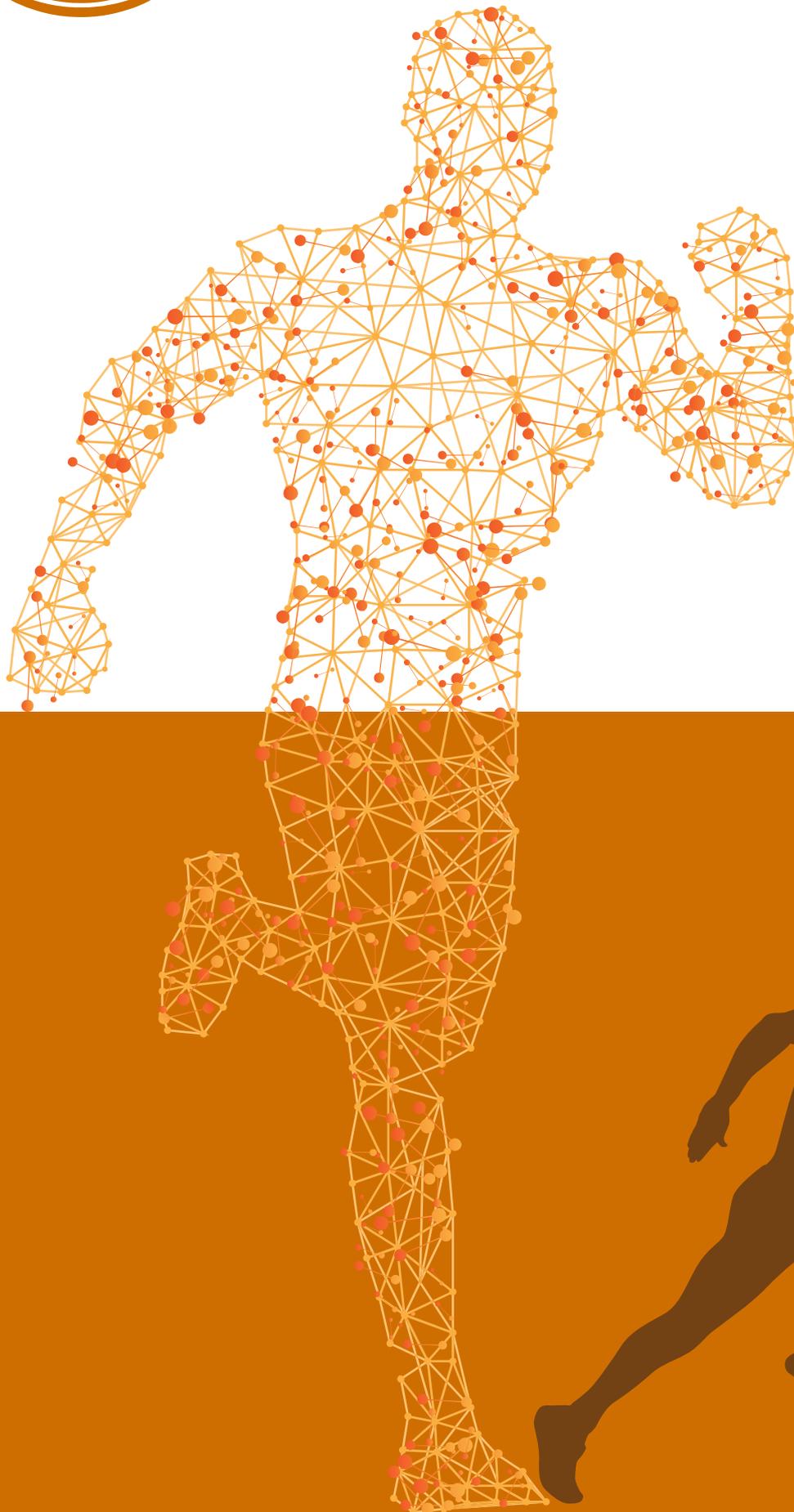




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## ORIGINAL SCIENTIFIC PAPER

# Marketing Mix in Team Sports in Serbia

Radenko M. Matic<sup>1</sup>, Nebojsa Maksimovic<sup>1</sup>, Jovan Vukovic<sup>1</sup>, Dusan Corilic<sup>1</sup>, Rajko Bujkovic<sup>2</sup>, Damjan Jaksic<sup>1</sup>

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## Abstract

Marketing activities, i.e. promotional presentations of various offers to a wide audience, represent inevitable means in strategic plans of organisations from various fields. Such approach also demands from sports organisations to form a promotional marketing mix. The objective of this paper was to examine the marketing mix in sports clubs of sports teams at the highest competition ranking in Serbia. A sample of 118 examinees - available managers from four collective sports management teams (football, basketball, handball and volleyball), was used for conducting an assessment of attitudes regarding the use of the marketing mix. Obtained results show a low current status of marketing in the assessed sports, and by implementing the Kruskal Wallis and Man Whitney tests, differences in certain elements of the marketing mix were also recognised. These differences indicate the advantage on the side of the managers working in football and basketball field as opposed to those working with handball and volleyball. Ultimately, theoretical and practical values of the obtained results were also discussed.

**Key words:** Sport Product, Marketing, Strategy, Collective Sports, Sports Clubs

## Introduction

Unlike foreign authors, only few authors in domestic academic circles examine sports marketing. All of the aforementioned has partly caused the low quantum of theoretical and practical knowledge in the discipline in the domain of domestic sport. Indications are also given by the authors Maksimović and Raič (2007) claiming that in our sports practice a very narrow and wrong understanding of marketing has been accepted which gives sense to it as to an additional commercial activity of a sports club focused on “obtaining money”. Such understanding of the marketing discipline significantly aggravates an integral, holistic approach to marketing in the strategic planning of sports organisations. Such approach deals with the current and potential purchasers interested in the offer of the sports organisations, as well as the products and services associated with sport (Gašović, 2005). Clear focus on the consumer in the concept of sports marketing is consisted of the activities designed for the purpose of satisfying the needs and wishes of the consumers for sports products and services (Shilbury, Westerbeek, Quick, & Funk, 2009; Gašović, 2011). These activities are realised through the exchange processes (Mullin, Hardy, & Sutton 2007), and such orientation

according to Popovic (2017) requires from human resources in sport to follow the “pulse” of all stakeholders surrounding the sports events.

In order to have the sports products and services presented in the best possible way to potential consumers, it is necessary that every organisation defines its sports promotional marketing mix. The marketing mix concept was first developed in 1950s at the Harvard University by Neil Borden. Borden (1964) made a list of 12 elements a producer must consider while planning the marketing. The list is simplified and modified by Eugene McCarthy until designing the widely used marketing mix, i.e. 4P model: product, place, price and promotion. The four elements take a significant position in the business strategies and the marketing concepts of a number of organisations. Over time, the model has lived to see an addition of the fifth element - human resources in the findings of many marketing researchers.

Grubor (2009) suggests that creating value includes first three elements (determining the characteristics of the service offer, setting the price and deciding on the service distribution), while the value delivery requires hiring service staff, i.e. realisation of the service promotion in the form of the sale improvement, service

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Sport**

propaganda (remaining two elements of the marketing mix). On the other hand, Jobber (2006) states that three significant conditions are important for meeting the marketing concept: focus on purchasers, integrated efforts and meeting the objectives.

In the field of sport, Maksimović and Raič (2012) explain the marketing mix by emphasising that “the purchaser is in the centre of the marketing activity in sport for whose interest and needs the sports organisation develops and forms its product-service, forms its price, finds most favourable delivery (distribution) channels to the user at the right moment and the right place, followed by the most effective presentation (promotion) and with the specially trained service staff. “Sports organisation is perceived as the service firm which can meet its objective provide it successfully combines (mixed) these elements. According to these authors, marketing mix in sports organisations relies on five marketing elements (5P).

In his approach to the marketing mix of sports organisations, Gašović (2009) differentiates among the following elements: sports offer, price and publicity and public relations. According to the same author, the main function of the communication strategy is presenting the sports offer that shall satisfy certain needs of the stakeholders in the sports market (Gašović, 2011). As part of the sports offer, the author differentiates among four levels: sports experience, sports event, sports result, image of sports clubs or individual athletes and a sports brand. Tomić (2001), presents segmentation of sports results as the product by giving division in the following units: 1) club image, 2) sports brand, 3) sports event, 4) sports services and 5) image of an athlete or the entire team, while other researches confirm the connection between the sports competitive results driven by motivating and identifying the spectators with the team (Milne & McDonald, 1999).

Therefore, it is clear that the sports product is composed of tangible or material (sports facilities, players, etc.) and intangible or immaterial elements (spectators’ impression, etc.). Naturally, intangible elements complicate the implementation of marketing. Grubor (2010) also talks about this and states the differences in production and consumption of physically tangible products when compared to the services and the fact that

the service marketing implementation is actually more complex in relation to the marketing implementation of physically tangible products.

Maksimović and Raič (2007) emphasise the need for a marketing approach in solving problems seen in old or European sports. Authors identify the crisis in such sports, concurrently identifying the difficulty of adapting such sports to the changed surroundings as the main cause. Moreover, Tomić (2001) advocates his own approach, but also mentions that one should be very careful when implementing the marketing concept, i.e. bad sides of and uncritical copying of the principle from the American sports should be considered, where marketing is most developed both in theory and in practice. Furthermore, maximum of the own system appreciation should exist, but also approach to the mission and sports development, as well as to the personal economical and social development. Andref (2001) also indicates the bad sides of such changes in sport due to the overstressed commercialisation of sports, who also recognises that the placement of the big business capital in sport has led to the loss of the ethical sports perspective, i.e. overemphasised spectacularity when compared to the sports values.

The objective of this paper is examining the marketing mix in sports clubs practising team sports with the highest competitive ranking in Serbia.

**Methods**

The sample of examinees in this research was consisted of 118 available managers from various levels of organisational structure of sports organisations from four selected collective sports (football, basketball, handball and volleyball), which institutionally belong to the highest competition rank. The following parties are covered by surveys as part of each sports organisation-club: management representatives (president, secretary, etc.), middle managers (marketing sector, finances, etc.), expert staff representatives and leaders of first competition teams. Namely, these are the managers whose work is crucial for implementing the management marketing concept in sports clubs. Table 1 shows the socio-demographic properties of the examinees.

**Table 1.** Socio-demographic properties of the examinees sample

Variables		N	%
Sex	Male	101	(85.5%)
	Female	17	(14.5%)
Age	AS=43,49 SD=10,1		
	Primary	0	0
	Secondary	23	20.0
Education	College	29	25.2
	Bachelor	56	48.7
	Master	7	6.1
	PhD	0	0
	Sport and physical education	30	40.5
	Economics	18	24.3
Qualifications	Business/ass. diploma	12	16.2
	Diploma in the marketing field	12	16.2
	Certificate in the marketing field	2	2.7
	Municipal	4	4.9
	District	4	4.9
Former sports status	Provincial	11	13.4
	Republic	33	40.2
	International in the state	12	14.6
	International abroad	18	22.0

(continued on next page)

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Variables	N	%	
Role/position in the club management	Junior team coach	12	10.5
	First team coach	15	13.2
	Club secretary	27	23.7
	Accounting manager/teller	0	0
	Club manager	20	17.5
	Club president	6	5.3
	Head of the marketing department	7	6.1
	Other role	27	23.7

The reasearch covered 85.5% male examinees, i.e. 14.5% female examinees. Majority of examinees had Serbian nationality (95.3%), followed by Montenegrin and Bosnian nationality (1.9% each). Almost half of the sample examinees had higher education degrees (48.7%). As we were analysing the higher levels of education (reference to the examinees with magisterial or Master's degrees), it can be stated that the level of education degree is recognised in 6.1% examinees, whereas none of the examinees had the PhD degree. Moving on to the lower education levels, we noticed that 20% of examinees had secondary education, and 25.2% had a college degree. Qualifications in the field of sports and physical education were identified in 40.5% of examinees, and in the field of economics the percentage was 24.3% out of all examinees. Qualifications in business or marketing were identified in 16.2% of examinees.

As for the previous sport status, examinees with the experience in competitions from the republic rank sport prevail (40.2%), followed by the examinees with international experience (from abroad 22.0%, and/or in the country 14.6%). Provincial level of competitions was reached by 13.4% of examinees, whereas the municipal and zone level was reached by 4.9% of examinees. Majority of the surveyed people hold the positions of the club secretary (23.7%) and the club managers (17.5%). With respect to trainers (juniors and first team), 23.7% examinees were covered. The least number of examinees were represented by the club presidents (5.3%) and heads of the marketing department (6.1%). Most examinees received their professional qualifications at the faculties from the field of sport and physical education (40.54%), and

then from the field of economics (24.32%).

The number of clubs per sports which took part in the survey was the following: football – 12, basketball – 10, handball – 10 and volleyball - 12 clubs. Operationalisation of researches referred to supplying the survey to the managers in sports organisations in one of the two suggested ways: 1) as the survey with the use of electronic survey version, and 2) as the printed version of the survey for the management representatives in the sports clubs. Employees working in the sports clubs and/or the examinees independently chose their preferable ways of participation in the research. In order to ensure the best possible treatment of the research in sports clubs, most of the questionnaires were forwarded across the suitable associations and companies in the respective sports fields. This way, distribution of questionnaires in the volleyball clubs was conducted with the assistance of the Association of the first league volleyball clubs, in basketball it was conducted through the Basketball Union of Vojvodina and in football, through the Serbia Community of Super League Football Clubs.

All the questions regarding the elements of the marketing mix in sports clubs considered answers in the 1-5 Likert scale, whereas the statistical interpretation of data covered the Kruskal Wallis test and the Man Whitney test.

## Results

Results analysis primarily included determining to what level were the examinees familiar with the marketing concept and to what level their organisation uses 4P combination of marketing variables, as presented in Table 2.

**Table 2.** Differences in sports in comprehending and implementing the marketing concept (%)

Marketing mix	Football		Basketball		Handball		Volleyball		$\chi^2$
	Yes	No	Yes	No	Yes	No	Yes	No	
Are you familiar with the marketing mix concept? (%)	65.7	34.3	86.2	13.8	48	52	45	55	12.04**
Does your organisation use 4P? (%)	58.8	41.2	44.8	55.2	24	76	10	90	15.57**

An interesting piece of information would be that the football managers were less familiar with the marketing concept than the ones in basketball (65.7% in football as opposed to 86.2% in basketball). Nevertheless, it is noticeable that in football and basketball there is a higher percentage of examinees with the knowledge in the marketing concept as opposed to the ones in volleyball and handball which proved itself to be statistically significant. It can be observed that such results were caused by a somewhat better market position of the afoementioned sports in Serbia. Nevertheless, additional information on the implementation of the 4P marketing mix model, has shown that its understanding does not entail its necessary implementation. If we exclude the football clubs and partly basketball clubs, there

is a noticeable decrease in the percentage of the 4P marketing mix implementation in other sports.

Obtained results show that more than a half of the examined clubs had no marketing sectors divided in departments (51.28%), which speaks about the insufficient area for the marketing field in the clubs business strategy. The examinees most often mentioned economic reasons to explain the non-existent specialised department. What can be considered as bad result is that almost ¼ of examinees (22.22%) believed that the marketing department was not formed due to the lack of interest. Such result speaks in favour of the insufficient recognition of the marketing relevance. Moreover, if we observe the marketing status in football clubs (Table 3), it can be noticed that

majority of examinees equalise it with the finances in the clubs and a bit fewer of examinees associate it with administration or the secretariat, i.e. it holds higher ranking than the safety segment and ticket sale. As opposed to football, marketing status in the handball clubs is according to the majority of examinees equalised with the ticket sale sector and/or safety. Furthermore, around a

half of the examinees believes that marketing is on the same level as players, team management and club administration. Lower status of marketing when compared to the club management is noticeable in over 50% of examinees in football and volleyball, whereas in basketball it is even more stressed in favour of team management (70.4%).

**Table 3.** Marketing/commercial function status based on other functions per sports (%)

Sport	Football			Basketball			Handball			Volleyball		
	lower	same	higher	lower	same	higher	lower	same	higher	lower	same	higher
Players	57.1	34.3	8.6	85.2	11.1	3.7	55.6	27.8	16.7	41.7	50.0	8.3
Team management	55.9	35.3	8.8	70.4	22.2	7.4	55.6	44.4	0	16.7	54.2	29.2
Administration/secretary	48.5	18.2	33.3	40.7	40.7	18.5	38.9	50.0	11.1	17.4	52.2	30.4
Finances	18.2	69.7	12.1	40.7	51.9	7.4	66.7	33.3	0	20.8	41.7	37.5
Ticket sale	8.8	11.8	79.4	25.9	37.0	37.0	44.4	27.8	27.8	25.0	70.8	4.2
Safety/economic department	0	17.6	82.4	7.4	44.4	48.1	50.3	33.3	16.7	8.3	79.2	12.5

Also, interpretation of results referred to a display of descriptive characteristics of sports organisations developed according to the elements of the marketing mix (people, place, promotion, distribution, product).

**People.** It is noticeable that a prominent part of the marketing role is taken by the managing structures in the club management, who use their connections to ensure assistance in the form of finances, material means and human resources. Such result derives from the lack of the marketing sector in nearly half of the examined sports organisations, dependence of the marketing sector, as well as the manner of the marketing department management in the clubs: Club president (14.29%, managing staff – 28.57%, competent marketing department – 50.65%, another function in the club – 6.49%).

*Place*

Big obstacle in improving the characteristics of the sports facilities is represented by the fact that the sports facilities are mostly property of local communities (74.8%), sport and recreational centres (16.2%), whereas only 6.3% of sports facilities belong to clubs. Such ownership structure of sports facilities complicates the process of improving the material and technical conditions in the sports facilities by the sports clubs management.

*Promotion*

Promotion in modern sport, as the element of the marketing mix, enables that everyone interested in sports clubs can be informed on their activities. Type of specificities of particular promotional means when it comes to promotional activities and campaigns in selected team sports is analysed in Table 4.

**Table 4.** Descriptive statistics on the promotion per team sports %

Promotion as the element of the marketing mix	Football		Basketball		Handball		Volleyball	
	Yes	No	Yes	No	Yes	No	Yes	No
Our promotional activity is effective.	28.6	71.4	31	69	36	64	30	70
Is there a PR person working in the club?	100	0	69	31	52	48	15.8	84.2
Does the club have its website?	100	0	96.6	3.4	76	24	47.6	52.4
Does the club have its periodical?	69.4	30.6	31	69	25	75	19	81
Is there a season guide?	41.7	58.3	32.1	67.9	20	80	19	81
Does the club have the Media Day?	34.3	65.7	24.1	75.9	20	80	4.8	95.2
Does the club have the Open Door Day?	37.1	62.9	17.2	82.8	12	88	28.6	71.4
Is the club socially responsible?	97.1	2.9	93.1	6.9	68	32	95.2	4.8
Does the club have a sufficient number of volunteers available?	58.8	41.2	41.4	58.6	32	68	42.9	57.1

Poor implementation of the marketing concept has determined the mostly identical opinion on its promotion efficiency. The result is around 30% in all sports, which only speaks that 70% of surveyed managers consider that the element of the marketing mix is very low in the clubs. Such result most obviously indicates the needs for a better conception of promotion within sports organisations, in order to have the clubs presentation better directed toward the interested population. Significance of public relations is most recognised in football and basketball (Table 4), whereas in volleyball there are fewest people dealing with PR activities (15.8%). Accordingly, it can

be observed that there are better capacities for adopting innovations in promotional activities in football and basketball thanks to the better position in the market and higher interest of all stakeholders. To support the aforementioned, there are data claiming that all clubs from the given sports have their own websites, as opposed to the handball and particularly, volleyball clubs. As for the periodicals, football clubs are most engaged about working with the media, which is expected due to their large audience. The club season guide, as the supporting means facilitating keeping up with the club activities throughout the competition year, is still not a widespread

method of promotion in majority of team sports (up to 19-25% in volleyball and handball and up to 30% of basketball clubs). Nevertheless, a little more than 2/3 of football clubs is preparing their periodicals and providing information to all interested parties. Analysis of Table 4, gives information that numerous examinees (from 41.2% in football clubs up to 68% in handball clubs) believe that the clubs have insufficient number of available volunteers.

Moreover, results show the highest possible social responsibility in clubs, i.e. readiness to also be engaged in other spheres of life, outside competition activities. This can truly contribute to a more positive image of team sports in wider population, by expanding the significance, role and effects the competitive sports have on wider social community. Connection of sport and social responsibility and/or possibility of

solving various social problems through engaging all people in the sports industry, can represent a good incentive for the reverse direction of care and contribution where the social community assists sports clubs in their functioning. Media Day and "Open" Day as the relatively new ways of organisational promotion are implemented in reduced scale. At the moment, these are somewhat "more active manners of promotion mostly implemented in football clubs (1/3 of clubs). Similar results have been obtained in regard to the season guides for the purpose of easier keeping up with the competition and other team activities, as well as sale of business tickets, where the football clubs are more engaged than others.

Differences in promotion per clubs, as the elements of the marketing mix, are presented in Table 5.

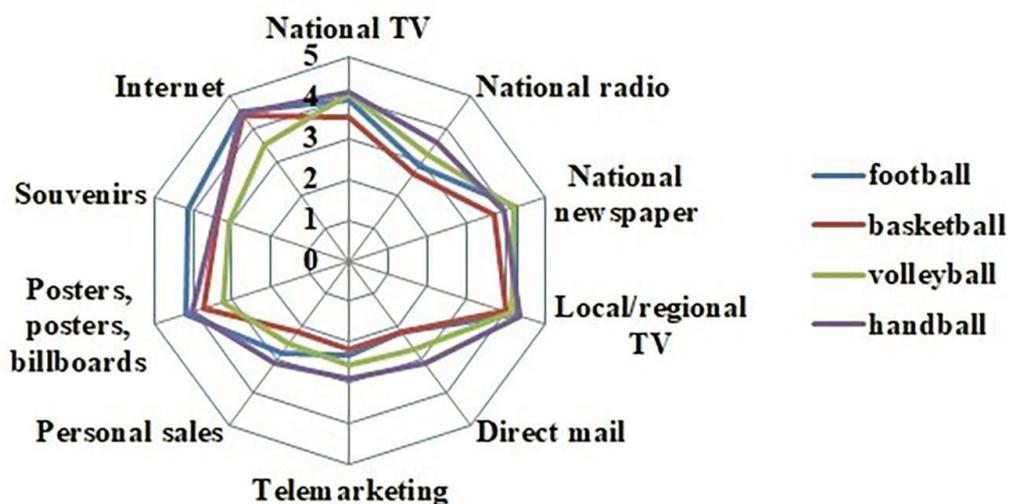
**Table 5.** Differences among various types of sports in promotion as the element of the marketing mix (Man-Whitney test)

	Football	Basketball	Handball	Volleyball	X <sup>2</sup>
Our promotional activity is effective.	32.14	32.93	22.25	23.60	0.39
Is there a PR person working in the club?	37.00 <sup>2a3a4a</sup>	27.07 <sup>3a</sup>	17.97	25.94 <sup>3b</sup>	41.51 <sup>**</sup>
Does the club have its website?	33.50 <sup>3a4a</sup>	32.38 <sup>3a4b</sup>	19.95	26.48 <sup>3b</sup>	31.77 <sup>**</sup>
Is there an official profile on the social networks?	33.50 <sup>3a</sup>	33.50 <sup>3a</sup>	22.07	29.50 <sup>3a</sup>	29.19 <sup>**</sup>
Does the club have its periodical?	38.57 <sup>2a3a4a</sup>	26.09	22.29	23.63	20.06 <sup>**</sup>
Is there a season guide?	33.83	30.79	23.38	23.60	4.78
Does the club have the Media Day?	33.97 <sup>3b</sup>	30.72	21.60	25.10	6.66
Does the club have the Open Day?	35.39 <sup>4b</sup>	29.02	25.57	21.76	6.14
Is the club socially responsible?	33.09 <sup>4a</sup>	31.79 <sup>4b</sup>	26.90 <sup>4b</sup>	20.64	15.07 <sup>**</sup>
Does the club have a sufficient number of volunteers available?	34.53 <sup>4b</sup>	29.03	24.86	22.36	4.52

Note: \* 0.05, \*\* <0,01 - Kruskal Wallis test; 1, 2, 3, 4 – 1 - football, 2 - basketball, 3 - volleyball, 4 – handball; a<0.01 , b<0.05 - Man Whitney test

These differences particularly indicate advantages of managers working in football and basketball when compared to the ones working in volleyball and handball and their higher stress on promotional values.

Finally, it is clear that the marketing strategy mostly relies on the internet, local/regional television and national newspapers as the most important promotional media in the sports clubs strategies (Figure 1).



**Figure 1.** How important or unimportant are the following promotional media in Your strategy?

*Distribution*

As in promotion, with respect to the element of distribution there are also statistically significant differences among football

and other sports (Table 6), which can be ascribed to a somewhat better position favourable for commercialisation on the account of its popularity.

