

## PSYCHOMETRIC PROPERTIES OF THE CROATIAN VERSION OF QUESTIONNAIRE FOR THE SOURCES OF ENJOYMENT IN YOUTH SPORT

Ninoslav Šilić, Kristina Sesar and Franjo Lovrić

*Department of Physical Education, University in Mostar, Bosnia and Herzegovina.*

*Original scientific paper*

### Abstract

*The aim of this study was to examine the factor structure and reliability of the Croatian version of the Sources of Enjoyment in Youth Sport Questionnaire and to check the relative importance of sources of enjoyment for the sample of young Croatian male and female swimmers. A quasi-confirmatory factor analysis was conducted with 302 swimmers aged between 10 and 18 years to evaluate the six-factor structure of the original SEYSQ. The results show that the SEYSQ, when translated into the Croatian language and conducted on young swimmers, is a valid and reliable instrument. The Cronbach alpha reliability coefficients showed acceptable values for each of the subscales. The subscale means showed that the most important source of enjoyment among young Croatian swimmers was Self-Referenced Competency, while the least important was Other-Referenced Competency and Recognition. This work represents an additional contribution to the validation of the SEYSQ, which has been proven as a reliable instrument enabling an accurate assessment and, consequently, a better understanding of sources of enjoyment in youth sport.*

**Key words:** *sources of enjoyment, SEYSQ, swimming, factor analysis.*

### Introduction

The enjoyment of sport has been recognized as being one of the key factors promoting motivated behavior and persistence in sporting activities in young athletes (Scanlan, Carpenter, Schmidt, Simons & Keeler, 1993; Scanlan & Simons, 1992; Weiss, Kimmel, & Smith, 2001). Although there are differences in the definition of the construct of enjoyment in sport (Kimiecik & Harris, 1996; Wankel, 1997), most researchers have defined enjoyment as the positive affective response of participants to the sporting experience, which is reflected in generalized feelings such as pleasure, liking and fun (Scanlan, Carpenter, Lobel & Simons, 1993; Scanlan & Simons, 1992). Furthermore, the enjoyment of sport is an important component of motivation in sport and is considered to be a key factor in initiating and maintaining involvement in sporting activities. Although the determinants of motivation to participate in sport and sources of enjoyment appear to be similar, these concepts are still significantly different. What may be enjoyable for an athlete may not necessarily be the reason they are involved in a sport, and the reason they are involved in their sport may not be particularly enjoyable for them (Wiersma, 2001). Research into sources of enjoyment in sport by Scanlan and Lewthwaite (1986) resulted in the identification of a two-dimensional model of enjoyment in sport. The sources of enjoyment in this four-quadrant model are categorized into intrinsic and extrinsic factors and are focused on achievement and non-achievement. The intrinsic-achievement quadrant consists of predictors related to personal perceptions of competence and control, such as the goal to achieve mastery and perceived ability (Scanlan & Lewthwaite, 1986). The sources of enjoyment within the extrinsic-achievement quadrant consisted of personal perceptions of

competence and control derived from other people, such as positive social evaluation and social recognition of sporting achievement (Scanlan & Lewthwaite, 1986). The importance of the social recognition of sporting achievement as a source of enjoyment was confirmed by Scanlan, Stein and Ravizza (1989), whose research demonstrated that social recognition was one of the five main sources of enjoyment for 26 former figure skaters. The intrinsic-nonachievement quadrant consisted of sources related to (a) physical activity and movement, such as sensations, the relief of tension, action and exhilaration, and (b) competition, such as excitement (Scanlan & Lewthwaite, 1986). The sources in the extrinsic-nonachievement quadrant come from nonperformance aspects of sport, such as affiliation with peers and positive interactions with adults revolving around a mutually shared sporting experience. Peers and significant adults are believed to be important social agents in sport for young people, contributing to levels of enjoyment, sources of validation and social support in the context of achievement (Babkes & Weiss, 1999; Ommundsen & Vaglum, 1991; Smith, Balaguer, & Duda, 2006). Using Scanlan and Lewthwaite's (1986) theoretical model, Wiersma (2001) conducted a study designed to test the two-dimensional Sources of Enjoyment model by developing a psychological measuring instrument. In the first phase, the items were selected based on a review of literature on youth sport. The content of the items is defined based on discussions with experts in this field. The Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ) was tested on a sample of 896 athletes aged between 12 and 18 years. According to Wiersma (2001), the SEYSQ is a scale that measures enjoyment across six

