



**SPORT
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SPORTICOPEDIA-SMB2025

THE BOOK OF ABSTRACTS

editor

Dejan Dašić PhD
Faculty of Sport

Belgrade, SERBIA
November 14-15, 2025

THIRD INTERNATIONAL SCIENTIFIC CONFERENCE

SPORTICOPEDIA - SMB2025

Sport in the Focus of the 21st Century: Educational, Social, and Media Aspects



**UNIVERSITY UNION
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**FACULTY OF SPORT
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FOREWORD

Dear colleagues,

It is our great pleasure to present to you the *Book of Abstracts* of the Third International Scientific Conference “Sporticopedia SMB2025 – Sport in the Focus of the 21st Century: Educational, Social, and Media Aspects,” planned to be held on November 14–15, 2025, organized by the Faculty of Sport, Union – Nikola Tesla University, Belgrade, with the financial support of the Ministry of Science, Technological Development and Innovation of the Republic of Serbia.

This year’s conference continues the tradition of fostering scientific dialogue and interdisciplinary exchange initiated by the previous gatherings of the Sporticopedia SMB series in 2023 and 2024. The 2025 edition brings together 31 abstracts authored by researchers from numerous countries around the world, confirming the international character and growing reputation of the Sporticopedia SMB platform.

The conference is co-organized by the Sports Association of Serbia, the Institute for the Improvement of Education and Upbringing, the Serbian Association of Physical Education and Sport Teachers, and the Faculty of Sports and Physical Education in Leposavić, University of Kosovska Mitrovica. Together, these institutions have created a space for academic cooperation and the exchange of professional experiences that promote both scientific excellence and the practical application of knowledge in the fields of sport, education, communication, and management.

Through its main thematic areas - physical education, communication, and management in sport - the conference emphasizes the importance of sport not only as a physical or competitive activity but also as a multidimensional social, educational, and media phenomenon that shapes contemporary culture and identity. The abstracts presented in this collection cover a wide range of topics, from the methodology of physical education and sports management strategies to the ethical, media, historical, and ecological dimensions of modern sport.

Sporticopedia SMB2025 aims to provide a comprehensive overview of current trends, challenges, and innovations, as well as to encourage collaboration among researchers, educators, and practitioners. This publication represents not only a record of the achievements of contemporary sports science but also an invitation to future cooperation in improving the quality of life, education, and social well-being through sport.

We express our sincere gratitude to all authors, reviewers, and institutional partners for their valuable contributions to this international scientific event. We hope that this publication will inspire further research, dialogue, and creative engagement within the global sports science community.

Prof. Dr. Dejan Dašić
Faculty of Sport
Union – Nikola Tesla University



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**SPORT IN THE FOCUS OF THE 21 ST CENTURY:
EDUCATIONAL, SOCIAL AND MEDIA ASPECTS**

PLENARY LECTURE

**PHYSIOLOGICAL BASIS OF TRAINING, PLANNING AND
PROGRAMMING IN SWIMMERS**

Klara Šiljeg¹

Abstract

The planning and programming of the training process through periodization is carried out in accordance with the physiological principles of the organism's adaptation to a given load. Periodization is defined as a flexible framework within which a specific program is created with the aim of stimulating optimal adaptive responses of the organism. Physiological changes in the muscular, cardiovascular, respiratory, endocrine and energy systems depend on the type, as well as intensity and duration of the training load. In the muscular system, there is an increase in capillary density, the number and size of mitochondria and the activity of oxidative enzymes, which results in improved oxidative capacity, movement economy and lactate tolerance. The cardiovascular system adapts by increasing stroke volume and cardiac output, better blood distribution and a larger number of capillaries, which allows for more efficient oxygen transfer and utilization. In the respiratory system, an increase in ventilation capacity and efficiency of gas exchange is recorded, while in the endocrine system, changes occur that allow for more precise regulation of energy processes and recovery mechanisms. Energy metabolism is developed in a targeted manner through different types of training, anaerobic alactate (ATP-CP), anaerobic lactate and aerobic, with a gradual increase in intensity and specificity in relation to the discipline. Understanding the role of oxygen, mitochondria and buffering mechanisms in the regulation of fatigue and maintaining swimming intensity is key. Maglischo (2015) points out that existing periodization theories are largely based on anecdotal and empirical knowledge, collected from various sources, and that the process is fundamentally deductive in nature. In practice, traditional forms of periodization (two-cycle and three-cycle plans) and more modern approaches such as reverse periodization and block-periodization, which allow for greater flexibility in relation to the competitive calendar and individual needs of athletes. Planning is carried out on a multi-year, annual and seasonal level, and plans are further elaborated through macro-, meso- and micro-cycles, each of which has clearly defined goals and tasks. A properly programmed training process, based on the physiological laws of adaptation, creates the prerequisites for the maximum adaptive response of the organism, reduces the risk of overtraining and enables the achievement of top sports results.

Keywords: physiological adaptation, training periodization, swimming, energy systems, training planning and programming

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PLENARY LECTURE

**HOLISTIC ANALYSIS OF THE MODERN STRENGTH
TRAINING SYSTEM**

Mithat Blagajac²

Abstract

From the standpoint of kinesiology, muscles represent the largest and most important organ of the human body, although this is often insufficiently understood. The health of the entire organism largely depends on how and to what extent the muscles are activated daily. Muscles, together with bones, make up about 60–65% of total body mass (in men, muscles account for about 40% of body mass, and in women, about 30%). Muscles connect, influence, and determine the activity and functioning of all organs and systems of the human body. The largest parts of the cerebral cortex (about 80%) are motor centers. The half-life of muscle proteins averages 30 days - they are in a constant process of breakdown (catabolism) and resynthesis (anabolism), known as protein turnover. A higher rate of protein breakdown compared to synthesis, or predominant catabolism, characterizes hypotrophy (loss of muscle mass). Conversely, muscle hypertrophy is characterized by anabolism exceeding catabolism, resulting in an increase in muscle mass and consequently muscle strength.