**Table 6.** Differences between various types of Sports in distribution as element of marketing mix (Man-Whitney test)

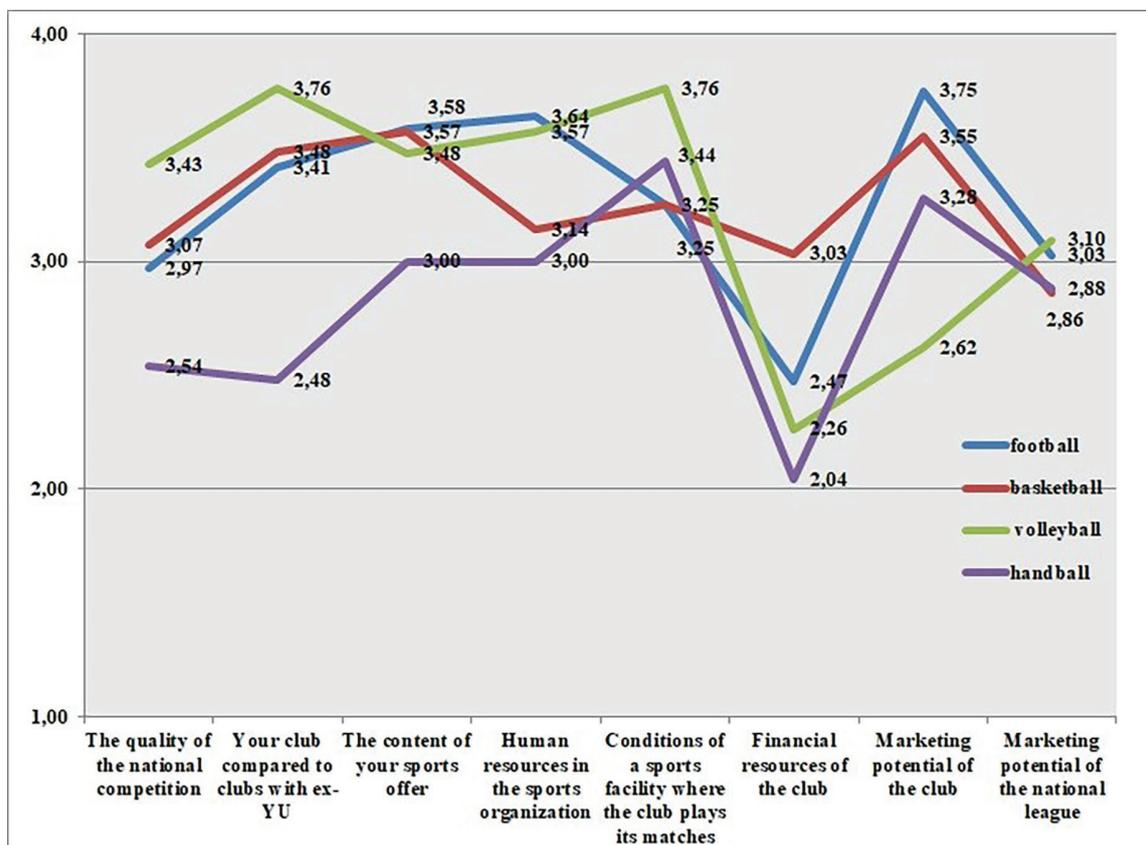
	Football	Basketball	Handball	Volleyball	X <sup>2</sup>
Does the club sell business tickets?	36.10 <sup>2a3b</sup>	26.8	21.75	24.00	10.34*
Is the income higher based on the commercial activities?	32.73 <sup>4b</sup>	32.22 <sup>4b</sup>	23.13	22.90	8.13*

Note: \* 0.05, \*\* <0,01 - Kruskal Wallis test; 1, 2, 3, 4 – 1 - football, 2 - basketball, 3 - volleyball, 4 – handball; a<0.01 , b<0.05 - Man Whitney test

**Product**

Product quality to the highest point also determines all the other elements of the marketing mix. Figure 2, shows the elements composing the sports product. Volleyball clubs are to a highest degree satisfied with the quality of the national competitions, as well as with the conditions in which the clubs play their matches. Marketing potential of the clubs is, as expected, the highest in football and basketball clubs, but what is also interesting is the result showing that almost equally examinees in all sports consider that the marketing potential of the national competitions is very poor. Such result is the indicator that the clubs do not realise significant marketing effects in “creating”

their own offer due to the insufficiently and poorly designed marketing concept of the national competition. In all sports, except in handball, examinees mostly believe that our clubs are in a more favourable position when compared to the ones from the former ex-Yugoslavian area. Higher values are recognised in the same sports with respect to the attitudes on the sports offer content. Human resources capacity suited on average the examinees in football and volleyball, and then in basketball and handball. Unlike human resources, clubs in all sports believe that they have low financial resources. Nevertheless, results in the basketball circles show a somewhat higher level of satisfaction when referring to this type of organisational resources.



Note: 0-bad, 1-under average, 2-average, 3-above average, 4-excellent  
**Figure 2.** Quality of certain elements of the sports offer of clubs per sports (AS)

**Discussion**

Low results speaking about the poor knowledge and implementation of the marketing concept in our team sports (except in examinees working in basketball), indicate the lack of marketing knowledge in examinees. The lack of marketing knowledge itself complicates formulation of personal marketing strategy, and/or development of their elements and thus better branding of sports organisations. It is interesting that the examinees recognise the needs of the specialised marketing department for further club development, but consider that there are poor chances for forming the marketing department in their clubs in the future. Week promotion

is characterised by a small number of promotional activities (not marking the Media Day and “Open” Day, non-existence of the season guide, poor promotional activities on popular social networks, lack of websites, lack of engagement of PR persons (except in football), etc.). Furthermore, framework marketing mix show poor commercial activities and sale of business tickets having for a result low visit rates of spectators.

Poor sports offer provides limited marketing possibilities, which definitely partly justifies and not justifies the inactivity of marketing staff in sports organisations to consider all five levels of products in the target market, composing the hierarchy of

values for purchasers: relevant benefit, basic, expected, enriched and potential product (Kotler & Keller, 2006). Hence, it can be stated that what is referred to by the sports offer in Serbia are the “basic” and the “expected” product and/or what the purchaser customarily expects and accepts when buying the product. Unfortunately, possibilities and capacities relating to the “enriched” and potential” product including the purchasers’ pleasure and through their the expectations and/or permanent modifications and innovations that the product might have in the future, stay outside the creativity domain making the sports events more appealing, attractive and the offer significantly more diverse.

Generally speaking, poorly “developed” marketing mix of our sports organisations “complicates” expansion of the potential market. This also reflects on the fact that marketing as the business function cannot develop its full potential. Sports offer of our sports organisations as the instrument of their marketing mix speaks about average products or services quality offered to sports consumers at more favourable prices, due to the perennial inability to modify the prices caused by the difficult economic conditions required for functioning.

Quality of sports products offered at the sports events within the domestic competitions is all the less attractive and insufficiently appealing to potential consumers of sports products (Maksimović, Matić, Milošević, Jakšić, Shreffler, Ross, 2012). All of the aforementioned speaks in favour of the quality of sports products offered by our clubs in the sports market of Serbia monitored in the decline and stagnation trends. Spectators follow the matches of their clubs more intensely in international competitions than in domestic competitions, which is the indicator of greater attachment during larger sports events, i.e. loyalty to clubs is the prominent trait in our local audience on more significant games. Necessity of identification with successful teams imposes achieving continuously good results. Namely, sports consumers offer verification of good sports competitiveness in the international competitions among clubs and accordingly, there is higher interest during the season for the international matches.

According to Žnideršić, Grubor, Salai, & Marić (2012), the key reason is found in the fact that the “new” consumer is by far more informed, sophisticated and demanding which enables success of companies ready to adjust to the new requirements. Likewise, there is a growing number of laws and other types of consumer protection working in favour of their satisfaction and loyalty, which repeatedly indicates the central role taken by the modern consumer in the global environment“. Business or marketing orientation toward the consumers suggest that the business is started where purchasers are, and not where the seat of the sports organisations and sports facilities are. It is necessary to examine the needs of the domestic sports market (existing and “new“), do the segmentation, “create” a differentiated offer, and then make a move in pleasing the largest part of their needs. Therefore, if considering the Kotler’s product definition as “everything which can be offered in the market, in order to please a specific wish or need“, it can be concluded that the wishes and needs of our consumers are much bigger than the possibilities of the Serbian offer which can be offered by our clubs, which explains a poorly developed consumer behaviour in team sports.

Elements offered by product, sales, marketing and social marketing concept are definitely applicable on our market. By following the principles of the sales concept, sports organisations

should head toward the consumers of their “goods”, whereas the successful experiences of many sports organisations impose placement of consumers in the most significant position with all employees by forming the sports offer, by applying the marketing and social marketing concepts. Implementation of the principle actually requires harmonisation of current resources of sports organisations. If assessing the possibilities and/or the marketing mix elements on which the clubs can base their development strategy, these are the staff, promotion, price and the product. Having in mind that the element “place” i.e. venues of the sports events are mostly outdated, one can surely not rely on their soon adaptation. What is enabled can mostly be limited on their transparency, history and memories of important games played on them, followed by the fact that all other elements of the venues are average or below average. Moreover, ownership structure is unfavourable for the strategic plans of sports facilities development by the management of sports organisations, considering that only 6.3% of sports clubs own their own sports facility. Current condition of the Serbian sport requires more prominent investments in the Serbian infrastructure, in accordance with the consumers’ needs with an adequate development of economy and the society in general.

Therefore, the results obtained in this research are in accordance with the ones emphasised by Maksimović and Raič (2007) claiming that “marketing in sports overcomes undesirable perception “blindness” of changeable social, economic, technological, cultural, political and other circumstances relevant for the development, survival and termination of sports organisations“. The role of organising the existing marketing mix through the marketing function (plan, implementation, control, analysis) and harmonise it with demographic, economic and political factors, should be played by the marketing managers in domestic sports organisations. Furthermore, obtained results are in line with the studies implemented by the authors Vojinović, Maksimović, Koković, Raič, Matić and Doder (2015), which discovered “a difficult to understand lack of interest of the sports infrastructure (branch unions, local administration) for creating organisational culture in our sport, supporting creativity in the field of converging the vision of future sport and its democratic way of articulation through the scenario of planning and developing strategies of sustainable development of sports in the European surroundings.“

All of the aforementioned in the discussion shows major dependency of the contemporary sports organisations from marketing - market researches (audience, membership and fans, sponsors, media) and finding effective strategies (marketing mix). Organisations which fail at implementing the marketing concept in their management, manifest less success - business, socio-political, but also sports-competitive. According to this statement, what is clear is the indication that the future of the sports clubs is directly focused on the marketing concepts. Based on this, according to all the obtained indicators presented in the dissertation, response to the following question can at least partly be found: How to introduce, implement and improve the management marketing concept in the sports clubs across Serbia? The following essential tasks of the marketing sector come as predominant ones: 1) brand management, 2) influence on increasing the number of views at the matches, 3) increased activities in obtaining and managing the sponsor pool, 4) increasing the possibilities for TV rights management, 5) commercialisation of the protected trademarks through selling designer products and licensing.

The exact identification and orientation toward the marketing concept as to the powerful business means of numerous successful organisations, focusing the center of their attention on the current and future consumers, would contribute so that the organisations which have denied their major significance, would accept the concept in question. These influences could contribute to placing the entire management of the sports clubs on the pedestal of the marketing concept.

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## ORIGINAL SCIENTIFIC PAPER

# Anthropometric Characteristics of Elite Soccer Players from Bosnia and Herzegovina and Montenegro

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## Abstract

The aim of this research was to determine the differences among the top soccer players of the club in Bosnia and Herzegovina, CSC Zrinjski Mostar and the top soccer players of the club in Montenegro FC Buducnost, the champions in their countries, in the anthropometric characteristics and body composition. A sample of 58 subjects was divided into two sub-samples. The first sub-sample of the subjects consisted of 28 soccer players of CSC Zrinjski Mostar of the average age  $24.36 \pm 4.14$ , the champions of the Bosnia and Herzegovina in the season 2016/17, while the other sub-sample consisted of 30 soccer players of FC Buducnost of the average age  $22.73 \pm 4.33$ , the champions of the Montenegro Championship in the season 2016/17. Soccer players were tested immediately after the end of the competition season 2016/17. Anthropometric characteristics in the body composition were evaluated by a battery of 10 variables: body height, body weight, waist circumference, triceps skinfold, biceps skinfold, skinfold of the back, abdominal skinfold, body mass index, fat percentage and muscle mass. The standard central and dispersion parameters of all variables were calculated. The significance of the differences between the players of the top two soccer clubs in the Anthropometric characteristics and variables for assessing body composition was determined by a t-test for independent samples. It was found that the soccer players of the two mentioned clubs have statistically significant differences by the three variables that estimate the waist circumference, biceps skinfold and abdominal skinfold, in a favor of CSC Zrinjski Mostar.

**Key words:** *Football, Morphological Characteristics, Football Players, Bosnia and Herzegovina, Montenegro*

## Introduction

A soccer game is said to be the most important secondary thing in the world, it gathers huge masses at stadiums and in front of TVs (Gardašević, 2010; Gardašević, Bjelica, Popović, & Milašinović, 2016). It is a highly dynamic and fast team game which, with its richness of movement, falls under category of polystructural sports games (Bjelica, 2005; Gardašević i Goranović, 2011; Gardašević i Bjelica, 2013; Gardašević & Bjelica, 2014a; Gardasevic i Bjelica, 2014b). Soccer is a sport that is characterized by numerous and various complex and dynamic kinesiological activities which are then characterized by either cyclical (Gardašević, Vasiljević i Bojanić, 2015; Bjelica,

Popović, & Gardašević, 2016a; Bjelica, Popović i Gardašević, 2016b; Sermahaj, Popovic, Bjelica, Gardasevic, & Arifi, 2017; Gardasevic, Bjelica & Vasiljevic, 2017a; Gardasevic, Bjelica & Vasiljevic, 2017b) or acyclical movement (Gardasevic, 2015; Gardašević i sar., 2015; Gardašević, Bjelica i Vasiljević, 2016a; Gardašević, Bjelica i Vasiljević, 2016b; Gardasevic, Bjelica, Milasinovic i Vasiljevic, 2016; Gardašević i Vasiljević, 2016; Gardasevic, Popovic, & Bjelica, 2016). In soccer, top score can be achieved only under conditions of well-programmed training process (Gardašević, Bjelica i Popović, 2015). High quality management of the training process depends on the knowing of the structure of certain anthropological capabi-

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lities and player's characteristics, as well as their development (Bjelica i Popović, 2012; Bjelica, 2013). Various researches are to be done in order to establish certain principles and norms for the transformational processes of the anthropological characteristics important for soccer (Gardašević, Bjelica, Georgiev, & Popović, 2012); with anthropometric characteristics and body composition among them as expected. Findings regarding anthropometric characteristics and body composition are of crucial importance for complex sports games such as soccer. The anthropometric space is defined by the longitudinal dimension of the skeleton, the transversal dimensionality of the skeleton, the mass and volume of the body (Bjelica & Fratrić, 2011). The purpose of knowing anthropometric characteristics is to improve skills in many sports (Carter & Heath, 1990). The anthropometric status of top-level athletes is relatively homogeneous, depending on the sport, and it can be defined as a model of athletic achievement (Mišigoj-Duraković, Matković, & Medved, 1995). Research on anthropometric characteristics and body composition among athletes of different sports indicates that athletes of different sports have their own specific characteristics. Muscle mass improves performance in activities that require muscular strength and endurance, but also in those that require enviable aerobic ability (Ramadan & Byrd, 1987; Green, 1992; Rico-Sanz, 1998).

Today, soccer is certainly the number one sport in the world for its view and popularity (Gardašević, Georgiev & Bjelica, 2012; Vasiljević, Gardašević, & Bojanić, 2013; Gardasevic, Bjelica, Vasiljevic, Arifi, & Sermahaj, 2019), and the same applies to Bosnia and Herzegovina and Kosovo (Bjelica, Gardasevic, Vasiljevic, Arifi, & Sermahaj, 2019). The two clubs that are at the top of the Premier League of Bosnia and Herzegovina and of the First Montenegrin Telecom League, in the 2016/17 competitive season, they both have achieved a staggering success, CSC Zrinjski Mostar was the champion of Bosnia and Herzegovina and FC Buducnost was the champion of Montenegro. Based on these two trophies that they have won at the end of the competition season, both clubs have acquired the right to play on the international soccer scene within the framework of UEFA's Champions League qualification. It became as interesting for researchers to determine the models of anthropometric characteristics and body composition of the players who play for these clubs as to determine the differences among them.

The aim of this research was to determine anthropometric characteristics and body composition of elite soccer players, players of CSC Zrinjski Mostar who compete in the Telecom Premier League of Bosnia and Herzegovina and players of FC Buducnost, who compete in the First Montenegrin Telecom League. After which, compare the variables between these soccer players and determine the possible differences between them.

## Method

The data obtained in the study of anthropometric characteristics and body composition are checked and prepared for processing according to the set goal. Data bases are arranged according to the features and prepared for planned statistical processing. The results obtained by statistical analysis are presented in the tables and analyzed by the corresponding logical units. In general, the results of the research, through gradualness in the explanation of individual relationships, allow seeing differences in the observed anthropometric measures and body composition in accordance with the aim of the research, that

is, they contribute to a clearer application of the obtained results in practice. In terms of time constraint, the research is of transversal character, and it consists of a one-off measurement of the corresponding anthropometric characteristics and body composition of top-level senior soccer players.

### Sample of subjects

A sample of the subjects consists of a total of 58 top-level senior soccer players who performed in the Premier League of Bosnia and Herzegovina and the First Montenegrin Telecom League, divided into two sub-samples. The first one consists of 28 soccer players of CSC Zrinjski Mostar, the average age of  $24.36 \pm 4.14$ , Bosnia and Herzegovina's Championship winner in season 2016/17, and the second one that consists of 30 soccer players of FC Buducnost of the average age  $22.73 \pm 4.33$ , the champions of the Montenegro Championship in the season 2016/17. The soccer players were tested immediately after the 2016/17 season ended.

### Sample of measures

Anthropometric research has been carried out with respect to the basic rules and principles related to the selection of measuring instruments and measurement techniques standardized in accordance with the International Biological Program guidelines. For the purpose of this study, 7 anthropometric measures have been taken: body height, body weight, waist circumference, triceps skinfold, biceps skinfold, skinfold of the back and abdominal skinfold, and 3 body composition assessment variables: body mass index, fat percentage and muscle mass. Anthropometer, caliper, and measuring tape were used for anthropometric measurements. To evaluate the body composition, Tanita body fat scale - model BC-418MA, was used. The principle of this scale is based on indirect measurement of the body composition; a safe electrical signal is transmitted through the body via electrodes located in the standalone unit. The Tanita Scale, thanks to its athletics mode, enables athletes to closely monitor their body weight, health condition and form with all relevant parameters.

### Method of data processing

The data obtained through the research are processed by descriptive and comparative statistical procedures. For each variable, central and dispersion parameters, as well as asymmetry and flattening measures are processed. Differences in anthropometric characteristics and the composition of the body of the soccer players of these two clubs were determined by using a discriminatory parametric procedure with t-test for small independent samples, with statistical significance of  $p < 0.05$ .

## Results

In Tables 1 and 2, basic descriptive statistical parameters of anthropometric variables and body composition of the soccer players of the two clubs, where the values of central measurements and dispersion tendencies are calculated, are shown: Arithmetic mean (Mean), Standard deviation (S.D.), Variance (Variance), Minimal (Min) i Maximal (Max) values, coefficient of Curvature (Skewness) and Elongation (Kurtosis). First, the central and dispersion parameters of the variables were analyzed to evaluate the anthropometric characteristics and body composition of the soccer players of CSC Zrinjski Mostar (Table 1).

**Table 1.** Central and dispersion parameters of variables for assessment of anthropometric characteristics and body composition of soccer players of CSC Zrinjski Mostar (N=28)

Variable	Min	Max	Mean ± S.D.	Variance	Skewness	Kurtosis
Body height	170.8	193.0	182.59±4.82	23.27	-.07	.25
Body weight	70.0	90.5	78.85±5.80	33.68	.13	-.92
Waist circumference	77.0	98.0	86.39±4.35	18.91	.34	.95
Triceps skinfold	4.6	13.0	7.59±2.09	4.39	.88	.63
Biceps skinfold	3.3	6.2	4.33±.74	.55	1.07	.59
Skinfold of the back	3.7	13.8	9.23±2.18	4.74	.31	.92
Abdominal skinfold	4.0	15.0	8.02±2.77	7.66	.89	.36
Body mass index	21.4	26.1	23.63±1.14	1.30	.16	-.47
Fat percentage	3.9	14.6	8.79±3.18	10.14	-.05	-.88
Muscle mass	35.5	46.9	40.67±2.67	7.12	.05	-.03

Note: Min - Minimal value; Max - Maximum value; Mean - Average value; SD - Standard deviation; Skewness - Measure asymmetry; Kurtosis - Measurement of flattening.

Based on the central and dispersion parameters, the values of the skewness and the kurtosis, it can be noted that all the variables are placed within the normal distribution boundaries. Generally, according to all statistical parameters, it can be concluded that here we have some top soccer players; that there is a normal distribution in all variables and that the results that prevail are superior to the arith-

metic mean, which is not statistically significant because it is to be expected that regarding soccer players of a professional soccer club, there is no too large a span between the results of analyzed variables. Table 2 showed the central and dispersion parameters of the variables were analyzed to evaluate the anthropometric characteristics and body composition of the soccer players of FC Buducnost.

**Table 2.** Central and dispersion parameters of variables for assessment of anthropometric characteristics and body composition of soccer players of FC Buducnost (N=30)

Variable	Min	Max	Mean ± S.D.	Variance	Skewness	Kurtosis
Body height	171.1	196.0	181.96±5.89	34.748	.339	-.260
Body weight	64.7	96.9	78.03±8.52	72.627	.730	-.308
Waist circumference	74.0	95.0	83.43±5.23	27.357	.454	-.260
Triceps skinfold	4.0	13.6	7.79±2.45	6.008	.481	-.274
Biceps skinfold	3.2	8.2	5.28±1.29	1.687	.540	-.556
Skinfold of the back	3.6	18.6	9.81±2.89	8.395	.827	2.138
Abdominal skinfold	6.4	18.2	10.22±2.90	8.431	1.040	.941
Body mass index	21.1	27.1	23.49±1.45	2.113	.872	.762
Fat percentage	5.2	16.0	9.98±2.76	7.632	.160	-.470
Muscle mass	34.7	46.9	39.54±3.69	13.632	.412	-1.133

Based on the central and dispersion parameters, the values of skewness and kurtosis of the soccer players of FC Buducnost, it can be stated that all the variables are within the normal distribution boundaries and that the values are very similar to those of the soccer players of CSC Zrinjski Mostar. It can also be stated that the soccer players of FC Buducnost are younger on average. It can also be concluded that almost all variables of quantitative value are better with soccer players of CSC Zrinjski Mostar. However, a compara-

tive statistical procedure, t-test (Table 3), will show whether it is statistically significant. By the value of the skewness, it can be noticed that in the variable of the abdominal skinfold (AAS), there was a slight inclination on the side of the lower results, which is good because subcutaneous fat is a disrupting factor for professional athletes. In order to determine whether there are statistically significant differences in the analyzed variables in the top soccer players of these two clubs, the statistical procedure t-test (Table 3) was applied.

**Table 3.** T-test values between the arithmetic mean of variables for the evaluation of anthropometric characteristics and body composition of soccer players of CSC Zrinjski Mostar (N=28) and FC Buducnost (N=30)

Variable	Club	Mean ± S.D.	Mean Diff.	t-test	Sig.
Body height	CSC Zrinjski	182.59±4.82	.6329	.446	.658
	FC Buducnost	181.96±5.89			
Body weight	CSC Zrinjski	78.85±5.80	.8233	.427	.671
	FC Buducnost	78.03±8.52			
Waist circumference	CSC Zrinjski	86.39±4.35	2.9595	2.334	.023
	FC Buducnost	83.43±5.23			
Triceps skinfold	CSC Zrinjski	7.59±2.09	-.1974	-.328	.744
	FC Buducnost	7.79±2.45			

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Variable	Club	Mean ± S.D.	Mean Diff.	t-test	Sig.
Biceps skinfold	CSC Zrinjski	4.33±.74	-.9514	-3.393	.001
	FC Buducnost	5.28±1.29			
Skinfold of the back	CSC Zrinjski	9.23±2.18	-.5745	-.849	.399
	FC Buducnost	9.81±2.89			
Abdominal skinfold	CSC Zrinjski	8.02±2.77	-2.2021	-2.952	.005
	FC Buducnost	10.22±2.90			
Body mass index	CSC Zrinjski	23.63±1.14	.1419	.411	.682
	FC Buducnost	23.49±1.45			
Fat percentage	CSC Zrinjski	8.79±3.19	-1.1976	-1.533	.131
	FC Buducnost	9.98±2.76			
Muscle mass	CSC Zrinjski	40.67±2.67	1.1245	1.321	.192
	FC Buducnost	39.54±3.69			

Note: Mean - Average value; S.D. - Standard deviation; Mean Diff. - The middle difference; t-test - Value of t-test; Sig. - Significant difference

Based on the obtained values of t-test results, it was found that the soccer players of the two mentioned clubs have statistically significant differences by the three variables that estimate the waist circumference (AWC), biceps skinfold (ABS) and abdominal skinfold (AAS), in a favor of CSC Zrinjski Mostar.

