

**6th INTERNATIONAL SCIENTIFIC CONFERENCE
„SPORT, HEALTH AND ARTIFICIAL INTELLIGENCE 2026“**

BOOK OF ABSTRACTS

**COLLEGE OF SPORTS AND HEALTH
BELGRADE, SERBIA
MAY 15, 2026**

Organiser of the Conference and Publisher

College of Sports and Health

Toše Jovanovića 11, Belgrade, Serbia

skola@vss.edu.rs; <https://vss.edu.rs/>

conference@vss.edu.rs; <https://conference.vss.edu.rs/en/>

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Technical Editor:

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Graphic Design and Layout:

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ISBN: 978-86-83687-43-5

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SPORT, HEALT AND ARTIFICIAL INTELLIGENCE

EFFECTS OF AN ECOLOGICAL-DYNAMIC APPROACH IN PHYSICAL EDUCATION IN PRE-PUBERTAL CHILDREN: A PRELIMINARY STUDY

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Introduction

The aim of this study was to investigate whether curricular physical education (PE) lessons grounded in the ecological-dynamic approach and delivered through small-sided games (SSGs) lead to greater improvements in motor skills and perceived physical fitness in pre-pubertal children compared to traditional teaching methods (Clemente et al., 2021).

Methods

Forty-eight students were allocated to either an SSG Group (SSG-intervention) or a Control Group (traditional-PE). Motor performance was evaluated using the standing broad jump (SBJ), 20 m sprint, 5–0–5 agility test. Perceived physical fitness was measured through the Visual Analogical Fitness Perception Scale for Adolescents (FP-VAS-A) (Rojo-Ramos et al., 2023).

Results

Significant group $\times$ time interactions were observed across all motor performance tests in SSG Group (SBJ test, $p < 0.001$; 20 m sprint test, $p < 0.001$; 5-0-5 agility test, $p < 0.05$) and no significant changes observed in CON. Perceived physical fitness showed significant group $\times$ time interactions in some components in SSG Group (General Fitness $p < 0.001$; Cardiorespiratory Fitness, $p < 0.001$; Muscular Strength, $p < 0.001$; Speed-Agility, $p < 0.001$) except for Flexibility. No significant changes were observed in CON.

Discussion & Conclusion

PE lessons structured according to the ecological-dynamic approach and implemented through SSG protocols resulted in superior improvements in motor performance and perceived physical fitness compared to traditional PE methods (Rodrigo-Sanjoaquin et al., 2025). The dynamic and variable characteristics of SSGs may enhance neuromuscular stimulation, motor involvement and student motivation during lessons. These findings support the integration of SSG-based approaches into school curricula to foster motor development and promote adolescent health.

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Keywords: Ecological-Dynamic Approach; Small-Sided Games; Physical Education; Physical Fitness; Student Health.

CONCEPTUAL ASPECTS AND METHODOLOGICAL FEATURES OF THE THEORY OF SPORTS SPIRITUALITY

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Introduction

Resacralization of sports activity requires a different kind of methodology for the philosophical study of sport and calls for the necessity to discuss the potential of Orthodox sports spirituality so as to understand value priorities effectively. Sports spirituality is a conscious movement toward the divine through physical culture and sport, a spiritual transformation through physical and volitional efforts. This concept is interpreted differently, depending on the context — philosophical, theological, sociological or pedagogical.

Methods

To avoid a clash between science and religion, it is necessary to integrate such mediators as philosophy and theology, based on the methodological principle of traditionalism. Traditionalism can be interpreted and applied as a meaning-making paradigmatic principle characterized by universality in the sacred understanding of the world and man, their relationship. The principle of historicism provides a rationale for this approach, identifying elements of sacredness and tradition in historical perspective, as well as their connections to modernity. The principle of systems in the study of the society's spiritual life provides understanding of the complexity of the sports spirituality phenomenon.

Results

The proposed interpretation concretizes the philosophical and theological approach and existing views on sports spirituality. Theoretical constructs are directly linked to practical applications in international communication, the development of innovative projects in spiritual education through physical education and sports, and deviant behavior prevention programs. The findings and results of the work are particularly significant for training physical education and sports specialists, coaches and mentors, as well as for the work of teachers and their training at various educational levels. The comprehensive study of sacred meanings of sports activity allows to substantiate a long-term perspective for the revival and development of traditional spirituality with its social ideals of justice and distinctive cultural values.

Discussion & Conclusion

The article attempts to provide a theological understanding of physical culture and sport within the theoretical concept and methodology of sport spirituality. Therefore, the authors welcome reflection and dialogue regarding the resacralization of sport and the surrounding spiritual space. The spiritual aspect is a factor of optimistic hope, where the athlete finds their existence in an authentic mode of being, imbuing it with faith and hope. This is the path to personal victory and an attempt to realize one's original purpose through sport. Further development of theoretical and practical approaches in this area is necessary. The philosophical understanding of sport is needed, integrating social, anthropological, axiological, and metaphysical meanings.

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Keywords: Sports spirituality, resacralization of sports, spiritual education; theology of sports, traditionalism.

COMPARATIVE ANALYSIS OF MOTOR ABILITIES IN YOUTH: PRELIMINARY FINDINGS FROM THE ERASMUS+ SPORT PROJECT “FIND YOUR SPORT SUPERPOWER – EVERYBODY HAS IT”

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Introduction

Assessment of motor abilities in youth is important for promoting physical literacy, health, and long-term participation in sport and recreational activities. The aim of this preliminary study was to compare selected motor abilities among young participants involved in the Erasmus+ Sport project Find Your Sport Superpower – Everybody Has It from Italy, Poland, and Serbia.

Methods

The study included 843 participants 16-25 years of age (Italy n = 418; Poland n = 123; Serbia n = 302). Motor abilities were assessed using field-based tests of balance, reaction speed, explosive power, agility, muscular endurance, flexibility, and coordination. Data were analyzed using descriptive statistics and non-parametric comparative procedures.

Results

Statistically significant differences between countries were observed in most motor domains ($p < 0.001$). Participants from Italy achieved higher average scores in flexibility (29.07 cm) and agility performance, while Serbian participants demonstrated better coordination results (24.50 catches/30 s). Polish participants achieved lower average scores in explosive power (26.92 cm) and coordination compared with the other groups. No significant differences were observed in muscular endurance ($p > 0.05$).

Discussion & Conclusion

The findings highlight the multidimensional nature of motor abilities and possible differences related to sport participation patterns and training environments. Future research should include additional analyses of age and gender differences, as well as the potential application of digital and AI-supported tools for individualized monitoring and promotion of motor development.

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Keywords: motor abilities; youth; physical literacy; physical activity; health promotion.

WELL-BEING AND BURNOUT RISK IN HELPING PROFESSIONS AND CAREGIVERS: PRELIMINARY RESEARCH

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Introduction

Helping professionals (HP) and informal caregivers (IC) are frequently exposed to chronic stress, emotional burden, and increased risk of burnout, which may negatively affect their well-being and quality of care. The aim of this preliminary study was to examine indicators of well-being and burnout risk among individuals engaged in helping professions and caregiving activities, as well as their interest in well-being support programs.

Methods

The study included 105 respondents (HP = 68 and IC = 37) who completed an anonymous online questionnaire. Data were analyzed using Mann-Whitney U test and Spearman correlation coefficient.

Results

The results showed moderate levels of emotional and physical exhaustion within the total sample (Mean burnout score = 2.45 ± 0.77 on a five-point scale). Approximately one-third of respondents frequently reported feelings of fatigue and exhaustion. No significant differences were found between HP and IC regarding the overall burnout score ($p > 0.05$), nor were significant gender differences observed. Correlation analysis did not reveal a significant association between age and burnout indicators ($p > 0.05$). Participants expressed moderate to high interest in specialized well-being education and support programs (Mean = 3.00 ± 1.37).

Discussion & Conclusion

The findings indicate the presence of relevant burnout-related symptoms across both groups and highlight the need for preventive interventions aimed at preserving psychological well-being and work capacity. Future research should include larger samples and more advanced multivariate approaches. The integration of digital and AI-supported well-being tools may represent a promising direction for personalized support and early burnout prevention in helping professions and caregiving contexts.

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Keywords: mental health, occupational stress, emotional exhaustion, work ability, preventive interventions.

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING MODELS IN ACL INJURY PREDICTION – A SYSTEMATIC REVIEW

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Introduction

ACL injuries impose significant health and economic difficulties. Traditional statistics often fail to capture complex movement patterns, making AI and machine learning (ML) essential for analyzing multidimensional data to predict injury risk.

Methods

This systematic review followed PRISMA 2021 guidelines, searching PubMed, Scopus, and Web of Science. Nine original peer-reviewed studies published between 2021 and 2026 were analyzed for AI-based ACL injury prediction.

Results

The studies included over 3,250 participants and identified Random Forest, SVM, and XGBoost as common algorithms. MRI-based anatomical features, such as tibial morphology, achieved high predictive accuracy (AUC 0.92–1.00). Also, standard functional screening tests showed limited predictive value (AUC 0.63). Multimodal approaches combining biomechanical and environmental data yielded promising results.

Discussion & Conclusion

ACL risk is multifactorial, making it necessary to integrate multimodal approaches. Current limitations include small sample sizes and limited generalizability. ML models currently best serve as clinical decision-support tools. Future research must include larger datasets and model interpretability (e.g., SHAP) to transition from explanatory analysis to clinical prediction.

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Keywords: Knee injury, Deep learning, Knee biomechanics, AUC, AI systems.

PHYSICAL ACTIVITY AS A MEANS OF INCLUSION (REVIEW OF ACTIVITIES AND RESULTS OF THE SPORTS AND RECREATIONAL CLUB FOR PEOPLE WITH SPECIAL NEEDS "POBEDNIK") — A REVIEW STUDY

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Introduction

In the Republic of Serbia and the City of Belgrade, various organizations actively contribute to the development of physical activities of persons with disabilities. Sports and recreational association of disabled people "Pobednik" was founded in 2011. From 2011 to today, more than 250 users have passed through the work of the association. The association currently has 150 members, people with and without disabilities, of which 50 are members with different degrees and types of disabilities.

Methods

In this paper, the projects and activities of the Sports and Recreational Association of PWD "Pobednik" were analyzed. The association is a member of the Sports Association of Persons with Disabilities in Belgrade and cooperates with other related associations. He participates in all sports events on the territory of Belgrade (sports such as bocce, athletics, fishing, table tennis, etc.). The PWD winner actively cooperated with the association "Živimo zajedno", primary and secondary schools from the territory of the City of Belgrade, as well as with Red Cross organizations.