All strength training programs are based on the principles of adaptation and muscle hypertrophy. However, it should be emphasized that muscle strength is not always highly correlated with muscle mass. Excessive focus on hypertrophy training, combined with inadequate nutrition and improper supplementation, can lead to excessive muscle mass, which according to recent research represents a risk for the cardiovascular system and constitutes a significant kinesiological, biomechanical, and metabolic burden for athletes in many sports. The focus of this analysis is on the scientific, biomedical, and kinesiological foundations of strength training, with particular attention to serious training errors often seen in gyms. These errors cause significant postural imbalances - disruptions in the equilibrium between lateral myofascial chains (left-right, front-back), imbalances between specific muscle groups, and between muscle mass and the capacity of the cardiovascular system (VO₂max). Additionally, discrepancies often occur between dynamic expressions of strength required in a particular sport and static strength developed in training.

It is essential to understand the physiological, biochemical, and kinesiological principles of muscle hypertrophy and the specific manifestations of strength in a given sport to design specialized strength training programs for each sport and for each athlete individually. The core principle should not be to copy, but to comprehend. Even when adopting training programs from the internet, it is important to understand

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what, why, how, and to what extent specific training loads and programs are applied. Furthermore, it is crucial to monitor not only physical but also physiological parameters of the applied training loads.

Keywords: myofascial system, motor abilities, adaptology, hypertrophy (myofibrillar, sarcoplasmic, mitochondrial), biochemical, physiological and neurogenic foundations of strength development, sarcopenia, dynapenia, kratopenia.

PLENARY LECTURE

**COMMUNICATION AND MEDIA ASPECTS OF THE
PROMOTION OF PARALYMPICS IN THE FUTURE
„SPORTS DEVELOPMENT STRATEGY IN THE
REPUBLIC OF SERBIA FOR THE PERIOD
FROM 2025 TO 2035“³**

Biljana Vitković⁴

Abstract

This paper deals with the communication and media aspects of the promotion of Paralympic sports in the context of the development of the new „Sports Development Strategy in the Republic of Serbia for the period from 2025 to 2035“. Paralympics, as an important segment of the life of people with disabilities, is still not sufficiently present in the media in Serbia, and is not well supported systemically. This leads to limited visibility and indicates the need to develop a comprehensive communication strategy. The goal of the research is to analyze the current position of Paralympics in the strategic documents of the Government of the Republic of Serbia published so far, in the media and society, and to propose communication guidelines within the framework of the development of a new strategy that could contribute to greater affirmation, media visibility and inclusion of athletes with disabilities. Through a qualitative analysis of existing documents, available media sources and information on Paralympism, the research will indicate the current institutional public policies and media practices and propose models of media strategy that can be incorporated into the national legislative framework. The theoretical directions within which the media coverage of the sports successes of the Paralympians in Serbia moves will also be presented. The research results will contribute to the understanding of the importance of communication in changing the social perception of Paralympians, as well as to the development of a strategy that will be valid in the next ten-year period. Based on the findings, the paper will offer concrete recommendations for institutions, media and organizations, with the aim of improving the media presentation and social integration of the Paralympics in Serbia.

Keywords: paralympics, strategy, media, communication, disability, sport

³ This paper is part of the project „Paralympics, media and society“ (project area: sport, media and journalism), supported by the Faculty of Sports of the University „Union – Nikola Tesla“, Department of Sports Journalism, Belgrade (project duration: 2025 – 2028).

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PHYSIOLOGICAL CHARACTERISTICS IN SUCCESSFUL FEMALE SINGLE FIGURE SKATING ATHLETES

Natalia Nikolaevna Zakhar'eva⁵, Ilya Dmitrievich Konyaev⁶

Abstract

The actual problem, we are trying to reveal in our study, - the identification of physiological characteristics allowing, to carry out earlier allocation of successful in competitions figure skaters - singles. We are trying to reveal in our study is the identification of physiological characteristics, allowing to carry out, earlier allocation the successful in competitions figure skaters – singles. The results obtained can be used in sports selection for women's national figure skating teams. The results of the study will allow coaches to make a timely correction of the training process in figure skaters with low potential in the implementation of the content of motor programs in competitions. In order to fulfill the purpose of the experiment, physiological testing of 30 highly qualified female figure skaters: female figure skaters - single skaters, engaged in figure skating, with a sports experience of figure skating -11, 58 ± 0 , 98 years was carried out. According to the success rate of performance in competitions, 2 groups of athletes were selected: gr1 (n=8) - figure skaters taking prize-winning places in competitions; gr2 (n=22) - figure skaters actively participating in competitions, but not taking prize-winning places. Modern research methods used to assess the functional state and physical qualities of figure skaters: psychophysiological testing performed by using the computer program "Explorer of spatial and temporal properties of the nervous system (Yu.V. Koryagina, S.V. Nopin (2003)), the mental performance of figure skaters judged by the results of the three-stage test "Mental performance" with increasing cognitive load (V.V. Son'kin (2009)). The results of physical performance of female athletes were judged by the results of the Kenneth Cooper test in the form of a smooth run performed in the standardized conditions of the university 's athletics arena. The state of cardiorespiratory system judged by tonometry and spirometry (electronic spirometer C - Spiro 100). Conclusions about the differences in vertical stability were made on the basis of computer stabilometry data when skaters performed a battery of tests: "Target", "Stability in Romberg pose", performed on 2 - x legs and separately on each leg tests "Stability in a specific stance "Roll out", performed by skaters separately on the right and left legs. The conclusions reflect the results of the obtained differences in the comparison groups, proved mathematically

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using in Microsoft Excel and IBM SPSS Statistics 25 programs. As a result, of physiological testing we have revealed significant differences in psychomotor and physical performance of figure skaters, emphasizing the greater ability of successful skaters to resist fatigue and develop more actively, when performing cognitive loads of increasing complexity. The results of the stabilometric test "Stability in a specific stance "Roll out", performed by skaters on the dominant, right leg with visual control, were found to be the most informative for differences in the comparison groups. All our skaters from the 1 gr were right-handed. It has been established, that figure skaters, who successfully perform in competitions, have better coordination abilities, which is determined by the active participation of subcortical structures and cerebellum in the maintenance of vertical posture. In the stabilometric test "Stability in a specific stance "Roll out"", performed by skaters on the dominant, supporting right leg with visual control, we found the maximum number of reliable differences in the indicators of skaters from gr1, compared to athletes gr2. That were noted: a shorter length of the trajectory along the sagittal and low speed of the center of pressure movement when performing test tasks, which emphasizes the greater efficiency of postural control necessary to maintain an upright posture. Figure skaters, who are less successful in competitions, have worse coordination abilities, which is determined by the more active participation of higher regulatory systems (cortex and subcortex) in maintaining posture. The revealed differences can be useful for sports selection of single figure skaters in the national team of single figure skating and for the correction of the training process of single figure skaters.