## Discussion

The aim of this study was to determine the difference in the anthropometric characteristics and body composition of the top soccer players of the club in Bosnia and Herzegovina, CSC Zrinjski Mostar and the top soccer players of the club in Montenegro FC Buducnost, the champions in their countries in the 2016/17 season. A sample of 58 respondents was divided into two sub-samples. The first sub-sample consisted of the 28 soccer players of CSC Zrinjski Mostar of  $24.36 \pm 4.14$  age on average, who were a statistically significant older than the 30 soccer players of FC Buducnost, who made the second sub-sample of  $22.73 \pm 4.33$  age on average. The results were obtained by using a battery of 10 tests in the area of anthropometric characteristics and body composition. By looking into the basic descriptive statistical parameters, it can be concluded that we have examined professional sportsmen indeed. It can be noticed that the soccer players of both clubs are of the approximately similar mean values of the variables analyzed, which is not surprising because these are the top two soccer clubs in Bosnia and Herzegovina and Montenegro, a states where there are also a great concentration of good soccer players. The t-test results showed that the soccer players of the two mentioned clubs have statistically significant differences by the three variables that estimate the waist circumference (AWC), biceps skinfold (ABS) and abdominal skinfold (AAS), in a favor of CSC Zrinjski Mostar. The first variable in which a statistically significant difference has been found is a variable that estimates waist circumference, where the soccer players of CSC Zrinjski Mostar also have a statistically higher value than the soccer players of FC Buducnost. Also, at the variables of biceps skinfold (ABS) and abdominal skinfold (AAS), soccer players of CSC Zrinjski Mostar have shown statistically better values because a smaller number means a better result when the disrupting factor of subcutaneous fat on playing soccer is taken into account. Very similar characteristics of soccer players were obtained in the region, which shows that soccer players have similar

the anthropometric characteristics and body composition in the whole region (Gardasevic, Bjelica, Popovic, Vasiljevic, & Milosevic, 2018; Bjelica, Gardasevic, & Vasiljevic, 2018; Corluca & Vasiljevic, 2018; Bjelica, & Gardasevic, 2019; Gardasevic, Bjelica, & Vasiljevic, 2019).

For other variables, some values are better for soccer players of CSC Zrinjski Mostar and some for soccer players of FC Buducnost, although, insignificantly for statistics, which indicates that these soccer players have very similar anthropometric parameters and body composition, which is again, not surprising, considering that these two soccer clubs are the best in their countries in the 2016/17 competitive season. The values obtained in this research can be useful for coaches of these soccer clubs for making a comparison of their soccer players with others and formulate their work in a way that enables reduction of those parameters that are not good, and raise those that are good to a higher level. That will surely make their soccer players even better and more successful. Also, both clubs should turn to other researches and check the functional-motoric status, psychological preparation as well as tactical training of their soccer players and analyze whether there is room for their improvement. The results obtained in this research can serve as model parameters for the estimated variables for soccer players of all other soccer clubs in Bosnia and Herzegovina and Montenegro, because the soccer players that have been analyzed here, were among the best and the most successful soccer players in those two countries at the end of the competitive season 2016/17.

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## ORIGINAL SCIENTIFIC PAPER

# Self-Reported and Objectively Measured Physical Activity of Elderly Men from the Canton Sarajevo

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## Abstract

The aim of this study was to determine the level of physical activity of elderly men living in the Canton of Sarajevo in Bosnia and Herzegovina. The sample consisted of 162 subjects, divided in two sub-sample: first group aged 50-59 ( $55.17 \pm 2.91$ ),  $N = 84$ ; and second group aged 60-69 ( $65.01 \pm 3.04$ ),  $N = 78$ . Data collection was obtained using a long version of the International Physical Activity Questionnaires (IPAQ). After the analysis of the results, a high overall level of physical activity of the treated sample of elderly men was determined. The first group of elderly men (age 50-59) achieved the total work MET  $18234.33 \pm 40827.53$ ; the second group of elderly men (age 60-69) achieved the total work MET  $14324.09 \pm 31249.24$ . Determined exceptionally heavy physical activity (MET) was the most dominant mode of energy consumption in the case of both elderly groups, was not expected. Statistical significance was observed in the variables of total activity in transport ( $p < 0.05$ ). No statistically significant differences were found in all other variables ( $p > 0.05$ ). This research has confirmed that physical activity decreases with age. Promoting physical activity to improve the quality of life of elderly people should be a priority task of health policy of all local communities. It is important to provide appropriate ways of information about the health status of elderly persons in order to determine priorities, and accordingly plan appropriate programs of physical activity.

**Key words:** *Metabolic Equivalent of MET, Older Age, Health, Local Community*

## Uvod

Poznato je da starenje za posljedicu ima opadanje tjelesnih sposobnosti čovjeka, što je uz globalni problem hipokinezije, jedan od vodećih savremenih problema društva (Čaušević, Ormanović, Doder, & Čović, 2017; Ćirić, Čaušević, & Bejdžić, 2015). Individualni aerobni fitness se smanjuje za 8-10% tokom svake decenije života, dok veoma aktivni ljudi mogu smanjiti ovaj nivo na 2-3%. Opadanje snage je osjetno u šezdesetim, a posebno u sedamdesetim godinama života (15% odnosno 30%), (Sharkey & Gaskill, 2008). Takođe u brojnim studijama, utvrđeno je da su promjene koje nastaju kao posljedica biološkog starenja, povezane sa smanjenim stepenom fizičke aktivnosti osoba starije dobi, a koje za posljedicu imaju smanjenje mišićne mase i tjelesne funkcije.

Poznato je da organizovano tjelesno vježbanje ima mnogo pozitivnih efekata na organizam čovjeka u cjelini, te da ima jasan

i prioritetan fizički i zdravstveni uticaj na osobe i njihove radne aktivnosti. Međutim, bez obzira na to šta osoba radi – bilo da se bavi prostim fizičkim poslom (nošenjem, podizanjem, poljoprivrednim radom) ili vrši fizičke vježbe, njen mišićni, kardio-vaskularni, respiratorni i centralni nervni sistem aktivno funkcionišu. Shodno tome će fizička aktivnost, bilo kao tjelesna vježba ili fizički rad, uvijek uticati na naše tijelo i tako dovesti do povećanog nivoa funkcionisanja (Bjelica & Krivikapić, 2019).

S druge strane, neaktivnost uzrokuje 9% prerane smrtnosti, što brojem iznosi više nego 5,3 od 57 miliona smrtnih slučajeva širom svijeta tokom 2008. godine (Lee i sar. 2012). Istoimeni autori navode da ukoliko neaktivnost nije eliminisana ali jeste umanjena za 10% ili 25%, onda bi se smrtnost tokom svake godine mogla izbjeći za više od 533 000 odnosno za više od 1,3 miliona slučajeva. Ovakav navod potvrđuje i činjenica da

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je svaka osoba bez obzira na starost u mogućnosti da izvodi neki tip prilagođene tjelesne aktivnosti (Močnik, Neuberg, & Canjuga, 2015).

Nivo tjelesne aktivnosti je prvobitno potrebno procijeniti. U skladu s tim, Jurakić & Andrijašević (2008) navode da je glavni cilj metoda mjerenja tjelesne aktivnosti procjena energetske potrošnje. Obzirom da je energetska potrošnja rezultat različitih tjelesnih aktivnosti, metode procjene se uslovno mogu podijeliti na tri osnovne grupacije: laboratorijske metode kao najpreciznije (kalorimetrija – pogreška manja od 1%), metode zasnovane na korištenju elektronskih sprava i instrumenata (pedometri, akcelometri i monitori srčane frekvencije), te anketne metode zasnovane na samoprocjeni tjelesne aktivnosti ispitanika (globalni upitnici, kratki upitnici prisjećanja i detaljni upitnici tjelesne aktivnosti).

Cilj ovog istraživanja je utvrđivanje nivoa fizičke aktivnosti starijih muškaraca od 50-59 i 60-69 godina starosti, te promocije zdravog stila života u lokalnoj zajednici.

## Metod

Uzorak ispitanika su činile osoba muškog pola ( $N = 162$ ), nastanjene u Kantonu Sarajevo, Bosna i Hercegovina. Prema hronološkoj starosti uzorak ispitanika je klasifikovan na dva subuzorka: prvi subuzorak ( $N = 84$ ; starosna dob:  $55.17 \pm 2.91$ ) u kojem je 85,7% ispitanika nastanjeno u gradskom području, a 14,3% ispitanika je naseljeno u ostalim naseljima izvan grada; te drugi subuzorak ( $N = 78$ ; starosna dob:  $65.01 \pm 3.04$ ) u kojem je 82,8% nastanjeno u gradskom području, a 17,2% ispitanika je nastanjen izvan grada (Tabela 1). Svi ispitanici su dobrovoljno pristupili istraživanju.

**Tabela 1.** Osnovne karakteristike uzorka ispitanika

Starosna dob (N)	AS $\pm$ SD	%
50-59	55,17 $\pm$ 2,91	51,85
60-69	65,01 $\pm$ 3,04	49,15

Legenda: AS – aritmetička sredina; SD – standardna devijacija.

Za potrebe ove studije koristila se duga verzija međunarodnog anketnog upitnika (IPAQ - International Physical Activity Questionnaires), koja obuhvaća četiri domene samoprocjene fizičke aktivnosti: fizička aktivnost na poslu; fizička aktivnost u prevozu; kućni poslovi, održavanje kuće i briga za porodicu; i rekreacija, sport i fizička aktivnost u slobodno vrijeme (Craig i sar., 2003). Fizičke aktivnosti se tretiraju kao teška, umjerena i niska (hodanje/šetanje). Rezultati su izraženi pomoću metaboličkog ekvivalenta (MET –

Metabolic Equivalent of Task) koji je izražen u min/nedjelja. Anketiranje je sprovedeno u mjesecu oktobru i novembru, 2017. godine. Zbog neodgovarajuće godine rođenja, mjesta stanovanja izvan područja Kantona Sarajevo ili nepotpuno popunjenog obrasca, iz konačne obrade rezultata je isključeno ukupno devet anketnih upitnika. Da bi se odredio nivo energetske potrošnje prilikom fizičkih aktivnosti, prema preporuci autora Ainsworth i sar. (2000), korištene su formule prikazane u Tabeli 2.

**Tabela 2.** Predložene IPAQ vrijednosti i računске formule

Fizička aktivnost	Formula
Hodanje = 3.3 MET	3.3 * vrijeme FA u minutama * broj dana u nedjelji
Umjerena FA = 4.0 MET	4.0 * vrijeme FA u minutama * broj dana u nedjelji
Teška FA = 8,0 MET	8.0 * vrijeme FA u minutama * broj dana u nedjelji
Ukupna FA MET-min u nedjelji	Hodanje + umjerena FA + teška FA

Legenda: MET – metabolički ekvivalent; FA – fizička aktivnost.

Podaci su obrađeni korištenjem statističkog paketa SPSS 23. za operativni sistem Windows (SPSS Inc., Chicago, IL, USA). Kao primarno, izračunate su aritmetička sredina (AS) i standardna devijacija (SD), dok je statistička značajnost razlika između dvije grupe utvrđena primjenom t-testa za nezavisne uzorke, na postavljenom nivou statističke značajnosti od  $p = 0.05$ .

## Rezultati

Na temelju uvida u osnovne deskriptivne parametre (Tabela 3), uočavaju se veće prosječne vrijednosti grupe muškaraca 50-59, u odnosu na grupu 60-69 godina starosti.

**Tabela 3.** Fizička aktivnost tretiranih grupa muškaraca starije dobi sa područja Kantona Sarajevo u proteklih sedam dana

Domena fizičke aktivnosti	50-59 (N=84)	60-69 (N=78)	%	Sig. (2-tailed)
Ukupne aktivnosti na poslu (MET)	7619.64 $\pm$ 25813.18	6932.44 $\pm$ 21169.65	9.02	.854
Ukupne aktivnosti u prevozu (MET)	5374.40 $\pm$ 6353.57	3006.15 $\pm$ 3502.23	44.07	.004
Ukupne aktivnosti u dvorištu i kući (MET)	3456.83 $\pm$ 4845.93	2590.67 $\pm$ 4292.36	25.06	.232
Ukupne aktivnosti u slobodnom vremenu (MET)	1783.53 $\pm$ 3814.85	1794.83 $\pm$ 2285.00	-0.63	.982
Ukupno hodanje (MET)	5495.67 $\pm$ 9560.35	3555.53 $\pm$ 3870.50	35.30	.448
Ukupne aktivnosti umjerenog inteziteta (MET)	3561.42 $\pm$ 3784.00	2986.66 $\pm$ 4810.58	16.14	.097
Ukupne izrazito naporne aktivnosti (MET)	7012.38 $\pm$ 8927.98	5981.21 $\pm$ 8275.50	14.70	.089
Ukupan rad (MET)	18234.33 $\pm$ 40827.53	14324.09 $\pm$ 31249.24	21.44	.318

Razlika je posebno izražena u varijabli ukupnih aktivnosti u prevozu, koja iznosi 2368.25 MET (44.07%) u korist mlađe starosne grupe, odnosno u varijabli ukupan rad, gdje je prisutna razlika od 3910.35 MET (21.44%), takođe u korist mlađe starosne grupe. Generalno je primijetno da se razina potrošnje energije smanjuje sa procesom starenja kod starijih muškaraca od 9,02% do 44,07%. Ipak, statistička značajnost između dvije grupe je uočena jedino u varijabli ukupne aktivnosti u prevozu ( $p < 0.05$ ). U ostalih sedam varijabli nije uočena statistička značajnost ( $p > 0.05$ ).

## Diskusija

Generalno posmatrajući dobijene rezultate, ustanovljene su vrlo visoke prosječne vrijednosti ukupne energetske potrošnje (MET) u odnosu na nalaze studije Kyu i sar. (2016), gdje su navedene sljedeće vrijednosti: slabije aktivni (600-3999 MET minuta), umjereno aktivni (4000-7999 MET minuta) i visoko aktivni ( $\geq 8000$  MET minuta). Prema ovim autorima, više vrijednosti su usko povezane sa smanjenim rizikom od različitih bolesti vezanih za rak, dijabetes i ishemijske bolesti srca.

U poređenju sa rezultatima prethodnih studija (Bajramović, Bjelica, Talovic, Alic, & Likic, 2018), može se konstatovati da su muškarci starije dobi nastanjeni u Kantonu Sarajevo fizički aktivniji u odnosu na žene nastanjene u istom kantonu, odnosno da su fizički aktivniji za 23,3% u slučaju starosne grupe 50-59 godina, te fizički aktivniji za 30,7% u slučaju starosne grupe 60-69 godina. Valja naglasiti da su žene sa područja Kantona Sarajevo za 25,4% fizički aktivnije u slobodno vrijeme u odnosu na muškarce u slučaju starosne grupe ispitanika 50-59 godina, odnosno 16,6% u slučaju starosne grupe 60-69 godina. Takođe, interesantan je podatak, da je energetska potrošnja prilikom poređenja starosnih grupa muškaraca i žena u slučaju ukupnih izrazito napornih aktivnosti bila dosta približna. U poređivanjem rezultata ove studije sa rezultatima studija koje su realizirane sa identičnim pristupom testiranju, na uzorcima starijih muških osoba nastanjenih na području crnogorskih gradova – Bar i okolina (Kovacevic, 2018) i Nikšić i okolina (Mitrovic, 2018), može se konstatovati da su muškarci sa područja Kantona Sarajevo prijavili nešto veći nivo fizičkih aktivnosti u proteklih sedam dana od dana ispitivanja.

Na relativno visoku prevalenciju fizičke neaktivnosti u slučaju žena, odnosno muškaraca starije dobi, a koja se povećava u skladu sa starosnom dobi, ukazuju novija istraživanja (Popovic, Bjelica, Vukotic, & Masanovic, 2018; Masanovic, Vukotic, Bjelica, & Popovic, 2018). Fizička aktivnost tokom starije životne dobi je vrlo važna, obzirom da starost kao i sama neaktivnost uzrokuju promjene, koje se u pravilu mogu smanjiti i držati pod kontrolom samo redovnom fizičkom aktivnošću (Močnik i sar., 2015). Svaki oblik pokreta tijela koji povećava energetske potrošnje smatra se fizičkom aktivnošću. Za zdravlje čovjeka veoma je bitno odrediti adekvatne fizičke aktivnosti kako bi iste na najbolji način uticale na naš organizam (Bjelica, 2015).

S druge strane, fizička neaktivnost ima veliki uticaj na zdravlje ljudi širom svijeta, te bi se umanjnjem ili uklanjanjem ovakvog nezdravog ponašanja zdravlje moglo značajno globalno poboljšati (Lee i sar. 2012). Primarni i prirodni odgovor na ovakve tvrdnje nalazi se u kineziološkoj rekreaciji, odnosno fizičkoj aktivnosti koja se praktikuje u slobodno vrijeme (Papec, 2016). Takođe, kada je u pitanju korišćenje slobodnog vremena, isto pomaže starijim ljudima da poboljšaju svoje socijalne

odnose upoznavajući se jedni sa drugima, što u konačnici utiče na nivo zdravlja (Popović & Bjelica, 2017). Jakicic, Marcus, Gallagher, Napolitano, & Lang (2003) naglašavaju da fizička aktivnost treba u početku biti usmjerena na usvajanje i održavanje aktivnosti u trajanju od najmanje 150 minuta nedjeljno, te da je kasnije treba povećavati do nivoa od 60 minuta svakodnevnog fizičke aktivnosti. Silva Garcez i sar. (2015), ukazuju na važnost doprinosa u informisanju i motivisanju zaposlenih osoba da povećaju svoju fizičku aktivnost i smanje svoj nivo sedentarnog ponašanja, uzevši u obzir karakteristike posla i polne razlike. Pored osoba koje su educirane za zdrave preventivne fizičke aktivnosti, takođe i zdravstveni radnici imaju važnu ulogu u pojedinačnim razgovorima i davanju preporuka u vezi sa zdravim fizičkim aktivnostima (Taylor, 2014).

Može se zaključiti da su muške osobe starije dobi nastanjene na području Kantona Sarajevo pokazale u prosjeku zadovoljavajući nivo energetske potrošnje, ukoliko su uzete u obzir četiri predložene domene fizičke aktivnosti. Ohrabruje činjenica da su u okviru ankete provedene u ovom istraživanju evidentirane relativno visoke vrijednosti energetske potrošnje prilikom napornih aktivnosti.

Opšte je poznato da za svaki pokret u životu postoji potreba za snagom. U skladu s tim može se reći da mišićna snaga omogućava životnu samostalnost ljudi, što je posebno važno za osobe starije dobi. Ovim istraživanjem utvrđeno je da se razina potrošnje energije smanjuje sa procesom starenja kod starijih muškaraca, što je prema rezultatima IPAQ upitnika od 9,02% do 44,07%. Kao zaključak se također može sugerisati da bi promocija fizičkih aktivnosti radi poboljšanja kvaliteta života starijih osoba trebala biti prioritetni zadatak svih lokalnih društvenih zajednica. U skladu s tim važno je osigurati odgovarajuće načine informisanja o zdravstvenom statusu starijih osoba kako bi se utvrdili prioriteti i planirali odgovarajući programi fizičke aktivnosti.

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## Conflict of Interest

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## ORIGINAL SCIENTIFIC PAPER

# The Effects of Sports-Recreational Activities on the Inclusion of Young Montenegrins in Society

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## Abstract

The aim of this study was to determine whether there are differences in the level of social inclusion between respondents who are not at all engaged in sports activities and respondents who engage in sports and recreational activities once or twice a week. The sample included 60 subjects divided into two subsamples, 35 respondents who are not at all involved in sports activities and 25 respondents who practice sports and recreational activities once or twice a week. For research purposes, respondents voluntarily applied to the standardized Social Inclusion Scale questionnaire. To determine the significance of differences in the degree of social involvement between groups, was used t-test at the level of significance of  $p < 0.05$ . It was concluded, based on these results, that between pairs of individual entities, a significant difference exists only in the fourteenth question (I have friends I see or talk to every week). There is no statistically significant difference for the other 17 pairs in the system of comparable parameters.

**Key words:** *Social Inclusion, Sports Activity, Social Inclusion Scale*

## Introduction

To have the possibility and capacity for full and productive participation in economic, social and cultural life, as well as to enjoy the standard of living, that is, the welfare that is considered normal in a developed community, is to be socially involved (Commission of the European Communities, 2000). In contrast, social exclusion is a shortened term for what can happen when community members suffer from a combination of related problems such as unemployment, incompetence, low income, inadequate living conditions, poor health conditions, high crime rates and deteriorated relationships in the family (Social Exclusion Unit, 2001).

Davidson, Stayner, Nickou, Styron, and Chinman (2001) have established three dimensions of social inclusion that are related to friendship, the feeling of personal value and optimism, which leads us to the conclusion that a person can not be considered socially involved unless he is not capable to realize friendship experiences at a certain degree, to perform useful and meaningful activities in society and to hope for an even better future. However, about 11% of the adult population can be considered

socially excluded (Jehoel-Gijsbers & Vrooman, 2007), which can be a huge problem for the entire community. If such a significant part of the society is separated from the part of the population that normally lives and contributes to the community, the whole society will be harmed. Therefore, society increasingly applies interventions of any kind aimed at increasing social inclusion. The inclusion of as many people as possible in any form of activity and co-operation is shown to be a key in the recovery from mental problems, the reduction of poor mental health and the increase in mental strength (Wilson & Seckter, 2015).

Social inclusion, understood as a multi-dimensional concept, includes physical, psychological, social and professional aspects (Le Boutillier & Croucher, 2010). So, if physical activity, as we know, positively influences all these dimensions, and if we certainly know from previous research that it can positively influence mental health, and also help to recover both mentally and physically (Biddle & Asare, 2011; Mašanović, Popovic, Bjelica, Vukotic, Zoric, 2018, Masanovic, Popovic, Vukotic, 2019; Popovic, Bjelica, Masanovic, & Gardasevic, 2019), then we must use it.

The aim of this research was to determine whether there are differences in the level of social inclusion between respondents who are not at all engaged in sports activities and respondents who engage in sports and recreational activities once or twice a week.

## Methods

This study covered 60 respondents aged between 18 and 26, divided into two subsamples. The first subsample consists of 35 respondents who are not at all engaged in sports activities, while the other subsample consists of 25 respondents who engage in sports and recreational activities once or twice a week. The criterion for participating in the experiment was that the subjects were older than 18 years and that they had no health problems.

A research technique determining the level of social inclusion was a survey in which a standard questionnaire called Social Inclusion Scale was used, consisting of 18 questions divided into 3 chapters, or the scale which has three subscales that measure social isolation, social relations and social acceptance (Wilson & Secker, 2015). The scale consists of statements in which respondents choose one of the options on the Likert's scale (1: "Not at all", 2: "Not particularly", 3: "Yes a little" and 4: "Yes definitely") that best describes their relationship with other people in the past month.

Filling out the questionnaire lasted an average of 10 minutes, and respondents volunteered to participate in the research. Prior to the interview, all respondents were asked to sign an agreement confirming that they were willing to take part in it. It should be noted that the survey was anonymous and that all

responses were strictly confidential. In spite of that, the respondents were able to revoke their participation in the survey at any time to which none of them decided.

Empirical data were analyzed through a statistical package for social sciences SPSS 20.0 (Chicago, IL, USA). The descriptive statistics were expressed as a means and standard deviation for each variable. To determine the significance of differences in the degree of social involvement between groups, a t-test for small independent samples was used. The significance was set at an alpha level of 0.05.

## Results

This section presents the results of central tendency and dispersion parameters, as well as the results of t-test for independent samples, classified into tables.

Looking at the average values of the results obtained with the Social Inclusion Scale (Table 1), on average, we see positive answers in 15 out of a total of 18 questions when it comes to a group of respondents who are not at all engaged in sports activities. In the group of respondents who deal with sports-recreational activities once or twice a week, the situation is very similar, and on average, we see positive answers in 16 of the total of 18 questions. Also, we can notice that a group of respondents who are not at all engaged in sports activities have on average more positive answers to 10 of the total of 18 questions. A group of respondents who deal with sports-recreational activities once or twice a week responded positively to 8 questions from a total of 18 on average.

**Table 1.** Descriptive statistical parameters for assessing the degree of social inclusion of both groups of respondents (inactive and active)

Subscale	Question	Inactive Mean±SD	Active Mean±SD
Isolation	I have felt terribly alone and isolated	1.63±.81	1.68±.80
	I have felt accepted by my friends	3.63±.55	3.48±.71
	I have been out socially with friends	3.51±.57	3.48±.65
	I have felt I am playing a useful part in society*	2.86±.88	2.92±.81
	I have friends I see or talk to every week*	3.43±.66	3.52±.82
Relations	I have felt I am playing a useful part in society*	3.11±.80	3.16±.85
	I have felt what I do is valued by others	3.26±.78	3.16±.80
	I have been to new places	2.97±.82	3.16±.85
	I have learnt something about other cultures	2.91±.82	3.04±.89
	I have been involved in a group not just for my university studies	2.63±1.00	2.44±1.08
	I have done some cultural activity	2.11±.93	2.2±1.00
	I have felt some people look down on me because of how I am	1.69±.96	2.04±.98
I have felt unsafe to walk alone in my neighbourhood in daylight	1.57±1.01	1.52±.82	
Acceptance	I have friends I see or talk to every week*	3.66±.54	3.24±.83
	I have felt accepted by my neighbours	3.60±.65	3.44±.71
	I have felt accepted by my family	3.69±.63	3.56±.77
	I have felt clear about my rights	3.34±.77	3.32±.69
	I have felt free to express my beliefs	3.29±.79	3.28±.79

Note: Mean – Arithmetic mean; SD – Standard deviation; \* – Items in more than one subscale

Based on the results shown in Table 2, it can be clearly seen that between the pairs of individual entities, a significant difference exists only in the fourteenth question (I have friends I see or talk to every week). For all other couples in the system of comparable parameters there is no

significant difference, i.e. in the other 17 questions, there is no significant difference between respondents who are not at all engaged in sports activities and respondents who engage in sports and recreational activities once or twice a week.