Results

An analysis of the association's work in comparison with available data shows that in Belgrade and Serbia there are significant activities aimed at physical exercise of people with disabilities through the work of sports organizations, educational institutions and the non-governmental sector. However, for further development, it is necessary to improve system support and greater availability of programs at the local level.

Discussion & Conclusion

Compared to the recommendations of the World Health Organization as well as the evaluation of the work with the users of the association, the need for greater availability of continuous and adapted programs and the systematic inclusion of people with special needs in everyday life is observed.

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Keywords: physical activity, persons disabilities, OSI Pobednik.

DIFFERENCES IN EXPLOSIVE AND REPETITIVE STRENGTH OF SWIMMERS AND WATER POLO PLAYERS AGED 12 TO 14 YEARS, MASTER'S THESIS

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Introduction

Swimming is one of the most beneficial physical activities. In addition to competitive importance, swimming and water polo also occupy a place in recreational sports and their popularity is constantly growing. Swimmers and water polo players must swim several hundreds and thousands of meters per day in order for the organism to adapt to the water environment in which these activities are performed. Swimmers or water polo players face several unique challenges during their water activities that athletes in most non-water sports never face. The aim of this research was to determine the existence and significance of differences in the explosive and repetitive strength of swimmers and water polo players.

Methods

This research included a total of 80 respondents: 40 water polo players from VK "Zemun" and VK "Partizan" from Belgrade, and 40 swimmers, members of PK "Partizan" and PK "11. April" from Belgrade, aged 12 to 14, who have been in training for at least three years in their clubs. A set of three variables was applied to assess morphological space, as well as 12 variables to assess strength.

Results

The results indicate that water polo players achieved better values in the area of explosive strength of the lower and upper extremities, repetitive strength of the upper and lower extremities compared to swimmers.

Discussion & Conclusion

The results, conclusions and suggestions of this work can be useful advice in designing the training process in these two sports and a starting point for new, more extensive research with a larger sample, which would include the entire motor status, as well as other segments of the anthropological structure, in order to obtain specific information regarding the success of young swimmers and water polo players.

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Keywords: physical activity, persons disabilities, OSI Pobednik.

PILATES AS AN INTERVENTION FOR IMPROVING POSTURAL STABILITY, FLEXIBILITY, AND MENTAL HEALTH IN SEDENTARY MIDDLE-AGED WOMEN: A NARRATIVE REVIEW

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Introduction

A sedentary lifestyle, characteristic of middle-aged women with office-based occupations, represents an increasingly significant public health concern. Prolonged sitting disrupts muscular balance, impairs postural alignment, and contributes to accumulated psychophysical stress, thereby substantially reducing both functional capacity and overall quality of life.

Methods

In this context, Pilates emerges as a particularly suitable form of physical activity - not only due to its low access barrier and safe load profile, but also because of the inherent integration of physical and mental components through the six foundational principles of the method: centre, control, concentration, precision, breathing, and flow of movement. This narrative review aims to synthesise the available scientific evidence on the effects of Pilates training on postural stability, flexibility, and mental health in sedentary middle-aged women.

Results

Studies published between 2018 and 2025 were analysed through searches of the PubMed, Scopus, and Google Scholar databases. The findings of the reviewed studies indicate that regular Pilates programmes, lasting between 8 and 12 weeks, lead to significant improvements in postural alignment, core stability, and flexibility, particularly in the cervical and lumbar regions. Beyond the physical effects, reductions in symptoms of anxiety, depression, and stress were also recorded, along with improvements in sleep quality and general well-being.

Discussion & Conclusion

Based on the analysed findings, it is concluded that Pilates represents an effective intervention for enhancing the multidimensional health of this population, and that it should be integrated into workplace prevention programmes and public health initiatives targeting middle-aged women.

Keywords: pilates, sedentary women, postural stability, mental health, flexibility

Shooting Velocity Across Playing Positions in Elite Male Handball: An LPS-Based Analysis of the 2024 EHF European Championship

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Introduction

Handball shooting is a key determinant of match success, and its effectiveness depends on the interaction between ball velocity, accuracy, tactical role, and match context. However, evidence remains limited regarding how shooting velocity differs across all standard playing positions during elite international competition.

Methods

This descriptive cross-sectional study analysed 5,546 shots performed by 238 elite male players during the 2024 EHF European Championship in Germany. Players were classified into six standard playing positions and additionally grouped into broader tactical categories: backcourt players and line players. Shooting velocity and shot outcome were extracted using local positioning system and ball-tracking technology. Differences in shooting velocity were examined using independent-samples t-tests, with effect sizes calculated as Cohen's d.

Results

Left backs recorded the highest mean shooting velocity (104.80 km/h), followed by right backs and center backs, whereas pivots showed the lowest values (88.56 km/h). Across all shots, missed attempts were faster than successful ones (100.98 vs 96.46 km/h, $p < 0.001$), and this pattern was consistent across all positions. Across all shots, missed attempts were faster than successful ones (100.98 vs 96.46 km/h, $p < 0.001$), and this pattern was consistent across all positions.

Discussion & Conclusion

Elite handball shooting is strongly position dependent, with backcourt players showing greater velocity demands than line players. The higher velocity of missed shots supports a velocity accuracy trade-off in match conditions. These findings support a need for position-specific shooting training, while the main limitation is that the data come from one championship and remain observational.

Keywords: team handball, shooting speed, elite competition, local positioning system, throwing performance

SEGMENTAL BODY COMPOSITION ANALYSIS AND WEIGHT CONTROL IN MARTIAL ART ATHLETES

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Introduction

Segmental body analysis observes the body as a set of multiple segments, and in the case of BIA analysis these are two upper limbs, the trunk and two lower limbs. Knowing details such as the distribution of fat and muscle tissue on body parts can be used to guide training, nutritional planning or medical care.

Methods

In this study were included 116 martial art athletes, divided into 3 groups, boxers (n=30), kickboxers (n=39) and wrestlers (n=47). The bioelectrical impedance method was used for body composition analysis (BIA InBody 720, Biospace Co. Ltd., Seoul, Korea).

Results

Comparison of average weights between boxers, kickboxers and wrestlers showed insignificantly higher value body weight in boxers. Percent of athletes who had ideal body weight and body composition was lowest in boxers (53%), kickboxers (59%) and highest in wrestlers (70%). 25% of kickboxers showed excess of body fat, while 10% of kickboxers had body fat deficiency. Similar percent of athletes had insufficient muscle mass (10-17%). Segmental analysis of body fat and skeletal muscle mass distribution showed significant difference between fat distribution at extremities between boxers and kickboxers.

Discussion & Conclusion

Significant percent of martial art athletes in our research had need of weight control, either decreasing the body fat or increasing the fat mass and muscle mass. The muscle deficiency is present in very young athletes (16-18 years). Majority of athletes showed symmetrical distribution of muscle mass and fat mass in all groups.

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Keywords: body composition, weight control, segmental analysis, box, kickbox, wrestling

DIFFERENCES IN PERFORMANCE INDICATORS ACROSS RIDER CATEGORIES AT THE 2022 BALKAN EQUESTRIAN CHAMPIONSHIP

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Introduction

The rider and horse function as an interdependent system in show jumping; however, performance analysis in this sport remains insufficiently represented. The aim of this study was to determine differences in performance indicators among rider categories at the 2022 Balkan Equestrian Championship held in Romania.

Methods

A total of 512 (100 %) starts were analyzed: children 107 (20,9%), juniors 100 (19,5%), amazons 126 (24,6%), young riders 71 (13,9%), and seniors 108 (21,1%). The observed indicators included successful obstacle clearance, faults (knockdowns, refusals, circles), falls, time penalties, incorrect jumps, and eliminations/retirements. The data were analyzed using SPSS 19, applying descriptive statistics, the χ^2 test to examine differences in start proportions, and the Kruskal-Wallis and Mann-Whitney U tests to assess differences in notational analysis parameters across rider age categories.

Results

The results indicate statistically significant differences between rider categories in performance indicators: successful obstacle clearance ($\chi^2=16,282$; $p=0,003$), water refusal ($\chi^2=36,382$; $p=0,000$), and exceeding the allowed time ($\chi^2=12,028$; $p=0,017$).

Discussion & Conclusion

The findings indicate that certain aspects of performance are more challenging for specific rider categories, providing useful insights for coaches and riders in developing strategies to overcome these challenges.

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Keywords: equestrian sport, show jumping competition, performance analysis, rider categories.

DARK TETRAD PERSONALITY TRAITS AS PREDICTORS OF CAREER SUCCESS IN SENIOR HANDBALL PLAYERS

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Introduction

The Dark Tetrad (Machiavellianism, narcissism, psychopathy, and sadism) represents a constellation of personality traits often linked to highly competitive environments. In elite sports, these traits may act as drivers of persistence or as barriers to team cohesion. Recent studies (Stanford et al., 2025) highlight that the interaction between an athlete's personality and the coach-athlete relationship is a critical determinant of career longevity and subjective success. This study investigates how these aversive traits predict career satisfaction among professional handball players.

Methods

The research utilized a cross-sectional design on a sample of $N=160$ senior handball players ($M_{age} = 25.36 \pm 1.12$) from the Serbian Super B League. The Career Satisfaction Scale (Greenhaus et al., 1990) and the Dark Tetrad Questionnaire (Međedović & Petrović, 2015; Ardi et al., 2025) were administered. Hierarchical regression analysis was applied, where Model 1 controlled for education and sports experience, while Model 2 tested the predictive power of Dark Tetrad dimensions.

Results

The regression model accounted for 20% of the variance in career success.: Machiavellianism, secondary psychopathy, and narcissistic admiration emerged as significant partial determinants. Lower levels of strategic goal-attainment, diminished self-worth, and a tendency to devalue others' achievements (narcissistic admiration) were strong predictors of lower career satisfaction. Cronbach's alpha coefficients confirmed high internal consistency and validity of the instruments within the Serbian athletic population.

Discussion & Conclusion

The findings suggest that dark personality traits significantly shape how professional athletes perceive their professional achievements. Specifically, maladaptive narcissism and impulsivity (secondary psychopathy) can hinder an athlete's ability to find long-term satisfaction. This underscores the need for coaches to recognize these traits and adapt their coaching styles to maintain motivation and self-efficacy (Akyüz, 2025; Başar & Sarı, 2024). In conclusion, identifying these psychological profiles allows for more precise mental training and career guidance in professional sports.