Keywords: figure skating, single skating, functional state, psychophysiological testing, spatial orientation, time orientation, stabilometry, vertical stability, highly qualified athletes

**TURNING ATHLETES INTO ENTREPRENEURS: THE
POWER OF PROJECT-BASED LEARNING IN SPORTS
MANAGEMENT. THE CASE OF FIFA CIES
INTERNATIONAL PROGRAMME AT CAIRO
UNIVERSITY, EGYPT**

Mohamed Ahmed Qotb⁷, Islam Rashed⁸

Abstract

Purpose – This paper examines the influence of perceived desirability and perceived feasibility on entrepreneurial intentions within a project-based learning environment. By focusing on students enrolled in the 17th edition of the CU FIFA CIES International Programme in Sports Management, the study aims to explore how these psychological constructs shape students' aspirations to pursue entrepreneurship in the sports industry.

Design/methodology/approach – A mixed-methods approach was adopted. Ten in-depth interviews were conducted with students participating in the program to gain qualitative insights into their perceptions. Additionally, survey data were collected from all 110 students in the edition. Reliability and validity analyses were performed, and a T-test was applied to examine the relationships between perceived desirability, perceived feasibility, and entrepreneurial intentions. Findings are discussed in detail.

Practical and social implications – This research offers valuable insights for educators and program designers on leveraging project-based learning to enhance entrepreneurial intentions. By identifying key psychological factors that influence entrepreneurship, the findings can guide curriculum development to better prepare students for entrepreneurial careers, particularly in the sports industry.

Originality/value – This study provides empirical evidence from a unique educational setting in sports management, offering valuable insights for academia and industry stakeholders.

Keywords: sports education, entrepreneurial intentions, project-based learning

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ADDICTION TO SOCIAL MEDIA AND ITS IMPACT ON ENGAGING IN SPORTS IN DAILY LIFE: A CASE STUDY OF INFORMATION AND COMMUNICATION STUDENTS AT THE UNIVERSITY OF SOUK AHRAS"

Oulhi Henen⁹, Ghanem Seloua¹⁰, Hadjadj Wafa¹¹

Abstract

This study investigates the impact of social media addiction on physical activity in daily life among students enrolled in the Information and Communication program at the University of Souk Ahras. A descriptive research approach was adopted, utilizing a questionnaire distributed to a sample of 60 students from the Faculty of Social and Human Sciences. The primary goal of this study is to examine the relationship between social media usage and the exercise habits of the students, as well as how the time spent on these platforms affects their engagement in physical activities. The questionnaire was designed to cover various aspects of social media consumption and physical exercise. Data collected will be analyzed using SPSS software to extract insights regarding the influence of social media addiction on physical activity. However, the final results are yet to be determined, as the survey is still in the distribution phase. The results will be drawn after all completed questionnaires have been collected and analyzed. Once the data collection is finished, the findings will be presented, pending the acceptance of the research.

Keywords: social media addiction, physical activity, information and communication students, descriptive study, SPSS analysis

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COMPARATIVE ANALYSIS OF BODY COMPOSITION OF GIRLS FROM THREE EUROPEAN COUNTRIES

Nemanja Čopić¹², Svetlana Petronijević¹³, Irene Ferrando-Terrade¹⁴, Maria Eugenia Bertaccini¹⁵

Abstract

The aim of this study was to examine differences in body composition among girls from three European countries (Serbia, Italy, and Spain). Based on age, participants were divided into two categories: the first group included girls aged 15–20 years, while the second group consisted of those aged 20–24 years. The first group comprised a total of 113 participants (50 from Serbia, 24 from Spain, and 39 from Italy), whereas the second group included 167 participants (50 from Serbia, 81 from Spain, and 36 from Italy). Body composition was assessed using the InBody 230 device, which enabled the assessment of the following variables: body height, body weight, BMI, body fat percentage, muscle mass percentage, and waist–hip ratio. In the age group 15–20 years, results showed statistically significant differences among the countries in body height ($p < 0.05$) and waist–hip ratio ($p < 0.05$). In the age group 20–24 years, statistically significant differences were observed in all measured variables. Overall, the results indicate that differences in body composition among girls from Serbia, Italy, and Spain are more pronounced in the older age group (20–24 years) compared to the younger group (15–20 years), which is likely a consequence of cultural, lifestyle, and training factors, while also underscoring the importance of monitoring body composition during growth and maturation.

Keywords: obesity, health, exercise

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FROM FUNDING RISK TO PREDICTIVE CONTROL: WINCODE AI SYSTEM FOR PREVENTING FINANCIAL MISMANAGEMENT AND ENSURING SUCCESSFUL PROJECT IMPLEMENTATION IN SPORTS

Sanja Todosijević¹⁶, Igor Razbornik¹⁷, Magdalena Bednarek-Kamińska¹⁸

Abstract

Although substantial funding is allocated at national, regional, and EU levels, many sports institutions-including grassroots clubs, academies, faculties, and elite organisations-fail not due to lack of access to funds, but due to an inability to convert funding into actionable, compliant, and sustainable projects. The core problem is not access to funding but the lack of structured systems for project planning, financial control, and risk management. This results in missed opportunities, breakdowns in project delivery, and in many cases, the return of allocated funds. This paper investigates the following research question: Can an AI-supported system reduce financial mismanagement and improve the successful implementation of public sports projects by supplanting static grant writing with predictive structured control? We present the WinCode system, an AI-driven platform composed of four integrated modules: MILES, which aligns project objectives with financial feasibility via structured modelling and logic checks; SCORE, which simulates evaluation criteria to identify weaknesses in proposals and, through 2–3 iterative cycles, can increase proposal quality by 10–12% and yield 8–10 additional evaluation points; EXECUTE, enabling real-time execution tracking by transforming approved work plans into structured, time-bound task files for stakeholders; and ECHO, which transforms financial data into audit-ready reports while enabling real-time financial monitoring and impact visualisation. In pilot workshops with experienced Erasmus+ sport managers and new applicants, WinCode significantly improved funding success rates, especially for organisations with limited internal capacity. More importantly, it preserved financial investment, time, and human resources typically lost in failed applications and inefficient planning. WinCode reframes project writing from a speculative gamble into a transparent, controllable process-supporting reliable, scalable, and sustainable project funding in the sports sector.