**Table 2.** Differences in the degree of social inclusion between inactive and active respondents

Subscale	Questions	Activity	Mean	SD	F	Sig	
Isolation	I have felt terribly alone and isolated	Inactive	1.63	.808	-.244	.808	
		Active	1.68	.802			
	I have felt accepted by my friends	Inactive	3.63	.547	.913	.365	
		Active	3.48	.714			
	I have been out socially with friends	Inactive	3.51	.658	.199	.843	
		Active	3.48	.653			
	I have felt I am playing a useful part in society*	Inactive	2.86	.879	-.282	.779	
		Active	2.92	.812			
	I have friends I see or talk to every week*	Inactive	3.43	.655	-.479	.634	
		Active	3.52	.823			
	Relations	I have felt I am playing a useful part in society*	Inactive	3.11	.796	-.213	.832
			Active	3.16	.850		
I have felt what I do is valued by others		Inactive	3.26	.780	.471	.640	
		Active	3.16	.800			
I have been to new places		Inactive	2.97	.822	-.864	.391	
		Active	3.16	.850			
I have learnt something about other cultures		Inactive	2.91	.818	-.566	.573	
		Active	3.04	.889			
I have been involved in a group not just for my university studies		Inactive	2.63	1.003	.695	.490	
		Active	2.44	1.083			
I have done some cultural activity		Inactive	2.11	.932	-.341	.735	
		Active	2.20	1.000			
I have felt some people look down on me because of how I am		Inactive	1.69	.963	-1.396	.168	
		Active	2.04	.978			
I have felt unsafe to walk alone in my neighbourhood in daylight		Inactive	1.57	1.008	.210	.835	
		Active	1.52	.823			
Acceptance		I have friends I see or talk to every week*	Inactive	3.66	.539	2.359	.022
			Active	3.24	.831		
	I have felt accepted by my neighbours	Inactive	3.60	.651	.903	.370	
		Active	3.44	.712			
	I have felt accepted by my family	Inactive	3.69	.631	.695	.490	
		Active	3.56	.768			
	I have felt clear about my rights	Inactive	3.34	.765	.119	.906	
		Active	3.32	.690			
	I have felt free to express my beliefs	Inactive	3.29	.789	.028	.978	
		Active	3.28	.792			

Note: Mean – Arithmetic mean; SD – Standard deviation; F – value of Levene's test of equality of variances; Sig - significance of two-tailed testing of arithmetic mean difference; \* - Items in more than one subscale

## Discussion

The results of this study show that physical activity is not in a positive correlation with the degree of social inclusion of young Montenegrins, which is in contrast to the majority of previous studies that clearly indicate that there is a positive impact of activities such as sports and recreation on social inclusion (Bailey, 2005; Skinner, Zakus, & Cowell, 2008; Kelly, 2011; Bjelica, Popovic, Masanovic, & Gardasevic, 2019). Nevertheless, the mentioned studies do not provide accurate data on the statistical significance of the sport's impact, which in a way suggests that we must accept their results with a dose of reserve. However, in literatures we can find the opposite results, which are somewhat in correlation with the results of this study. In other words, we can find research that negates the statistically significant influence of sports on the social inclusion

of young people, and nevertheless do not deny that some aspects of social inclusion are more positive after participating in organized sports and recreational activities (Masanovic, 2019). The inconsistencies we encounter in all previous studies lead us to conclude that this area needs to be further examined. In the end, it is interesting to mention the third group of research that indicates that any organized activity that influences the suppression of loneliness positively affects the social inclusion of the individual (Perkins, 2010), regardless of whether it is sport or any other social engagement. Most of the experts in the field of Sport Sciences will give priority to the sport, as its advantage is that besides raising social inclusion, the participants also get a positive impact on the health and quality of life, which would again mean that they solved two problems with one move (personal communication, S Popovic).

It is important to admit some of the limitations of this research. In the first place, the sample of respondents is not large enough to generalize the conclusion, so the next study should be conducted on a larger sample of respondents. The next fact is that the extent of an active group's exercise may not be sufficient to make any difference, so the next study should examine a population that daily practiced sports and recreational activities. Finally, when it comes to young people, the chance that they are socially excluded is much lower than when it comes to older people, because the feature of this age is optimism and a desire for progress and proving, and their daily schedule is filled with different activities (education, job and career, family creation and conditions for existence) that suppress the sense of social exclusion. A person who is active has lower opportunities to think about some negative aspects of life and, can not be socially excluded because, an individual can not be considered socially excluded if he does not feel socially excluded (Onken, Craig, Ridgway, Ralph, & Cook, 2007; Pinfold, 2000). This approach could certainly contribute to the quality of the results obtained, and in this way would enable more representative data on the basis of which it would gain an accurate insight into the social inclusion of young people, but would not reduce the contribution of this preliminary study.

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## ORIGINAL SCIENTIFIC PAPER

# Burnout Factors in Private Health and Fitness Centers' Sector: A Case Study in Greece

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## Abstract

The aim of the research was to investigate conceiving levels of Burnout, in employees in private fitness and health centers of the prefecture of Attica, Greece in relation with demographic factors such as gender, age, familial situation and level of education. Participants (n=185) answered in a demographic questionnaire and the MBI-GS (Maslach Burnout Inventory-General Survey) questionnaire in 16 questions, in reference to the three factors of the Burnout Syndrome, Emotional Exhaustion, Depersonalization, and Personal Accomplishments. The analysis of variation (ANOVA), did not show any significant statistical differences between the independent variables and the three factors of the dependent one. However, the agreement of results of the present research, with similar research in the public sector, as well as the differences that are presented concerning other occupational groups, tend in the affair of the relation of the content of work and environmental labor factors that are perhaps connected with the existence of Burnout.

**Key words:** *Exhaustion, Depersonalization, Cynicism, Stress*

## Introduction

Shirom (2005) agreed that a syndrome refers to a set of signs and symptoms that characterize a particular malfunction. Burnout Syndrome (BS) is characterized by Emotional Exhaustion (EE), depersonalization (D)/cynicism and reduced Professional Achievements (PA) and is derived from chronic exposure to stressors (Maslach, Schaufeli & Leiter, 2001). Chronic exposure to occupational factors, manifests BS and leads mathematically to the bad physical, the psychological and mental health state of the employee, and as a result to several disorders and health problems (Schaufeli & Bakker, 2004).

Although burnout was at first addressed to the human service professions, it can also be found in other types of occupations. Recently, the concept of burnout has also begun to appear frequently in the sport, health, and fitness industry services worldwide and recently in Greece (Kelley, Eklund, Ritter, & Taylor, 1999; Koustelios, 2010; Koustelios, 2001; Koustelios & Tsigilis, 2005; Koustelios, Zounatzi, & Karabatzaki, 2012; Martin, Kelley, & Dias, 1999; Tsigilis, Zournatzi, & Koustelios, 2011). Some similar researches have been contacted also

in Greece, in different occupational environments, also in the sports services area, but never before in the private sector of the health and fitness services centers. Several occupational as far as individual factors are responsible for the evolution of BS. Many studies in the past investigate some of the abovementioned factors intensively among them gender, age, marital status, type of employment and level of education.

Gender is most commonly the first factor concerning the interest of the researchers of the field. There are several results referred to participants' differences concerning gender which can also be a predictive factor of EE and D (Tang & Lau, 1996). Females show to be more vulnerable to EE than their males counterparts (Giacobbi Jr., 2009), while males seem to be more vulnerable to D than females do (Twellaar, Winants, & Houkes, 2008). Other results present that females employees may evolve higher levels of BS than males do (Bakker, Demerouti, & Schaufeli, 2002), and this is a factor which predicts work absence for females but not for males employees (Duijts, Kant, Landeweerd, & Swaen, 2006). In Greece, Antoniou (1999) agreed that female doctors showed higher levels of EE

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but on the contrary in the public sector of health and fitness centers employees, gender seems to have no differences considering both BS involvement and prediction (Koustelios, 2001).

The Burnout Syndrome shows different correlations with different age groups, with younger employees having higher EE and D and lower PA rates than older employees have (Maslach & Jackson, 1981). Age variable also is a predictive factor of BS, as younger employees showed high levels of BS while the older ones showed lower, with the high correlation between age and time of service, indicating that job experience acts as a deterrent to the emergence of BS (Randall, 2007; Rich & Rich, 1987), and lack of experience partly explains the negative correlation between age and BS (Bakker, Demerouti, & Schaufeli, 2002), with particular emphasis on the sub-scale of EE (Tuuli & Karisalmi, 1999) as younger employees experience higher work pressure from their older colleagues (Tomic, Tomic, & Evers, 2004). Concerning female participants in different age groups, (18-33, 34-49, 50-65), younger age groups had a negative correlation while for the older age groups had a positive correlation with BS, while male participants, showed a positive correlation in the middle age groups and no correlation for the other two age groups (Ahola, Honkonen, Virtanen, Aromaa, & Lönnqvist, 2008). In Greece, Antoniou (1999) in his results showed that younger ages' BS evolution is higher than older ages' are but Koustelios (2001) presented results showing that there was no correlation between the two variables concerning the employees in public gyms.

Marital status seems to affect the occurrence of BS since the employee has also to cope with another role such as that of the spouse or parent. In this sense, it is obvious why the emergence of high levels of labor-to-family conflict also anticipates increased levels of BS (Allen, Herst, Bruck, & Sutton, 2000). Data presented indicate that the marital status factor is significantly correlated with the sub-scale of EE. On the other hand, unmarried and divorced showed higher rates, both in the frequency and severity of EE than married did (Maslach & Jackson, 1981). In Greece Antoniou (1999) presents that unmarried evolves higher level of BS than married participants did.

Type of employment, as a characteristic of the work environment which contributes to the BS involvement, can be an extra potential stressor. Part time employees experience job insecurity, stigmatization, and social isolation because of their colleagues who believe that they have low skills levels. As a result, part-time and hourly wage-paid employees they do not

get the appropriate support on behalf of their colleagues and/or their supervisors (Crozier & Davidson, 2009). This will lead the non-full time employees to experience negative emotions and as a chain reaction to symptomatic behavior such as depression (Larson, 1993).

Concerning the factor of the level of education, graduates show higher levels of EE and lower levels of D than the less educated. In the sub-scale of PA, it was shown that the higher the employee's educational level is, the higher their performance (Maslach & Jackson, 1981). In Greece Antoniou (1999) agreed that medical occupation employees with lower educational level suffer more BS symptoms than their higher educated colleagues.

In conclusion, gender, age, marital status, type of employment and education levels, as research factors in correlation with the BS, give contradictive results, while there is not of wide scientific interest in the private sport, health, and fitness sector. Especially in Greece the literature is not as expanded as it should be. For this reason this research is constructed for.

**Methods**

The survey involved 185 employees in private gyms in the city of Athens, Greece, of which 93 (50.3%) males and 92 (49.7%) females. The sample was selected by gradual and random sampling. Selected method to measure burnout was that of self-completed questionnaires. Researchers informed all participants for the voluntary character of their participation and the confidentiality of the individual responses.

Two questionnaires distributed. The first was the demographic, which contained general questions concerning gender, age, marital status, type of employment, and level of education of employees. The second was the Maslach Burnout Inventory-General Survey Scale (MBI-GS) (Maslach, Jackson, & Leiter, 1996) in its Greek version (Αντωνίου & Ξέβου, 2008). For the analysis of the data, descriptive statistics with Mean Values and Standard Deviations as far as Analysis of Variation (ANOVA) for independent samples (sex, age, marital status, employment, work position and level of education) took place.

**Results**

Gender. ANOVA's results showed no statistically significant differences between males and females participants concerning the factors of the syndrome. Mean Values and Standard Deviations for Emotional Exhaustion, Depersonalization and Personal Achievements are shown in Table 1.

**Table 1.** Mean Values (M.V.) and Standard Deviations (S.D.) of MBI-GS factors and Gender (n=185)

Burnout Sub-scales	Gender			
	Males (n=93)		Females (n=92)	
	M.V.	S.D.	M.V.	S.D.
1. Emotional Exhaustion	2.82	1.35	2.86	1.33
2. Depersonalization	2.00	1.22	2.15	1.31
3. Personal Achievements	5.26	0.80	5.18	0.89

Emotional Exhaustion (F1,178 = .028, p = .868, MSE = 1.798), the Depersonalization (F1,180 = .347, p = .556, MSE = .716), and the Personal Achievements (F1,178 = .645, p = .423, MSE = 1,600).

Age. The Mean Values of the three factors of the MBI-GS scale were compared, based on two age groups, 18-32 and 33-47 of

the employees. The age group of 48+ consisted of only 6 people and it was excluded from the analysis. ANOVA's results did not show any statistically significant differences in all the three factors of the syndrome concerning the age groups.

**Table 2.** Mean Values (M.V.) and Standard Deviations (S.D.) of MBI-GS factors and Age (n=183)

Burnout Sub-scales	Age groups							
	Males				Females			
	18-32 (n=47)		33-47 (n=42)		18-32 (n=65)		33-47 (n=23)	
	M.V.	S.D.	M.V.	S.D.	M.V.	S.D.	M.V.	S.D.
1. Emotional Exhaustion	2.91	1.29	7.73	1.38	2.84	1.37	2.88	1.29
2. Depersonalization	2.13	1.29	1.97	1.18	1.94	1.24	2.65	1.36
3. Personal Achievements	5.09	0.94	5.42	0.59	5.14	0.96	5.28	0.65

Emotional Exhaustion, Personal Achievement and Depersonalization, respectively, relatively to age ( $F_{1,162} = .103$ ,  $p = .749$ ,  $MSE = 1.802$ ), ( $F_{1, 162} = 2.721$ ,  $p = .101$ ,  $MSE = 1.948$ ), ( $F_{1,162} = 1.737$ ,  $p = .189$ ,  $MSE = 1.574$ ).

Marital Status. ANOVA's results show no statistically

significant differences between different marital status employees concerning the subscales of BS. The mean values and standard deviations of emotional exhaustion, depersonalization and personal achievement according to marital status are shown in Table 3.

**Table 3.** Mean Values (M.V.) and Standard Deviations (S.D.) of MBI-GS factors and Family Status (n=178)

Burnout Sub-scales	Marital Status			
	Married (n=44)		Unmarried (n=134)	
	M.V.	S.D.	M.V.	S.D.
1. Emotional Exhaustion	2.76	1.49	2.87	1.29
2. Depersonalization	2.10	1.38	2.06	1.23
3. Personal Achievements	5.29	0.68	5.19	0.91

Results for Emotional Exhaustion, Depersonalization and Personal Achievement respectively ( $F_{1, 172} = .243$ ,  $p = .623$ ,  $MSE = 1.798$ ,  $F_{1, 173} = .446$ ,  $p = .505$ ,  $MSE = .733$ ,  $F_{1, 171} = .030$ ,  $p = .863$ ,  $MSE = 1.608$ ).

Type of employment. ANOVA's results show no statistically

significant differences in the type of employment (full time, part time and hourly wage paid) concerning the subscales of BS. Mean Values and Standard Deviations for Emotional Exhaustion, Depersonalization and Personal Achievements by type of employment are shown in Table 4.

**Table 4.** Mean Values (M.V.) and Standard Deviations (S.D.) of MBI-GS factors and Type of Employment (n=181)

Burnout Sub-scales	Type of Employment					
	Full time (n=87)		Part Time (n=55)		Hourly Wage (n=39)	
	M.V.	S.D.	M.V.	S.D.	M.V.	S.D.
1. Emotional Exhaustion	2.77	1.32	2.89	1.47	2.88	1.28
2. Depersonalization	2.03	1.29	2.05	1.43	2.19	0.95
3. Personal Achievements	5.10	0.81	5.36	0.70	5.16	1.10

Emotional Exhaustion ( $F_{2, 173} = .160$ ,  $p = .852$ ,  $MSE = 1,838$ ), Depersonalization ( $F_{2, 175} = 1,301$ ,  $p = .275$ ,  $MSE = .720$ ) and Personal Achievements ( $F_{2, 174} = .212$ ,  $p = .809$ ,  $MSE = 1.615$ ).

Education level. ANOVA's results show no statistically

significant differences between education level and BS' subscales. Mean Values and Standard Deviations for Emotional Exhaustion, Depersonalization and Personal Achievements according to the level of Education are shown in Table 5.

**Table 5.** Mean Values (M.V.) and Standard Deviations (S.D.) of MBI-GS factors and Education's level (n=177)

Burnout Sub-scales	Education Level			
	Up to secondary (n=39)		University or higher (n=138)	
	M.V.	S.D.	M.V.	S.D.
1. Emotional Exhaustion	2.54	1.27	2.89	1.33
2. Depersonalization	2.13	1.19	2.04	1.30
3. Personal Achievements	5.12	0.87	5.23	0.85

Emotional exhaustion ( $F_{1,170} = 2.106$ ,  $p = .149$ ,  $MSE = 1.734$ ), Depersonalization ( $F_{1,172} = 143$ ,  $p = .706$ ,  $MSE = 1.599$ ) and

Personal Achievements ( $F_{1, 171} = .466$ ,  $p = .496$ ,  $MSE = 1.599$ ).

## Discussion

The aim of the present study was to investigate the BS evolution within the context of private health and fitness centers in the city of Athens, Greece. The independent variables selected according to the literature referred to gender, age, marital status, type of employment and level of education, while the dependent variables consisted of the three sub-scales of BS, Emotional Exhaustion, Depersonalization, and reduced Personal Achievements.

Concerning the variable of gender, the results are contradictory in the sense that, although many previous results presenting either negative or positive correlation with BS in the past (Tang & Lau, 1996; Giacobbi, 2009; Twellaar et al., 2008; Bakker, Demerouti, & Schaufeli, 2002; Duijts et al., 2006; Antoniou, 1999), our results are in line only with Koustelios (2001), who agreed that in the same occupational sector, but in public health and fitness centers, there is no correlation between gender and BS.

Similarly, while there is extensive scientific results' literature with reference to the correlation of age and BS, our results show no significance at all. More specific, in our literature review, we recorded significant correlations between different age groups and BS sub-scales and we saw age factor to be predictive of BS (Ahola et al., 2008; Antoniou, 1999; Bakker et al., 2002; Maslach & Jackson, 1981; Rich & Rich, 1987; Tomic, Tomic, & Evers, 2004; Tuuli & Karisalmi, 1999). Though this, our results show again no correlation between age groups and BS.

Literature review presented contradictory results concerning a conflict between the different roles someone is supposed to play in daily life – employee, parent, partner etc.- as a factor of BS evolution (Allen, Herst, Bruck, & Sutton, 2000), while from the other side, partnership can provide social support in the context of the family and relief the employee from negative occupational effects (Antoniou, 1999; Maslach & Jackson, 1981). In our results there was no significance between the marital status of the participants and BS evolution.

A long discussion has been done, for the negative effects of part-time and hourly wage payment towards full-time employment status, with the first two types of employment to be mentioned as causal factors of insecurity and poor social support in the occupational environment, which lead to employee's poor health and symptomatic behavior (Crozier & Davidson, 2009; Larson, 1993). The results of the present research shown no significance between the three types of employment and BS.

Last but not least, and although there are scientific results' evidences for the correlation between the level of education and BS and its sub-scales as much internationally (Maslach & Jackson, 1981) as in Greece Antoniou (1999), the results presented above so no statistical significance between the education factor and BS.

In total all the five factors investigated gave no statistically significant differences. These results are, contradictory to the majority and only partly matching with the minority, of previous research results. Investigating five common factors, without any statistical significance, it may pinpoints that there are other factors that they may correlate with the absence of BS in the private sport services sector, which are in our interest of a future research. The majority of the par-

ticipants were Physical Education teachers, which explains the high rate of university education level in the sample. The type of employment may not cause an effect because of a second job existing or because this is the second job. Differences concerning the age groups may not appear because the older age group consisted of only six persons. This is maybe because of the nature of the job, as a trainer must be physically fit and endurable to complete his duties in a proper way, something that also matches with the younger ages.

Although there are some explanations can be given, these are based upon assumptions and not proofs. It would be wiser if in a future research, the factors investigated would be organizational factors like organizational environment, organizational culture and job content of health and fitness centers and their employees. This will help us to understand the wider concept of sports services industry and the reasons why there are so many contradictory results with other researches concerning the evolution of BS.

Finally, it has to be mentioned that these results cannot be generalized due to the nature of the sample which is taken only from the city of Athens and not from representative regions all over Greece. Despite the abovementioned restriction, this research presents that socio-demographic factors do not evolve BS in the concept of the private sport, health, and fitness sector. In parallel with results of the same type of researches in the public sector which show the same direction, it can be assumed, that other organizational factors may contribute in the opposite direction of BS evolution. Future researches should move towards the path of the organizational environment of the sport, health, and fitness services and make clear which factors affect the moderation of BS evolution positively. If these factors can be identified and screened, they can also be used as an antidote against BS evolution, not only in the sport services spectrum but in every organizational environment.

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### Conflict of Interest

The authors declare that there are no conflicts of interest.

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## ORIGINAL SCIENTIFIC PAPER

# Faculty Education of Sports Journalists in Montenegro and Serbia

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## Abstract

In this paper we will examine the study of sports journalism in our country and in the world. In the United States there is sports journalism as a special study program at faculties of journalism, it lasts for four years and it is represented at well-known universities. It takes two years to acquire a master's degree. Their studies include subjects about sports discipline, besides multimedia subjects, and obligatory professional practice. In England, the biggest difference is that obtaining a bachelor's degree requires three years of schooling. In the region, there is a study programs of sports journalism at the Faculty of Sports and Physical Education in Niksic since 2007, as well as at a private University Union in Belgrade. Many leading journalists in sports and informative journalism studied at the Faculty in Niksic. Regarding to the region, while we were analyzing the study program in Niksic, we noticed a greater number of subjects in sports science than in journalism. The number of sports subjects is almost symbolically smaller at the Belgrade University. Unlike before, the Montenegrin study program is now academic and free for students enrolled regularly, who study together with sports trainers for the first two years, and in the third year they choose a sports journalist module.

**Key words:** *Sport, Journalist, Education, Montenegro*

## Uvod

U vremenu iščezavanja specijalizacije novinara na balkanskim prostorima, mada je pitanje i u kojoj su mjeri oni zaista bili u pravom smislu specijalizovani, jedino su sportski novinari opstali kao struka. „Novinar ne može s jednakom sposobnošću pratiti sva zbivanja i biti istodobno stručnjak za kulturu, sport, unutarnju politiku i zdravlje. Kako bi se izbjeglo svaštarenje, specijalizacija novinara za određena područja u novinarstvu se primjenjuje još od 1830. godine“ (Vasilj, 2014). Teoretičar Marko Sapunar u posebne vrste novinarstva, osim sportskog, navodi: poslovno, vjersko, obrazovno i vojno (Sapunar, 2004). “U procesu dobre promocije su nezamjenljivi mediji, jer oni informišu, animiraju i na taj način rekreiraju javnost. Prikazujući sportske programe, sa nacionalnim ili međunarodnim sadržajem, postižu rekordnu gledanost i profitiraju odmah ili kasnije” (Maros, 2015)

Potreba za obrazovanim sportskim novinarima se na našim prostorima pojavila u posljednjih nekoliko godina. Poznata je činjenica da je sport fenomen koji privlači veliku pažnju. Miroslav Vasilj (2014) u svojoj knjizi „Sportsko novinarstvo“ ističe da sportsko novinarstvo ima poseban status zbog brojne publike i da teoretičari medija na ovim prostorima ne posvećuju puno pažnje ovoj vrsti novinarstva. On je ovu knjigu posvetio studentima novinarstva, odnosa s javnošću, komunikologije, ali i sportskim novinarima sa iskustvom. U svijetu, a posebno u Americi i Engleskoj, odavno postoje specijalizovani studijski programi i škole za obrazovanje sportskih novinara. U Americi sportsko novinarstvo uglavnom postoji kao poseban studijski program na fakultetima novinarstva. Studentima, koji žele da budu budući diplomirani sportski novinari, nudi se veliki izbor univerziteta, a neki od najpoznatijih su državni Univerzitet u Teksasu, Pensilvaniji, Indijani, Merilendu, Univerzitet Maršal i privatni Univerzitet Vebster.

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**Montenegro  
Sport**



**Slika 1.** Univerzitet u Teksasu (Source: University\_of\_texas\_at\_austin\_main\_building\_2014, 2015)

Za dobijanje bečelor diplome potrebne su četiri godine školovanja i tokom tog perioda studenti slušaju predavanja o medijima, masovnim komunikacijama i medijskoj produkciji (McElroy, 2019). Predavanja pokrivaju i atletske aspekte sportova, poput kineziologije. Od studenata se traži i obavljanje stručne prakse da bi dobili bečelor diplomu. Za dobijanje master diplome iz sportskog novinarstva obično je potrebno dvije godine, a od studenata se traži da istražuju uticaj sporta na društvo iz sociološke perspektive. Studenti uče i istražuju o sportskom biznisu i ekonomiji, ulozi sporta u obrazovnom

sistemu i psihološkim aspektima sportova. Da bi stekli diplomu, studenti moraju napraviti projekat profesionalnog izvještavanja i takođe imaju mogućnost obavljanja stručne prakse. Prema podacima Nacionalnog centra za obrazovanje Amerike iz 2015/2016. godine najskuplja školarina je bila na Univerzitetu u Teksasu. Školarina za domaće studente je iznosila 9,806\$, a za strane studente čak 34,676\$. Najmanja školarina je bila na Univerzitetu Maršal, a iznosila je 6,814\$ za domaće i 15,602\$ za strane student (National Center for Education Statistics, n.d.).



