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IDENTIFYING SOURCES OF STRESS IN FOOTBALLERS AND SWIMMERS OF BOTH GENDERS AT DIFFERENT COMPETITION LEVELS

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Abstract. *The research this paper is based on is aimed at identifying the primary sources of stress among footballers and swimmers of both genders, of different ages, competing at varying competition levels. The aim of the research is also to find out whether or not there is a difference in the sources of stress in relation to the gender, age and competition level of athletes. The sample comprised 323 athletes (footballers and swimmers) from Serbia, more precisely, from Vojvodina, of both genders, of different ages (12-32; AS=17,59; SD=5) and different levels of competition.*
The results of a factor analysis suggest that the greatest source of stress pertains to career-related factors. The next most commonly experienced source of stress is the relationship with other people, whereas the third most frequent source of stress includes items pertaining to the athlete's self-confidence. Based on the correlation between the factors, it can be concluded that the higher the level of self-confidence, the lesser the impact of different sources of stress. The most significant result of this research is that there is a statistically significant difference (sig.=,005) in sources of stress with respect to the type of sport, gender and the level of competition, at least when the swimmers and footballers from Serbia, i.e. its northern province, Vojvodina, are concerned. All the findings mentioned so far indicate the importance of an individualized approach to different categories of athletes since each investigated subcategory in this research proved to have its own characteristics.

Key words: *sources of stress, football, swimmer, gender and competition levels*

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INTRODUCTION

Since the very beginning of their sports careers, athletes are involved in rigorous training that lasts for a few hours every day, owing to which they not only exceed their functional and motor limits, but are also able to perfect their techniques and tactics. However, experience has shown that more often than not this is not sufficient for achieving top results. It is a common occurrence that as the competitive season ends, the athletes' immune systems weaken, they are injured more often and find it more difficult to attain the shape needed for the most important competitions. The reasons often lie in psychological (cognitive, conative and affective) factors, i.e. the athletes' psychological state. Being unable to adequately manage the pressure they endure caused by their own and other people's expectations, athletes find themselves overwhelmed by continuous stress. In order to avoid these consequences, it is of the utmost importance to identify the sources of stress and eliminate them in due time, or at least to control them.

What is stress and how is it generated?

Stress can be defined as an unspecific bodily reaction to any demand set before it (Selye, 1983). The same author states that there are two dimensions or four basic types of stress. If illustrated graphically, on one end of the axis there would be anxiety/distress (negative stress) and exhilaration/eustress (positive stress). On the other axis there would be hyperstress (too much stress) and hypostress (too little stress). Martens, Vealey and Burton (1990) view stress as a process linked to the manifestation of anxiety. In other words, it is a process that results in anxiety if an objective situation is perceived as threatening. Gregson and Graves (2000) define stress as a long-term state of anxiety resulting in physiological and psychosomatic reactions that cause deterioration of health, frustration, as well as mental and physical fatigue. Therefore, stress is a way in which a person reacts mentally, physically and emotionally to varying states, feelings, other people, the environment, changes and demands. Holmes and Rahe (1967) believe that stress is proportional to the degree to which people have to change and adapt their own life to the outside world. Transactional theoreticians led by Lazarus view stress as a result of the evaluation of a stressful situation, i.e. evaluation of adequacy of one's own potentials (inner resources) for the purpose of meeting the demands of the environment (Taylor, 1995; Lazarus & Folkman, 1984; Lazarus 1999, 2000). Along the same lines, people with developed self-efficacy (inner capacity for managing stressful events) perceive a large number of stressors as challenges, whereas those who believe they lack the potentials to manage stressful situations often believe they have lost something or that they are endangered, for which reason they see threat even when it does not exist. A usual reaction to their distorted perception of the world is typically manifested as an increased level of anxiety or some other self-disruptive emotions (Maddux, 2005 cited in Genc, Pekić & Matanović, 2013). In analyzing the literature, Zotović (2002) emphasizes that there are two ways to approach stress. On the one hand, stress can be viewed as an event in one's surroundings, i.e. an event that for an individual or for most people represents a threat or a loss, rarely a challenge. On the other hand, stress is a reaction to an event in the outside world that (1) activates intensive feelings, most commonly unpleasant ones, and/or (2) entails a group of typical bodily reactions. Therefore, reactions to stress, or symptoms that indicate the presence of stress, can be physiological, behavioral, cognitive

and emotional, as well as a combination of those. Some of them are voluntary and come as a result of an individual's conscious attempts to overcome a stressful situation, while others are involuntary and automatic.