dimensions: Self-Referenced Competency, Other-Referenced Competency and Recognition, Effort Expenditure, Competitive Excitement, Affiliation with Peers and Positive Parental Involvement. This six-factor model provides a broader view of enjoyment in sport because it accounts for extrinsic and nonachievement-oriented sources of enjoyment. These are also reasons why children participate in sport and are associated with certain social aspects (e.g., affiliation with peers and positive parental involvement) or the excitement coming from the basic human need for exercise neither of which are associated with achievement in a particular sport. There is a need for a Croatian-language quantitative psychometric measuring instrument to assess different sources of enjoyment, designed specifically for the area of sport. There have been no studies dealing with the various abovementioned sources of enjoyment for a sample of Croatian athletes. The aim of this study was to examine the factor structure and reliability of the Croatian version of the Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ; Wiersma, 2001) and to check the relative importance of sources of enjoyment for this sample of young Croatian male and female swimmers.

## Methods

### *Participants*

The participants in the study were young swimmers aged between 10 and 18 years ( $M = 12.7$  years,  $SD = 2.25$ ). The total sample included 302 (174 male and 128 female) swimmers. Data were collected from eight swimming clubs in four Croatian counties. All of the participants had been members of their swimming teams for at least two years and trained at their clubs three to five times per week.

### *Assessment and procedures*

The sources of enjoyment were assessed using the Croatian version of the Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ; Wiersma, 2001), translated and adapted for the purpose of this research. The SEYSQ is a 28-item scale that measures enjoyment across six dimensions: Self-Referenced Competency (four items), Other-Referenced Competency and Recognition (six items), Effort Expenditure (five items), Competitive Excitement (four items), Affiliation with Peers (five items) and Positive Parental Involvement (four items). Responses to the SEYSQ are provided using a five-point Likert-type scale, with answers ranging from 'Not at all' to 'Very much'. The stem "When I enjoy sport the most, this enjoyment usually comes from..." preceded each item. The six-factor structure of the questionnaire has been validated by Wiersma (2001) on a sample of 896 young athletes, and its reliability coefficients ranged from 0.65 to 0.85. In MacDonald's (2010) study, the reliability coefficients ranged between 0.74 and 0.84. To be considered valid, the cross-cultural translation of the instrument take several successive steps as

per the methodology developed by Valler and (1989): using the back-translation technique, the translated version is evaluated by a committee, a pretest of the experimental version using a representative sample is carried out and then the experimental version is corrected if necessary. Two translators, one of the authors and an English and Croatian language expert, translated the original version into Croatian. Then, two other bilingual individuals in the field of Physical Education retranslated the instrument back into English. Both versions, English and Croatian, were then reviewed by two researchers in the field of sport psychology, a doctor and a PhD student, who made additional corrections to the experimental version of the questionnaire. A pretest of the experimental Croatian version was then carried out in a pilot study with 181 young team sports athletes. The participants answered the experimental version and indicated directly on the questionnaire words or expressions they did not understand. The revisions made in this phase led to further modifications and language interventions of the proposed model. The final form of the Croatian version of the SEYSQ was tested with 302 young swimmers in the present study. Initial permission to conduct this study was obtained from the management of the swimming clubs and the coaches. The swimmers' parents were sent information letters detailing the nature of the investigation. Next, written parental consent was obtained for each swimmer. The participants completed the SEYSQ prior to or after a training session, in a group setting. After being given brief instructions, the participants were asked to answer honestly, and the main researcher was available to answer any questions. This took about 15 to 20 minutes.

### *Data analysis*

The data were analyzed using the Statistica 12 software package (StatSoft, 2013); descriptive statistics were computed for all measures assessed, including means, standard deviations, skewness, and kurtosis. The factor structure of the Croatian version of the SEYSQ was investigated and factor analysis was conducted to verify the factorial validity and reliability of the questionnaire. Discriminant analysis was used to assess the concurrent validity of the questionnaire.