Keywords: predictive funding system, AI-supported grant writing, financial governance, sports project implementation, WinCode, strategic budgeting, evaluator simulation, resource preservation, risk prevention

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PERSONALITY TRAITS OF ESPORTS PLAYERS

Ivana Zubić¹⁹

Abstract

The fastest growing segment of sports is esports, or electronic sports, where players compete by playing video games. This paper presents a narrative review of the literature with the aim of systematizing the literature on personality traits of esports players. Research shows that esports players have lower levels of extraversion and agreeableness compared to athletes, which is explained by the lower social interaction in esports. Differences in agreeableness can be explained by the less structured environment in esports, where there is no developed system of clubs and coaches as in traditional sports. Compared to athletes, esports players show higher levels of neuroticism. Athletes have more self-confidence and a positive physical and emotional self-image, while esports players spend more time in the virtual world. Lower-ranked esports players in competitions had more pronounced agreeableness, extraversion, and lower openness to new experiences. In traditional sports, the results were different. Extraversion and agreeableness are correlated with high performance in traditional sports. Narcissism (Dark personality traits) had a positive effect on player success as measured by players' peak rankings potentially through better emotional regulation while playing.

Keywords: esports, personality traits, esports players

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THE INFLUENCE OF A WRESTLER'S PREPARATION ON SUCCESS AND MORPHOLOGICAL COMPOSITION

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Abstract

In wrestling, in addition to technical and tactical training, success largely depends on physical preparedness. The subject of this paper is morphological composition and success in specific wrestling tests. The aim of the paper is to examine the direct influence of the level of preparedness on success and the indirect influence on morphological composition in wrestlers. Success is defined by the total number of throws in both the shorter Specific Wrestling Fitness Test (SWFT) and the longer and more physically demanding Specific Wrestling Performance Test (SWPT). Morphological composition is defined by the percentage values of body fat (PBFM) and muscle mass (PSMM). The sample consists of 26 wrestlers, divided into two groups, in 4 different ways, from the aspect of preparedness. In this regard, preparedness was defined by the movement of lactate values from the 3rd to the 5th minute, in subjects whose lactates increased (La3-5min.↑) and decreased (La3-5min.↓), by the percentage of pulse rate recovery to the 1st ($\Delta HR1min \leq 9.99\%$ and $\geq 5.99\%$) and 5th ($\Delta HR5min \leq 39.99\%$ and $\geq 40\%$) minute, and the number of throws in the tests (≤ 25 and ≥ 26 on the SWFT; ≤ 34 and ≥ 35 on the SWPT). The applied t test determined the absence of a statistically significant difference between the defined groups of lactate value movements as a function of the number of throws on both the SWFT ($p = 0.867$) and the SWPT ($p = 0.131$). It was also found that there were no statistically significant differences in PBFM ($p = 0.769$) and PSMM ($p = 0.601$) on the SWFT, while the longer SWPT, with its demands, showed a significant difference in PBFM ($p = 0.031$) and PSMM ($p = 0.018$) in favor of the faster metabolic recovery. Further analysis of the difference revealed no statistically significant difference between the groups with different levels of pulse rate recovery both up to the 1st and 5th minute, regardless of the variables and the test ($p = 0.067 - 0.918$). The defined groups of success on the tests as a function of the level of preparedness are statistically significantly different by the nature of the data distribution regardless of the test ($p = 0.000$), while from the morphological aspect they also showed significant differences in the PBFM both on the SWFT ($p = 0.001$) and on the SWPT ($p = 0.000$), and in the PSMM but only on the more demanding test (SWPT, $p = 0.044$).

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Different types of preparation characterize different sports, but it is often very difficult to define a sport as exclusively aerobic or anaerobic, rather these energy requirements are intertwined, which is supported by the different distribution of wrestlers, in defined groups of type and level of preparation, at different loads. In this regard, in this way, we have determined that the preparedness of a wrestler cannot be viewed only from the aspect of metabolic or cardiovascular components, but as an interweaving of all energy components, and success on tests itself as the most discriminating parameter of preparedness, which entails the best ratio of morphological structure.

Keywords: combat sports, field testing, performance, lactate concentration, heart rate

EVALUATING HANDGRIP STRENGTH AS A MARKER OF MUSCULAR FITNESS AND BODY COMPOSITION IN STUDENTS

Života Stefanović²³, Lazar Toskić²⁴

Abstract

Handgrip strength is widely recognized as an indicator of overall muscle function and health. This study aimed to investigate the relationship between body composition and handgrip strength in a representative sample of university students. Fifty students (balanced by sex and study level) from the Faculty of Sport and Physical Education voluntarily participated. Participants underwent anthropometric and body composition assessment, followed by maximal isometric handgrip strength testing of the dominant and non-dominant hand using a handheld dynamometer. The average maximal handgrip strength of the dominant hand was ~410N, while the non-dominant hand averaged ~385N. Male students demonstrated significantly higher grip strength values compared to females, and students regularly engaged in sports activities showed greater handgrip performance. Preliminary correlation analyses revealed a positive relationship between muscle mass and handgrip strength, and a negative association with body fat percentage. These findings emphasize the relevance of handgrip strength as a practical and reliable measure of muscular fitness and body composition in young adults. Future research with larger, sex-stratified samples is recommended to validate these observations and better understand the role of physical activity and hand dominance.

Keywords: handgrip strength, body composition, young adults, muscle mass, health marker

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THE INFLUENCE OF SPORTS MARKETING ON CONSUMER BEHAVIOR AND BRAND PERCEPTION IN THE MODERN DIGITAL ENVIRONMENT

Marko Pavlović²⁵, Milijanka Ratković²⁶, Dragana Đurić²⁷

Abstract

The paper analyzes the growing importance of sports marketing as a key factor in the development of modern sports organizations and its influence on consumer behavior and brand perception. The study examines socio-demographic differences in attitudes towards sports, digital promotion, sponsorship, and the role of social media in creating consumer engagement. Data were collected through an online survey of 107 respondents, using a Likert scale to measure attitudes. The results indicate that most respondents recognize marketing as essential for the success of sports organizations, especially through creative campaigns and digital channels. However, traditional sponsorship still plays a significant role in shaping audience trust and engagement. The findings highlight the need for integrating innovative digital marketing strategies to strengthen consumer relations and improve brand visibility in the sports industry.