**Slika 2.** Univerzitet Maršal (Source: Marshall University Old Main Building, 2019)

U Engleskoj, na gotovo svim univerzitetima, postoji sportsko novinarstvo kao poseban studijski program. Za razliku od Amerike, u Engleskoj vam je potrebno obično tri godine da biste dobili bečelor diplomu (University of Brighton, n.d.). Studenti uče kako da postanu multimedijalni novinari, slušaju predavanja o štampanom, radijskom, televizijskom i internet novinarstvu. Predavanja o društvenim medijima i digitalnoj tehnologiji se drže tokom kompletnog školovanja (University

of Lincoln, n.d). Na posljednjoj godini studija studenti imaju mogućnost da biraju između pisanja diplomskog rada ili produženog praktičnog rada, da bi diplomirali. Stručnjaci i iskusni sportski novinari iz BBC-a, The Sun-a, Sky Sports-a, The Daily Telegraph-a, itd. često gostuju na predavanjima i dijele iskustva sa studentima (University of Gloucestershire, n.d.). Školarina je otprilike ista na gotovo svim univerzitetima. Za domaće studente iznosi oko 9,000£, a za strane oko 15,000£.



**Slika 3.** Univerzitet u Gločesterširu (Source: Visit us | University of Gloucestershire, 2019)

Kad govorimo o regionu, ranije je program Sportskog novinarstva postojao na Fakultetu sporta Univerziteta u Sarajevu, a sada jedino na Fakultetu za sport Univerziteta "Union – Nikola Tesla" u Beogradu. U Crnoj Gori, Sportsko novinarstvo, kao poseban, primijenjeni studijski program, izučava se na Fakultetu za sport i fizičko vaspitanje u Nikšiću od 2007. godine. Studenti su slušali predavanja o medijima i o pojedinim aspektima sportova u šest semestara, a školarina je iznosila 1000€ po godini. Ovaj studijski program trajao je tri godine, a po završetku studenti su dobijali bečelorsku diplomu. Prvi bečelorski sportskog novinarstva završili su studije 2009. i to Tatjana Drašković, Suzana Novaković i Milivoje Kovačević (Ljubojević et al., 2018). Ovaj program je trajao 10 godina, do reformisanja nastavnih programa na Univerzitetu Crne Gore, kada su studije sportskog novinarstva transformisane u akademske i time postao besplatan za upisane na prvoj godini i redovno upisane studente na drugoj i trećoj, a prve dvije godine su zajedničke sa sportskim trenerima (Ljubojević et al., 2018).

## Metod

U ovom radu se obrazovni programi za sportske novinare u svijetu i kod nas, nastoje analizirati klasifikacijom, podjelom na sportske, novinarske i opšte. Za model su uzeti reformisani program za sportske novinare Fakulteta za sport i fizičko vaspitanje u Nikšiću i Fakulteta za sport Univerziteta "Union – Nikola Tesla" u Beogradu, koji su jedini studiji za obrazovanje novinara u regionu.

## Rezultati

Od 2017. godine studije Sportskog novinarstva na Univerzitetu Crne Gore su akademske i besplatne. Na prvoj i drugoj godini postoji program Sportski novinari i treneri, koji na trećoj godini se pretvara u dva zasebna modula, od kojih je jedan Sportski novinari. U okviru prve dvije studijske godine su predmeti isključivo sportske prirode, osim komunikacija u sportu, koji se može posmatrati komunikološkim. Predmeta iz sportskih nauka je na prve dvije studijske godine 18, i oni su na Fakultetu za sport i fizičko vaspitanje u Nikšiću zajednički sportskim novinarima i trenerima (Tabela 1).

**Tabela 1.** Sportski predmeti na studijskom programu Sportski novinari i treneri, Fakultet za sport i fizičko vaspitanje Nikšić

1. godina		2. godina	
1	Teorija tjelesnog vježbanja i sporta		Antropomotorika
2	Društveni odnosi u sportu		Pedagogija sporta
3	Istorija sporta i olimpizam		Antropologija tjelesnog vježbanja i sporta
4	Sportski menadžment		Taktika u sportu
5	Korektivna gimnastika I		Selekcija u sportu
6	Psihologija tjelesnog vježbanja i sporta		Istraživanja u sportu
7	Sportski trening		Etika u sportu
8	Korektivna gimnastika II		Teorija i pravila sportskih igara
9			Teorija i pravila individualnih sportova
10			Zimski sportovi

Studij Sportskog novinarstva postoji kao četvorogodišnji studij na Fakultetu za sport Univerziteta "Union – Nikola Tesla" u Beogradu, nakon kojeg studenti stižu

zvanje diplomirani sportski novinar. Predmeta iz sportskih i njima bliskih nauka je ukupno 10 u osam semestara (Tabela 2).

**Tabela 2.** Sportski predmeti na studijskom programu Sportski novinari, Fakultet za sport Beograd

Naziv predmeta			
1. godina	Sociologija sporta	Teorija sporta	Istorija sporta i olimpizam
2. godina	Menadžment u sportu	Teorija sportskog treninga	Fiziologija sa biohemijom sporta
3. godina	Marketing i promocija u sportu	Sportski turizam	Pravila u individualnim sportovima
4. godina	Pravila u kolektivnim sportovima		

Predmeti na trećoj godini Sportskog novinarstva na Fakultetu za sport i fizičko vaspitanje u Nikšiću su isključivo novinarski ili bliski njima, a ima ih devet. Sa komunikacijama u sportu, sa prve godine, ukupno je deset predmeta iz oblasti komunikacija i medija. Studenti Sportskog novinarstva sa Fakulteta za

sport u Beogradu imaju obavezu pohađanja i polaganja ukupno 13 predmeta na prve tri godine, odnosno 18 novinarskih (neki su alternativno postavljeni sa sportskim) ili sličnih predmeta na sve četiri godine studija (Tabela 3).

**Tabela 3.** Komunikacijski/novinarski predmeti na studijskim programima za sportske novinare, Fakultet za sport i fizičko vaspitanje Nikšić i Fakultet za sport Beograd

Godina	Fakultet za sport i fizičko vaspitanje Nikšić (UCG)	Fakultet za sport (Univerzitet "Union-Nikola Tesla")
1-3	Komunikacije u sportu	Komunikologija
	Uvod u novinarstvo	Osnovi novinarstva
	Funkcionalni stilovi publicističko-novinarski	Stilistika i retorika
	Teorije i tehnike novinarstva	Teorija i tehnike novinarstva
	Stilistika i retorika	Pismeno i usmeno izražavanje
	PR u sportu	Novinarske forme
	Jezik masovnih medija	Pravo novinarstva/Razvijanje istraživačkih veština u novinarstvu

(nastavak je na sledećoj strani)

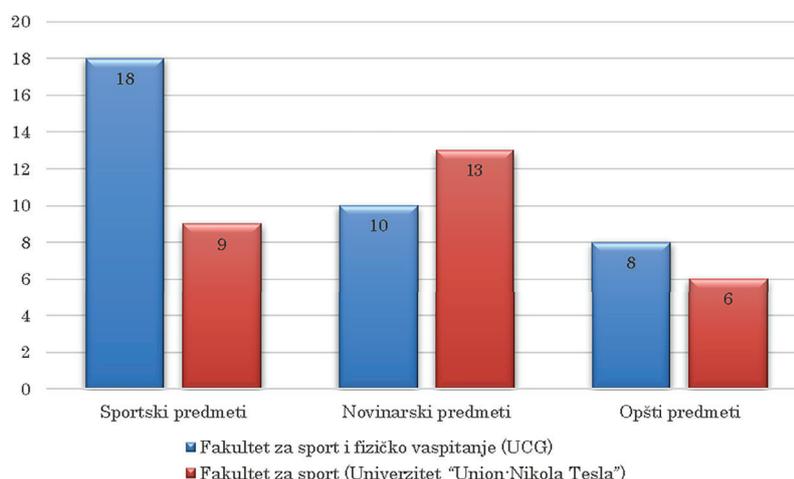
*(nastavak sa prethodne strane)*

Godina	Fakultet za sport i fizičko vaspitanje Nikšić (UCG)	Fakultet za sport (Univerzitet "Union-Nikola Tesla")
1-3	Štampa i agencije Elektronski mediji Pisanje za štampane medije	Sportsko novinarstvo u štampanim medijima Poslovna komunikacija Agencijsko novinarstvo PR u novinarstvu / Javno mnjenje Sportske vesti i izveštavanje Etika i kodeks novinarstva
4		Sportsko novinarstvo u online magazinima i internetu Sportsko TV novinarstvo Sportsko radio novinarstvo Multimediji i grafika / Menadžment u medijima Uređivačka politika

## Diskusija

U pristupu koncipiranju programa za sportske novinare, nužno je pristupiti holistički, odnosno sveobuhvatno, jer je upravo holističko obrazovanje osmišljeno kao cjelovito, univerzalno i ukorijenjeno na načelima održivosti što u potpunosti počiva na humanim, društvenim i demokratskim vrijednostima, a u čijem je središtu student kao cjelovito ljudsko biće (Vukić, 2017). "Kako bi na što profesionalniji način obavljali svoj posao, sportski novinari trebaju imati određene kompetencije, znanja i vještine, neki od najvažnijih: poznavanje sporta, razumijevanje potreba recipijenta, poznavanje retoričkih pravila, poznavanje specijalnih vještina, tehnike pisanja i dobro poznavanje medija, opšta naobrazba, razvijanje osobnosti i vlastitoga stila rada, korištenje statistikom i pridržavanje zadanih rokova" (Vasilj, 2014). Dakle, to su vještine koje podrazumijevaju zainteresovanost za sport, opšte obrazovanje i novinarsku stručnost, što je sve izuzetno bitno za sportskog novinara u novom tehnološkom okruženju.

Analizom programa sportskog novinarstva u okviru akademskog obrazovanja na Univerzitetu Crne Gore može se ustvrditi da je broj novinarskih predmeta značajno manji u odnosu na predmete iz sportskih nauka, njih je deset (28%), dok je 18 sportskih (50%) a osam je opštih (22%), među kojima dominira engleski jezik koji je u svakom semestru. Analizom programa za sportske novinare na Fakultetu za sport Univerziteta „Union-Nikola Tesla” u Beogradu, sportskih predmeta je devet na prve tri godine (32%), a svega deset na sve četiri godine studija, dok je novinarskih 13 na prve tri godine (46,5%), odnosno 18 na sve četiri godine. Opštih predmeta je šest (21,5%), a to su informatika sa statistikom, uvod u menadžment, upravljanje ljudskim resursima i strani jezik na svakoj godini (Slika 4). Mogli bi konstatovati da nije dobra krajnost ni u jednom slučaju, odnosno da bi balans u brojčanom koncipiranju predmeta iz sportske i novinarske nauke bio idealan, te doprinio boljem obrazovanju koje je na dva kolosjeka.



**Slika 4.** Odnos sportskih, novinarskih i opštih predmeta na studijskim programima za sportske novinare Fakulteta za sport i fizičko vaspitanje u Nikšiću i Fakulteta za sport u Beogradu, na prve tri godine osnovnih studija

Novim programom, od 2017. godine studenti sportskog novinarstva, zajedno sa sportskim trenerima, prolaze sportsku obuku na prve dvije godine osnovnih studija. Početak novinarske obuke tek na trećoj godini pokazaće se da li je opravdan. Dosadašnji program je imao kao manu to što su studenti tokom sve tri godine imali kombinaciju obje vrste predmeta, zbog čega su oni sport, a ne novinarstvo, vidjeli kao motiv, za ovaj studij, čak i na trećoj godini kad stiču diplomu sportskog novinara. Dobra sportska obrazovanost na prve dvije godine uz permanentnu

isključivo novinarsku nadogradnju na trećoj godini, možda će dati bolje rezultate, a to će pokazati evaluacija. Odabir studenata za akademski, umjesto za primijenjeni studij kakav je do sada bio, trebalo bi da rezultira i studentima sa boljim uspjehom u srednjoj školi prilikom upisa studija, mada u to ne možemo biti sasvim sigurni. "Pošto završavam osnovne studije sportskog novinarstva, rado bih upisala master iz iste oblasti na istom fakultetu" (Djukic, T., personalna komunikacija). Sve u svemu, ako i dalje bude solidnog interesovanja za sportsko novinarstvo kao

studij u Crnoj Gori, možda bi u budućnosti trebalo razmišljati o pokretanju master studija sportskog novinarstva, odnosno IV i V godine, jer do sada bečelori sporskog novinarstva su mogli diplomirati na svom fakultetu jedino sportski menadžment ili sport i fitness, zato što su studirali primijenjene studije. Transformacijom programa sportskog novinarstva iz primijenjenog u akademski studij, otvara im se mogućnost nastavka školovanja na Medijskim studijama i novinarstvu na Fakultetu političkih nauka u Podgorici (Univerzitet Crne Gore), naravno, ako uspjehom na osnovnim studijama budu zavrijedili da se nađu na rang listi "iznad crte" među studentima u okviru predviđene upisne kvote.

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#### Conflict of Interest

The authors declare that there are no conflicts of interest.

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## ORIGINAL SCIENTIFIC PAPER

# Differences in Some Morphological Characteristics and Body Mass Index in Children of Younger School Age with Reference to Their Gender

Boris Banjevic<sup>1</sup><sup>1</sup>Army of Montenegro, Airforce military of Montenegro, Podgorica, Montenegro**Abstract**

Kinesiologists have long ago noticed the great importance of determining and comparing parameters of growth and development in certain age of school children and youth. The aim of the research is to determine eventual existence of statistically significant differences in morphological characteristics and body mass index with boys and girls of younger school age. The research has been performed on a sample of 60 students divided into two groups: 32 boys and 28 girls from the second and third grade of the Primary school "Jagos Kontic" from Nikšić. Morphological characteristics were evaluated by a battery of four variables: body height, body weight, waist circumference and hip circumference. The values of the body mass index have been calculated. The significance of the differences between gender was determined by t-test for small independent samples. Significant differences have been established in the body height and waist circumference in favour of boys. The obtained data about nourishment based on the body mass index (BMI) indicate a high percentage of normal nutritional status for the complete sample of the examinees. The obtained results of research confirm the need to perform a more comprehensive research of morphological indicators in this age.

**Key words:** *Morphological Characteristics, Body Mass Index, Younger School Age*

**Uvod**

Procesi rasta i razvoja dece su u interakciji, pa je neophodno poznavati ne samo kvantitativne nivoe, nego i prirodu relacija morfološkog i funkcionalnog sazrevanja dece, kako u određenom uzrastu, tako i po polu (Bala, 2009; Bjelica i Petković, 2009). Redovno praćenje telesnog rasta i razvoja, počevši od dijagnostičke evaluacije (inicijalnog praćenja), doprinosi detekciji abnormalnosti rasta i razvoja, ranoj identifikaciji gojaznosti i pothranjenosti (NCD Risk Factor Collaboration, 2019). Ona omogućava individualniji pristup učenicima i kvalitetnije programiranje nastave fizičkog vaspitanja (Smajić i sar., 2017).

Definisati zdravlje samo u smislu odsustva bolesti, potpuno je pogubno i neodgovorno (Bjelica i Krivokapić, 2010). Jedna od glavnih komponenti pravilnog tjelesnog

sazrijevanja djeteta je stvaranje uslova za pravilan rast i razvoj, što će doprinijeti skladnom psiho-fizičkom dignitetu svake jedinice ponaosob (Bjelica, 2006). U današnjem vremenu je prisutan sve veći broj remetilačkih faktora pravilnog tjelesnog sazrijevanja kod djece mlađeg školskog uzrasta (Lovric, Mandić Jelaska, & Bilic, 2018). U prilog takvoj konstataciji stoji i činjenica da se upravo radi o jednom od kritičnih perioda za nastanak negativnih posturalnih promjena, što je svakako uzročno-posljedično vezano sa parametrima rasta i razvoja.

Utvrđivanje stanja uhranjenosti bi trebalo, zbog same jednostavnosti primene i upotrebljivosti rezultata, češće realizovati u smislu prevencije i predupređivanja određenih stanja. U ekspanziji su problematični socijalni uslovi kao posledica masovne urbanizacije i uticaja zapadne kulture u svim oblastima života, a naročito među školskom djecom

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koja su hipersenzibilna na svjetske trendove. Ovi pomenuti trendovi su integralni deo "nutritivne tranzicije", koja, udružena sa sedentarnim načinom života (deficit fizičke aktivnosti), nosi multiple rizike po zdravlje. Na taj način, pojam zdravlja gubi smisao, jer mladost i odsustvo bolesti više nisu sinhroni indikatori kvaliteta života (Gligorijević, 2008).

U novije vrijeme se nekoliko studija bavilo sagledavanjem rasta i razvoja djece mlađeg školskog uzrasta (Božić-Krstić, Rakić i Pavlica, 2003; Bigović, 2004; Bigović, Obradović i Krsmanović, 2007; Gligorijević, 2008; Stojanović i Zrnzević, 2010; Vasić i sar., 2011, B. Krsmanović, Batez i T. Krsmanović, 2011; Vasiljević, Vukičević i Stoisavljević, 2015; Ješić, 2017; Smajić i sar., 2017). U ovim studijama se osim utvrđivanja nivoa morfoloških pokazatelja, vršilo i njihovo upoređivanje u odnosu na pol.

Morfološke karakteristike dece mlađeg školskog doba vrlo su značajne za realizaciju motoričkih struktura u kojima one predstavljaju realnu biomehantičku osnovu, kako kao faktori koji olakšavaju, tako i kao faktori koji otežavaju izvođenje motornih zadataka (Smajić i sar., 2017; Arifi, Bjelica, & Masanovic, 2019). U skladu sa tom činjeničnom postavkom koja ukazuje na izuzetan značaj praćenja parametara rasta i razvoja i interesovanjem autora rada, definisan je predmet ovog istraživanja, koji se odnosi na uži prostor morfoloških pokazatelja u čijoj strukturi su jedan parametar longitudinalne dimenzionalnosti i tri parametra mase i volumena tijela.

S obzirom da se radi o uzrasnoj dobi ujednačenog razvoja psihosomatskog statusa u odnosu na pol, a imajući u vidu rezultate pojedinih studija koji ukazuju da u pojedinim slučajevima ipak dolazi do izvjesne polne diferencijacije u smislu postojanja morfoloških razlika, postavljen je cilj istraživanja. On podrazumijeva definisanje eventualnih razlika u morfološkim karakteristikama i uhranjenosti kod dječaka i djevojčica mlađeg školskog uzrasta, na osnovu antropometrijskih mjera i indeksa tjelesne mase (BMI). Zapravo, žele se provjeriti tvrdnje prethodnih studija (Bigović, 2004; Zrnzević, 2006; Gligorijević, 2008; B. Krsmanović, Batez i T. Krsmanović, 2011) u kojima je utvrđeno postojanje rodni razlika kada su u pitanju pojedine morfološke karakteristike djece mlađeg školskog uzrasta. U ostvarivanju cilja postavljeni su sljedeći zadaci: utvrditi nivo morfoloških karakteristika učenika, utvrditi nivo morfoloških karakteristika učenica, utvrditi nivo uhranjenosti na osnovu izračunavanja indeksa tjelesne mase (BMI) i utvrditi razlike u morfološkim karakteristikama između učenika i učenica.

## Metod

U radu je korišćen eksperimentalni metod, a za prikupljanje podataka antropometrijska mjerenja po metodi Inrernacionalnog biološkog programa (IBP).

Uzorak ispitanika sačinjavali su učenici i učenice drugih i trećih razreda OŠ "Jagoš Kontić" iz Nikšića. Prosjek godina starosti ispitivanog uzorka je osam. Uzorak je podijeljen na dva subuzorka, i to: subuzorak od 32 učenika i subuzorak od 28 učenica. Učenici su dobrovoljno i uz saglasnost roditelja učestvovali u istraživačkom postupku i redovno su pohađali nastavu fizičkog vaspitanja.

Mjerenje je sprovedeno u fiskulturnoj sali OŠ "Jagoš Kontić", a djeca su bila odjevena u sportskoj opremi predviđenoj za realizaciju časa fizičkog vaspitanja.

Uzorak mjera su činili sljedeći morfološki pokazatelji: ATV-tjelesna visina, ATT-tjelesna težina, AOS-obim struka i AOK-obim kukova. Tjelesna visina je mjerena antropometrom. Ispitanici su stajali bosu na ravnoj podlozi, u uspravnom stavu, relaksiranih ramena i sastavljenih peta. Glava im je bila namještena tako da je frankfurtska horizontala bila u vodoravnom položaju. Tjelesna težina je mjerena medicinskom vagom, pri čemu su ispitanici stajali bosu na njoj, mirno i u uspravnom stavu. Obim struka i obim kukova su mjereni neelastičnom santimetarskom trakom, za prvu mjeru na sredini rastojanja karličnog vrha i grudnog koša, odnosno, za drugu mjeru iznad linije koja razdvaja butinu od sedalne regije na tački gdje je maksimalan obim preko stražnjeg dijela. Za procjenu uhranjenosti izračunat je BMI-indeks tjelesne mase.

Dobijeni rezultati su najprije uređeni, a zatim statistički obrađeni na personalnom računaru pomoću statističkog paketa SPSS 17.0. Izračunati su centralni i disperzioni parametri varijabli, a za utvrđivanje razlika u antropometrijskim karakteristikama, primijenjen je t-test za nezavisne uzorke. Body mass index (BMI) je metoda indeksa korišćena kao dopunska metoda za ocjenjivanje stanja uhranjenosti ispitanika, pri čemu je klasifikacija istih izvršena prema prihvaćenim vrijednostima prekomjerne uhranjenosti i gojaznosti za djecu i adolescente (Vasić i sar., 2011; Cole, 2000), a koje su u skladu sa preporukama evropskog Centra za prevenciju i kontrolu bolesti.

## Rezultati

U tabelama 1 i 2 prikazani su osnovni statistički deskriptivni parametri morfoloških varijabli za subuzorke učenika i učenica, gdje su izračunate mjere centralne i disperzione tendencije i to: aritmetička sredina (Mean), standardna devijacija (S.D.), varijansa (Variance), minimalne (Min) i maksimalne (Max) vrijednosti, koeficijenti nagnutosti (Skewness) i zakrivljenosti (Kurtosis).

Prema vrijednostima skjunisa koje imaju pozitivan predznak za sve varijable, uviđa se pozitivna asimetrija sa dominacijom slabijih rezultata, dok pozitivna vrijednost kurtosisa kod svih varijabli ukazuje na leptokurtičnost koju karakteriše izrazita homogenost rezultata (Tabela 1).

**Tabela 1.** Centralni i disperzioni parametri antropometrijskih varijabli učenika

Variable	Min	Max	Mean	S.D.	Variance	Skewness		Kurtosis	
						Stat.	S.E.	Stat.	S.E.
AVT	117.5	148.7	133.4	6.91	47.75	.063	.414	.117	.809
ATT	22.0	54.2	29.3	6.68	44.70	1.99	.414	5.25	.809
AOS	50.0	89.8	61.3	8.89	79.13	1.77	.414	3.13	.809
AOK	54.1	88.0	61.9	7.20	51.97	2.07	.414	4.87	.809
BMI	13.4	26.4	16.2	2.67	7.14	2.43	.414	6.62	.809

Legenda: Min. – minimalan rezultat; Max. – maksimalan rezultat; Mean – aritmetička sredina; SD – standardna devijacija; Variance – varijansa; Skwness – Mjera asimetrije; Kurtosis – Mjera spljoštenosti.

Na osnovu pozitivnih vrijednosti skjunisa, kao i kod subuzorka učenika, zapaža se pozitivna asimetrija sa dominacijom slabijih rezultata. Negativna vrijednost kurtosisa za varijablu visina tijela (AVT) ukazuje na platicurtičnost

i heterogenost rezultata. Kod ostalih varijabli se na osnovu pozitivnih vrijednosti kurtosisa zapaža homogenost, koja je naročito izražena za varijablu indeks tjelesne mase (Tabela 2).

**Tabela 2.** Centralni i disperzioni parametri antropometrijskih varijabli učenica

Variable	Min	Max	Mean	S.D.	Variance	Skewness		Kurtosis	
						Stat.	S.E.	Stat.	S.E.
AVT	117.6	143.7	130.1	6.48	42.11	.061	.441	-.29	.858
ATT	20.3	44.9	26.8	5.74	32.98	1.50	.441	2.39	.858
AOS	50.6	73.8	57.1	6.12	37.55	1.24	.441	1.11	.858
AOK	51.2	75.8	59.1	6.11	37.37	.95	.441	.67	.858
BMI	13.6	24.5	15.6	2.36	5.61	2.34	.441	6.43	.858

Na osnovu dobijenih vrijednosti za indeks tjelesne mase (Tabela 3), uviđa se da je najveći broj ispitanika oba subuzor-

ka (27 dječaka-84,38% i 23 djevojčice-82,14%) skoncentrisan u kategoriji normalna uhranjenost.

**Tabela 3.** Nivo uhranjenosti za učenike i učenice mlađeg školskog uzrasta

Uzorak	Pothranjenost <5	Normalna uhranjenost 5-85	Prekomjerna težina 85-95	Gojaznost >95
Učenici	1 (3.12%)	27 (84,38%)	3 (9.37%)	1 (3.12%)
Učenice	1 (3,57%)	23 (82,14%)	3 (10.71%)	1 (3.57%)
Zbirno	2 (3%)	50 (83%)	6 (10%)	2 (3%)

Prema dobijenim rezultatima T-testa i osnovne statistike za definisane subuzorke (Tabela 4), konstatovane su statistički značajne razlike u varijablama visina tijela (AVT) i obim struka

(AOS), u korist ispitanika muškog pola. U ostalim varijablama značajna razlika nije pronađena.

**Tabela 4.** Vrijednosti t-testa između aritmetičkih sredina varijabli za procjenu morfoloških karakteristika i indeksa tjelesne mase (BMI) učenika i učenica mlađeg školskog uzrasta

Variable	F	t	df	Sig.	Mean D.	S.E.D.
AVT	.007	1.96	58	.054	34.11	17.34
ATT	.128	1.54	58	.129	2.49	1.62
AOS	1.360	2.07	58	.043	41.48	20.00
AOK	.016	1.62	58	.109	28.27	17.39
BMI	.014	.92	58	.358	.60	.61

Legenda: F – F vrijednost; Sig. – signifikantnost; t – t vrijednost; df – stepeni slobode; Mean D. – razlike aritmetičkih sredina; S.E.D. – standardna greška razlike.