## Results

A quasi-confirmatory factor analysis was computed using the principal axis factoring extraction method with varimax rotation. The six-factor solution was fixed a priori and a minimal loading of .40 was utilized as the criterion for an item's inclusion under the factor it was proposed to measure. The skewness and kurtosis are presented in Table 1. According to the results obtained, it is evident that those coefficients do not exceed the critical value of 7.00 (Li et al., 1998) or 8.00 (Kline, 2005) described in the statistical literature, indicating that there is no severe departure from normal distribution.

Table 1. Skewness and kurtosis coefficients.

Subscale	Skewness	Kurtosis
Other-Referenced Competency	-0,49	-0,479
Affiliation with Peers	-1,816	4,404
Effort Expenditure	-0,795	0,171
Positive Parental Involvement	-0,636	-0,481
Self-Referenced Competency	-1,33	2,216
Competitive excitement	-0,946	0,716

It was decided that no intervention should be applied in the original data. Therefore, it can be presumed that the results distributed as described will not produce too big a distortion and the final conclusions will not be significantly changed. The skewness value in Table 1. shows that the distributions deviate in the same direction. This is to be expected for the intrinsic motivation variables, as it indicates a higher variability in the opinions of the athletes. Most of the distribution is leptokurtic, which means that the results are clustered around the mean. The variables ORCR and PPI are platykurtic. The distribution of all of the results showed satisfactory symmetry and flattening (skewness < 3.00; kurtosis < 8.00) and there was reasonable use of parametric statistical methods (Kline, 2005). Item communalities, eigen values and factor loadings are presented in Table 2. With the number of factors to be extracted set at six, the eigen values ranged from 0.66 to 8.43, accounting for 53.45% of the variance.

Table 2. Eigen value, % of variance explained and % of total variance explained.

Factor	Eigen value	% of variance	% cumulative
1	8,437	30,132	30,132
2	2,285	8,163	38,296
3	1,629	5,819	44,115
4	1,129	4,035	48,15
5	0,822	2,936	51,087
6	0,661	2,363	53,451

The first factor in the Croatian version of the SEYSQ is Other-Referenced Competency and recognition. This factor accounted for 30.13% of the variance and consists of the six items originally related to the concept of Other-Referenced Competency and Recognition outlined by Wiersma (2001). The second factor accounted for 8.16% of the variance and consists of five items.

All of the items in this factor coincide with the items categorized into Affiliation with Peers from the original version of the SEYSQ. The third factor consists of five items and accounted for 5.81% of the variance. This factor relates to the original concept of Effort Expenditure outlined by Wiersma (2001). The fourth factor of the Croatian version of the SEYSQ is Positive Parental Involvement, consisting of four items reflecting the same factor from the original version of the SEYSQ. The fifth factor accounted for 2.93% of the variance, consisting of four items coinciding with the items categorized under Self-Referenced Competency from the original version of the SEYSQ.

Table 3. Factor structure of the Croatian version of SEYSQ.

Variable	Factor	F1	F2	F3	F4	F5	F6
3	ORCR	0,49					
5	ORCR	0,50					
12	ORCR	0,65					
16	ORCR	0,57					
18	ORCR	0,66					
19	ORCR	0,64					
4	AP		0,76				
6	AP		0,67				
7	AP		0,51				
10	AP		0,68				
11	AP		0,74				
2	EE			0,68			
9	EE			0,46			
13	EE			0,70			
20	EE			0,69			
26	EE			0,69			
17	PPI				0,72		
23	PPI				0,74		
25	PPI				0,68		
28	PPI				0,56		
1	SRC					0,45	
14	SRC					0,55	
21	SRC					0,59	
27	SRC					0,58	
8	CE						0,42
15	CE						0,24
22	CE						0,62
24	CE						0,66

Legend: ORCR=Other-Referenced Competency and Recognition; AP=Affiliation with Peers; EE=Effort Expenditure; PPI=Positive Parental Involvement; SRC=Self-Referenced Competency; CE=Competitive excitement.

The last factor of the SEYSQ is Competitive Excitement, and consists of four items. However, in the Croatian version of the SEYSQ, one item (item 15) failed to load on this or any other factor. Nevertheless, retaining this item in the Competitive Excitement factor would not significantly impair the reliability of this factor, and it was decided to keep it. This factor accounts for 2.36% of the variance (Table 3.).