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Keywords: Machiavellianism; narcissistic admiration; secondary psychopathy; coach-athlete relationship; career satisfaction.

BODY DISSATISFACTION AS A FACTOR OF MOTIVATION AND A BARRIER TO PHYSICAL ACTIVITY: PSYCHOSOCIAL PREDICTORS

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Introduction

Body dissatisfaction is a key psychological construct that can act as an initial motivator for exercise, but also as a significant barrier due to social appearance anxiety. The theoretical framework suggests that the internalization of unrealistic beauty ideals and media pressure shape the subjective experience of the body, which directly affects the level and continuity of sports participation. Understanding these predictors is crucial for creating programs that encourage long-term participation in physical activity.

Methods

An online study included 246 physically active female participants aged 18 to 65 ($M = 31.45$, $SD = 10.02$), involved in recreational or registered sports. The following instruments were applied: Body Shape Questionnaire (BSQ), Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4R), Social Appearance Anxiety Scale (SPAS), and Motives for Physical Activity Measure-Revised (MPAM-R). Data were processed using hierarchical regression analysis.

Results

The results showed that perceived media pressure ($\beta = 0.17$), internalization of body appearance ideals ($\beta = 0.15$), and social appearance anxiety ($\beta = 0.70$) statistically significantly predict the level of body dissatisfaction. This model collectively explains 58% of the variance of the criterion variable, highlighting social appearance anxiety as the most dominant predictor of dissatisfaction.

Discussion & Conclusion

The main objective of the research was to examine the predictive power of psychosocial factors in explaining body dissatisfaction. The findings indicate that strong concern over others' evaluation of appearance represents a primary barrier to participation in physical activities. Despite relevant findings, the research has limitations regarding the convenience sample. It is concluded that interventions should be aimed at reducing the internalization of societal ideals to ensure sustainable motivation for exercise.

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Keywords: social appearance anxiety, media pressure, internalization of ideals, body image, physical activity.

MAPPING HOTEL ANIMATION PROFESSION IN EUROPE, A SWOT ANALYSIS OF FOUR COUNTRIES

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Introduction

The study examines the hotel animation profession in Europe through a mapping approach combined with a SWOT analysis, aiming to evaluate its structure, labor market characteristics, challenges and development prospects within the tourism and leisure sector. Hotel animation, defined as the organization of recreational, sports, and entertainment activities in hospitality settings, has evolved since the 1980s alongside mass tourism, particularly in Mediterranean destinations, transitioning from informal entertainment practices to a more professionalized service domain.

Methods

A qualitative methodology was employed, integrating an extensive literature review with expert-based case studies from Greece, Turkey, Hungary, and Serbia. Data were collected through a focus group consisting of academic experts, who provided country-specific insights regarding the prevalence of animation departments, employment patterns, and seasonality. The findings suggest more than 90-100.000 individual amateurs employed in the four above mentioned countries and identify two dominant regional models: the Mediterranean model, characterized by large-scale resorts, extended tourist seasons, and larger animation teams, and the Central European model, defined by smaller operational structures, shorter peak periods, and limited market diffusion.

Results

The results indicate that animation services are concentrated in large, family-oriented, and all-inclusive hotels, contributing significantly to guest satisfaction, repeat visitation, and extended length of stay. However, the profession remains highly seasonal, resulting in employment instability, high labor turnover, and limited long-term career prospects. The SWOT analysis reveals strengths such as increasing demand, professionalization, and integration with tourism education, alongside critical weaknesses including the lack of formal recognition, absence of standardized training systems, and insufficient institutional coordination.

Discussion & Conclusion

The study concludes that hotel animation represents an underdeveloped yet strategically important segment of the tourism industry. Its sustainable development requires enhanced policy recognition, standardized education and certification frameworks, and stronger collaboration among stakeholders. Future research should expand the geographical scope and

further investigate mechanisms for professional standardization and labor market stabilization in the rest of the tourism leading countries such as traditionally Spain, Italy, France and Croatia, Cyprus as well.

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Keywords: hotel animation, profession, entertainment

The Effect of Leisure Programmes on Stress Management and Academic Success Among Human Kinetics and Health Education Students at the University of Lagos

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Introduction

Stress is a pervasive challenge among undergraduates in academically demanding programmes such as Human Kinetics and Health Education, yet evidence on the effectiveness of leisure interventions in Nigerian university settings is limited. This study examined the effect of three leisure interventions Arts and Creativity Workshops, Physical Fitness Activities, and Social Clubbing on perceived stress and academic success among Human Kinetics and Health Education students at the University of Lagos.

Methods

A quasi-experimental pre-test and post-test control-group design was adopted. Eighty-four (84) undergraduates were drawn through purposive sampling and allocated to four equal groups of twenty-one participants each ($n = 21$): three experimental groups receiving distinct eight-week interventions and one control group. Perceived stress was measured with the ten-item Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). Data were analysed using descriptive statistics and paired-sample t-tests at the 0.05 level of significance.

Results

No statistically significant change was observed in any of the three intervention arms or in the control group. The Arts and Creativity Workshops group recorded a non-significant increase ($M = 17.667$ to 22.524 ; $t(20) = -0.148$, $p > .05$); the Physical Fitness Activities group showed a non-significant decrease ($M = 21.667$ to 19.857 ; $t(20) = 0.066$, $p > .05$); and the Social Clubbing group showed no significant change.

Discussion & Conclusion

Findings suggest that intervention dose, fidelity, and academic load constrain standalone leisure programmes. Structured leisure programmes integrated with evidence-based stress-management modules supported, where feasible, by artificial-intelligence tools for personalised monitoring are recommended.

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Keywords: academic stress; leisure programmes; Perceived Stress Scale; sport psychology; university students.

THE IMPACT OF PHYSICAL ACTIVITY ON SYMPTOMS AND QUALITY OF LIFE IN WOMEN DURING THE MENOPAUSAL TRANSITION: A SYNTHESIS OF CONTEMPORARY EVIDENCE

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Introduction

The menopausal transition is a complex biological process characterized by vasomotor, psychological, and cardiometabolic changes that impair daily functioning. Given the risks and limitations associated with pharmacological therapies, physical activity is increasingly being investigated as a key intervention for preserving the health of middle-aged women. This study aims to synthesize contemporary scientific evidence regarding the impact of various exercise modalities on alleviating specific menopausal symptoms and enhancing quality of life.

Methodology

This review analyzes results from randomized controlled trials (including the FLAMENCO project), meta-analyses, and longitudinal studies published between 2020 and 2025. The focus was placed on resistance training, multicomponent exercise programs, and habitual physical activity.

Results

Evidence confirms that structured programs, particularly resistance training, significantly reduce the frequency and intensity of vasomotor symptoms (hot flashes) and mitigate depressive states. Longitudinal research indicates that regular exercise modifies the relationship between menopausal distress and subclinical cardiovascular risk, while simultaneously raising the symptom tolerance threshold across all domains of quality of life. Conversely, studies identify fatigue and lack of motivation as primary barriers to exercise adherence.

Conclusion

Physical activity is a fundamental pillar of health maintenance during menopause. The findings underscore the necessity of integrating specific exercise protocols into clinical practice to counteract the negative effects of hormonal transition and ensure long-term psychophysical well-being for women.

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Keywords: menopause, physical activity, quality of life, vasomotor symptoms, resistance training, cardiometabolic health.

ALPINE SKIING AND TRAINING METHODOLOGY AS A SPORTS ACTIVITY FOR PERSONS WITH DISABILITIES AND DEVELOPMENTAL DISORDERS

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Introduction

Inclusion and sport are two distinct phenomena whose integration enables participation in sports activities for all persons with disabilities, regardless of their functional abilities, through institutions such as sports organizations.

Methods & Results

This paper applies a theoretical analysis of the implementation of inclusion in sports, while the data were obtained from previous studies published in scientific journals in the fields of social and sports sciences, proceedings from international scientific conferences, relevant literature, as well as from the personal experience of the author.

Discussion & Conclusion

The application of the basic principles of educational and social inclusion in sports creates a positive environment for the development and advancement of children with developmental disorders and disabilities, while also fostering a positive attitude of the wider community toward this population.

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Keywords: inclusion, sport, children with developmental disorders and disabilities, alpine skiing, adapted sports activities.

POSITIONAL DIFFERENCES AND RELATIONSHIPS BETWEEN MOTOR ABILITIES IN FEMALE BASKETBALL PLAYERS

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Introduction

Basketball is an intermittent, complex team sport that requires a spectrum of motor abilities based on position on the court. While motor abilities in basketball are well understood, most research focuses on male basketball players, leaving a significant gap in the knowledge about female players. This study examines positional differences and the relationship between motor abilities in elite female basketball players.

Methods

The sample comprised 14 elite female basketball players (age 15-22) from ŽKK Mega Superbet. All players were separated by playing position: Point guards (n=3), shooting guards (n=3), small forwards (n=3), power forwards (n=2), centers (n=3). Motor abilities were tested using the following protocol: flexibility – V sit and reach, agility – T test, speed – 20m sprint from the flying start, power was tested using 3 different jump protocols – countermovement jump with and without arm swing (CMJa, CMJ) and squat jump (SJ), anaerobic endurance – suicide run test. Statistical analysis included one-way ANOVA with effect size and Pearson correlation.

Results

ANOVA indicated no statistically significant differences ($p > 0.05$), while large to moderate effect sizes indicated practical differences ($\eta^2 = 0.14-0.43$). Strong correlations emerged between agility and explosive power ($r = -0.714$, $p < 0.01$), speed and squat jump height ($r = -0.733$, $p < 0.01$), and speed and endurance ($r = 0.821$, $p < 0.01$).

Discussion & Conclusion

Strong correlations and large effect sizes provide evidence for position-specific motor profiles in women's basketball. Verification with larger sample sizes is recommended.

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Keywords: basketball, female, court position, correlation, differences

PRACTISING PHYSICAL ACTIVITIES IN STUDENT'S FREE TIME IN THE ERA OF DIGITAL TECHNOLOGIES AND AI

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Introduction

The paper deals the question of the importance of the practising sport activities in their free time in this digital era. As a very important segment in people's life, the sport aims to preserve, stimulate and advance the growth, the development and the health of the individual. However, physical activity not only ensures proper development of the body, but also affects the emotional state, by creating a clear mood, happiness and life joy. A healthy and physically active person is a happy person. Hence, the habits of using leisure time with physical activity should be developed in students from the early age. Namely, physical education can greatly contribute to the functional use of free time, as opposed to today's great passivity imposed by the social media, the Internet, video games, in the era of AI etc. In fact, the development of an "active lifestyle" that includes the acquisition of healthy habits, skills and knowledge, aims to reduce the passiveness of the student and improve their health and physical activity.