## Diskusija

Stav Svjetske zdravstvene organizacije je da u smislu adekvatnog praćenja akceleracije rasta i razvoja, treba primjenjivati komparacije sa definisanim nacionalnim standardima za određeni uzrast, kako bi se anuliralo dejstvo mnogobrojnih etnografskih razlika. Dobijeni rezultati u ovoj studiji su upoređivani sa rezultatima sličnih istraživanja iz okruženja i dostupnih standarda za pojedine parametre.

Na osnovu prikazanih rezultata deskriptivnih statističkih pokazatelja za subuzorak učenika, uviđa se da je prosječna vrijednost visine tijela 133,4 cm. Zrnzević (2006) je dobila prosječnu visinu za učenike istog uzrasta 134,9 cm, a rezultati i ostalih studija iz okruženja pokazuju razliku u odnosu na prosječnu visinu učenika u ovoj studiji, međutim ista nije na nivou statističke značajnosti. Na osnovu podataka Nacionalnog centra za zdravstvenu statistiku (Hejvud i Gečel, 2017), za navedeni uzrast se konstatuje raspon vrijednosti tjelesne visine 117-138 cm. Zanimljivo je istaći da se minimalne vrijednosti visine tijela ispitanika obuhvaćenih njihovom studijom, gotovo podudaraju sa minimalnom visinom ispitanika obuhvaćenih ovom studijom

(117,5 cm), dok maksimalne vrijednosti visine tijela učenika obuhvaćenih ovom studijom (148,7 cm) premašuju gornju granicu visine tijela ispitanika njihove studije. Napredovanje fenomena akceleracije u tjelesnoj visini djece mlađeg školskog uzrasta, može se utvrditi poređenjem rezultata ovog istraživanja sa Normativima antropometrijskih mjera djece i omladine u SFRJ iz 1962. godine (Medved, 1979). Naime, prosječna vrijednost za visinu učenika od osam godina iznosila je 125,7 cm, što je 7,7 cm manje od dobijenih vrijednosti u ovoj studiji. Ova razlika je u potpunosti u saglasju sa konstatacijom antropologa, da je prethodni vijek donio bitno ubrzanje rasta u populaciji industrijski razvijenih zemalja-prosjek 1-1,2 cm za jednu deceniju. Kada je u pitanju tjelesna visina učenica, prosječna vrijednost za visinu tijela je 130,1 cm, što je niža vrijednost od rezultata pojedinih studija iz Srbije i Bosne i Hercegovine, koje pokazuju veće vrijednosti od navedene 2-4 cm (Stojanović i Zrnzević, 2010; Vasić i sar., 2011; Gligorijević, 2008). Prateći pojavu višedecenijske akceleracije tjelesne visine u odnosu na utvrđene normative iz 1962. godine (Medved, 1979), konstatuje se da je njen prirast kod učenica ove studije 5,22 cm.

Prosječna tjelesna težina učenika je 29,3 kg što je manje za 1-4 kg u odnosu na rezultate pojedinih studija iz Srbije (Gligorićević, 2008; Ješić, 2017). Upoređujući srednje vrijednosti u odnosu na pokazatelje iz 1962. godine (Medved, 1979), zaključuje se prirast tjelesne težine učenika za 3,86 kg. Sa druge strane, prosječna vrijednost težine tijela učenica obuhvaćenih ovom studijom iznosi 26,8 kg, što je za 2-4 kg manje u odnosu na rezultate sličnih istraživanja iz okruženja (Vasić i sar., 2011; Ješić, 2017). U smislu praćenja akceleracije ovog morfološkog parametra, a na osnovu komparacije sa pokazateljima iz 1962. godine (Medved, 1979), zaključuje se prirast kod učenica ove studije za 2,12 kg.

Dobijeni rezultati za morfološke pokazatelje obim struka i obim kukova su upoređeni sa vrijednostima dobijenim u studiji antropometrijske analize učenika u ruralnom području (Vasić i sar., 2011). Srednje vrijednosti za obim struka su kod učenika veće za 1,3 cm, a kod učenica manje za 3,2 cm u odnosu na pomenutu studiju. Za obim kukova kod učenika se uviđa niža prosječna vrijednost za 2,1 cm, dok je kod učenica ova razlika znatno izraženija i iznosi 3,5 cm. I pored izvjesnih sličnosti ruralnog i prigradskog područja, ovdje su se ipak javile evidentne razlike, koje se svakako moraju pripisati kompleksu dejstva raznovrsnih faktora i specifična genotipskih i fenotipskih modaliteta karakterističnih za različita etnografska područja.

Primjenom T-testa, utvrđeno je da između subuzoraka ispitanika postoji statistički značajna razlika u varijablama tjelesna visina i obim kukova. Slične rezultate za tjelesnu visinu dobila je i Gligorićević (2008). Međutim, treba istaći da se u najvećem broju ranijih istraživanja za ovaj uzrasni period nije potvrdila rodna polarizovanost za tjelesnu visinu (Stojanović i Zrnzević, 2010; Vasić i sar., 2011, B. Krsmanović, Batez i T. Krsmanović, 2011; Smajić i sar., 2017). Kada se govori o razlici u obimu kukova, ona iznosi 2,8 cm u korist učenika. Kod ranije navedene studije (Vasić i sar., 2011), pomenuta razlika između polova je veća i iznosi 5 cm u korist ispitanika ženskog pola. Dakle, i pored harmonične akceleracije u ovom uzrasnom periodu, moguće je da usljed dejstva određenih faktora ipak dođe do razlika u pojedinim morfološkim parametrima između polova. Ovdje se osim genotipskih, kulturoloških, socio-psiholoških i mikrosocijalnih faktora, takođe mogu pomenuti i fiziološke promjene u organizmu vezane za intenzivan period rasta i sazrijevanja koji će uslijediti. Može se konstatovati, da se u ovom uzrasnom periodu određene promjene ipak dešavaju, čime se potvrđuje činjenica da trend rasta pojedinih organa nije linearan, već da usljed dejstva brojnih, već pomenutih faktora, ipak dolazi do izvjesnih odstupanja.

Dobijeni rezultati po pitanju uhranjenosti ukazuju da u oba subuzorka ispitanika skoro identično dominiraju djeca sa normalnom uhranjenosti (učenici-84,38%, učenice-82,14%). Obzirom na veličinu subuzoraka i ukupnog uzorka ispitanika, svakako se ne smiju zanemariti ni numeričke vrijednosti koje ukazuju na zastupljenost djece sa prekomjernom tjelesnom težinom i gojaznosti, koje su u potpunosti identične za pomenute kategorije (učenici-3,12%, učenice-3,57%). Upoređivanjem srednjih vrijednosti dobijenih rezultata indeksa tjelesne mase (BMI) sa drugim studijama koje su tretirale parametar uhranjenosti, vidljiva je podudarnost. Razlike su male za ispitivani uzrast i kreću se u intervalu +1, -0,5 u odnosu na rezultate za oba pola. Procenat prekomjerne tjelesne težine za ukupni uzorak ispitanika ove studije je 10%, a gojaznosti 3%. Upoređujući te vrijednosti sa rezultatima slične

studije (Ješić, 2017), u čijem uzorku je prekomjerna tjelesna težina zastupljena sa 17,1 %, a gojaznost sa 7,1 %, konstatuje se znatno niži procenat ispitanika ove studije sa prekomjernom tjelesnom težinom i gojaznosti. Obzirom da se radilo u uzorku ispitanika zdrave djece iz prigradskog naselja, koja su redovno pohađala nastavu fizičkog vaspitanja, zaključuje se da optimalno stanje pokazatelja zdravstvenog statusa u sadejstvu sa adekvatnom fizičkom aktivnošću ima esencijalnu važnost za balansirani razvoj parametara tjelesne kompozicije.

U skladu sa dobijenim rezultatima, moguće je izvesti zaključak da su ustanovljene razlike između polova na osnovu tjelesne visine i obima struka i pored činjenice da se radi o uzrasnom periodu harmonije i proporcionalnosti razvoja unutrašnjih organa i njihovih funkcionalnih sposobnosti sa razvojem morfoloških karakteristika. Rezultati ovog istraživanja nude doprinos u pravcu davanja smjernica nastavnicima fizičkog vaspitanja za provođenjem češćih mjerenja pojedinih pokazatelja antropološkog statusa djece, obzirom na pristupačnost uzimanja navedenih podataka. Na taj način, obezbijediće se monitoring nastavnog procesa i predupriješivanje nastajanja i trenda napredovanja u razvoju negativnih pojava gojaznosti i posturalnih poremećaja. Obzirom na veličinu ispitivanog uzorka, uži sistem obuhvaćenih morfoloških varijabli, kao i dejstvo raznovrsnih faktora na proces rasta i razvoja, nije moguće donijeti dodatne zaključke, koji bi bili u skladu sa statističkom i kineziološkom zakonomjernošću. Ipak, to ne umanjuje vrijednost ove studije, koja je zapravo ukazala na veliki značaj praćenja pojedinih parametara rasta i razvoja kod djece mlađeg školskog uzrasta.

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#### Conflict of Interest

The authors declare that there are no conflicts of interest.

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**REVIEW PAPER**

# Scientific Research Papers of Lecturers from the Faculty of Sport and Physical Education in Niksic Published in Sport Mont Journal in Last Three Years

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## Abstract

Sport Mont is electronic and printed scientific journal and also official journal of Montenegrin Sports academy which was established 2003. SMJ is published three times a year by the Montenegrin sport academy (MSA) and in it is possible to find more than 1400 papers from various fields of sport science from world wide known scientists. In last three years more than 100 papers are published in this journal. Lecturers from Faculty for sport and physical education published 28 papers in mentioned period and in this research were analysed and classified papers of following fields of sport science: anthropology, sport training, management and marketing in sport, sports physiology, theory of sport and physical culture, history of sport, nutrition and other areas of sport. Papers have been classified according to the scientific fields they belong to and the most published papers are from anthropology field of science (15). Interesting to mention is that lecturers with the most and the same number of published articles are Jovan Gardasevic and Bojan Masanovic who have 12 each (22,67%) published articles. This research can be useful for further theoretical research, as well as for theoreticians.

**Key words:** *Sport Mont Journal, Sport Science, Analysis, Montenegrin Sports Academy*

## Uvod

Sport Mont je zvanični časopis Crnogorske sportske akademije (CSA) koji je pokrenut 2003. godine, a za čije su osnivanje zaslužni CSA i njen predsjednik Duško Bjelica. U ovom časopisu, koji izlazi tri puta godišnje, može se naći preko 1400 radova koji pokrivaju mnoge aspekte sportske nauke. Naučni časopis "Sport Mont" predstavlja objedinjavanje saznanja prakse i teorije, a samim tim i šire sagledavanje mnogih drugih, bitnih pitanja vezanih za sport. U ovom časopisu je moguće naći originalne naučne radove, pregledne radove, uvodnike, kratke izvještaje, kao i poziv i nagrade radova u oblasti sportskih nauka i medicine. Takođe funkcionise i kao otvoreni forum za diskusiju o značajnim aktuelnim pitanjima, a autori koji objavljuju u njemu su naučnici kako iz naše zemlje, zemalja iz regiona, tako i iz cijelog svijeta. Kao i svaki početak, i onaj koji se veže za razvoj i afirmaciju časopisa "Sport Mont"

bio je težak. Ali mukotrpnim radom uredništva situacija se mijenjala, radovi koji su objavljivani postajali su kvalitetniji i "Sport Mont" je postao renomiran časopis u svijetu nauke. U prilog tome govori činjenica da je februarsko izdanje 2019. godine pomenutog časopisa indeksirano u 44 međunarodne baze, od kojih je najznačajnija Scopus. Svrha časopisa je promocija sportske nauke kako u Crnoj Gori, tako i van nje.

## Metod

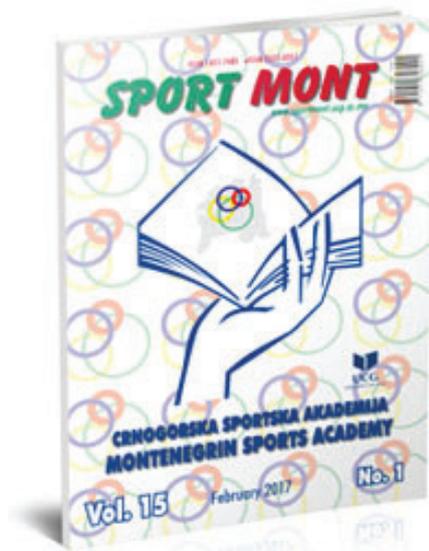
Za ovo istraživanje korišćena je metoda analize sadržaja. Metoda analize sadržaja se koristi za objektivnu sistemsku i kvantitativnu analizu očiglednog sadržaja saopštenja (filmova, knjiga, štampe, kao i elektronskih sadržaja). Jedinica koja je analizirana u ovom radu su naslovi radova objavljenih od strane predavača sa Fakulteta za sport i fizičko u Nikšiću u posljednje tri godine u časopisu „Sport Mont“.

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Slika 1. Časopis Sport Mont Vol. 15 No. 1 (2017)

U tom periodu objavljeno je 28 radova predavača sa pomenu- te univerzitetske jedinice. Dakle, istraživački radovi u ovoj analizi sadržaja su klasifikovani po oblastima kojima pripadaju, a izdvo-

jene su sljedeće oblasti: antropologija, sportski trening, fiziologija sporta, Sportski menadžment i marketing u sportu, nutricionizam, teorija sporta i fizičke kulture, istorija sporta i ostali radovi.

Tabela 1. Klasifikacija objavljenih radova prema naučnim oblastima

Naučne discipline	Broj objavljenih radova
Antropologija	15
Sportski trening	3
Fiziologija sporta	1
Sportski menadžment i marketing u sportu	3
Nutricionizam	1
Teorija sporta i fizičke kulture	1
Istorija sporta	1
Ostali radovi	3
Total	28

## Rezultati

Nakon detaljne analize i pregleda časopisa "Sport Mont" u poslednje tri godine izdvojeni su radovi 12 predavača sa Fakulteta za sport i fizičko vaspitanje, a ukupan broj radova je iznosio 28. Najbrojniji radovi su bili iz oblasti antropologije koja predstavlja nauku o čovjeku, odnosno o njegovim sposobnostima i karakteristikama. Radovi iz pomenute oblasti su sljedeći: „Sport-specific morphology profile: Differences in anthropometric characteristics among elite soccer and handball players“ (Gusic, Popovic, Molnar, Masanovic, & Radakovic, 2017), „Waist circumference as an indicator abdominal obesity in middle age“ (Vasiljevic, Gardasevic, Kezunovic, & Bojanic, 2017), „Standing height and its estimation utilizing foot length measurements in adolescents from western region in Kosovo“ (Popovic, Gardasevic, Masanovic, Arifi, & Bjelica, 2017), „Relationship between foot length measurements and body height: A prospective regional study among adolescents in eastern region of Kosovo“ (Masanovic, Gardasevic, & Arifi, 2018), „Relationship between sitting height measurements and standing height: a prospective regional study among adolescents in eastern region of Kosovo“ (Gardasevic, 2018), „Relationship between foot length measurements and standing height: a prospective regional study among adolescents in southern region of Kosovo“ (Masanovic, Gardasevic, & Arifi, 2018), „Stature and its estimation utilizing arm span measurements of both gender adolescents

from southern region in Kosovo“ (Arifi, Sermahhaj, Gardasevic, Alaj, & Metaj, 2018), „Differences in the morphological characteristics and body composition of football players of hsc Zrinjski Mostar and fc Siroki Brijeg in Bosnia and Herzegovina“ (Corluka, Bjelica, Vasiljevic, Bubanja, Georgiev, & Zeljko, 2018), „Standing height and its estimation utilizing arm span and foot length measurements in dinaric alps population: a systematic review“ (Masanovic, 2018), „Comparative study of anthropometric measurement and body composition between junior basketball and volleyball players from Serbian national league“ (Masanovic, 2018), „Relationship between tibia length measurements and standing height: A prospective regional study among adolescents in southern region of Kosovo“ (Gardasevic, Masanovic, & Arifi, 2018), „Relationship between foot length measurements and body height: A prospective regional study among adolescents in central region of Kosovo“ (Arifi, Gardasevic, & Masanovic, 2018), „Comparative study of anthropometric measurement and body composition between junior soccer and volleyball players from the Serbian national league“ (Masanovic, Bavcevic, & Bavcevic, 2019), „Differences in anthropometric characteristics among junior soccer and handball players“ (Arifi, Bjelica, & Masanovic, 2019) i „Elite Football Players from Bosnia and Herzegovina and Kosovo and their Body Composition“ (Gardasevic, Bjelica, Corluka, & Vasiljevic, 2019).

Iz oblasti sportskog treninga, koji predstavlja specifičan proces adaptacije organizma na određene stimuluse, koji se planski sprovode kako bi se ostvario maksimalan učinak u planiranoj aktivnosti objavljeni su sljedeći radovi: „The strength of kicking the ball after preparation period with U15 football players“ (Gardasevic, Bjelica, & Vasiljevic, 2017), „The impact of the preparation period on endurance at football players U16“ (Gardasevic, Bjelica, & Corluca, 2018), „Shooting ball accuracy with U16 soccer players after preparation period“ (Gardasevic, & Bjelica, 2019).

U protekle tri godine takođe je objavljen rad iz oblasti fiziologije sporta, koja proučava funkcije organizma sportiste tokom fizičke aktivnosti, a to je „Structure of cognitive abilities and skills of lifeguards“ (Ljubojevic, Muratovic, & Bubanja, 2017).

Iz oblasti sportskog menadžmenta i marketinga u sportu su objavljeni sljedeći radovi: „Attitudes of consumers from Autonomous Province of Vojvodina toward advertising through sport in relation with the frequency of watching sports events“ (Masanovic, 2018), Attitudes of consumers from autonomous Province of Vojvodina toward advertising through sport for the question: how often do consumers purchase sporting goods“ (Milosevic, Bjelica, & Masanovic, 2019) i „Beliefs about the Influence on Attitudes of Turkish University Students toward Advertising through Sport“ (Popovic, 2019).

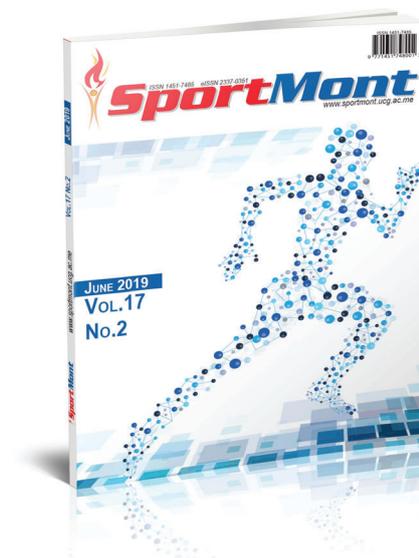
Iz oblasti nutricionizma je objavljen rad pod nazivom „Age and gender differences in nutritional status of school children according to WHO, CDC and IOTF references: a statewide study from Montenegro“ (Milasinovic, Bojanic, Cvoro- vic, & Kukic, 2019).

Jedan rad je objavljen iz oblasti teorije sporta i fizičke kulture, a to je „Theories of tiredness in sport“ (Krivokapic, 2017).

Jedan rad objavljen iz oblasti istorije sporta, a to je „Historical development of skiing: Case study in Durmitor area“ (Milasinovic, & Bjelica, 2017).

Takođe, u protekle tri godine objavljeni su i radovi koje smo nazvali ostali radovi, a to su sljedeći radovi: „Repulsion of the futsal ball depending on the pressure in it“ (Bjelica, Milosevic, Talovic, & Bajramovic, 2018), „Research and writing development in the area of sport science publishing in Montenegro“ (Popovic, 2018) i „Who play for the national football team of Montenegro, Montenegrins or “Montenegrins”?“ (Popovic, 2019).

Nakon što se napravila klasifikacija radova prema oblastima bilo bi interesantno navesti i autore koji su se posvetili naučno istraživačkom radu u pomenutom periodu. Kao što je već navedeno aktivnost je zabilježena čak od strane 12 predavača sa Fakulteta za sport i fizičko vaspitanje. U ovom dijelu će biti prikazana ukupna aktivnost predavača, odnosno rad će biti prikazan bilo da je na njemu istraživač bio samostalni, vodeći ili koautor. Ovo nam govori da će broj radova biti mnogo veći od onoga koji je obuhvaćen u Tabeli 1. jer se jedan rad može pronaći kod više autora u zavisnosti upravo od ove tri već pomenute kategorije. Dakle, Jovan Gardašević je objavio ukupno 12 radova od čega je na jednom bio samostalni, na pet kao vodeći autor i na šest kao koautor. Bojan Mašanović je objavio 12 radova od kojih je na tri bio samostalni autor, na tri vodeći autor i na preostalih šest koautor.



Slika 2. Časopis Sport Mont Vol. 17 No. 2 (2019)

Duško Bjelica, koji je najviše izdatih radova imao iz oblasti sportskog treninga i antropologije, u periodu od posljednje tri godine u Sport Mont časopisu objavio je deset radova, od kojih je na jednom bio vodeći autor, a na ostalih devet koautor. Stevo Popović je imao ukupno objavljenih pet radova od kojih je samostalni autor bio na tri rada, vodeći autor na jednom radu i koautor takođe na jednom radu. Ivan Vasiljević je objavio četiri rada od kojih je na jednom bio

vodeći autor, a na preostala tri koautor. Rajko Milašinović je objavio dva rada, od kojih je na oba bio vodeći autor. Danilo Bojanic i Marija Bubanja je objavili su po dva rada, i na oba rada su bili koautori. Milovan Ljubojević, Aldijana Muratović, Miroslav Kezunović i Dragan Krivokapić su objavili po jedan rad, Milovan Ljubojević je na svom bio vodeći autor, Aldijana Muratović i Miroslav Kezunović koautori, dok je Dragan Krivokapić bio samostalni autor.

**Tabela 2.** Brojčani i procentualni prikaz objavljenih radova predavača sa Fakulteta za sport i fizičko vaspitanje u Nikšiću u Sport Mont časopisu u periodu od posljednje tri godine

PREDAVAČ	SAMOSTALNI AUTOR	VODEĆI AUTOR	KO AUTOR	UKUPAN BROJ RADOVA	%
Jovan Gardašević	1	5	6	12	22,67
Bojan Mašanović	3	3	6	12	22,67
Duško Bjelica	0	1	9	10	18,86
Stevo Popović	3	1	1	5	9,43
Ivan Vasiljević	0	1	3	4	7,54
Rajko Milašinović	0	2	0	2	3,77
Danilo Bojanić	0	0	2	2	3,77
Marija Bubanja	0	0	2	2	3,77
Milovan Ljubojević	0	1	0	1	1,88
Aldijana Muratović	0	0	1	1	1,88
Dragan Krivokapić	1	0	0	1	1,88
Miroslav Kezunović	0	0	1	1	1,88
TOTAL	8	14	31	53	100

### Diskusija

U ovom radu su klasifikovani naslovi koji su objavljeni u periodu u protekle tri godine u „Sport Mont“ časopisu, a na kojima su radili isključivo predavači sa Fakulteta za sport i fizičko vaspitanje. Naime, iz priloženog se može videti da je najviše objavljenih radova iz oblasti antropologije, odnosno više od pola ukupnog broja objavljenih radova. Nakon ove oblasti, za istraživače pomenute univerzitetske jedinice, najinteresantnija je bila oblast sportskog treninga i menadžmenta i marketinga u sportu sa po tri objavljena rada iz pomenutih naučnih oblasti. Nakon toga slijede i ostale, u radu prikazane oblasti sa po jednim objavljenim radom. Takođe, u okviru ove studije, pored klasifikacije radova prema oblastima analizirana je naučno-istraživačka aktivnost predavača sa Fakulteta za sport i fizičko vaspitanje koji su objavili radove u posljednje tri godine u časopisu Sport Mont. Naime, prikazan je broj objavljenih radova svih autora, bilo da su na tim radovima bili samostalni autori, vodeći ili koautori, pa se upravo iz tog razloga mnogi od radova ponavljaju više od jednog puta. Razlog tome i adekvatno objašnjenje je da predavači na Fakultetu za sport i fizičko vaspitanje u Nikšiću na mnogim naučno-istraživačkim radovima saraduju, a sve u cilju kvalitetnijeg materijala koji će dospjeti kod renomiranih recenzentata, a nakon toga i objaviti u samom časopisu koji je, kako je već navedeno, na zavidnom nivou u svijetu sportske nauke. Dakle, kao što se može videti u Tabeli 2. najviše objavljenih radova, odnosno po 12 (22,67%), imaju Jovan Gardašević i Bojan Mašanović, dok je odmah iza njih Duško Bjelica sa deset (18,86%) objavljenih radova. Ukoliko sagledamo broj objavljenih radova kao samostalnih autora na publikovanom radu najviše objavljenih radova imaju Bojan Mašanović i Stevo Popović (3), dok najviše objavljenih radova kao vodeći autor ima Jovan Gardašević (5). Na samom kraju, Duško Bjelica ima najviše objavljenih radova kao koautor (9). Na osnovu navedenog možemo zaključiti da predavači sa pomenute univerzitetske jedinice daju izuzetan doprinos nauci svojim angažovanjem i naučno-istraživačkim radom. Jasno je da dobar predavač i sportski radnik mora pratiti tokove i mora biti upoznat sa posljednjim dešavanjima i inovacijama u svijetu sporta i fizičke kulture. Shodno tome, u ovom radu se jasno vidi da predavači sa Fakulteta za sport i fizičko vaspitanje u Nikšiću praktikuju da budu uključeni u svim dešavanjima, a

sve kako bi omogućili kvalitetniju kako praktičnu, tako i teorijsku nastavu. Činjenica da je za postizanje kvaliteta neophodna saradnja kako između istraživača sa Fakulteta za sport i fizičko vaspitanje, tako i sa drugim istraživačima zemalja iz regiona i svijeta iz raznih oblasti, potkrijepljuje se riječima jednog od istraživača sa britanskog univerziteta u Laboru, Ines Varela-Silve koji navodi da sport ne može da se odvoji od društva i kao takav ne bi mogao da postoji, jer se upravo odnosi na sve njegove segmente i ukoliko se želi postići multidisciplinarnost ili interdisciplinarnost mora se saradivati sa ljudima iz drugih naučnih oblasti (Maros, 2017).