Keywords: sports marketing, consumer behavior; sponsorship; digital marketing; and brand perception

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ANALYSIS OF SITUATIONAL EFFICIENCY PARAMETERS OF BASKETBALL CLUB “CRVENA ZVEZDA” IN THE 2024/2025 EUROLEAGUE

Jovan Papić²⁸, Milan Pašić²⁹, Jelena Ivanović³⁰, Nemanja Čopić³¹

Abstract

The aim of this study was to analyze parameters of situational efficiency of the basketball club Crvena zvezda on the home court during the 2024/2025 EuroLeague regular season against teams that qualified for the play-in. The focus was on offensive efficiency through a combined tactical and statistical approach. The research sample included home matches versus nine play-in and play-off teams. Tasks involved quantifying efficient offensive actions, determining the number of efficient attacks per game, identifying structural attack components, and comparing offensive indicators between opponents to derive practical conclusions. The methodology integrated descriptive and statistical analysis with tactical scouting. Official EuroLeague data were used as primary sources, complemented by additional advanced indicators and video analysis. Quantitative indicators (offensive and defensive ratings, shooting percentages, turnovers, assists, rebounds, possessions per game, and free-throw rates) were analyzed alongside qualitative tactical insights. Results showed a notable improvement in defensive performance (defensive rating 112.3; 3rd in the league), a stable offensive rating (115.1), and strong team coordination (AST% 27.8; 2nd). Weaknesses were defensive rebounding, free-throw efficiency, and slow pace. Conclusions highlight the need for faster transitions, improved rebounding, with increased team-based creation, and deeper rotations to reach top-6 performance.

Keywords: offensive efficiency, tactical analysis, sports statistics

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MACHINE LEARNING AS A METHODOLOGICAL FRAMEWORK IN SPORTS SCIENCE – FROM EXPLORATORY TO CONFIRMATORY ANALYSES

Dejan Dašić³², Milovan Vuković³³

Abstract

This study examines machine learning as a contemporary methodological framework in sports science that combines exploratory and confirmatory research methods, going beyond its conventional prediction function. In addition to presenting criteria of validity and repeatability of data, the goal is to show how machine learning aids in the creation of trustworthy and understandable models for sports performance analysis, injury prediction, and training optimization. The paper's methodology is based on a qualitative review of pertinent scientific literature from the databases Scopus, PubMed, and Google Scholar. Machine learning techniques, nested and time-blocked cross-validation procedures, and frameworks for transparent reporting are all used in the systematic analysis of studies. Through the use of explainable artificial intelligence (XAI) techniques, the results show that machine learning facilitates the integration of multimodal datasets (GPS, IMU, physiological and biomechanical parameters), the identification of important predictors of athletic performance and early indicators of injury risk, and the strengthening of practitioner confidence. However, a number of methodological issues have been noted, such as small sample numbers, irregular measurements, data leaks, and a lack of reporting openness.

Keywords: machine learning, sports science, research methodology, model validation, explainability (XAI)

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SAFETY AND RISK MANAGEMENT THROUGH SMART SOLUTIONS IN SPORTS FACILITIES

Milan Stanković³⁴, Aksana Chmyha³⁵, Ioanna Siotropou³⁶

Abstract

The paper proposes a framework for safety and risk management in sports facilities based on three groups of smart solutions: (1) video analytics for early incident detection and crowd density assessment; (2) contactless access (RFID/NFC) and digital ticketing for faster and more secure entry; and (3) evacuation simulations and crowd flow management tools. A review of documented studies shows that modern crowd-counting and density-estimation techniques based on deep learning reduce detection delays and improve surveillance accuracy compared to traditional methods (e.g., CNN-based counting and density analysis). Evidence from large events indicates that RFID/NFC and digital ticketing reduce entry time, minimize fraud, and enable real-time capacity monitoring, while evacuation simulations help predict bottlenecks and optimize exit routes. The paper integrates these insights into the risk management cycle (identification—assessment—mitigation—monitoring) and proposes performance indicators (e.g., gate passage time, false alarms/FP, evacuation time, zone density) as a basis for decision-making. Finally, it highlights ethical and legal challenges (data protection, algorithmic transparency) and provides a brief roadmap for implementation under limited resource conditions.

Keywords: video analytics, digital/smart ticketing (RFID/NFC), crowd management, stadium safety, evacuation simulations.

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**SPORT, MEDIA, AND SOCIETY: MEDIA
REPRESENTATION OF ETHICAL ISSUES
BETWEEN IDEALIZATION AND NORMALIZATION
OF DEVIATIONS**

Invitation letter

Milica Joković Pantelić³⁷, Slobodan Penezić³⁸

Abstract

In contemporary society, sport occupies a prominent position, transcending its primary framework and emerging as a significant cultural and communicative phenomenon. Although it is often promoted as a realm of fair play, character building, and universal values, numerous negative phenomena – such as corruption, doping, match-fixing, pervasive commercialization, and various forms of discrimination – reveal the complexity of its ethical dimension.

This paper explores how the media represent ethical issues in sport, analyzing whether media narratives contribute to raising public awareness and fostering critical reflection on these deviations, or, conversely, to their normalization and spectacularization. In doing so, the study also draws attention to the broader spectrum of issues that currently shape the field of contemporary sport.

Using qualitative content analysis of Serbian daily newspapers, the research focuses on several paradigmatic cases in order to identify dominant discursive patterns through which ethical dilemmas are presented to the public. Particular attention is given to narratives related to fair play, on-field violence, athletes' conduct beyond sports events, and the accountability of sports institutions.

The aim of this paper is to highlight key challenges in contemporary sport and the various contradictions inherent in the media representation of its ethical aspects, as well as the broader implications these narratives may have for the relationship between sport, media, and societal values.

Keywords: sport ethics, media representation, sport and society, sports journalism, discursive analysis

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**CROSS-CURRICULAR COMPETENCES IN THE
TEACHING OF PHYSICAL AND HEALTH EDUCATION
SUBJECTS IN THE CONTEXT OF EXTERNAL
EVALUATION OF SCHOOLS**

Snežana Vuković³⁹, Svetlana Lazić⁴⁰

Abstract

The aim of the work is application of the Reference Framework of Competences for Democratic Culture (RFCDC) in teaching in the subject of Physical and Health Education. The authors opted for reviews and reflections on democratic competences and their application in the teaching of the subject Physical and Health Education, through the method of analyzing the results of external evaluation. The data for this research were results of external evaluation process which were obtained in school 2022/23 year during visits to 191 classes in 143 schools. The external evaluation of institutions by checking 24 standards and 124 indicators found in six areas of quality. This work should be a guideline for further professional development of teachers, but also for the development of syllabus in the process of initial education of teachers who teach the subject of Physical and Health Education.