Methods

The subject of our research is the free time of students as an educational as well as life style problem in today's digital society. The purpose of the research was to examine students' attitudes and opinions from 4th and 5th grades in two primary schools in the Republic of Macedonia about the usage of their free time as well as how often they are physical active in their leisure time. The sample consists of 100 pupils (50 female and 50 male). In accordance with the purpose and assigned tasks, we applied the research technique: Surveying and following instrument: Questionnaire with 12 closed-type questions. For the statistic data processing we used the standard package SPSS1.7.

Results

The analysis of the data shows that, 54% of the students answered that they spend free time using computer/ mobile phones, 28% answered that they read books and only 18% students answered that they spend their free time playing outside. Regarding the question what kind of activities they practicing in digital devices, 16 % of students spend time on educational web sites, 72% prefer to play video games and 12 % say that what they most do is being on a social networks. It is more than evident that in this digital era computers and internet technology takes a great part in the free time of all the people in general, and especially in the free time of the students at the age of 10 and 11.

Discussion & Conclusion

Physical and sport activities should be present more in the leisure time of students from the very young age. Namely, this is definitely a big task and the parents and the school as well as the whole society should give their best for a successful realization. The data we obtained from the research showed that it is not at a dependent level nowadays. Actually, the students use it in various ways, but doing sport and sports activities should be a priority.

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Keywords: physical activities, digital era, leisure, students

COMPARISON OF EUROPEAN JUDO CADET CHAMPIONSHIPS 2024 AND 2025

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Introduction

Sports analytics, and especially statistical analytics, are playing an increasingly important role in sports. They enable in-depth understanding of the development of sports, identification of trends, and creation of strategies to improve an athlete's preparation. In the case of judo, statistics allow sorting out various parameters such as the number of participants, gender distribution, the number of won medals, points that led to victory, and national distribution of success.

Methods & Results

The research was conducted with the aim of presenting a picture of the development of European Cadet Judo through quantitative indicators, which will then be interpreted in the context of broader trends in this sport. The paper compares and analyzes the European Cadet Judo Championships held in 2024 (Sofia, Bulgaria) and the European Championships held in 2025 (Skopje, North Macedonia). The reason for choosing these two championships is the fact that they represent two consecutive events, which allows for the identification of short-term trends.

Discussion & Conclusion

By analyzing and comparing the European Cadet Judo Championships in 2024 and 2025, it can be concluded that there are significant differences in all parameters that were covered by this research.

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Keywords: judo, European Championship, analysis

MEDICAL CODE-SWITCHING – A COMPARATIVE ANALYSIS OF COMMUNICATION IN THE PUBLIC AND PRIVATE HEALTHCARE SECTORS

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Introduction

Healthcare communication constitutes one of the core pillars of quality medical care, directly impacting clinical outcomes and patient satisfaction. This paper analyzes the specifics of communication processes in public and private healthcare institutions, exploring how ownership structures and organizational models shape physician-patient interaction. A particular focus is placed on the phenomenon of „medical code-switching“, manifested through a significant and evident change in the communication style of the same physician when transitioning from the public to the private sector. While the public sector is characterized by high standardization, rigid bureaucracy, and administrative pressure leading to procedural communication, the private sector emphasizes a personalized approach and the concept of the "patient as a client".

Methods

Using an analytical-comparative method of available literature, the paper identifies the advantages and disadvantages of both systems. The analysis encompasses the risks of the "commodification of empathy" in private practice versus the institutional security of the public sector.

Results

The results of the comparative analysis indicate that the private sector dominates in terms of responsiveness and a personalized approach, while the public sector, despite its high level of expertise, suffers from communication barriers caused by systemic and administrative burdens that, to a certain extent, dehumanize communication and, consequently, the physician-patient relationship.

Discussion & Conclusion

The conclusion highlights the necessity of implementing modern soft skills in the public sector and the imperative of preserving medical ethics amid the commercialization of private practice. This paper aims to provide a framework for successful and effective communication in both healthcare settings, bridging the gap between functional and relational communication while prioritizing patient well-being over economic and administrative constraints.

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Keywords: healthcare communication, public sector, private sector, physician-patient relationship, medical code-switching

THE RELATIONSHIP BETWEEN ROWING TRAINING AND GENERAL SELF-CONFIDENCE AMONG YOUNG ATHLETES

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Introduction

Self-confidence is an important psychological factor in the development of young athletes and affects their functioning both in sports and in everyday life. Previous research points to the importance of the perception of one's own abilities and progress in the formation of self-confidence (Bandura, 1997). The aim of this research was to examine the relationship between rowing training and general self-confidence in young athletes.

Methods

The research was conducted on a sample of 21 subjects aged 12 years and older who are actively involved in rowing. Data were collected through an anonymous online survey designed for research purposes. Self-confidence and other variables were assessed using a Likert scale (1–5). Data analysis included descriptive statistics and Spearman's correlation coefficient.

Hypotheses:

H1: There is a positive relationship between sports progress and self-confidence.

H2: There is a relationship between self-confidence in sports and self-confidence outside the sports context.

Results

The results indicate a moderately strong positive correlation between self-confidence and athletic progress ($r_s = 0.53, p < 0.05$). In addition, a strong positive correlation was found between sport-specific self-confidence and general self-confidence ($r_s = 0.65, p < 0.01$). The correlation between self-confidence and acceptance within the group was not statistically significant ($r_s = 0.13, p > 0.05$).

Discussion & Conclusion

The obtained results suggest that rowing training may contribute to the development of general self-confidence in young athletes. Particularly significant is the finding regarding the transfer of the effects of sports engagement to everyday life. The subjective perception of progress proved to be a more important factor compared to the social aspects of training. Due to the small sample size, the results should be considered preliminary.

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Keywords: lična efikasnost, percepcija napretka, psihološki razvoj, transfer efekata, korelaciona analiza

RESHAPING WORK AND HEALTH: THE IMPACT OF ARTIFICIAL INTELLIGENCE ON EMPLOYEE WELLBEING

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Introduction

Artificial Intelligence (AI) has become a transformative force in the workplace, reshaping job roles, tasks, and overall employee satisfaction and experience. While much of the existing research has emphasized AI's impact on productivity, efficiency, and organizational performance, less attention has been given to its influence on employee wellbeing. This paper addresses that gap by examining how AI impact employee wellbeing. Findings highlight that AI reduces routine tasks, enhances decision-making, improves ergonomics, supports risk assessment, and enables stress monitoring, thereby fostering safer and healthier work environments. At the same time, AI shifts employees toward non-routine, complex tasks that encourage human-machine collaboration and skill development. Beyond task restructuring, AI contributes to wellbeing through personalized wellness programs, including mobile applications, wearables, machine learning models, and chatbot interventions. These tools provide tailored health support, promote preventative behaviors, and improve both physical and mental health outcomes. The paper underscores that employee wellbeing is not only a human resource priority but also a strategic factor in organizational success. Responsible AI integration can balance innovation with employee autonomy, creating sustainable and supportive workplaces.

Methods

The method used in the paper is a review of sources and literature dealing with the use of artificial intelligence and its impact on employment, increasing employee productivity and achieved performance, and improving the workplace health in models of a modern and healthy organization.

Results

The aim of this paper is to examine the impact of AI on employee wellbeing, exploring both the opportunities and challenges that arise from its integration into the workplace. By analyzing how AI reshapes job demands, resources, and health-related interventions, this paper seeks to contribute to a deeper understanding of the human dimension of technological transformation.

Discussion & Conclusion

Based on the analysis of previous sources and research dealing with the possibilities and threats of implementing AI, it can be concluded that AI: reduces routine demands and allows employees to focus on valuable, creative, strategic, and complex tasks and responsibilities, enhances decision-making by analyzing large sets of data and information, shifts the nature of work toward non-routine tasks, creates and designs a safer workplace and work environment. On the other hand, the implementation of AI helps and supports employees to proactively approach their mental and physical wellbeing through the implementation of personalized wellness programs.

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Keywords: employee wellbeing, workplace health, organizational behavior, artificial intelligence

The Role of Nurses in a Multidisciplinary Team in Patients with Lung Cancer

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Introduction

Lung cancer is one of the leading causes of morbidity and mortality worldwide and is strongly associated with exposure to tobacco smoke. In addition to medical treatment, the role of healthcare professionals, particularly nurses, is essential throughout the diagnostic, therapeutic, and rehabilitation process. This study aimed to examine the role of nurses in the treatment and support of patients with lung cancer.

Methods

The research was conducted using the verbal questionnaire method on a sample of 20 respondents diagnosed with lung cancer at different stages of the disease. The study was carried out at the Dr. Simo Milošević Health Center of Čukarica during the period from August to September 2023. All respondents underwent part of their treatment at this institution during the mentioned period.

Results

The findings indicate that respondents emphasized the important role of nurses throughout all phases of treatment, from diagnosis to rehabilitation. Patients often first encounter nurses in primary healthcare settings, presenting both non-specific and specific symptoms. Nurses were recognized for their ability to identify symptoms, promptly inform physicians, assist in the implementation of prescribed therapies, monitor complications of the disease, and recognize adverse effects of medication therapy.

Discussion & Conclusion

The study concludes that nurses play a significant role in both primary and secondary prevention of lung cancer. They represent an important link between patients and physicians and actively participate in patient education, motivation, psychological support, and improvement of patients' quality of life. The findings highlight the importance of nursing care as an integral component of comprehensive lung cancer treatment.

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Keywords: lung cancer, nurse, multidisciplinary team, prevention, nursing care

ARTIFICIAL INTELLIGENCE AND CREATIVITY IN SPORT: A CASE STUDY OF SAMURAI SKILL

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Introduction

The aim of this paper is to examine whether samurai (bushi) training methodology offers advantages over artificial intelligence (AI) as a modern technological tool in 21st-century sports education. While AI can reconstruct samurai movements and techniques, it cannot fully reproduce the samurai approach to strategy development, discipline, intuition, and creativity that can be applied beyond combat and sports. The paper explores the relationship between traditional samurai education and contemporary AI-based approaches to sports training.