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### Conflict of Interest

The authors declare that there are no conflicts of interest.

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**REVIEW PAPER**

# A Content Analysis of Papers Published by the Lecturers of the Faculty of Sport and Physical Education for the Last Three Years in Journal of Anthropology of Sport and Physical Education

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## Abstract

Journal of Anthropology of Sport and Physical Education (JASPE) is a scientific journal that exists for three years and has so far released 107 scientific papers in 7 editions. Papers of lecturers from Faculty for sport and physical education were classified in this paper by the method of content analysis. In last three years they have published 69 papers in total which are classified in this paper by these areas: anthropology, sports marketing, papers which analyze the content and other papers. The most published papers are from area of anthropology, 35 in total. This research can be useful for further theoretical research, as well as for theoreticians.

**Key words:** *Content Analysis, JASPE, Niksic*

## Uvod

Jaspe je štampani i elektronski časopis koji, uz korišćenje savremenih metoda, ima za cilj predstavljanje naučnih saznanja o antropologiji i fizičkom vaspitanju stručnoj i naučnoj javnosti. Od oktobra 2017. do danas objavljeno je sedam izdanja časopisa. JASPE karakteriše otvoren pristup, brzo vrijeme objavljivanja, recenziranje od strane iskusnih naučnih istraživača, zajednički forum i komentarisanje članaka, medijsku pokrivenost u zemlji i svijetu, te vidljivost i uticaj u naučnim bazama radova.

Jaspe izlazi četiri puta godišnje: u januaru, aprilu, julu i oktobru. Kao multidisciplinarni časopis, objavljuje originalne naučne radove, pregledne članke, kratke izvještaje, recenzije, kao i pozive i nagrade u oblasti antropologije sporta i fizičkog vaspitanja. Prekriva svih pet aspekata iz oblasti antropologije i sporta: kulturne, globalne, biološke, jezičke i medicinske.

JASPE izdaje "Montenegrosport", u saradnji sa Fakultetom za sport i fizičko vaspitanje Univerziteta Crne Gore i Crnogorskom sportskom akademijom. Glavni urednik je Bojan Mašanović

sa Univerziteta Crne Gore, dok urednička mjesta po oblastima pokrivaju: Miomir Maroš sa Univerziteta Crne Gore (kulturna antropologija), Kubilay Ocal sa Mugla Univerziteta iz Turske (Globalna antropologija), Dušan Stupar sa Eudons Univerziteta iz Srbije (Fizička antropologija), Tatjana Jovović sa Univerziteta Crne Gore (Lingvistička antropologija) i Nina Đukanović sa Univerziteta u Beogradu (Medicinska antropologija).

## Metod

Za ovo istraživanje korišćena je metoda analize sadržaja. Ova metoda kvantitativno i kvalitativno sistematizuje novinarske oblike komunikacije, pri čemu se, za obradu podataka, koristi statistička metoda i metoda zbrajanja i deskripcije. U ovom radu korišćena je metoda zbrajanja i deskripcije. Jedinica analize sadržaja u ovom radu su naučni radovi predavača sa Fakulteta za sport i fizičko vaspitanje objavljeni u "Journal of Anthropology of Sport and Physical Education", u period između 2017. i 2019. godine. U ovom periodu predavači sa Fakulteta za sport i fizičko vaspitanje iz Nikšića su objavili 69 radova.

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Radovi su klasifikovani po oblastima sportskih nauka na sljedeće oblasti: antropologiju, sportski marketing, radove koji se bave analizom sadržaja objavljenih radova i ostale radove.

## Rezultati

Antropologija je u JASPE-u bila zastupljena kroz sljedeće radove: „Relationship between arm span measurements and body height in Dinaric Alpes population: a systematic review“ (Masanovic, 2017), „Differences in the morphological characteristics and body compositions of football players FC Trepca '89 and FC Prishtina in Kosovo (Gardasevic, Bjelica, Popovic, Vasiljevic, & Milosevic, 2017), „Differences in the morphological characteristics and body composition of football players in Montenegro“ (Corluka, & Vasiljevic, 2018), „Differences in the morphological characteristics and body composition of football players FC Buducnost and FC Mladost in Montenegro“ (Gardasevic, Bjelica, Popovic, Vasiljevic, & Milosevic, 2018), „Differences in the morphological characteristics and body composition of football players FC Sutjeska and FC Mladost in Montenegro“ (Bjelica, Gardasevic, & Vasiljevic, 2018), „Differences in the morphological characteristics and body compositions of handball players WHC Levalea in Montenegro and WHC Grude in Bosnia and Hercegovina“ (Vukotic, Corluka, Vasiljevic, & Bubanja, 2018), „Meta-analyze of the scientific papers on the effects of the preparation period on the basic motor skills of the cadet football players“ (Vasiljevic, 2017), „Self-reported and objectively measured physical activity of males from 50 to 69 years old“ (Mitrovic, 2018), „Comparative study of morphological characteristics and body composition between basketball players from second leagues in Montenegro and Serbia“ (Vukasevic, Vukotic, & Masanovic, 2018), „Comparative study of anthropometric measurements and body composition between the basketball player first and second league in Montenegro“ (Vukasevic, Spaic, & Masanovic, 2018), „Body height and its estimation utilizing arm span measurements in adolescents from northern region in Montenegro“ (Bubanja, 2018), „Body height and its estimation utilizing arm span measurements in male and female adolescents from northern region in Montenegro“ (Vukotic, 2018), „Differences in the morphological characteristics and body compositions of football players FC Trepca '89 and FC Prishtina in Kosovo“ (Gardasevic, Bjelica, Vasiljević, Sermahaj, & Arifi, 2018), „Body Height and its estimation utilizing arm span measurements in male and female adolescents from Danilograd and Cetinje“ (Vukotic, 2018), „Self-Reported and Objectively Measured Physical Activity of Males from 50 to 69 Years Old“ (Radulovic, 2018), „Body composition and anthropometric measures of footballers, cup winners of Montenegro and Bosnia and Hercegovina“ (Bjelica, Gardasevic, Vasiljevic, & Corluka, 2018), „Relationship between arm span measurements and body height in Pljevlja“ (Mitrovic, 2018), „Comparative study of anthropometric measurements and body compositions between different level of competition“ (Masanovic, Spaic, & Vukasevic, 2018), „Differences in anthropometric characteristics between elite soccer and basketball players“ (Masanovic, Vukcevic, & Spaic, 2018), „Body height and its assessment by using the arm span of adolescents from the Montenegrin municipalities of Berane and Pljevlja“ (Bubanja, 2018), „Differences in anthropometric characteristics and body composition between rugby players of national team of Montenegro and national team of Bulgaria“ (Malovic, 2018), „Relationship between arm span measurements and body height in Berane“

(Mitrovic, 2018), „Differences in anthropometric characteristic among junior soccer and basketball players“ (Spaic, Vukasevic, & Masanovic, 2018), „Relationship Between Arm Span Measurements and Body Height in Tivat“ (Radulovic & Kovacevic, 2018), „Meta analysis of scientific papers on effects of motor skills in the basketball published in the Journal Sport Mont from 2006 to 2018“ (Vasiljevic, 2018), „Sport-specific morphology profile: „Comparative study of morphological characteristics and body compositions between elite basketball players from different regions“ (Masanović, Vukotic, & Vukasevic, 2018), „Meta-analysis of scientific papers in the field of motor skills from volleyball published in the Journal Sport Mont 2006-2016“ (Zoric, 2018), „Differences in anthropometric characteristic among junior soccer and volleyball players“ (Masanovic, Bjelica, & Corluka, 2019), „Differences in anthropometric characteristics among junior basketball and volleyball players“ (Pasa, Vukasevic, & Masanovic, 2019), „Comparative study of motor ability between basketball players from second leagues from Montenegro and Serbia (Vukasevic, Mitrovic, Zivanovic, & Masanovic, 2019), „Anthropometric measures and body composition of soccer players of Montenegro and Kosovo (Bjelica, Gardasevic, Vasiljevic, Sermahaj, & Arifi, 2019), „Differences in anthropometric measures of footballers, cup winners of Montenegro and Kosovo“ (Gardasevic, Bjelica, Vasiljevic, Arifi, & Sermahaj, 2019), „Comparative analysis of anthropometric characteristics between athletes of different orientation, basketball and handball“ (Vukotic & Georgiev, 2019), „Comparative analysis of anthropometric characteristics between athletes of different orientation“ (Vukotic & Georgiev, 2019) i „Anthropometric indices as indicator of obesity of children from elementary school in Montenegro“ (Malovic, 2019).

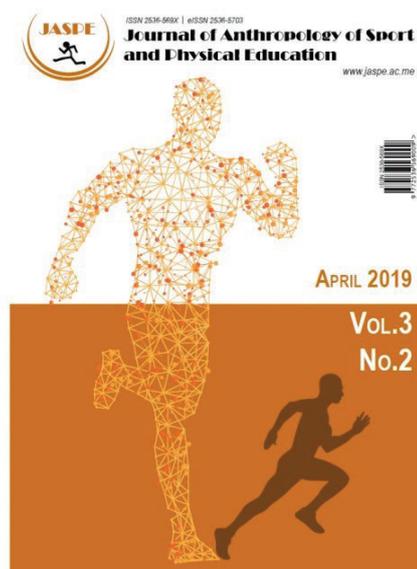
Radovi objavljeni u JASPE iz oblasti sportskog marketinga su sledeći: „Attitudes of Turkish consumers toward advertising through sport among the frequency of watching sports events“ (Masanovic, Zoric, & Gardasevic, 2017), „Attitudes of Turkish consumers toward advertising through sport among the question how often consumes purchase sporting goods“ (Zoric, Masanovic, & Gardasevic, 2017), „Attitudes of Turkish consumers toward advertising through sport among the question how often they participate in sports activities“ (Gardasevic, Zoric, & Masanovic, 2017), „Attitudes of Montenegrin consumers toward advertising through sport among the frequency of watching sports events“ (Masanovic, Zoric, & Gardasevic, 2018), „Attitudes of Montenegrin consumers toward advertising through sport among the question how often they participate in sports activities“ (Gardasevic, Zoric, & Masanovic, 2018), „Attitudes of Montenegrin consumers toward advertising through sport among the question how often consumers purchase sporting goods“ (Zoric, Mašanovic, & Gardasevic, 2018), „Attitudes of consumers from the Mostar canton in Bosnia and Hercegovina toward advertising through sport among the question how often consumers purchase sporting goods“ (Bjelica, Gardasevic, & Corluka, 2018), „Attitudes of consumers from the Mostar canton in Bosnia and Hercegovina toward advertising through sport among the question how often they participate in sports activities“ (Corluka, Bjelica, & Vukotic, 2019), „Attitudes of consumers from the Mostar canton in Bosnia and Hercegovina toward advertising through sport among the frequency of watching sports events“ (Vukotic, Corluka, & Masanovic, 2018), „Attitudes of consumers from the Sarajevo canton in Bosnia and Hercegovina toward advertising through sport among the question how often consumers purchase spor-

ting goods“ (Zoric, Gardašević, & Bajramovic, 2018), „Attitudes of consumers from the Sarajevo canton in Bosnia and Hercegovina toward advertising through sport among the question how often they participate in sports activities“ (Gardasevic Bajramovic, & Masanovic, 2018), „Attitudes of consumers from the Sarajevo canton in Bosnia and Hercegovina toward advertising through sport among the frequency of watching sports events“ (Bajramovic, Zoric, & Masanovic, 2018). U 2018. godini, ovim istraživanjem obuhvaćeni su i građani glavnog grada Crne Gore: „Attitudes of consumers from Podgorica toward advertising through sport among the question how often they participate in sports activities“ (Kovacevic, Milosevic, & Masanovic, 2018), „Attitudes of consumers from Podgorica toward advertising through sport among the question how often consumers purchase sporting goods“ (Djurisic, Perovic, & Masanovic, 2018), „Attitudes of consumers from Podgorica toward advertising through sport among the frequency of watching sports events“ (Milovic, Corluka, & Masanovic, 2018). Slična analiza je obuhvatila Autonomne pokrajine Vojvodine u Srbiji: „Attitudes of consumers from University of Novi Sad toward advertising through sport among the frequency of watching sports events“ (Molnar, Masanovic, & Bjelica, 2018), „Attitudes of consumers from University of Novi Sad toward advertising through sport among the question how often they participate in sports activities“ (Bjelica, Gusic, & Maksimovic, 2018), „Attitudes of consumers from University of Novi Sad toward advertising through sport among the question how often consumers purchase sporting goods (Milosevic, Bjelica, & Matic, 2018), „Attitudes of consumers from Subotica toward advertising through sport among the frequency of watching sports events“ (Sekulic, Milosevic, & Vukotic, 2018), „Attitudes of consumers from Subotica toward advertising through sport among the question how often consumers purchase sporting goods“ (Masanović, Georgiev, & Sekulic, 2018), „Attitudes of consumers from

Educons University toward advertising through sport among the frequency of watching sports events“ (Stupar, Gardasevic, & Masanovic, 2018) i „Attitudes of consumers from Educons University toward advertising through sport among the question how often they participate in sports activities“ (Gardasevic, Stupar, Maksimovic, 2018).

Analizom sadržaja objavljenih radova i njihovom klasifikacijom, autori su se bavili kroz sljedeće radove: „Analysis of the content of published articles in the Journal Sport Mont in 2006“ (Vukotic, 2018), „Content analysis of scientific articles from issues published in Sport Mont Journal in 2004“ (Mitrovic, 2018), „Content analyses of scientific articles from issues published in Sport Mont Journal 2012“ (Radulovic, 2018), „Meta-analysis original scientific papers in the field of swimming and water polo published in Sport Mont from 2003 to 2018“ (Vukotic, 2018), „Meta-analysis of scientific papers on effects on motor skills in the basketball published in the Journal Sport Mont from 2006 to 2018 (Vasiljevic, 2018) i „Meta-analysis of scientific papers in the field of motor skills from volleyball published in the Journal Sport Mont 2006-2016“ (Zoric, 2018).

U kategoriji ostali radovi spadaju sledeći radovi: „Repulsions ball in table tennis“ (Bjelica, Vukotic, & Gardasevic, 2018), „The dependence of repulsion tennis ball from the air pressure in it“ (Bjelica, Bubanja, & Gardasevic, 2018), „Meta-analysis of scientific papers in the field of sports training published in the Journal Sport Mont in 2016“ (Vukotic, 2018), „Evaluation of the physical activity level of elderly women in the canton of Sarajevo in Bosnia and Hercegovina“ (Bajramovic, Bjelica, Talovic, Alic, & Likic, 2018), „Differences in the attitudes of fourth grade pupils of the elementary school according to the teaching of physical education in terms of gender“ (Dragutinovic i Mitrovic, 2019) i Meta-analize of the scientific papers on the sport ball repulsion depending on the air pressure within“ (Gardasevic, 2019).



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## Diskusija

U ovom radu, metodom analize sadržaja, naučni radovi predavača sa Fakulteta za sport i fizičko vaspitanje iz Jaspe-a klasifikovani su po oblastima. Ukupno je bilo 69 radova, od čega 35 iz oblasti Antropologije, 22 iz oblasti Sportskog marketinga, šest iz oblasti Analize sadržaja i šest ostalih radova.

Antropologija je veoma opširna oblast, koja pruža mogućnosti da se intezivnije i na inovativniji način istraži čovjek, pa ne čudi da je više od polovine objavljenih radova baš iz ove oblasti. Poznato je da se mnogo novca danas okreće u sportu, pa je oblast sportskog marketinga izuzetno važna, kako bi se stekla znanja o njegovom upravljanju. Iako u Crnoj Gori možda još

uvijek nema dovoljno prostora za razvoj sportskog marketinga, klubovi bi trebali pratiti svjetske tendove i uložiti svoje napore u marketing, budući da je to jedini način za opstanak u današnjem poslovnom društvu. Analizama sadržaja objavljenih radova omogućen je pregled različitih radova, te njihova kvalitativna i kvantitativna analiza. U ovom slučaju autori su analizirali radove iz časopisa JASPE, što nam može pružiti uvid u teme koje interesuju predavače sa Fakulteta za sport i fizičko vaspitanje u Nikšiću. Ostali radovi donose značajne podatke iz oblasti tenis, stoni tenis, fizička aktivnost starijih osoba, i na kraju iz oblasti sportstog treniga, koja je veoma značajna kako za sportiste tako i za sportske radnike, jer obogaćuje praksu i na taj način omogućava postizanje vrhunskih sportskih rezultata. Kvalitetan predavač i sportski radnik mora pratiti tokove istraživanja i nauke, odnosno, mora biti upoznat sa najnovijim dešavanjima i inovacijama u svijetu sporta i fizičke kulture, a ova studija budućim istraživačima u tome može pomoći.

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#### Conflict of Interest

The authors declare that there are no conflicts of interest.

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**SHORT REPORT**

# Report of the 16th Annual International Scientific Conference of the Montenegrin Sports Academy

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## Abstract

The article is providing highlights of the 16th Annual International Scientific Conference 'Sport, Physical Activity and Health: Contemporary Perspectives', hosted by the Montenegrin Sports Academy. The event was held on April 4-7, 2019 in Dubrovnik, Croatia. The conference provided space for presentation research papers and related discussion, as well as for poster sessions. Besides welcoming invited speakers it also hosted CEEPUS Training School for students. The participants of the conference were welcomed by Professor Doctor Stevo Popovic, dean of the Faculty for Sport and Physical Education, University of Montenegro, as well as by Dusko Simonovic, president of the Montenegrin Olympic Committee. The conference was officially opened in the large conference hall of the Hotel Croatia in Cavtat by rector of the University of Montenegro, Danilo Nikolic. This prestigious event gathered 364 authors and 223 participants, coming from almost 50 countries.

**Key words:** *Scientific Conference, Sports, Physical Activity, Health, Training School*

## Introduction

The greatest international event from the area of sports sciences was successfully held in Dubrovnik, Croatia this year. The 16th Annual International Scientific Conference 'Sport, Physical Activity and Health: Contemporary Perspectives' was hosted by the Montenegrin Sports Academy on April 4-7, 2019 in the Hotel Croatia in Cavtat. It has been considered as one of the most important scientific events related to the sports sciences in the region due to its increasing international standing and relevance of the conference that was firmly confirmed as it hosted 364 authors and 223 participants from almost 50 countries.

'This year conference is the most attended conference ever that is organized by the Montenegrin Sports Academy and Faculty for Sport and Physical Education at the University of Montenegro. However, it is interesting that we have just 70 females, comparing to 152 males, but I do believe the Female Investigator Award might distract this trend in the future and promote our annual conference among the female population,' said Professor doctor Stevo Popovic, dean of the Faculty for Sport and Physical Education, University of Montenegro.

The conference provided the platform for researchers and experts who had an opportunity for networking through discussions and exchange on the international level. This event gave an opportunity for experts not only to network, but also to share ideas and present their research to a worldwide community.

This year's conference was held with the overwhelming support and acknowledgement from all the partner institutions. The conference chair, Professor doctor Dusko Bjelica, handed them out the certificates of appreciation for the special contribution and support to the conference. The recipients of the certificate in this category were Danilo Nikolic, Dusan Simonovic, Haris Alic, Damir Sekulic, Tomislav Krsticevic, Antonio Figueiredo, Svetislav Popovic, Igor Vusanovic, Velimir Rakocovic, Nikola Milovic, Marin Corluka, Zoran Milosevic, and Nebojsa Maksimovic. The next category was intended for the invited speakers who were also awarded with a certificate of appreciation for outstanding accomplishment in invited speech and the recipients for this category were Michael Chia, Young Sub Kwon, Robert C. Schneider, Milan Zvan, Lana Ruzic, and Miodrag Spasic.



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**Picture 1.** Conference president, chairs of the scientific committee, rector of the University of Montenegro and president of the Montenegrin Olympic Committee

The third awarded category were the workshop chairs who received a certificate of appreciation for outstanding accomplish-

ment in workshop presentation and the recipients were Jose Pedro Ferreira, Selcuk Akpinar, Yang Zhang, Ugur Odek, Igor Vusurovic.



**Picture 2.** Opening ceremony

This year, as a part of the conference, CEEPUS Training School 'How to prepare, write and publish a scientific paper in sport sciences' has been hosted as well. It provided students with the basis for further research and development as scientists as well as an opportunity for understanding of the com-

plex relationships between theoretical and practical issues. The teachers included in this school received a certificate of appreciation for outstanding accomplishment in CEEPUS Training School lectures and these were Sanja Pekovic, Radenko Matic, Bojan Masanovic, Ivana Bavcevic, and Stevo Popovic.



**Picture 3.** CEEPUS Training School lecturers

The novelty this year were an award for the best female researcher that was conferred to Roselyne Okech, and the one for the best young researcher that was conferred to Dasa Prus.

As the conference was concluded successfully the organisers have already focused on starting the next year's event, and choosing amongst many different venues offered during the networking and collaborating with the fellow experts and partners.

In the words of the conference president Professor doctor Dusko Bjelica, this year's conference has exceeded all the previous expectations as far as the number of participants is

concerned as well as the quality of the published papers. 'We are delighted to confirm we have become a brand name in the region as far as the sports sciences are concerned, and therefore we have earned trust from the fellow researchers which has resulted in negotiations for holding the next conference in Antibes, a resort in the French Riviera. For us, this is a great acknowledgment for all the work we have invested so far. We are extremely delighted that people from almost 50 countries recognised not only our efforts, but also the results achieved until now,' said Professor Doctor Dusko Bjelica, conference president.



**Picture 4.** Conference president Professor Doctor Dusko Bjelica

**Acknowledgements**

There are no acknowledgements.

**Conflict of Interest**

The authors declare that there are no conflicts of interest.

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Bjelica, D., Popovic, S., & Akpinar, S. (2016). *Book of Abstracts of the 13th International Scientific Conference on Transformation Process in Sport 'Sport Performance'*. Podgorica: Montenegrin Sports Academy.

Bjelica, D., Popovic, S., & Akpinar, S. (2017). *Book of Abstracts of the 14th International Scientific Conference on Transformation Process in Sport 'Sport Performance'*. Podgorica: Montenegrin Sports Academy.

Bjelica, D., Popovic, S., & Akpinar, S. (2018). *Book of Abstracts of the 15th International Scientific Conference on Transformation Process in Sport 'Sport Performance'*. Podgorica: Montenegrin Sports Academy.

Bjelica, D., Popovic, S., & Akpinar, S. (2019). *Book of Abstracts of the 16th International Scientific Conference 'Sport, Physical Activity and Health: Contemporary Perspectives'*. Podgorica: Montenegrin Sports Academy.

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Revised October 2017

\*\*\* Please use the bookmark function to navigate within the guidelines. \*\*\*

When preparing the final version of the manuscripts, either NEW or REVISED authors should strictly follow the guidelines. Manuscripts departing substantially from the guidelines will be returned to the authors for revision or, rejected.

## 1. UNIFORM REQUIREMENTS

### 1.1. Overview

The *Journal of Anthropology of Sport and Physical Education* (JASPE) applies the Creative Commons Attribution (CC BY) license to articles and other works it publishes.

There is no charge for submissions and no page charge for accepted manuscripts. However, if the manuscript contains graphics in color, note that printing in color is charged.

JASPE adopts a double-blind approach for peer reviewing in which the reviewer's name is always concealed from the submitting authors as well as the author(s)'s name from the selected reviewers.

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Manuscripts must be provided either in standard UK or US English or Montenegrin language. Chosen language standards should be consistent throughout the manuscripts.

Format the manuscript in A4 paper size; margins are 1 inch or 2.5 cm all around.

Type the whole manuscript double-spaced, justified alignment.

Use Times New Roman font, size eleven (11) point.

Number (Arabic numerals) the pages consecutively (centering at the bottom of each page), beginning with the title page as page 1 and ending with the Figure legend page.

Include line numbers (continuous) for the convenience of the reviewers.

Apart from chapter headings and sub-headings avoid any kind of formatting in the main text of the manuscripts.

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JASPE publishes following types of papers:

Original scientific papers are the results of empirically- or theoretically-based scientific research, which employ scientific methods, and which report experimental or observational aspects of anthropology of sport and physical education from five major fields of anthropology: cultural, global, biological, linguistic and medical. Descriptive analyses or data inferences should include rigorous methodological structure as well as sound theory. Your manuscript should include the following sections: Introduction, Methods, Results, and Discussion.

Open Submissions

Indexed

Peer Reviewed

Original scientific papers should be:

- Up to 3000 words (excluding title, abstract, tables/figures, figure legends, Acknowledgements, Conflict of Interest, and References);
- A structured abstract of less than 250 words;
- Maximum number of references is 30;
- Maximum combined total of 6 Tables/Figures.

Review papers should provide concise in-depth reviews of both established and new areas, based on a critical examination of the literature, analyzing the various approaches to a specific topic in all aspects of anthropology of sport and physical education from five major fields of anthropology: cultural, global, biological, linguistic and medical.