Keywords: reference framework of competences for democratic culture (RFCDC), competences, competences for democratic culture, external evaluation, physical and health education

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THE IMPORTANCE OF PHYSICAL FITNESS IN THE CONTEXT OF MILITARY OPERATIONS

Sara Dimovska⁴¹

Abstract

The physical fitness of military personnel is a key factor in the success of military operations. Military units face various challenges and conditions on the ground, which require high endurance, strength, speed, and psychological resilience. In this context, physical fitness not only improves the effectiveness of soldiers but also enhances their ability to cope with the stressful and physical demands of military operations. Training principles, the specificity of training, and adaptation to various climatic and terrain conditions are some of the key aspects that define the importance of physical fitness. This paper explores the theoretical foundation of physical fitness in the military, confirming that well-trained soldiers, with high physical fitness, have a greater ability to quickly execute tasks, as well as increased safety and optimal team coordination. Additionally, effective methods for improving physical fitness are crucial, including strength training, endurance exercises, functional training, and high-intensity interval training (HIIT). These methods are tailored to meet the specific demands of military tasks and ensure that soldiers are physically prepared for the diverse conditions they may face during operations.

Keywords: physical fitness, military operations, endurance, strength, speed, psychological resilience, training principles, strength training, functional training, HIIT

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THE INTERDEPENDENT INFLUENCE OF BIA WITH KINEMATIC AND KINETIC VERTICAL JUMPING PARAMETERS

*Radenko Arsenijević⁴², Nikola Utvić⁴³, Milan Marković⁴⁴, Nikola Aksović⁴⁵,
Veroljub Stanković^{46,47}*

Abstract

The aim of this study was to examine the relationship of various bioelectrical impedance analysis (BIA) body composition variables with kinematic and kinetic variables that were measured in vertical jumping task, in students of faculty of sport and physical education. The sample included 7 participants (6 males and 1 female, age 24.25 ± 3.97 years, height 183.4 ± 12.48 cm, weight 77.9 ± 13.36 kg, body mass index 23.0 ± 1.46 kg/m²). BIA body composition variables (intra-celular water - ICW, extra-celular water - ECW, proteins - PRT, minerals - MIN, body fat mass - BFM, skeletal muscle mass - SMM, visceral fat area - VFA) were measured via InBody 720, while kinematic and kinetic variables (maximal jump force -Fmax, maximal jump power - Pmax, maximal jump velocity - Vmax, concentric action jump time - T) were measured on force plates. Pearson correlation analysis revealed that significant association was established between: Fmax with BH, BM, ICW, ECW, PRT, and MIN, and Pmax with BH, BM, ICW, ECW, PRT, MIN, and SMM, while Vmax and T failed to made impact on BIA variables. Backward regression analysis (r²) identified BM as the most important determinants of Fmax (r² = 0.878), and Pmax (r² = 0.951), and BH and BMI as the most important determinants of Vmax and T (Vmax: r² = 0.564, T: r² = 0.348). The present results suggest two important findings: 1) body mass plays crucial role in jumping maximal force and power manifestation; 2) body height and body mass index are the best BIA determinants of jumping velocity and time characteristics.

Keywords: body mass, body fat mass, skeletal muscle mass, force, power

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PERMANENT BRUTALIZATION: CONTEMPORARY TENDENCIES IN COMBAT SPORTS

*Nikola Mijatov*⁴⁸

Abstract

Combat sports are the oldest form of competitive sports. They originate from ancient Greece, where the Olympic Games included boxing, wrestling, and pankration, a mixture of both fighting systems. In the ancient world, martial arts were extremely brutal, many dangerous techniques were allowed, and instead of gloves, fighters would wear spikes to further injure their opponent. In the 20th century, combat sports were revived, with boxing and wrestling becoming the most popular, and they are also part of the modern Olympic Games. However, they became more brutalized, and kickboxing was invented, then full contact, and eventually MMA was born, which is based on the ancient pankration tradition. The process did not stop there, but new fighting systems, each more brutal than the previous one, are constantly emerging and attracting large audiences with their brutality and their doubtful ethics.

Keywords: combat sports, martial arts, brutalisation, MMA, ethics

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CONSUMER BEHAVIOR IN THE ERA OF DIGITAL SPORTS MARKETING: PERSONALIZATION THROUGH CRM AND ITS IMPACT ON PURCHASING DECISIONS

Invitation letter

Gruja Kostadinović⁴⁹, Stefan Kocić⁵⁰

Abstract

The paper examines the impact of personalized digital marketing in sports – implemented through CRM systems (email campaigns, club mobile applications, and loyalty programs) - on consumer behavior and brand perception. Building on theories of consumer value, customer relationship management, and fan engagement models, the study proposes a framework in which personalization (message relevance, timeliness, and consistency) influences perceived communication usefulness, emotional engagement, and trust, which in turn strengthen satisfaction, loyalty, and purchase intention (tickets, season passes, merchandise, OTT subscriptions). At the same time, boundary effects such as privacy sensitivity, perceived fairness of data exchange (value-for-data), and message fatigue are explored. The proposed research framework integrates measures of CRM touchpoint quality (e.g., dynamic content, behavior-based recommendations) with consumer behavior and brand equity indicators, allowing for the testing of mediating and moderating relationships. Expected findings indicate that well-timed, transparent, and value-driven personalization increases engagement and conversion, while excessive frequency and insufficient data control diminish effects. The theoretical contribution lies in linking CRM personalization with loyalty formation mechanisms in the sports context, while the practical contribution provides guidelines for designing privacy-by-design campaigns, optimizing segmentation, and measuring impacts on purchasing behavior and brand equity.