Methods

This interdisciplinary study combines perspectives from sports science, artificial intelligence, philosophy, religion, and history. The research was conducted using content analysis of the authentic samurai manual *The Book of Five Rings* by Miyamoto Musashi, as well as the historical-comparative method to compare samurai cognition and “algorithmic thinking.” The study focused on two main areas: the relationship between tradition and modern sport, and the teacher–student relationship in samurai tradition compared with AI-based mentorship.

Results

The findings indicate that AI has introduced positive changes in modern sports education, particularly in the standardization of sports skills and the popularization of sports among youth. However, the study suggests that AI is limited in achieving individualized sporting excellence comparable to the personalized approach historically practiced by samurai teachers. Repetition-based training, crucial for developing the neuro-muscular system and movement coordination, represents a biological mechanism that AI itself does not possess.

Discussion & Conclusion

The paper supports the thesis that samurai creativity, intuition, discipline, modesty, and persistent work cannot be fully transformed into an algorithm suitable for artificial intelligence. Although AI can serve as a valuable tool in sports education, it is unlikely to replace the individualized and deeply human aspects of traditional samurai pedagogy. The study concludes that the integration of technology in sports should complement, rather than replace, the personal mentorship and experiential learning characteristic of traditional training methods. **Keywords:** sport, education, artificial intelligence, sports creativity, samurai

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Keywords: sport, education, artificial intelligence, sports creativity, samurai

INNOVATIONS AND STARTUP SOLUTIONS IN SPORT AND HEALTH

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Introduction

The sport and health industry is undergoing rapid technological transformation, driven by startup companies and innovative solutions based on artificial intelligence (AI), wearable technologies, and digital platforms. These innovations are reshaping athlete preparation, recovery processes, and patient treatment. This review paper aims to systematically analyze the current state of innovation and startup ecosystems in sport and health, with particular emphasis on emerging technologies and market development.

Methods

This review paper is based on a systematic analysis of 45 sources, including peer-reviewed scientific journals and relevant industry reports published between 2021 and 2026. The research focused on four key domains: wearable technologies and sensor systems for performance monitoring, AI-based platforms for training personalization and diagnostics, digital health solutions and telemedicine, and regulatory and ethical frameworks influencing the commercialization of innovation.

Results

The findings indicate significant growth in both the digital health and sports technology sectors. The global digital health market reached a value of USD 387.8 billion in 2025, with projections estimating growth to USD 2.19 trillion by 2034. In parallel, sport startups attracted nearly one billion USD in investments during 2024 alone. The analysis also highlights the position of Serbia as an emerging innovation hub, where 41% of startups operate in the field of AI. Strategic investments of USD 56 million in AI infrastructure have contributed to creating a favorable environment for the development of sport and health technologies.

Discussion & Conclusion

The study demonstrates that AI, wearable technologies, and digital health platforms are becoming central drivers of innovation in sport and healthcare. Startup ecosystems play an important role in accelerating technological adoption and commercialization. Serbia shows strong potential for further growth in this sector due to its expanding AI startup ecosystem and infrastructure investments. The paper concludes that future development in sport and health will increasingly depend on interdisciplinary collaboration, responsible innovation, and the integration of advanced digital technologies into everyday practice.

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Keywords: sport technology, digital health, startup ecosystem, wearable technologies, artificial intelligence

INNOVATIONS AND STARTUP SOLUTIONS IN SPORT AND HEALTH

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Introduction

The sport and health industry is experiencing rapid technological transformation through the development of startups and innovative solutions based on artificial intelligence (AI), wearable technologies, and digital platforms. These advancements are changing the ways athletes train, recover, and improve performance, while also transforming healthcare delivery and patient treatment. This review paper aims to examine the current state of innovation and startup ecosystems within the fields of sport and health.

Methods

The study was conducted as a systematic literature review encompassing 45 sources, including peer-reviewed scientific articles and relevant industry reports published between 2021 and 2026. The analysis focused on four major domains: wearable technologies and sensor systems for performance monitoring, AI-based platforms for personalized training and diagnostics, digital health solutions and telemedicine, and the regulatory and ethical frameworks influencing innovation commercialization.

Results

The findings demonstrate substantial growth in the digital health and sports technology sectors. The global digital health market reached a value of USD 387.8 billion in 2025, with projections estimating growth to USD 2.19 trillion by 2034. In addition, sport startups secured nearly one billion USD in investments during 2024 alone. The analysis also highlights the role of Serbia as an emerging innovation hub, where 41% of startups operate in the AI sector. Strategic investments totaling USD 56 million in AI infrastructure have created favorable conditions for the development of innovative sport and health solutions.

Discussion & Conclusion

The review indicates that AI technologies, wearable devices, and digital health platforms are becoming key drivers of innovation in both sport and healthcare industries. Startup ecosystems significantly contribute to technological advancement, commercialization, and accessibility of modern solutions. Serbia demonstrates strong development potential due to its growing AI-oriented startup ecosystem and investments in technological infrastructure. The paper concludes that future progress in sport and health will depend on interdisciplinary collaboration, responsible implementation of innovation, and continued integration of advanced digital technologies into practice.

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Keywords: *sport technology, digital health, startup ecosystem, wearable technologies, artificial intelligence*

PSYCHOLOGICAL ASPECTS OF SPORT AND ARTIFICIAL INTELLIGENCE: A REVIEW OF AI APPLICATIONS IN MENTAL READINESS ANALYSIS, STRESS MANAGEMENT, AND PSYCHOLOGICAL PREPARATION OF ATHLETES

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Introduction

Psychological preparation is becoming an increasingly important factor in achieving optimal sports performance, while advances in artificial intelligence (AI) are creating new opportunities for the objectification and personalization of mental training. This review paper examines the application of AI in sport psychology, with a focus on mental readiness assessment, digital stress management, and AI-supported psychological interventions for athletes.

Methods

The study was conducted as a systematic literature review of the PubMed, Scopus, Web of Science, and PsycINFO databases. A total of 38 relevant sources published between 2020 and 2026 were analyzed. The review focused on three key domains: AI-based analysis of athletes' mental readiness, digital stress management tools, and virtual assistants and conversational AI systems in psychological preparation.

Results

The findings indicate that predictive models integrating HRV data, cognitive reaction time, and psychometric questionnaires achieve an accuracy of 85–90% in assessing athletes' mental readiness. Digital stress management tools based on HRV biofeedback, wearable sensors, and cognitive-behavioral interventions demonstrated moderate to significant effects ($g = 0.29–0.44$). In addition, AI chatbots grounded in cognitive-behavioral therapy showed statistically significant improvements in reducing anxiety and depressive symptoms among users.

Discussion & Conclusion

Despite the promising potential of AI applications in sport psychology, several ethical concerns remain important, including data privacy, the accuracy of initial psychological assessments, and the risk of excessive dependence on technology. The paper emphasizes that AI should not replace sport psychologists but rather function as a complementary tool that enhances assessment, monitoring, and intervention processes. The proposed integrated approach supports collaboration between technological systems and human expertise in order to optimize athletes' psychological preparation and well-being.

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Keywords: sport psychology, artificial intelligence, mental readiness, stress management, virtual assistants

Correlation between Physical Activity Level, Dietary Quality, and Mental Well-being among Students

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Introduction

The aim of this study was to examine the level of physical activity, dietary quality, and mental well-being among students of the College of Vocational Studies for the Education of Coaches and Educators. In addition, the study sought to determine whether differences existed according to gender, year of study, and study program.

Methods

The sample consisted of 114 participants, including 40.4% males and 59.6% females, predominantly aged between 19 and 23 years. The largest proportion of participants were third-year students (42.3%), while the most represented study program was Sports Coaching (49.6%). Data were collected using a questionnaire and analyzed through descriptive statistics (frequencies and percentages) and the chi-square (χ^2) test using SPSS.

Results

The findings indicate that most participants engaged in physical activity of varying intensity levels, although sedentary behavior was also present. Regarding dietary habits, respondents generally reported regular meal consumption and frequent intake of fruits and vegetables, while fast food consumption varied among participants. Mental well-being was assessed as satisfactory, with a predominance of positive emotional states. A statistically significant association was found between gender and the level of vigorous physical activity ($\chi^2=17.87, p<0.001$) while no statistically significant differences were observed between study program and dietary habits ($\chi^2=15.03, p=0.45$) nor between year of study and mental well-being ($\chi^2=16.07, p=0.38$).

Discussion & Conclusion

The results suggest a relatively favorable level of physical activity and mental well-being among students. However, the presence of sedentary behavior and inconsistencies in dietary habits indicate the need for additional health-promotion strategies focused on improving nutrition and reducing inactivity. The study highlights the importance of continuous monitoring and education regarding healthy lifestyles within the student population.

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Keywords: Physical activity; dietary habits; mental well-being; students

AI and Dissemination of Media Information in Sport - example of editorial office for multimedia content for Radio BG1 and RTS Planeta

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Introduction

The development of artificial intelligence (AI) has significantly transformed the way information is produced and disseminated in sports journalism, enabling faster data processing, content automation and the personalised distribution of information to audiences. In the context of the modern media environment, AI tools contribute to more efficient reporting on sport as an important area of social life, to performance analysis and to the generation of multimedia content, thereby increasing the availability and speed of information.

Methods

The results of the study 'Artificial Intelligence in Media in Serbia 2025', conducted by CEPROM, indicate that as many as 84.8% of journalists use AI in their everyday work, while 93.6% see this technology as a useful assistant, primarily in carrying out routine tasks. Nevertheless, the study shows that journalists rarely use AI for key journalistic processes such as selecting topics or verifying information, which confirms that the human factor still plays a crucial role in preserving the credibility of sports information. Additionally, as many as 90% of respondents believe that content generated with the help of AI is less reliable, which points to challenges regarding audience trust.

Results

In the field of distribution of sports information, AI and in the specific example of Google Gemini enables segmentation of the audience and optimization of content for digital platforms. Of particular importance is the development of participatory platforms such as the Literaworks program for the media, which facilitates the exchange of information and the transformation from audio to textual content, enabling the exchange of knowledge and additional contextualization of sports topics, which is shown in the example of the processing of sports content from the Sports Journal, Radio Belgrade, to news on the official RTS website.

Discussion & Conclusion

AI is a powerful tool for enhancing the dissemination of sports information, but not a replacement for journalists. Its optimal application lies in synergy with human expertise, with respect for ethical standards and the strengthening of audience trust. The article analyzes the problem of using AI in the media and the problem of discovering AI-generated content in the same, looking at it from the perspective of journalists and the audience. What is particularly important for all stakeholders in sport – the public, fans, players, coaches, journalists, sponsors and all sports institutions – is continuous media literacy. A critical distance is required when selecting the information presented to them in the dynamic field of sport. Proper selection of information and

continuous education in specific sporting activities enable a high level of professionalism, in which AI has also found a key role today.