Subscale means and standard deviation values representing the relative importance of the sources of enjoyment, as well as subscale reliability estimates, are presented in Table 5. The most important source of enjoyment in swimming for the participants was Self-Referenced Competency, followed by Affiliation with Peers and Effort Expenditure. The least important source of enjoyment in swimming for the participants was Other-Referenced Competency and Recognition.

The Cronbach alpha reliability coefficients showed acceptable values for each of the subscales. In the current study, the reliability coefficients ranged from 0.73 (Self-Referenced Competency) to 0.84 (Affiliation with Peers). The reliability of the Croatian version is slightly higher than the reliability coefficients obtained in the original English version of the SEYSQ (which ranged from 0.65 to 0.85) (Wiersma, 2001).

Table 4. Descriptive statistics and subscale reliability estimates of the SEYSQ.

Subscale	M	SD	$\alpha$
Other-Referenced Competency and Recognition	3,93	0,74	0,79
Affiliation with Peers	4,37	0,7	0,84
Effort Expenditure	4,02	0,76	0,83
Positive Parental Involvement	3,98	0,89	0,82
Self-Referenced Competency	4,53	0,51	0,73
Competitive excitement	3,94	0,86	0,8

To assess the concurrent validity of the questionnaire, discriminant analysis was used with gender as a criterion. The results of the discriminant analysis indicate a small, but statistically significant, difference in the sources of enjoyment between the two gender groups of swimmers (Canonical-R=0.268;  $p=0.001$ ). Male swimmers reported greater enjoyment compared with female swimmers, corroborating the findings of McCarthy et al. (2008) regarding the differences in sources of enjoyment for young athletes. This finding supports the concurrent validity of the measuring instrument.

## Discussion and conclusions

The aim of this study was to examine the psychometric properties of the Croatian version of the SEYSQ, e.g. to check the factor structure and reliability with a sample of swimmers aged between 10 and 18 years, and to determine the relative importance of sources of enjoyment for this sample of male and female swimmers. There is a need for this instrument to be adapted and translated because to date, there has not been quantitative psychometric measuring instrument to assess different sources of enjoyment in the Croatian language. Investigating the factor structure and adaptation of the questionnaire in pretest studies did not show an identical factor structure to that obtained in Wiersma's (2001) study. Only after additional intervention did the results show that almost all of the items correlated with corresponding factors congruent with the original English version. Factor analysis confirmed the six-factor model of the Croatian version of the SEYSQ, which was congruent with the original version of the SEYSQ (Wiersma, 2001). This led to the development of the Croatian version of the Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ). The factors in the Croatian version of SEYSQ were: Self-Referenced Competency, Other-Referenced Competency and Recognition, Effort Expenditure, Competitive Excitement, Affiliation with Peers and Positive Parental Involvement. The alpha reliability estimates (Cronbach, 1951) ranged from 0.73 (Self-Referenced Competency) to 0.84 (Positive Parental Involvement), meaning that the reliability of the Croatian version is slightly higher than the reliability coefficients obtained for the original version of the SEYSQ (which ranged from 0.65 to 0.85) (Wiersma, 2001).

The subscale means showed that the most important source of enjoyment among young Croatian swimmers was Self-Referenced Competency, while the least important was Other-Referenced Competency and Recognition; this corroborates the findings of Wiersma (2001). Many sports suffer from significant drop-out or withdrawal rates, with attrition rates being particularly high during adolescence (Petlichkoff, 1996). The most commonly cited reasons for withdrawal include negative experiences, such as the lack of fun, conflicts with coaches, etc. (Weiss and Williams, 2004). Enjoyment has been recognized as a key factor for motivation and sustained involvement in youth sport (Scanlan and Simmons, 1992). Therefore, identifying and understanding sources of enjoyment as a function for the further development of athletes will make it possible to ensure that young athletes have positive sporting experiences. The most enjoyable aspect of sport for this sample was Self-Referenced Competency. If a person is succeeding in learning and mastering the skills, they will have a higher perception of their competence, their experience of enjoyment will increase and they will also strive harder to achieve (Duda and Hall, 2001). The least important source of enjoyment for young swimmers was Other-Referenced Competency and Recognition.

