analyse the predominance of technical actions used in the 2021 European Judo Championship based on combat time and golden score. The study sample focused on 400 combats of the European Judo Championship 2021. We used an observation system created for this purpose, according to the classification system proposed by Kodokan. Cross-frequency tables were produced, where the association degree between variables was analysed using the Chi Square test, where the significance level was set at $p \leq 0.05$. We complemented the association analysis between variables by calculating the adjusted standardized residuals. The predominance of techniques and their effectiveness presented a similar hierarchy in both the combat and golden score phases. In golden score, women showed a significant association with hip techniques and men with frontal sacrifice techniques. Female athletes proved to be more effective in percentage terms in the golden score phase.

Key words: Judo, Kodokan, European Championship, Combat performance, Competitive performance analysis.

Biomechanical analysis of technical actions used in the 2021 European Judo Championship as a function of combat time and golden score

MARCO BATISTA^{1 5}, ANA CONCEIÇÃO^{2 3}, KATIA SOMBRA², JOÃO PETRICA^{1 5}, JOÃO SERRANO^{1 5}, SAMUEL HONÓRIO^{1 5}, JORGE SANTOS^{1 5}, HUGO LOURO^{2 3}

¹*SPRINT: Sport, Physical activity and health Research & INnovation cenTer, Melgaço, Portugal*

²*Escola Superior de Desporto de Rio Maior, Instituto Politécnico de Santarém, Portugal*

³*CIDESD, Portugal*

⁴*Facultad de Ciencias del Deporte, Universidad de Extremadura, Spain*

⁵*Polytechnic Institute of Castelo Branco, Portugal*

ABSTRACT

In Judo, each motor action depends greatly on the behavioral and technical variability of each judoka, which largely determines the options and the predominance of biomechanical actions inherent to the movements themselves. It is, therefore, important to understand the biomechanical action trends implemented by judokas in the dynamics of current judo, allowing for more assertive competitive preparation. The objective was to biomechanically analyze the technical actions used in the 2021 European Judo Championships based on combat time and gold score. The study sample focused on 400 combats of the European Judo Championship 2021. We used an observation system created for this purpose, according to the classification system proposed by Sacripanti. Cross-frequency tables were produced, where the association degree between variables was analysed using the Chi Square test, where the significance level was set at $p \leq 0.05$. We complemented the association analysis between variables by calculating the adjusted standardized residuals. In both genders and phases of combat, the use of torque techniques predominated over lever techniques, with the hierarchy of technical resources used by judokas being identical.

In golden score, women showed a significant association with the use of torso-leg binary techniques. Throughout the fights, women registered differences in the use of groups of techniques.

Key words: Judo, Biomechanics, Lever techniques, Couple techniques, Competitive performance analysis.

Analysis of the frequency and effectiveness of the technical actions used in the 2021 European Judo Championship according to the elapsed time of combat

BRUNO GASPAR¹, MARCO BATISTA^{1 2}, KATIA SOMBRA³, HELENA MESQUITA^{2 6}, RUI PAULO^{1 2}, PEDRO MENDES^{1 2}, ANDRÉ RAMALHO^{1 2}, JOÃO ROCHA^{1 2}, LUÍS VAZ^{4 5}, HUGO LOURO^{4 5}

¹ *SPRINT: Sport, Physical activity and health Research & INnovation cenTer, Portugal*

² *Polytechnic Institute of Castelo Branco, Portugal* ³ *Escola Superior de Desporto de Rio Maior, Portugal*

⁴ *CIDESD, Portugal.* ⁵ *Universidade de Trás-os-Montes e Alto Douro, Portugal*

⁶ *Centro Interdisciplinar de Ciências Sociais (CICS.NOVA), Portugal*

ABSTRACT

The interpretation of temporal parameters during competitive practice is always interesting and pertinent, and specifically in judo, which requires high preparation from athletes to be able to control or throw the opponent in a short space of time. The interest of this study perspective, which allows us to interpret competitive action in more detail, is also important to reflect that according to the legal adaptations dictated by the rules of a modality, it makes its study necessary. The objective was to analyze the frequency and effectiveness of technical actions used in the 2021 European Judo Championship depending on the elapsed time of combat. The study sample focused on 400 combats of the European Judo Championship 2021, with 6731 technical actions in combat being categorized. We used an observation system created for this purpose, according to the classification system proposed by Kodokan. Cross-frequency tables were produced, where the association degree between variables was analysed using the Chi Square test, where the significance level was set at $p \leq 0.05$. We complemented the association analysis between variables by calculating the adjusted standardized residuals. The number of technical actions tends to decrease over the 1st to 4th minute of combat and consequently also towards the golden score time. The relative percentage of technical actions scored from the 1st to the 4th minute of combat tends to increase, with the Ippon advantage assuming an increasing percentage trend and the Waza-ari advantage a decreasing trend, maintaining this trend in golden score.