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Key words: AI, sport, media, information, contemporary society

AI, AS A TRANSHUMANISM TOOL VS HEALTHY AND CONSCIOUS INDIVIDUAL

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Introduction

AI represents one of the key technologies of modern society and primary tool of transhumanistic idea which tends to improve an individual's capabilities by overcoming biological limitations. The aim of this paper is a critical insight in administration of AI as a mean of technological improvement of a healthy and conscious individual.

Methods

Methodological approach is based on scientific insight in psychology, philosophy and cognitive sciences.

Results

Results suggest that use of digital technologies and AI may lead to deterioration of attention, motorical and cognitive capabilities by delegating mental abilities to technology. At the same time transhumanistic approach apostrophizes a potential of using AI in integration of man's capabilities with biological systems.

Discussion and Results

The discussion shows the existing tension between the advancing technology and maintenance of critical thinking autonomy as well as with individuals' common sense. The paper shows that the use of AI as a tool for quick and simple approach to variety of databases has no bad consequence, but incorrect use of AI can endanger natural and normal functioning of human. According to this claim overuse of AI dulls man while at the same time brings itself to a higher level of advancing and learning.

The main challenge of nowadays man has to be the retention of individual functioning during everyday activity and use of AI primarily as an versatile scientific and efficient databases.

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Keywords: Artificial intelligence, transhumanism, common sence, cognitive functions, digital technology.

Associations Between Anthropometric Characteristics and Motor Performance among Preschool Children

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Introduction

The purpose of this study was to investigate the associations between anthropometric characteristics and motor performance.

Methods

The sample consisted of 145 preschool children (43 boys and 102 girls) attending the Preschool institutions in Čačak, Serbia. The children had an average age of 6.43 ± 0.22 years, an average height of 121.64 ± 5.55 cm, and an average body mass of 23.26 ± 4.27 kg. To assess anthropometric characteristics, measurements of body height and body weight were taken, and the Body Mass Index (BMI) was subsequently calculated based on these values. To assess motor competence, the Körperkoordinationstest für Kinder (KTK) was used. The KTK consists of four motor subtests: Balancing Backwards, Moving Sideways, Hopping for Height, and Sideways Jumping. The raw scores of the four KTK tasks were converted into standardized Motor Quotient (MQ) scores using age- and sex-specific norms.

Results

Anthropometric variables, including body height, body mass, and BMI, were strongly interrelated but showed a weak association with motor performance. In contrast, motor tests were highly intercorrelated, with the Motor Quotient and Total Score strongly reflecting overall motor efficiency.

Discussion & Conclusion

These findings suggest that motor coordination, rather than anthropometric characteristics, primarily determines general motor competence in the examined sample. Overall, the results indicate that motor performance in children is largely independent of anthropometric characteristics. Therefore, emphasizing the development of motor coordination may be more important than focusing on body size for enhancing general motor competence.

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Keywords: motor coordination, body coordination test, morphological characteristics, body mass index, preschoolers, children, motor development

Badminton “Shuttle Time” Programme in Physical Education in Serbia

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Introduction

Physical education plays a significant role in students' development and in forming lifelong physical activity habits, while the “Shuttle Time” project represents an innovative approach to introducing badminton into the school system in Serbia, with the potential to enhance teaching and promote physical activity. Accordingly, the aim of this paper is to analyze the implementation of the “Shuttle Time” project in Serbia, focusing on its scope, organization, and sustainability factors.

Methods

The study is based on the analysis of project documentation, strategic plans, and program implementation reports for the period 2017–2025. A descriptive method and SWOT analysis were used.

Results

In Serbia, 15 seminars were conducted, 375 teachers and students were trained, 126 schools from 48 cities and municipalities were involved, and more than 20,000 students participated in the program. The first strategic cycle (2017–2020) was successfully implemented, while a decline in activities was observed in the subsequent period due to financial constraints and the effects of the COVID-19 pandemic.

Discussion & Conclusion

The SWOT analysis indicates that the program has strong internal strengths and favourable external opportunities for implementation and expansion in Serbia. The main limitations relate to insufficient financial resources and a limited number of trained instructors. The program has significant potential to improve physical education teaching and promote badminton, with a need to strengthen institutional support, cooperation, and continuous teacher education.

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Keywords: school sport, students' physical activity, teacher education, SWOT analysis, health

INTEGRATION OF PARKOUR INTO CONTEMPORARY PHYSICAL EDUCATION PROGRAMS: THEORETICAL FOUNDATIONS AND THE POTENTIAL OF ARTIFICIAL INTELLIGENCE APPLICATIONS

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Introduction

Contemporary physical education programs require innovative approaches that contribute to the development of motor skills and the improvement of students' quality of life. Parkour, as a discipline focused on the efficient overcoming of obstacles, represents a valuable form of physical activity for the development of coordination, strength, agility, and cognitive abilities. This paper aims to theoretically examine the integration of parkour into physical education programs, with particular emphasis on the potential applications of artificial intelligence (AI).

Methods

The study was conducted through an analysis of relevant scientific and professional literature, combined with a theoretical synthesis of contemporary pedagogical and technological approaches. Special attention was given to the application of AI in movement analysis, injury prevention, individualized instruction, and the enhancement of student motivation within physical education settings.

Results

The theoretical analysis indicates that integrating parkour into physical education, supported by AI technologies, may contribute to a safer, more efficient, and individualized learning process. Digital tools and AI-based systems enable precise movement analysis and feedback, allowing students to better understand and reflect on their own movement patterns. Such approaches may also encourage the development of body awareness, healthier behavioral patterns, and improved engagement in physical activity.

Discussion & Conclusion

The combination of parkour and artificial intelligence demonstrates significant potential for improving contemporary physical education programs. AI-supported instruction may enhance safety, optimize teaching methods, and provide individualized support adapted to students' needs and abilities. The study concludes that the integration of innovative physical activities and modern technologies can contribute to more effective educational practices and promote the holistic development of students in modern educational contexts.

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Keywords: movement, health, interaction, progress

Injury Profile and Economic Impact in Serbian Professional Football: A Transfermarkt-Based Cross-Sectional Analysis

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Introduction

Injury epidemiology in smaller European football leagues remains insufficiently documented. Transfermarkt may serve as a data source for descriptive epidemiological analyses. Analysis of the injury profile and injured players and their economic significance in Serbian professional football during the 2025/26 season (April 2026 data).

Methods

A cross-sectional descriptive analysis was performed using Transfermarkt data extracted at a single time point (April 2026). Fourteen injured players from the Serbian SuperLiga were identified. Variables included age, position, injury type, and market value. Injuries were grouped into ligamentous, tendinous, joint-related, spinal, and unspecified categories. Continuous data are presented as mean $\pm$ SD and median (range), while categorical variables are shown as n (%). Incidence rates could not be calculated due to lack of exposure data.

Results

The mean age was 25.7 $\pm$ 4.8 years (range 18–35), median 24.5 years. Lower extremity injuries accounted for 6/14 cases (42.8%), while severe knee injuries (ACL, collateral ligaments, patellar tendon) comprised 4/14 (28.6%). Unspecified injuries represented 7/14 cases (50.0%). Defenders and wingers accounted for 9/14 injuries (64.3%). Total estimated market value of injured players was €6.375 million, with a mean of €455k and median €400k (IQR €300k–€600k; range €100k–€1.2M).

Conclusion

Injuries in Serbian professional football mainly affect the lower extremity and are more common in high-intensity positions such as defenders and wingers. Severe injuries and the associated financial burden underline the need for improved injury prevention. Findings should be interpreted cautiously due to limited data completeness.

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Keywords: Football, injury, Transfermarkt

ARTIFICIAL INTELLIGENCE AND HEALTH

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Abstract

Contemporary society is experiencing a period of accelerated technological development in which artificial intelligence (AI) plays a central role in transforming various aspects of human life. AI is redefining the boundaries of technological capability by enabling advanced forms of data processing and decision support that may exceed human capacities. In the field of health, its application contributes to improving diagnostic accuracy, personalizing therapeutic and preventive protocols, and optimizing individualized physical activity programs. A particularly significant area of application includes AI-based systems used in sports, recreation, and fitness, which enable monitoring of physical activity, adjustment of training intensity, and development of personalized exercise programs. These systems contribute to more efficient health management and promote broader access to individualized approaches to physical activity.

However, the widespread implementation of AI technologies also presents several challenges. These include potential algorithmic bias, insufficient professional oversight, limitations in model reliability, and the risk of overreliance on automated decision-making systems. In addition, significant ethical concerns arise regarding data privacy and security, as well as unequal access to technology.

The aim of this paper is to present and analyze the advantages and limitations of artificial intelligence in the context of physical activity aimed at health promotion, with particular emphasis on ethical considerations, data protection, and user safety.).

Key words: health, artificial intelligence, AI applications, technology

INNOVATIONS IN SAFETY PROCEDURES FOR ELDERLY PATIENTS IN HOSPITAL SETTINGS

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Introduction

The aging of the population presents significant challenges in ensuring the safety of hospitalized patients. Elderly individuals face increased risks of falls, infections, medical errors, and communication gaps among healthcare professionals. Modern approaches to patient safety require innovative strategies that integrate digital technologies, interdisciplinary cooperation, and continuous staff education.

Methods

A mixed-method analysis was conducted, combining qualitative and quantitative reviews of the available literature and best practice examples in hospital institutions across Serbia and selected European countries. Emphasis was placed on digital patient monitoring systems, standardized fall-prevention protocols, and individualized care plans.

Results

Findings indicate that the implementation of smart sensors, electronic alert systems, and continuous nursing education substantially reduces the incidence of adverse events among elderly patients. Innovative preventive programs and ongoing vital sign monitoring improve overall safety and quality of hospital care.

Discussion & Conclusion

Incorporating technological and educational innovations into daily healthcare routines has the potential to transform practices related to patient safety for older adults. Key success factors include care personalization, enhanced staff training, and the deployment of digital infrastructures that enable timely reactions and prevention of adverse events.

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Keywords: innovations, patient safety, elderly care, hospital nursing, healthcare technology.