Therefore, these swimmers reported that certain intrinsic and social engagement factors were more enjoyable than a sense of competence coming from being better than others. Interestingly, the second biggest source of enjoyment in this sample of young swimmers was Affiliation with Peers. In many youth sport programs, particularly individual sports, social interaction is usually limited to time spent outside of training and competition. Providing opportunities to create a sense of cohesion during practice and placing emphasis on team spirit during competitions can lead to a satisfactory environment for adolescent swimmers at a critical age for social development. Coaches who work with young athletes must be aware of the importance of intrinsic sources of enjoyment, especially those which are achievement-oriented. It is also obvious that some social sources of enjoyment are important to young swimmers.

Creating an atmosphere promoting affiliation and support between teammates both during training and competition may lead to a more enjoyable environment, which is particularly important in individual sports such as swimming. The aim of this study was to examine the psychometric properties of the Croatian version of the SEYSQ and to check the relative importance of sources of enjoyment for a sample of swimmers. The results show that the SEYSQ, when translated into the Croatian language and conducted on young swimmers, is a valid and reliable instrument. The six subscales in the Croatian version are consistent with the original version of the SEYSQ (Wiersma, 2001). There are probably other factors of enjoyment that are unique to swimming which are not considered in this study.

Because the characteristics of each sport differ, the sources of enjoyment presented in this study should not be taken as an exhaustive list of the potential sources of enjoyment for young swimmers. The large age range (from 10 to 18 years) is also a limiting factor in this study. Future research should investigate whether there are differences in sources of enjoyment for different age groups. Different sports have different characteristics, and so further validation of this

instrument is certainly necessary for other individual and team sports. This work represents an additional contribution to the validation of the SEYSQ, which has been proven as a reliable instrument enabling an accurate assessment and, consequently, a better understanding of sources of enjoyment in youth sport. In addition, an important implication for practice is that from now on, sources of enjoyment in sport can be measured and analyzed in the Croatian language.

## References

- Babkes, M.L., & Weiss, M.R. (1999). Parental influence on children's cognitive and affective responses to competitive soccer participation. *Pediatric Exercise Science, 11*(1), 44-62.
- Barić, R., & Horga, S. (2006). Psychometric Properties of the Croatian Version of Task and Ego Orientation in Sport Questionnaire (TEOSQ). *Kinesiology, 38*(2), 135-142.
- Boyd, M.P., & Yin, Z. (1996). Cognitive-affective sources of sport enjoyment in adolescent sport participants. *Adolescence, 31*(122), 383-396.
- Deci, E.L., & Ryan, R.M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- Duda, J.L., & Hall, H.K. (2001). *Achievement goal theory in sport: Recent extensions and future directions*. New York: John Wiley and Sons, Inc.
- Gable, R.K., & Wolf, M.B. (1993). *Instrument development in the affective domain: Measuring attitudes and values in corporate and school settings*. Boston, MA: Kluwer Academic Publishers.
- Harter, S. (1978). Effectance motivation reconsidered: toward a developmental model. *Human development, 21*, 34-64.
- Kimiecik, J.C., & Harris, A.T. (1996). What is enjoyment? A conceptual/definitional analysis with implications for sport and exercise psychology. *Journal of Sport and Exercise Psychology, 18*(3), 247-263.
- Kline, R.B. (2005). *Principles and practice of structural equation modelling*. New York: Guilford.
- Li, F., Harmer, P., Duncan, T.E., Duncan, S.C., Acock, A., & Boles, S. (1998). Approaches to testing interaction effects using structural equation modeling methodology. *Mult Behav Research, 33*(1), 1-39.
- MacDonald, D.J. (2010). *The role of enjoyment, motivational climate, and coach training in promoting the positive development of young athletes. Doctoral dissertation*. Ontario: Queens University Kingston.
- McCarthy, P.J., Jones, M.V., & Clark-Carter, D. (2008). Understanding enjoyment in youth sport: A developmental perspective. *Psychology of Sport and Exercise, 9*, 142-156.
- Ommundsen, Y., & Vaglum, P. (1991). Soccer competition anxiety and enjoyment in young boy players. The influence of perceived competence and significant others' emotional involvement. *International Journal of Sport Psychology, 22*(1), 35-49.
- Petlichkoff, L.M. (1996). *The drop-out dilemma in youth sports. The child and adolescent athlete: Encyclopedia of sports medicine*. Oxford: Blackwell Science.
- Scanlan, T.K., & Clewthwaite, R. (1986). Social psychological aspects of competition for male youth sport participants: IV. Predictors of enjoyment. *Journal of Sport Psychology, 8*, 25-335.
- Scanlan, T.K., Stein, G.L., & Ravizza, K. (1989). An in-depth study of former elite figure skaters: II. Sources of enjoyment. *Journal of Sport and Exercise Psychology, 11*(1), 65-83.
- Scanlan, T.K., & Simmons, J.P. (1992). The construct of sport enjoyment. In: *Motivation in Sport and Exercise*. Champaign, IL: Human Kinetics.
- Scanlan, T.K., Carpenter, P.J., Lobel, M., & Simons, J.P. (1993). Sources of enjoyment for youth sport athletes. *Pediatric Exercise Science, 5*, 275-285.
- Smith, A. L., Balaguer, I., & Duda, J.L. (2006). Goal orientation profile differences on perceived motivational climate, perceived peer relationships, and motivation-related responses of youth athletes. *Journal of Sports Sciences, 24*(12), 1315-1327.
- Stein, G.L., & Scanlan, T.K. (1992). Goal attainment and non-goal occurrences as underlying mechanisms to an athlete's sources of enjoyment. *Pediatric Exercise Science, 4*(2), 150-165.
- Vallerand, R.J. (1989). Vers une méthodologie de validation trans-culturelle de questionnaires psychologiques: Implications pour la recherche en langue française. [Towards A methodology for cross-cultural validation of psychological questionnaires: Implications for French-language research. In French.]. *Canadian Psychology/Psychologie Canadienne, 30*(4), 662.
- Wankel, L.M., Kreisel, P.J.J. (1985). Factors underlying enjoyment of youth sport. *Journal of Sport Psychology, 7*, 51-64.
- Wankel, L.M. (1997). Strawpersons, Selective Reporting, and Inconsistent Logic: A Response to Kimiecik and Harris's Analysis of Enjoyment. *Journal of Sport and Exercise Psychology, 19*(1), 98-109.
- Weiss, M.R., Kimmel, L.A., & Smith, A.L. (2001). Determinants of sport commitment among junior tennis players: Enjoyment as a mediating variable. *Pediatric Exercise Science, 13*(2), 131-144.
- Wiersma, L.D. (2001). Conceptualization and development of the sources of enjoyment in youth sport questionnaire. *Measurement in Physical Education and Exercise Science, 5*(3), 153-177.