Key words: Judo, Kodokan, European Championship, Combat performance, Competitive performance analysis.

Differences in Agility Performance Tests between Soccer and Futsal Players: A Comparative Study

PEDRO DUARTE MENDES¹, RUI PAULO¹, FERNANDA SILVA^{2,3}, JOÃO PETRICA¹, MIGUEL REBELO¹, ANDRÉ RAMALHO¹, JOÃO ROCHA¹, JOÃO SERRANO¹

¹ Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

² University of Coimbra, Faculty of Sport Sciences and Physical Education, Coimbra, Portugal.

³ Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.

ABSTRACT

Agility is characterized by the athlete's capacity to perform rapid whole-body movements with a change of velocity or direction in response to a stimulus. This study aimed to verify the differences in agility performance between young soccer and futsal players. A total of 57 young players (futsal: n = 23; 14.13 ± 2.69 years old [age], 1.66 ± 13.18 m [stature], 56.76 ± 15.79 kg [body mass]; soccer: n = 34; 14.09 ± 2.68 years old [age], 1.63 ± 13.91 m [stature], 55.33 ± 14.67 kg [body mass]) volunteered to participate in this study. The participants performed three different agility tests, namely: 'T-Test' (seconds), 'Three Cone Test' (seconds), and 'Reactive Agility Test' (seconds). The normality of the data was verified by the Shapiro-Wilk Test. The mean and standard deviation were computed as descriptive statistics. T-test Student and Mann-Whitney tests for independent samples were used to verify differences between groups. Our results demonstrated significant differences in the 'Three cone test', with futsal players presenting better time (seconds). No significant differences were observed for 'T-Test' and 'Reactive Agility Test'.

Key words: Team sports, Agility, Performance

Imagery ability in collective sports: Comparison among soccer and futsal young practitioners

PEDRO DUARTE-MENDES¹, RUI PAULO¹, FERNANDA SILVA^{2,3}, JOÃO SERRANO¹, DANIEL MARINHO^{4,5}, ANDRÉ RAMALHO¹, MIGUEL REBELO¹, JOÃO ROCHA¹, JOÃO PETRICA¹

¹ Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.

² University of Coimbra, Faculty of Sport Sciences and Physical Education, Coimbra, Portugal.

³ Research Unit for Sport and Physical Activity (CIDAF, uid/dtp/04213/2020), University of Coimbra, Coimbra, Portugal.

⁴ Department of Sport Sciences, University of Beira Interior, Covilhã, Portugal; 2 Research Center in Sports Sciences,

⁵ Health Sciences and Human Development (CIDESD), Covilhã, Portugal.

ABSTRACT

Imagery (IM) is one of the most popular psychological techniques used by athletes and coaches to improve performance at competition level. The aim of the study was to investigate if there were statically significant differences in the use of the imagery modalities of MIQ-3 (kinaesthetic, Visual Internal, Visual External) between futsal and soccer practitioners. Seventeen-three subjects (soccer: n = 24; age = 11.33 ± 0.48 years old; futsal: n = 49; age = 10.08 ± 1.77 years old) volunteered to participate in this study. All the participants had at least two years of regular practice in federated competition. The subjects signed an informed consent form. To assess IM ability, the Portuguese version of MIQ-3 was used. The normality of the data was verified by the Shapiro-Wilk Test. The mean and standard deviation were computed as descriptive statistics. T-test Student and Mann-Whitney tests for independent samples were used to verify differences between groups. Our results demonstrated no significant differences between groups ($p>0.5$), values were higher in futsal practitioners in VI, VE and MIQ-3.

Key words: Imagery, intervention, collective sports, imagery ability

Analysis of pedagogical behaviors among swimming teachers

SAMUEL HONÓRIO¹, JORGE SANTOS¹, JOÃO SERRANO¹, JOÃO PETRICA¹, MIGUEL REBELO¹, MARCO BATISTA¹

¹ *Sport, Health & Exercise Research Unit (SHERU), Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal.*

ABSTRACT

The study aimed to analyze and compare behavioral changes in swimming teachers, after retrospective reflection between two swimming teaching sessions. 10 individuals were analyzed, characterized by gender, level of experience, coaching graduation and level of students practice. To analyze behaviors, the SOP (teacher observation system) was applied, comparing the moments of Instruction, Feed-back, Organization and Observation. In the statistical comparison, two non-parametric tests were applied: the Wilcoxon test, which allowed comparing the same behaviors between the first and second sessions, and the Mann Whitney test, which allowed comparing the same behaviors between the first and second sessions of each session. It was found that there were significant differences in Instruction and Organization behaviors between the first and second sessions among the swimming teachers analyzed.

Key words: Teaching; Swimming; Behaviors; Pedagogical supervision; Observation.

Apoios