POSITIVE EFFECT OF BLOOD MICROCIRCULATION STIMULATION ON SLEEP DURATION AND QUALITY BASED ON PHYSICAL VASCULAR THERAPY AND ANALYSIS OF MICROWAVE SIGNALS USING AI ALGORITHMS

Piotr Edward Sierpowski

Introduction

Sleep is essential for health and well-being, yet its quality and duration are often compromised in modern society. Improving blood microcirculation has emerged as a promising approach to support better sleep by enhancing physiological recovery processes. This lecture examines the positive impact of physical vascular therapy on sleep, alongside the use of AI algorithms to analyze microwave signals as a novel, non-invasive method for monitoring and understanding sleep patterns.

Methods

The lecture is based on physical vascular therapy methods used to stimulate blood microcirculation and support sleep regulation. Sleep duration and quality were assessed using approaches adapted from the study "The effect of bio-electro-magnetic-energy-regulation therapy on sleep duration and sleep quality among elite players in Norwegian women's football." It also includes AI-based analysis of microwave physiological signals, supported by nine years of practical experience working with athletes, hospitals, and coaches in Poland.

Results

Combined research findings and practical experience with athletes indicate that regular stimulation of blood microcirculation can extend the duration of deep sleep, particularly after intense physical effort such as a football match. This enhancement of deep sleep supports more effective physical recovery, as this sleep phase plays a key role in the body's repair and regeneration processes.

Discussion & Conclusion

Professional athlete experience reduced sleep quality and duration on start/match nights due to high physical load, which negatively affects recovery and performance. Total sleep time, as well as light, deep, and REM sleep phases, tend to decrease while physiological strain peaks. However, the introduction of microcirculation stimulation is associated with longer total sleep time and a more balanced distribution of sleep phases, suggesting it may be an effective tool for enhancing recovery, as sleep remains the body's primary regeneration mechanism.

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5. „The technological development history and current significance of the "physical BEMER® vascular therapy" in medicine.”

Keywords: Microcirculation, Regeneration, Improved sleep quality, Vascular Therapy Vasomotion

THE ROLE OF MEDIA AND SPORTS PHOTOGRAPHY IN THE PROMOTION OF DISABILITY SPORT: A LITERATURE REVIEW AND PHOTOGRAPHIC ANALYSIS OF GOALBALL AND WHEELCHAIR BASKETBALL

Miloš Stamenković

Introduction

Sport for persons with disabilities represents an important segment of the contemporary sports and social system, contributing to inclusion, equality, and the transformation of public perceptions of disability. Media representation and sports photography play a significant role in shaping public opinion by presenting athletes with disabilities through narratives and visual portrayals of their sporting achievements. This paper aims to synthesize existing scientific knowledge regarding media representation and to analyze the contribution of sports photography to the promotion of disability sport.

Methods

A literature review was conducted using the Scopus, Web of Science, and Google Scholar databases. Keywords included "disability sport," "Paralympic Games," "media representation," "sports photography," "media coverage," and "social media." The review included studies published between 2000 and 2025 that examined the media portrayal of disability sport. Particular focus was placed on the sports of goalball and wheelchair basketball. In addition to the literature review, the study analyzed photographic examples published in *Sportski žurnal* related to these sports.

Results

The analysis demonstrated that athletes with disabilities remain underrepresented in traditional media, where inspirational narratives and stereotypical portrayals continue to dominate. Although major sporting events such as the Paralympic Games temporarily increase media visibility, these effects are often short-lived. The examined photographic examples showed that sports photography enables more direct and expressive visual communication of athletic performance, competitive intensity, and athlete identity, thereby contributing to more authentic representation.

Discussion & Conclusion

The findings suggest that sports photography has substantial potential to improve the visibility and perception of athletes with disabilities by emphasizing athletic competence rather than disability itself. However, sustainable improvement in media promotion requires an integrated approach that combines balanced media narratives with high-quality visual representation. The paper concludes that more consistent and inclusive media practices are necessary to support the long-term promotion and social recognition of disability sport.

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Keywords: *disability sport, media, sports photography, inclusion, goalball, wheelchair basketball*

THE ROLE OF PHYSICAL ACTIVITY IN THE PREVENTION AND TREATMENT OF CHILDHOOD OBESITY IN EARLY SCHOOL AGE

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Introduction

Childhood obesity represents a serious global public health issue, with a significant increase in prevalence worldwide. Multiple factors contribute to the development of obesity in children, including improper nutrition, insufficient physical activity, sedentary lifestyle, excessive use of digital technologies, genetic predisposition, and psychosocial influences. This paper aims to examine the role of physical activity in the prevention and treatment of childhood obesity.

Methods

The paper is based on a review and synthesis of relevant scientific literature addressing childhood obesity, physical activity, lifestyle habits, and health outcomes in children. The analysis focused on the effects of regular physical activity on body composition, physical fitness, metabolic health, psychological well-being, and the development of healthy lifestyle habits.

Results

The findings indicate that physical activity is a key factor in both the prevention and treatment of childhood obesity. Regular engagement in physical activity contributes to improved body weight regulation, enhanced cardiorespiratory fitness, better metabolic health, and improved psychological well-being among children. Activities based on play and outdoor exercise were shown to positively influence motor, cognitive, and social skill development. In addition, reducing sedentary behavior decreases the risk of obesity. The literature further suggests that the most effective outcomes are achieved through combined interventions integrating physical activity with proper nutrition.

Discussion & Conclusion

The formation of healthy lifestyle habits during early school age is essential for maintaining health and supporting proper child development. Family, school, and society all play important roles in encouraging active lifestyles and healthy behaviors. The paper concludes that promoting regular physical activity should represent a central strategy in the prevention and treatment of childhood obesity, with the goal of ensuring healthy growth and reducing long-term risks associated with chronic diseases.

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Keywords: childhood obesity, physical activity, prevention, treatment, children

PHYSICAL THERAPY IN ACHILLES TENDON TENDINOPATHY

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Introduction

Tendinopathy represents a disease of connective tissue. Achilles tendon tendinopathy occurs at all ages and can be with or without calcifications. Treatment is with physical therapy, and in the case of the presence of calcifications, by mechanical shock wave. The aim of this paper is to determine the effect of treatment of Achilles tendon tendinopathy with and without calcifications..

Method

The study included 33 patients aged 22 to 65 years with a diagnosis of Achilles tendon tendinopathy. In patients, the presence of Achilles tendon tendinopathy was confirmed by ultrasound diagnostics. Therapy was conducted in two groups of patients. The first group of 19 patients had only Achilles tendon tendinopathy, while in the group of 14 patients, the presence of calcifications was also determined. The first group of patients was treated according to the tendinopathy protocol, and the second with focused mechanical shock wave therapy. Patients underwent a total series of ten therapies each. Pain intensity was assessed using the Visual Analog Scale for pain (VAS). Pain intensity assessment was done before the start of therapy, after five therapies, and at the end of treatment.

Results

In all patients who were treated, after a series of ten sessions, there was a significant decrease in pain intensity on the VAS scale ($p < 0.001$). Control ultrasound diagnostics determined a reduction in calcifications

Conclusion

Based on their research, the authors conclude that the application of both classical physical therapy and mechanical shock wave therapy leads to pain reduction in tendinopathy with and without calcifications. With the use of mechanical shock wave therapy, a reduction of calcifications was observed after a series of ten sessions in all cases, but the calcifications still remained.

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Keywords: tendinopathy, Achilles tendon, therapy, shock- wave

SYMBIOSIS OF PHYSICAL ACTIVITY AND MENTAL HEALTH IN ADOLESCENTS – A REVIEW OF CURRENT RESEARCH

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Introduction

Adolescence represents a period of developmental neurobiological sensitivity. This age is characterized by numerous modifiable factors, such as physical activity. Mental health problems in adolescents should be recognized in a timely manner in order to influence their consequences on the individual and society as a whole through modifiable factors.

Aim

To determine the impact of physical activity on the mental health of adolescents, as well as the importance of preventive programs and associated factors, through a review of current literature.

Methods

A narrative literature review with elements of a systematic search was conducted using databases such as PubMed, KoBSON, Scopus and Web of Science for the period 2021–2025.

Results

Adolescence is presented as a developmental period with an increased risk of mental disorders, with one in five adolescents reporting symptoms of mental health difficulties. Research indicates that elements of physical activity should be included in preventive intervention programs in order to improve mental health outcomes. Studies show that adolescents who are more physically active have a significantly lower risk of developing mental disorders. Mental health outcomes in the adolescent population are still insufficiently explored. A higher level of physical activity, as an independent factor, is associated with better mental health in adolescents. Furthermore, recent findings demonstrate positive effects through modifications in teaching and improvements in physical education models, including additional psychosocial approaches focused on adolescents, leading to better mental health outcomes compared to standard teaching methods.

Conclusion

The relationship between physical and mental health has long been recognized; however, the mechanisms by which physical activity reduces the risk of mental health problems in adolescents require further qualitative and longitudinal research for better understanding. Physical activity can significantly contribute to the promotion of mental health.

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Keywords: physical health, adolescents, mental health

Effects and Implementation of Physical Activity Among Healthcare Workers

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Introduction

The profession of healthcare workers is characterized by a high level of stress, which, combined with shift work and physical workload, can negatively affect their physical and mental health, reduce work efficiency, and consequently impact the quality of healthcare services.

Aim

The aim of this paper is to present, through an analysis of contemporary studies, the effects and importance of implementing organized physical activity programs in healthcare institutions for healthcare workers.

Methods

A narrative analysis of available literature from scientific databases such as Scopus, PubMed, and KoBSON was conducted.

Results

Contemporary literature indicates that regular physical activity contributes to stress reduction and, consequently, lowers the level of burnout syndrome. Physical activity improves cardiovascular health, strengthens the musculoskeletal system, and enhances psychophysical readiness to cope with demanding tasks. This leads to increased job satisfaction among healthcare workers and contributes to improving their quality of life. Such outcomes result in higher work productivity, reduced absenteeism, and a greater overall contribution to the healthcare system.

Recent studies have confirmed the positive effects of physical activity among healthcare workers and recommend the implementation of such programs in healthcare institutions through workplace exercises, active breaks, education on ergonomics, and the promotion of healthy lifestyles. Barriers to implementation include lack of time, heavy workload, shift work, and insufficient institutional support. It has been demonstrated that even moderate and short-term physical activities can have significant effects on the health and psychophysical condition of healthcare workers, highlighting the need for organizational support, flexible program design, and integration into daily work routines.

Conclusion

Improving physical activity and its implementation in healthcare institutions represents an important strategy for preserving the health of employees and enhancing the quality of healthcare through greater efficiency and effectiveness.