## PSIHOMETRIJSKA SVOJSTVA HRVATSKE VERZIJE UPITNIKA O IZVORIMA UŽIVANJA U SPORTU MLADIH

### **Sažetak**

*Cilj ovog istraživanja bio je ispitati faktorsku strukturu i pouzdanost hrvatske verzije upitnika o izvorima užitka u omladinskom sportu i provjeriti relativnu važnost izvora užitka za uzorak mladih hrvatskih muških i ženskih plivača. Korištena je quasi-confirmativna faktorska analiza na uzorku 302 plivača uzrasta od 10 do 18 godina, uz ocjenu strukture šest faktora originalnog SEYSQ. Rezultati pokazuju da je SEYSQ, preveden na hrvatski jezik i proveden na mladim plivačima, valjan i pouzdan instrument. Koeficijenti pouzdanosti Cronbach a pokazali su prihvatljive vrijednosti za svaku od podskala. Coeficijenti pouzdaosti su pokazali da je najvažniji izvor užitivanja među mladim hrvatskim plivačima bilo samopouzdanje, dok je najmanje važna kompetencija i priznavanje drugih. Ovaj rad predstavlja dodatni doprinos potvrđivanju SEYSQ, koji je dokazan kao pouzdani instrument koji omogućuje točnu procjenu i time bolje razumijevanje izvora užitivanja u sportu mladih.*

**Ključne riječi:** izvori užitivanja, SEYSQ, plivanje, faktorska analiza

---

*Received: April 21, 2017*

*Accepted: June 10, 2017*

*Correspondence to:*

*Ninoslav Šilić*

*University of Mostar*

*Faculty of Sciences*

*Department of Physical Education*

*Rodoć bb, 88000 Mostar, Bosnia & Herzegovina*

*Phone: +38763865884*

*E-mail: ninoslavsilic@yahoo.com*