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Editorials are written or commissioned by the editors, but suggestions for possible topics and authors are welcome. It could be peer reviewed by two reviewers who may be external or by the Editorial Board.

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Peer review - fair review provides authors who feel their paper has been unfairly rejected (at any journal) the opportunity to share reviewer comments, explain their concerns, and have their paper reviewed for possible publication in JASPE.

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- The author signs a formal statement that the submitted manuscript complies with the directions and guidelines of JASPE.

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After the manuscript has been accepted, authors will receive a PDF version of the manuscripts for authorization, as it should look in printed version of JASPE. Authors should carefully check for omissions. Reporting errors after this point will not be possible and the Editorial Board will not be eligible for them.

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## 2. MANUSCRIPT STRUCTURE

### 2.1. Title Page

The first page of the manuscripts should be the title page, containing: title, type of publication, running head, authors, affiliations, corresponding author, and manuscript information. *See example:*

Analysis of Dietary Intake and Body Composition of Female Athletes over a Competitive Season

Original Scientific Paper

Diet and Body Composition of Female Athletes

Svetlana Nepocatyč<sup>1</sup>, Gytis Balilionis<sup>1</sup>, Eric K. O'Neal<sup>2</sup>

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*Elon, NC 27244*

*United States*

*E-mail: snepocatyč@elon.edu*

Word count: 2,946

Word count: 4259

Abstract word count: 211

Number of Tables: 3

#### 2.1.1. Title

Title should be short and informative and the recommended length is no more than 20 words. The title should be in Title Case, written in uppercase and lowercase letters (initial uppercase for all words except articles, conjunctions, short prepositions no longer than four letters etc.) so that first letters of the words in the title are capitalized. Exceptions are words like: “and”, “or”, “between” etc. The word following a colon (:) or a hyphen (-) in the title is always capitalized.

#### 2.1.2. Type of publication

Authors should suggest the type of their submission.

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Short running title should not exceed 50 characters including spaces.

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The form of an author's name is first name, middle initial(s), and last name. In one line list all authors with full names separated by a comma (and space). Avoid any abbreviations of academic or professional titles. If authors belong to different institutions, following a family name of the author there should be a number in superscript designating affiliation.

### **2.1.5. Affiliations**

Affiliation consists of the name of an institution, department, city, country/territory (in this order) to which the author(s) belong and to which the presented / submitted work should be attributed. List all affiliations (each in a separate line) in the order corresponding to the list of authors. Affiliations must be written in English, so carefully check the official English translation of the names of institutions and departments.

Only if there is more than one affiliation, should a number be given to each affiliation in order of appearance. This number should be written in superscript at the beginning of the line, separated from corresponding affiliation with a space. This number should also be put after corresponding name of the author, in superscript with no space in between.

If an author belongs to more than one institution, all corresponding superscript digits, separated with a comma with no space in between, should be present behind the family name of this author.

In case all authors belong to the same institution affiliation numbering is not needed.

Whenever possible expand your authors' affiliations with departments, or some other, specific and lower levels of organization.

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Corresponding author's name with full postal address in English and e-mail address should appear, after the affiliations. It is preferred that submitted address is institutional and not private. Corresponding author's name should include only initials of the first and middle names separated by a full stop (and a space) and the last name. Postal address should be written in the following line in sentence case. Parts of the address should be separated by a comma instead of a line break. E-mail (if possible) should be placed in the line following the postal address. Author should clearly state whether or not the e-mail should be published.

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The second page of the manuscripts should be the abstract and key words. It should be placed on second page of the manuscripts after the standard title written in upper and lower case letters, bold.

Since abstract is independent part of your paper, all abbreviations used in the abstract should also be explained in it. If an abbreviation is used, the term should always be first written in full with the abbreviation in parentheses immediately after it. Abstract should not have any special headings (e.g., Aim, Results...).

Authors should provide up to six key words that capture the main topics of the article. Terms from the Medical Subject Headings (MeSH) list of Index Medicus are recommended to be used.

Key words should be placed on the second page of the manuscript right below the abstract, written in italic. Separate each key word by a comma (and a space). Do not put a full stop after the last key word. *See example:*

## Abstract

Results of the analysis of

**Key words:** *spatial memory, blind, transfer of learning, feedback*

## 2.3. Main Chapters

Starting from the third page of the manuscripts, it should be the main chapters. Depending on the type of publication main manuscript chapters may vary. The general outline is: Introduction, Methods, Results, Discussion, Acknowledgements (optional), Conflict of Interest (optional), and Title, Author's Affiliations, Abstract and Key words must be in English (for both each chosen language of full paper). However, this scheme may not be suitable for reviews or publications from some areas and authors should then adjust their chapters accordingly but use the general outline as much as possible.

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Main chapter headings: written in bold and in Title Case. *See example:*

✓ **Methods**

Sub-headings: written in italic and in normal sentence case. Do not put a full stop or any other sign at the end of the title. Do not create more than one level of sub-heading. *See example:*

✓ *Table position of the research football team*

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When reporting experiments on human subjects, there must be a declaration of Ethics compliance. Inclusion of a statement such as follow in Methods section will be understood by the Editor as authors' affirmation of compliance: "This study was approved in advance by [name of committee and/or its institutional sponsor]. Each participant voluntarily provided written informed consent before participating." Authors that fail to submit an Ethics statement will be asked to resubmit the manuscripts, which may delay publication.

### 2.3.3 Statistics reporting

JASPE encourages authors to report precise p-values. When possible, quantify findings and present them with appropriate indicators of measurement error or uncertainty (such as confidence intervals). Use normal text (i.e., non-capitalized, non-italic) for statistical term "p".

### 2.3.4. 'Acknowledgements' and 'Conflict of Interest' (optional)

All contributors who do not meet the criteria for authorship should be listed in the 'Acknowledgements' section. If applicable, in 'Conflict of Interest' section, authors must clearly disclose any grants, financial or material supports, or any sort of technical assistances from an institution, organization, group or an individual that might be perceived as leading to a conflict of interest.

## 2.4. References

References should be placed on a new page after the standard title written in upper and lower case letters, bold.

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### 2.4.1. References style

JASPE adheres to the American Psychological Association 6th Edition reference style. Check "American Psychological Association. (2009). Concise rules of APA style. American Psychological Association." to ensure the manuscripts conform to this reference style. Authors using EndNote® to organize the references must convert the citations and bibliography to plain text before submission.

### 2.4.2. Examples for Reference citations

#### One work by one author

- ✓ In one study (Reilly, 1997), soccer players
- ✓ In the study by Reilly (1997), soccer players
- ✓ In 1997, Reilly's study of soccer players

#### Works by two authors

- ✓ Duffield and Marino (2007) studied
- ✓ In one study (Duffield & Marino, 2007), soccer players
- ✓ In 2007, Duffield and Marino's study of soccer players

Works by three to five authors: cite all the author names the first time the reference occurs and then subsequently include only the first author followed by et al.

- ✓ First citation: Bangsbo, Iaia, and Krustруп (2008) stated that
- ✓ Subsequent citation: Bangsbo et al. (2008) stated that

Works by six or more authors: cite only the name of the first author followed by et al. and the year

- ✓ Krustруп et al. (2003) studied
- ✓ In one study (Krustруп et al., 2003), soccer players

Two or more works in the same parenthetical citation: Citation of two or more works in the same parentheses should be listed in the order they appear in the reference list (i.e., alphabetically, then chronologically)

- ✓ Several studies (Bangsbo et al., 2008; Duffield & Marino, 2007; Reilly, 1997) suggest that

### 2.4.3. Examples for Reference list

#### Journal article (print):

Nepocatyč, S., Balilionis, G., & O'Neal, E. K. (2017). Analysis of dietary intake and body composition of female athletes over a competitive season. *Montenegrin Journal of Sports Science and Medicine*, 6(2), 57-65. doi: 10.26773/mjssm.2017.09.008

Duffield, R., & Marino, F. E. (2007). Effects of pre-cooling procedures on intermittent-sprint exercise performance in warm conditions. *European Journal of Applied Physiology*, 100(6), 727-735. doi: 10.1007/s00421-007-0468-x

Krustруп, P., Mohr, M., Amstrup, T., Rysgaard, T., Johansen, J., Steensberg, A., Bangsbo, J. (2003). The yo-yo intermittent recovery test: physiological response, reliability, and validity. *Medicine and Science in Sports and Exercise*, 35(4), 697-705. doi: 10.1249/01.MSS.0000058441.94520.32

#### Journal article (online; electronic version of print source):

Williams, R. (2016). Krishna's Neglected Responsibilities: Religious devotion and social critique in eighteenth-century North India [Electronic version]. *Modern Asian Studies*, 50(5), 1403-1440. doi:10.1017/S0026749X14000444

#### Journal article (online; electronic only):

Chantavanich, S. (2003, October). Recent research on human trafficking. *Kyoto Review of Southeast Asia*, 4. Retrieved November 15, 2005, from <http://kyotoreview.cseas.kyoto-u.ac.jp/issue/issue3/index.html>

#### Conference paper:

Pasadilla, G. O., & Milo, M. (2005, June 27). *Effect of liberalization on banking competition*. Paper presented at the conference on Policies to Strengthen Productivity in the Philippines, Manila, Philippines. Retrieved August 23, 2006, from <http://siteresources.worldbank.org/INTPHILIPPINES/Resources/Pasadilla.pdf>

#### Encyclopedia entry (print, with author):

Pittau, J. (1983). Meiji constitution. In *Kodansha encyclopedia of Japan* (Vol. 2, pp. 1-3). Tokyo: Kodansha.

#### Encyclopedia entry (online, no author):

Ethnology. (2005, July). In *The Columbia encyclopedia* (6th ed.). New York: Columbia University Press. Retrieved November 21, 2005, from <http://www.bartleby.com/65/et/ethnolog.html>

#### Thesis and dissertation:

Pyun, D. Y. (2006). *The proposed model of attitude toward advertising through sport*. Unpublished Doctoral Dissertation. Tallahassee, FL: The Florida State University.

Book:

Borg, G. (1998). *Borg's perceived exertion and pain scales*: Human kinetics.

Chapter of a book:

Kellmann, M. (2012). Chapter 31-Overtraining and recovery: Chapter taken from Routledge Handbook of Applied Sport Psychology ISBN: 978-0-203-85104-3 *Routledge Online Studies on the Olympic and Paralympic Games* (Vol. 1, pp. 292-302).

Reference to an internet source:

Agency. (2007). Water for Health: Hydration Best Practice Toolkit for Hospitals and Healthcare. Retrieved 10/29, 2013, from [www.rcn.org.uk/newsevents/hydration](http://www.rcn.org.uk/newsevents/hydration)

## 2.5. Tables

All tables should be included in the main manuscript file, each on a separate page right after the Reference section.

Tables should be presented as standard MS Word tables.

Number (Arabic) tables consecutively in the order of their first citation in the text.

Tables and table headings should be completely intelligible without reference to the text. Give each column a short or abbreviated heading. Authors should place explanatory matter in footnotes, not in the heading. All abbreviations appearing in a table and not considered standard must be explained in a footnote of that table. Avoid any shading or coloring in your tables and be sure that each table is cited in the text.

If you use data from another published or unpublished source, it is the authors' responsibility to obtain permission and acknowledge them fully.

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Table heading should be written above the table, in Title Case, and without a full stop at the end of the heading. Do not use suffix letters (e.g., Table 1a, 1b, 1c); instead, combine the related tables. *See* example:

✓ **Table 1.** Repeated Sprint Time Following Ingestion of Carbohydrate-Electrolyte Beverage

### 2.5.2. Table sub-heading

All text appearing in tables should be written beginning only with first letter of the first word in all capitals, i.e., all words for variable names, column headings etc. in tables should start with the first letter in all capitals. Avoid any formatting (e.g., bold, italic, underline) in tables.

### 2.5.3. Table footnotes

Table footnotes should be written below the table.

General notes explain, qualify or provide information about the table as a whole. Put explanations of abbreviations, symbols, etc. here. General notes are designated by the word *Note* (italicized) followed by a period.

✓ *Note.* CI: confidence interval; Con: control group; CE: carbohydrate-electrolyte group.

Specific notes explain, qualify or provide information about a particular column, row, or individual entry. To indicate specific notes, use superscript lowercase letters (e.g. <sup>a,b,c</sup>), and order the superscripts from left to right, top to bottom. Each table's first footnote must be the superscript <sup>a</sup>.

✓ <sup>a</sup>One participant was diagnosed with heat illness and n = 19.<sup>b</sup>n = 20.

Probability notes provide the reader with the results of the tests for statistical significance. Probability notes must be indicated with consecutive use of the following symbols: \* † ‡ § ¶ || etc.

✓ \*P<0.05, †p<0.01.

#### 2.5.4. Table citation

In the text, tables should be cited as full words. *See* example:

- ✓ Table 1 (first letter in all capitals and no full stop)
- ✓ ...as shown in Tables 1 and 3. (citing more tables at once)
- ✓ ...result has shown (Tables 1-3) that... (citing more tables at once)
- ✓ ...in our results (Tables 1, 2 and 5)... (citing more tables at once)

## 2.6. Figures

On the last separate page of the main manuscript file, authors should place the legends of all the figures submitted separately.

All graphic materials should be of sufficient quality for print with a minimum resolution of 600 dpi. JASPE prefers TIFF, EPS and PNG formats.

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Figures and figure legends should be completely intelligible without reference to the text.

The price of printing in color is 50 EUR per page as printed in an issue of JASPE.

#### 2.6.1. Figure legends

Figures should not contain footnotes. All information, including explanations of abbreviations must be present in figure legends. Figure legends should be written below the figure, in sentence case. *See* example:

- ✓ **Figure 1.** Changes in accuracy of instep football kick measured before and after fatigued. SR – resting state, SF – state of fatigue, \* $p > 0.01$ , † $p > 0.05$ .

#### 2.6.2. Figure citation

All graphic materials should be referred to as Figures in the text. Figures are cited in the text as full words. *See* example:

- ✓ Figure 1
  - × figure 1
  - × Figure 1.
  - ✓ ...exhibit greater variance than the year before (Figure 2). Therefore...
  - ✓ ...as shown in Figures 1 and 3. (citing more figures at once)
  - ✓ ...result has shown (Figures 1-3) that... (citing more figures at once)
  - ✓ ...in our results (Figures 1, 2 and 5)... (citing more figures at once)

#### 2.6.3. Sub-figures

If there is a figure divided in several sub-figures, each sub-figure should be marked with a small letter, starting with a, b, c etc. The letter should be marked for each subfigure in a logical and consistent way. *See* example:

- ✓ Figure 1a
- ✓ ...in Figures 1a and b we can...
- ✓ ...data represent (Figures 1a-d)...

## 2.7. Scientific Terminology

All units of measures should conform to the International System of Units (SI).

Measurements of length, height, weight, and volume should be reported in metric units (meter, kilogram, or liter) or their decimal multiples.

Decimal places in English language are separated with a full stop and not with a comma. Thousands are separated with a comma.

Percentage	Degrees	All other units of measure	Ratios	Decimal numbers
✓ 10%	✓ 10°	✓ 10 kg	✓ 12:2	✓ 0.056
× 10 %	× 10 °	× 10kg	× 12 : 2	× .056

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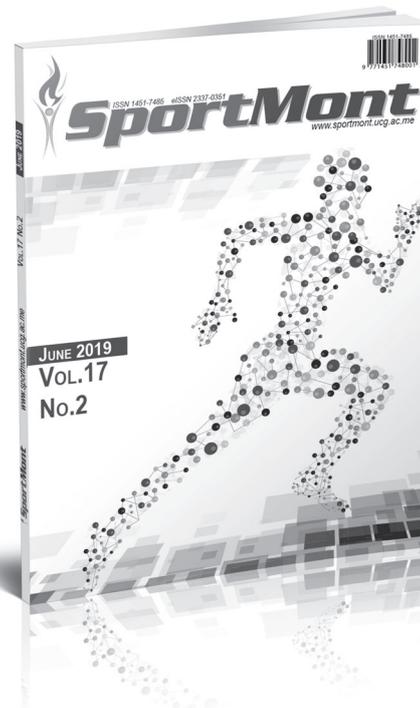
Signs should be placed immediately preceding the relevant number.

✓ 45±3.4	✓ p<0.01	✓ males >30 years of age
× 45 ± 3.4	× p < 0.01	× males > 30 years of age

## 2.8. Latin Names

Latin names of species, families etc. should be written in italics (even in titles). If you mention Latin names in your abstract they should be written in non-italic since the rest of the text in abstract is in italic. The first time the name of a species appears in the text both genus and species must be present; later on in the text it is possible to use genus abbreviations. See example:

✓ First time appearing: *musculus biceps brachii*  
Abbreviated: *m. biceps brachii*



ISSN 1451-7485

Journal Sport Mont (SM) is a print (ISSN 1451-7485) and electronic scientific journal (eISSN 2337-0351) aims to present easy access to the scientific knowledge for sport-conscious individuals using contemporary methods. The purpose is to minimize the problems like the delays in publishing process of the articles or to acquire previous issues by drawing advantage from electronic medium. Hence, it provides:

- Open-access and freely accessible online;
- Fast publication time;
- Peer review by expert, practicing researchers;
- Post-publication tools to indicate quality and impact;
- Community-based dialogue on articles;
- Worldwide media coverage.

Journal SM is published three times a year, in February, June and October of each year. Journal SM publishes original scientific papers, review papers, editorials, short reports, peer review - fair review, as well as invited papers and award papers in the fields of Sports Science and Medicine, as well as it can function as an open discussion forum on significant issues of current interest.

Journal SM covers all aspects of sports science and medicine; all clinical aspects of exercise, health, and sport; exercise physiology and biophysical investigation of sports performance; sport biomechanics; sports nutrition; rehabilitation, physiotherapy; sports psychology; sport pedagogy, sport history, sport philosophy, sport sociology, sport management; and all aspects of scientific support of the sports coaches from the natural, social and humanistic side.

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Autumn issue – October 2019

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The University of Montenegro is the leading higher education and research institution in Montenegro. It is a public institution, established by the state, operating as a unique legal entity represented by the Rector. It is an integrated university organized on the model of the most European universities. Organizational units are competent for provision of study programmes, scientific-research and artistic work, use of allocated funds and membership in professional associations.

Since its foundation, the University of Montenegro has continuously been conducting reforms in the area of education and research, while since 2003 in line with the trends in EHEA. After adoption of the Bologna Declaration, University of Montenegro organized systematic preparation of documents aligned with it. Already in 2003, the experimental teaching programme started and today, all studies are organised in line with the Bologna principles. During the last two years systematic reforms of the University's study programmes have been conducted in order to harmonize domestic higher education system with European standards and market needs to highest extent.

The University of Montenegro has unique academic, business and development objectives. It comprises 19 faculties and two research institutes. The seat of the UoM is in Podgorica, the capital city, while university units are located in eight Montenegrin towns. The University support services and centers (advisory services, accounting department, international cooperation, career orientation) are located in the Rectorate.

Academic community of University of Montenegro is aware of the importance of its functioning for further development of the state and wider region. It has been so far, and will be in the future, the leader in processes of social and cultural changes, along with the economic development.

In the aspect of attaining its mission, University of Montenegro is oriented towards the priority social needs of the time in which it accomplishes its mission; open for all the students and staff exclusively based on their knowledge and abilities; dedicated to preservation of multicultural and multi-ethnic society in Montenegro; entrepreneurial in stimulating social and economic application of supreme achievements within the scope of its activities.

In 2015/16 there were a total of 1.192 employees at UoM, 845 of which were engaged in teaching. In the same year there were 20.236 students registered at all three cycles of studies.

Internationalization is high on the agenda of UoM priorities, thus it has participated in a number of international projects – over 50 projects funded under the Tempus programme, over 15 Erasmus Mundus Action 2 projects for student mobility, a number of projects under FP7 funding scheme or IPA supported projects, Erasmus + capacity building and International credit mobility projects and other.

For more information about University of Montenegro, please visit our website [www.ucg.ac.me](http://www.ucg.ac.me) or send e-mail to [pr.centar@ac.me](mailto:pr.centar@ac.me).





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*Volume 17, 2019, 3 issues per year; Print ISSN: 1451-7485, Online ISSN: 2337-0351*

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**Faculty for sport  
and physical education  
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*Znanje i zdravlje!*



Univerzitet Crne Gore

## UNIVERZITET CRNE GORE INSTITUT ZA BIOLOGIJU MORA



University of Montenegro – Institute for marine biology is located in Kotor, Montenegro. Since its establishment in 1961, the Institute performed comprehensive research of the marine and coastal area, which has its wide impact to the environmental protection, pollution-prevention and practical application. Core competencies of the Institute are focused on research in the fields of marine conservation, ichthyology and marine fisheries, marine chemistry, aquaculture, plankton research, neuro and eco-physiology. The main research area is investigating and protection of Adriatic sea with special interest of South Adriatic area. Institute for marine biology have a wide range of international cooperation with Marine research institutions and Universities all over Mediterranean area through a numerous EU funded scientific projects.

All over the year Institute is looking to hire a young students from the field of general biology, marine biology, marine chemistry, molecular biology or similar disciplines on voluntary basis to work with us. We need opportunity for international internship or MSc or PhD thesis that could be performed on Institute in our 5 different labs: Fisheries and ichthyology, Aquaculture, Marine chemistry, Plankton and sea water quality and Benthos and marine conservation.

Every year Institute organize several summer schools and workshop for interested students, MSc and PhD candidates. From 01-05 July 2019 we will organize Summer school "Blue Growth: emerging technologies, trends and opportunities" in frame of InnoBlueGrowth Project who is financed by Interreg Med programme. Through the specific theme courses, workshops and working labs offered – covering different areas of the blue economy – the Summer School aims at encouraging young people involvement in blue economy sectors by offering high-quality technical knowledge and fostering their entrepreneurial spirit. The Summer School will facilitate fruitful exchanges and a stronger understanding among a variety of actors coming from different Mediterranean countries with diverse profiles, including representatives from the academia, the public and private sectors, but also potential funders and investors. These activities will count on specific team building activities for participants as well to reinforce interpersonal skills and foster cohesion among blue academia and sectors.

If You are interested apply on the following link: <https://www.ucg.ac.me/objava/blog/1221/objava/45392-ljetnja-skola-plavi-rast-nove-tehnologije-trendovi-i-mogucnosti>

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## *Faculty of Economics*

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## *University of Montenegro*

The Faculty of Economics celebrated its 57th anniversary this year, and it is the oldest higher education institution in the country. Since its establishment, 8,630 students graduated at our Faculty.

Today, Faculty of Economics is a largely interdisciplinary institution, characterized by expressed dynamism in its work. Employees at the Faculty are dedicated to constant improvements and enhancements, all in accordance with the needs brought by the changes.

We provide our students with the best theoretical and practical knowledge, enabling them to develop critical spirit in approaching economic phenomena and solving concrete problems in daily work. From September 2017, at the Faculty, the new generation will start a 3 + 2 + 3 study, which will improve the quality of studying.



Development of Faculty of Economics in the coming period will follow the vision of development of the University of Montenegro, pursuing full achievement of its mission

Comprehensive literature, contemporary authors and works have always been imperative in creation of new academic directions at Faculty of Economics, which will form the basis of our future.

Faculty and its employees are dedicated to developing interest in strengthening the entrepreneurial initiative, creative and interdisciplinary approach among young people, using modern teaching and research methods. In this regard, the Faculty has modern textbooks and adequate IT technology, which supports the objectives set.





# UNIVERSITY OF MONTENEGRO FACULTY OF MECHANICAL ENGINEERING Podgorica



[www.ucg.ac.me/mf](http://www.ucg.ac.me/mf)

Mechanical engineering studies in Montenegro started during the school year 1970/71. On April 15th, within the Technical Faculty, the Department of Mechanical Engineering was formed. The Department of Mechanical Engineering of the Technical Faculty was transformed in 1978 into the Faculty of Mechanical Engineering, within the University "Veljko Vlahović". Since 1992 the Faculty of Mechanical Engineering is an autonomous University unit of the University of Montenegro. It is situated in Podgorica.

The University of Montenegro is the only state university in the country, and the Faculty of Mechanical Engineering is the only faculty in Montenegro from the field of mechanical engineering.

Activities of the Faculty of Mechanical Engineering can be divided into three fields: teaching, scientific-research work and professional work.

Two study programmes were accredited within the Faculty of Mechanical Engineering:

- Academic study programme MECHANICAL ENGINEERING
- Academic study programme ROAD TRAFFIC

The study programmes are realised according to the Bologna system of studies in accordance to the formula 3+2+3.

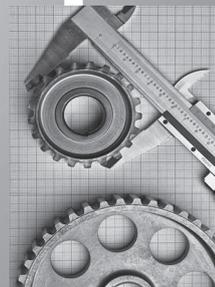
On the study program Mechanical Engineering it is possible to study next modules:

- Mechanical Engineering - Production
- Applied Mechanics and Construction
- Energetics
- Energy Efficiency
- Mechatronics
- Quality



At the Faculty of Mechanical Engineering, as organisational units, there are centres and laboratories through which scientific-research and professional work is done:

- Centre for Energetics
- Centre for Vehicles
- Centre for Quality
- Centre for Construction Mechanics
- Centre for Traffic and Mechanical Engineering Expertise
- Centre for transport machines and metal constructions
- 3D Centre
- Didactic Centre - Centre for Automation and Mechanomics training
- European Information and Innovation Centre
- Cooperation Training Centre
- Laboratory for Metal Testing
- Laboratory for Turbulent Flow Studies
- Laboratory for Vehicle Testing
- Laboratory for Attesting of Devices on the Technical Examination Line



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