Keywords: personalization, CRM in sports, consumer behavior, loyalty and engagement, data privacy

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MEDIA REPRESENTATION OF SPORTS IN DAILY NEWSPAPERS IN SERBIA

Bojan Cvejić⁵¹

Abstract

In pursuit of higher readership and viewership, the media devotes particular attention to sports content, aligning with audience expectations. In doing so, they significantly contribute to the promotion and popularization of sports - not only among sports enthusiasts but also among advertisers and the general public. This paper examines the way daily newspapers in Serbia cover sports, with a particular focus on the representation of less popular sports and women's sports. The research aims to determine the extent to which the media contributes to the unequal representation of sports in their coverage. The study employs both quantitative and qualitative content analysis across nine daily newspapers: Politika, Večernje novosti, Danas, Blic, Nova, Alo, Informer, Kurir, and Srpski telegraf. The results indicate a dominant presence of football, basketball, and men's sports overall, while women's sports and less popular disciplines are significantly under-represented.

Keywords: sport, media, daily newspapers, women's sport, journalism

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VIOLATION OF THE ETHICAL CODE THROUGH SENSATIONALIST REPORTING ON THE INFORMATION WEBSITES IN SERBIA

*Elena Deleva*⁵²

Abstract

Market-driven journalism, the dominance of the internet, and new forms of information dissemination - such as social media - have significantly influenced the work and functioning of the media. The content offered by the media is increasingly of poor quality, inadequate, negative and not in line with ethical or other journalistic norms. Journalistic reports often conceal the truth with clickbait, sensational headlines that have very little connection to the actual content of the article.

The subject of this research is the identification of ethical code violations resulting from sensationalistic reporting in the digital editions of the newspapers Politika and Kurir. The content analyzed will be from the Chronicle section over a one-month period. The aim of this study is to assess the prevalence of sensationalist content in the media and to raise awareness of its impact on society. The key research parameters are outlined in a checklist specifically designed for this study. The checklist is based on three chapters from the Journalists' Code of Serbia: Chapter 1 - Truthfulness of Reporting, Chapter 4 - Journalists' Accountability, and Chapter 7 - Respect for Privacy. The research was conducted using the method of content analysis.

Keywords: digital media, reporting, standards, ethical code, sensationalism

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THE FIRST SPORTS AIRCRAFT OF THE AERO CLUB NAŠA KRILA CAUDRON C-27

Mladen Radivojević⁵³, Nenad Pavlović⁵⁴

Abstract

In November 1922, the third produced copy of the Codron airplane received the official French registration F-AEIC. Registration number 922 was registered to the company M. Caudron from Ischia, i.e. to the company that manufactured the airplane. However, the airplane changed hands very quickly, namely, it was sold to M. Gervies from Paris. In the summer of 1923, M. Gervies' company used the Codron C-27 to conduct aerial surveys of the marshes in the Skopje field for the needs of the government of the Kingdom of Serbia and Montenegro, with the aim of draining the marshes in order to combat malaria. After the surveys were completed, at the end of the summer of 1923, the airplane was offered for sale to the local authorities in Skopje. The General Board of the Aero Club in Skopje immediately showed interest and submitted a proposal to the Ministry of War to accept the offer.

The Ministry of War adopted the proposal of the Aero Club to purchase from Marcel Chrétien, a representative of the Gervis company, a Caudron C-27 aircraft (with a 130 hp Clerget engine) and one spare engine. The aircraft was paid for 20,000 French francs, i.e. 75,000 dinars. This training aircraft was in excellent condition, the engine had not run for more than 12 hours. After acceptance, it was handed over to the General Board in Skopje in September 1923. The aircraft flew until August 1926, when it suffered an accident and was no longer repaired.

Keywords: Caudron C-27 aircraft, Aero Club Naša Krila, early aviation history, Skopje air operations, Serbian aeronautical heritage

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***THIRD INTERNATIONAL SCIENTIFIC CONFERENCE SPORTICOPEDIA-SMB2025
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THE EMERGENCE AND DEVELOPMENT OF THE “SOKO” (FALCON) SOCIETY IN NIŠ FROM 1907 TO 1914

Jelena Popović⁵⁵, Damjan Prlinčević⁵⁶

Abstract

The paper presents the genesis of the Falcon movement in Niš at the beginning of the 20th century. At the beginning, a brief overview of the origins of the Falcon ideology and the development of the Falcon movement during the second half of the 19th century in the Austro-Hungarian Empire is given, as well as the development of the first sports organizations in Serbia. Then, the emergence of the first sports, primarily gymnastic associations in Niš in the period from 1897 to 1907 is presented. Special attention is paid to the Civic Gymnastics Society “Dušan Silni” (later renamed the Knights’ Society “Dušan Silni”), which had a key influence on the introduction of the Sokol model of sports organization in Niš. Then, the activities of the first Niš Sokol organization, the Gymnastics Society “Soko”, founded in 1907, as well as the Sokol Society “Dušan Silni” founded in 1910, will be presented, with a special focus on their origins, composition and activities. It is important to emphasize that the Sokol movement was strongly ideologically oriented and politically colored, as it arose at a time of the rise of national romanticism, which is why it will also be viewed in a broader, geopolitical context.

Keywords: Sokol Society, Niš, gymnastics, Civic Gymnastics Society "Dušan Silni", Gymnastics Society "Soko", Sokol Society "Dušan Silni"

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GLOBAL IMPACT OF SPORTING EVENTS: MARKETING IMPLICATIONS AND CULTURAL TRANSFORMATIONS

Ivan Milojević⁵⁷, Ramadhani Issa Hemed⁵⁸, Dejan Gojkov⁵⁹, Joao Kaputo⁶⁰

Abstract

This paper critically examines the global influence of sporting events on marketing practices and cultural dynamics in contemporary society. Building on established theoretical frameworks of sports marketing and event management, it analyzes the mechanisms through which mega-events and transnational leagues generate economic value via sponsorships, media rights sales, and digital platforms, while simultaneously shaping consumer behavior and fan identity. Special attention is given to branding processes (of places, organizations, and athletes) and “glocalization” strategies that blend global marketing standards with local cultural codes to enhance relevance and audience engagement. The study highlights the ambivalent cultural effects of such events—between the homogenization of global pop culture and the strengthening of local symbolic resources—as well as issues of social legacy, sustainability, and equitable access. Synthesizing findings from documented scientific literature, the paper proposes an analytical framework linking marketing implications (attention monetization, brand management, engagement measurement) with cultural transformations (identity reconfiguration, media convergence, participatory practices). Ultimately, it argues that the effects of sporting events are context-dependent: marketing outcomes are most sustainable when aligned with local cultural narratives, sustainable policies, and long-term community development goals.