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Keywords: healthcare workers, stress, burnout syndrome, physical activity, effects, implementation

The Impact of Psychophysical Preparation and Physical Exercise During Pregnancy on the Course of Labor – A Review Paper

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Introduction

Psychophysical preparation for childbirth has gained increasing importance in modern practice, with physical exercise playing a key role in this process. During pregnancy, properly selected and adapted exercises can have a positive impact not only on the physical condition of the pregnant woman but also on her psychological readiness for childbirth.

Materials and Methods

A descriptive review of professional literature published between 2021 and 2025 was conducted using databases such as PubMed, KoBSON, Scopus, and Web of Science.

Results

Research shows that pregnant women who participated in psychophysical preparation during pregnancy had significantly better childbirth outcomes compared to those who did not. It has been demonstrated that exercise during pregnancy shortens the duration of labor, reduces the frequency of complications and the need for additional medical interventions, and makes labor pain easier to manage. Additionally, a reduction in fear and tension, as well as increased self-confidence during childbirth, has been observed.

Conclusion

Psychophysical preparation and exercise during pregnancy significantly influence the course of labor, reduce its duration, decrease stress, and lower the risk of complications.

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Keywords: pregnancy, psychophysical preparation, physical exercise, childbirth

Health Implications of Participating in Combat Sports

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Introduction

Over the past two decades, contact sports have seen a significant rise in participation across all age groups, driven by diverse motivations ranging from daily recreation and health benefits to professional competition.

Method

The increasing popularity of contact sports is largely attributed to the global broadcasting of major sporting events and the pervasive influence of martial arts in action cinema. This heightened engagement has led to a rising incidence of sport-specific injuries. This study provides a comprehensive description and analysis of the frequency and anatomical localization of these injuries, alongside an evaluation of current treatment modalities and preventive strategies in martial arts.

Results

The term "sports injury" encompasses all traumatic or overuse conditions sustained during physical activity, including competitive events, routine training, or recreational sessions. The findings highlight a vast diversity in both the nature of martial arts disciplines and the specific injury profiles associated with each.

Discussion & Conclusion

This paper analyzes three representative contact sports practiced globally: boxing, karate, and judo. Injuries identified within these disciplines constitute a significant proportion of the overall injury burden seen across the broader spectrum of contact sports.

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Keywords: combat sports, sports injuries, all age groups, sports medicine

Impact of Biological Maturation on Sprint and Aerobic Performance in U-14 Soccer Players

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Introduction

The aim of this study was to assess the influence of biological maturation on physical performance in U-14 youth soccer players.

Methods

Fifty-three sub-elite youth soccer players performed 25-m sprint test, Yo-Yo Intermittent Recovery Test Level 1 (YYIR1) and standing long jump (SLJ). Peak velocity (V_{peak}) was measured using an 18.18 Hz GPS units (GPEXE® SYSTEM, EXELIO). During YYIR1, total distance covered (TD), maximal aerobic speed (MAS) and peak heart rate (HR_{peak}) were recorded. HR was monitored using a Polar H10 device. Biological maturation was estimated using the Mirwald algorithm [1], and players were categorised based on years from peak height velocity as early ($N = 23$) or late maturers ($N = 30$) [2]. Independent samples t-tests were conducted to detect between-group differences, with the level of significance set at $p < 0.05$.

Results

Early maturers significantly displayed greater values than less mature peers for V_{peak} ($p < 0.001$), MAS ($p < 0.05$) and TD ($p = 0.05$). No significant differences were observed between-groups for SLJ and HR_{peak} .

Discussion & Conclusion

These findings indicate that early maturing players present more advanced neuromuscular and physiological growth [3]. Considering biological maturation may be essential to optimise talent identification process in youth soccer [4].

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Keywords: peak height velocity, talent identification, YYIR1, neuromuscular performance

Effects of Transition Games on Internal and External Load Across Maturity Status in U-14 Soccer Players: A Preliminary Study

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Introduction

The aim of this study was to evaluate the effects of transition games (TG) on internal and external load in U-14 soccer players with different maturity status.

Methods

Thirty sub-elite youth soccer players performed TG on a 30x40 m pitch (3x4' separated by 2 min passive recovery). Biological maturation was estimated using Moore algorithm [1], and players were categorised based on years from peak height velocity as early (N = 12) or late maturers (N = 18) [2]. External load variables included distance covered, high-speed running (13–18 km · h⁻¹), sprint distance (>18 km · h⁻¹). Internal load was assessed via RPE scores, the percentage of time spent at 80–90% and >90 of maximum heart rate (HR_{max}). Independent samples t-tests were conducted to examine between-group differences, with the level of significance set at p < 0.05.

Results

Early maturers significantly spent more time at 80–90 % HR_{max}, whereas late maturers significantly showed higher values for time spent > 90% HR_{max} and RPE (p < 0.05 for all). No significant differences were found across groups regarding external load variables.

Discussion & Conclusion

These results suggest that less mature players experience greater internal load during TG due to lower absolute physical capacities [3]. Bio-banding approach may represent an effective approach to support long-term athletic development in youth soccer [3].

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Keywords: maturation, youth soccer, transition games, GPS, injury risk

How AI and Performance Measurement Redefine Athlete Identification

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Introduction

Athlete identification has traditionally relied on subjective observation, competition outcomes, and early physical maturation, often resulting in biased selection processes and the exclusion of late-developing athletes. Advances in artificial intelligence (AI) and performance measurement technologies are transforming this paradigm by enabling objective, multidimensional, and predictive approaches to talent identification. This paper aims to examine the role of AI and advanced analytics in modern athlete identification systems.

Methods

The paper is based on a theoretical and analytical review of contemporary approaches to athlete identification using AI-driven technologies and performance measurement systems. The analysis includes the application of wearable devices, motion analysis systems, and video-based technologies for collecting biomechanical, physiological, and cognitive performance data. Particular attention is given to predictive models that assess longitudinal athlete development, adaptability to training loads, and responsiveness to contextual factors such as biological age and training history.

Results

The analysis indicates that AI-based athlete identification models differ substantially from traditional talent selection methods by emphasizing long-term developmental potential rather than only current performance outcomes. AI-driven analytics support probabilistic forecasting of future athletic success through the integration of multidimensional data sources. In addition, AI-powered platforms contribute to the democratization of talent identification by expanding access to analytical tools beyond elite clubs and traditional scouting systems, enabling recognition of talent across diverse geographic and socioeconomic environments. The findings also highlight the continuing importance of coaches and scouts within AI-supported systems, particularly in contextual interpretation, developmental planning, and ethical decision-making.

Discussion & Conclusion

Although AI and advanced performance measurement technologies provide significant opportunities for more inclusive, evidence-based, and sustainable athlete identification, several challenges remain important. Issues related to data quality, algorithmic bias, privacy protection, and excessive quantification of performance require careful consideration and responsible regulation. The paper concludes that AI should function as a complementary tool within athlete development systems rather than a replacement for human expertise. Overall, the integration of AI reframes athlete identification as a dynamic, continuous, and athlete-centered process that may improve long-term athletic development across diverse sporting environments worldwide.

Key words: Artificial intelligence, measurement, talent, prediction, potential, decision, ethic

ANALYSIS OF EXTERNAL LOAD OF FOOTBALL PLAYERS USING KINEXON GPS TECHNOLOGY

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Introduction

Monitoring external load in professional football is essential for optimizing performance and reducing injury risk. This study aimed to analyze the external load of FK Novi Pazar players during competitive matches and training sessions using KINEXON GPS technology.

Methods

Data were collected from 11 players over a 12-week period, encompassing 10 training sessions and 10 official matches. Variables included total distance, distance per minute, distance in speed zones, maximum speed, accelerations, decelerations, and changes of direction. Data were collected from training sessions and official matches, and descriptive statistics and Spearman correlation analyses were performed.

Results

Results showed that match play imposed substantially higher physical and mechanical demands than training. Total distance (8408.4 ± 2813.64 m vs. 5051.3 ± 894.16 m) and distance per minute (82.25 ± 19.53 m/min vs. 67.21 ± 10.16 m/min) were significantly higher during matches. High-intensity running in speed zones 4, 5, and 6 and maximum speed (29.49 ± 4.17 km/h vs. 24.18 ± 2.6 km/h) were also greater in matches. Accelerations, decelerations, and changes of direction increased during matches, reflecting elevated neuromuscular load. Spearman correlations between training and match variables were generally low and non-significant, suggesting that current training may not fully replicate match demands.

Discussion & Conclusion

Findings indicate that players experience substantially greater mechanical and high-intensity demands in competition than in training, emphasizing the need for training programmes that better replicate match conditions. Incorporating high-speed running and acceleration/deceleration drills may improve readiness and reduce injury risk. Limitations include a single-team sample and lack of microcycle classification.

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Keywords: external load, GPS technology, high-intensity running, accelerations, football

ASSESSMENT OF THE HEALTH STATUS OF ADOLESCENTS BASED ON CERTAIN CARDIOMETABOLIC PARAMETERS

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Introduction

Physical activity and nutritional habits are synergistic factors that reflect on cardiometabolic parameters, and thus on health. The aim of this study is the identification and analysis of the cardiometabolic profile, the level of physical activity and nutritional habits, and the analysis of their relationships as a potential indicator of health in the adolescent population.

Methods

This study is cross-sectional in nature and was conducted on a non-probability sample consisting of adolescents aged 10 to 15. The participants, 205 in total, were male and female students from the 5th to the 8th grade. All results of the evaluated parameters were analyzed using descriptive statistics, including arithmetic means (M) and standard deviations (SD). The Mann-Whitney U test was applied to assess differences between the younger and older groups, while correlations between the tested variables were determined using the Spearman's rank correlation coefficient (ρ). All analyses were performed using the SPSS statistical software.

Results

The results of the study indicate that levels of physical activity associated with participation in various forms of programmed exercise and sports activities are negatively correlated with Body Mass Index (BMI) and body fat percentage among older adolescents. Regarding nutritional habits, the results suggest that the transition from early to late adolescence involves changes identified by a reduced number of daily meals (fewer than three meals per day).

Discussion&Conclusion

Taking into account the decreased level of physical activity and changes in nutritional habits, blood glucose levels among the participants in this study nevertheless remained stable, suggesting that homeostatic mechanisms are still preserved in the examined sample of adolescents. The identified changes in physical activity levels and poor nutritional habits are not only independent risk factors negatively affecting body composition, but also important indicators of cardiometabolic health risk that may point to the development of non-communicable chronic diseases during adolescence.

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Keywords: physical activity, nutrition, glucose, body fat percentage, adolescents