Keywords: sporting events; globalization; sports marketing; cultural transformation; branding

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***THIRD INTERNATIONAL SCIENTIFIC CONFERENCE SPORTICOPEDIA-SMB2025
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THE FIRST SCHOOL AIRCRAFT FOR TRAINING SPORT PILOTS AT THE AERO CLUB “NAŠA KRILA”

Nebojša Đokić⁶¹, Dmatar Atanasov⁶², Valentin Biryuzov⁶³

Abstract

Unlike other sports, in order to engage in aviation sports, one must first undergo long and complex training, regardless of whether they are engaged in parachuting, gliding or flying powered aircraft. After World War I, the majority of sports pilots were former military pilots. It was important for all armies in the world that they remain in training, and since flying is expensive, the sport was subsidized by the state everywhere. In addition, until the end of the 1920s, sports aviation was dominated by former military training aircraft everywhere in the world except in Germany. Only from the end of the 1920s, in richer countries, did specially designed sports aircraft begin to dominate sports aviation (for example, the DH-60 Gypsy Moat). In smaller countries, former military training aircraft will dominate until World War II, especially in pilot schools that are starting to be opened by aero clubs. In the same way, Aero Club Nasha Krila received former training aircraft of the Air Force of the Small and Middle Brandenburg and Anrio 320 for training sport pilots.

Keywords: sports aviation, pilot training, aero club, aircraft history, interwar period

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HISTORY OF SPORT, ECONOMY, AND GLOBALIZATION IN THE 21ST CENTURY: POLITICAL AND ECONOMIC DIMENSIONS OF A GLOBAL PHENOMENON

Konstyantyn Rakhno⁶⁴, Ali Serdar Mete⁶⁵, Goran Jeličić⁶⁶

Abstract

The historical evolution of sport reveals its transformation from local physical activity into a global socio-economic institution. In the 21st century, sport has become a key arena where the forces of globalization, economic expansion, and political influence converge. Historical analysis shows that the integration of sport into national economies and global markets intensified after the Cold War, positioning it as both an instrument of economic growth and a means of political diplomacy. The commercialization of sport, supported by digital technologies and transnational media networks, has amplified its economic significance and geopolitical reach. However, the same dynamics have produced new challenges related to social inequality, ethical governance, and sustainability. Based on documented scientific literature, this paper examines the historical trajectory of the relationship between sport, economy, globalization, and politics, emphasizing how global power relations continue to shape the contemporary sports landscape.

Keywords: history, sport, economy, globalization, politics, 21st century

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THE METAVERSE AND FUTURE OF SPORTS MARKETING: NEW FRONTIERS FOR DIGITAL ENTREPRENEURS

Saša Jovanović⁶⁷, Goran Đoković⁶⁸, Adrijana Vuković⁶⁹

Abstract

The rapid development of immersive digital environments, collectively referred to as the metaverse, is transforming the global sports industry and redefining how sports are experienced, marketed, and monetized. As digital spaces become more interactive, participatory, and decentralized, they open up unprecedented opportunities for digital entrepreneurship and innovation in sports marketing. This paper explores the dynamic intersection of these two domains, indicating that metaverse-based ecosystems enable new forms of fan engagement, branding, and value creation. By integrating insights from recent academic literature and practical examples, the study examines how emerging technologies are reshaping traditional sports marketing models and expanding the entrepreneurial landscape.

The paper highlights how digital entrepreneurs and sport organizations use metaverse platforms to develop immersive fan experiences, launch virtual merchandise and collectibles, organize hybrid sporting events, and create decentralized digital communities. These innovations are driving a fundamental shift from passive sports consumption to active co-creation of value, where fans become participants, collaborators, and even investors. Moreover, the research identifies key strategic implications for stakeholders seeking to position themselves competitively in this evolving environment.

While the metaverse presents significant benefits, including enhanced personalization, global reach, and new revenue streams, it also introduces major challenges related to data privacy, technological accessibility, interoperability, and ethical considerations. By addressing these opportunities and constraints, the paper contributes to understanding how the metaverse can serve as a new frontier for innovation, entrepreneurship, and marketing transformation in the sports industry. The findings underline the need for an adaptive, forward-thinking approach that integrates creativity, technology, and consumer insight to ensure sustainable growth in the digital sports economy.

Keywords: Sports Marketing, Digital Entrepreneurship, Fan Engagement, SportTech

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ECOLOGY IN PRACTICE – CLEAN AIR IN THE GYM

Zoran Mašić⁷⁰, Miloš Milićević⁷¹

Abstract

To preserve health and improve quality of life, daily recommendations are communicated through the media that include several key segments: proper (diverse and clean) nutrition, a balanced ratio of work and rest, good sleep, stress control, and adequate physical activity. The connections between physical exercise and ecology are multiple and highly significant, as demonstrated by numerous everyday examples. The environment in which a person lives and works is extremely important, particularly the one in which physical activity takes place. In this context, the quality and cleanliness of the air inhaled during exercise are of paramount importance. This paper presents several methods or possibilities for improving the most significant environmental factor during exercise – the air in an indoor sports facility (gym). Specifically, by applying one or more air purifiers, in accordance with the size of the sports facility – particularly its cubic capacity – clean air can be “created” within the exercise area. Moreover, using VTP devices makes it possible to control and adjust parameters such as humidity, temperature, and air pressure in the gymnasium.

Keywords: health, physical activity, ecology, clean air, sports facility

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IN SHORTLY ABOUT STRATEGIC HUMAN RESOURCE MANAGEMENT IN SPORT

Siniša Franjić⁷²

Abstract

Strategic management of human resources is the handle of harmonizing the human assets of a certain sports organization or club with its vital objectives. This implies that HR exercises such as enrollment, preparing, inspiration and rewards are arranged and actualized in such a way as to back and accomplish the company's commerce objectives. Key administration of human assets is a connect between the company's office in charge of human assets and characterized strategies, points of interest and objectives. Procedure as a way of acting is showed through two huge areas, inside and externally.

Keywords: SHRM, sport organization, club, aalysis, RBV

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Number of participants from Serbia: 46

Number of participants from abroad: 25, from the following countries:

- | | | |
|------------|-----------------------------|------------|
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| - Russia | - Turkiye | - Germany |
| - Egypt | - Belarus | - Angola |
| - Algeria | - Greece | - Bulgaria |
| - Spain, | - N. Macedonia | - Ukraine |
| - Italy | - Bosnia and
Hercegovina | |
| - Slovenia | | |

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