The available literature offers several classifications of sources of stress. They can be grouped according to physical and socio-cultural factors, duration (short-term and long-term), expectedness (unexpected and anticipated) and scope (those with limited and obvious effects and those that produce chain reactions). Also, they can be divided into external and internal. The former group relates to stress caused by different situations, events, injuries (e.g. injury during a competition), whereas the latter includes those that result from emotions (e.g. fear of failure).

According to Gregson and Graves (2000), the main stressors found among teenagers are school, job, family and fitting into a peer group. Also, other sources of stress comprise sexuality, events in their immediate surroundings and their future. Research conducted among teenagers, aged 13-18, in Canada revealed that 51% of teenagers are under a lot of stress mainly because of school. Some teenagers are found to be likely to develop chronic stress owing to unstable family relations and experiences they find unacceptable.

Sources of stress in sport

Besides common sources of stress, athletes are also affected by many other stressors that result from different sporting situations. During both training and competition athletes can experience positive and negative stress, i.e. both positive and negative reactions to adjustment. Positive adjustment to stressful training enables an athlete to improve psychophysically, whereas negative adaptation to stress is often initiated when the coach has not made the training suit the athlete's endurance (Silva, 1990). As a result of negative adaptation and their inability to adequately cope with the pressure they endure caused both by their own and other people's expectations, athletes come under continuous stress that commonly leads to the overtraining syndrome, i.e. burnout (Silva, 1990; Anderson et al., 2003; Tišma, 2009). More dated literature on stress in sport is mainly focused on those stressors that are related to athletes' performance, such as: negative aspects of competition, negative relations with others, demands of the environment, psychophysical requirements (Gould, Jackson, and Finch 1993; Scanlan, Stein and Ravizza, 1991 cited in Thelwell, Weston and Greenlees, 2007). However, contemporary literature is focused more on organizational stress. While interviewing professional athletes from various sports, Fletcher and Hanton (2003) discovered that organizational stressors include: the environment, personal characteristics, the coach, training style and way of communication. Lazarus and Folkman (1984) singled out eight basic sources of stress: novelty, predictability, suspense, proximity, duration, time uncertainty, ambiguity, time of the event in relation to the athlete's life cycle. Thatcher and Day's research (2008) confirmed the existence of the eight factors and added two more – comparison of the self against others and inadequate preparation. Noblet and Gifford (2002) employed a qualitative analysis in their research on the sources of stress among professional footballers in Australia and discovered that they can be viewed in layers. The first level relates to topics (negative aspects of sports systems, anxiety caused by expectations and performance standards, career development, negative aspects of interpersonal relations, demands caused by the type of job or problems related to adjusting working and non-working hours). The second level

comprises the category of stressors (poor communication, non-participation in decision making, negative aspects of performance-related expectations, uncertain performance, uncertainty about the future, negative aspects of the relations with the coach and other staff, teammates, media, sponsors, injuries etc.) The third level relates to sources of stress (inadequate feedback, false promises, autocratic leadership, pressure owing to club rating, results, expectations, fear of failure, lack of self-confidence, coach's or audience's insulting behavior, lack of the sense of community, long and monotonous training, isolation, absence of family and friends, the feeling of being abandoned etc.). Thelwell, Weston and Greenlees (2007) obtained similar results when investigating sources of stress in sport and related strategies for overcoming it. When interviewing top athletes (cricket players), they noted that the level of their stress was determined by the following factors:

- Their perceptions of their own self (self-induced pressure, emotional instability, lack of self-confidence),
- The characteristics of the competition (anxiety about the performance, importance of the competition, the conditions, teammates' performance, referees),
- The actual status of the athlete (shape, selection),
- Relationships with significant others (communication, perception of the negative influence of the relationship, pressure caused by other people's expectations),
- External influence (club reputation, contracts, private life, financial pressure, competition demands),
- Perception of others (audience, press, selectors),
- Rivals (their standard, knowledge, behavior) and
- Technique.

Negative and not very constructive feedback given by significant others can cause a feeling of personal inadequacy among young athletes owing to their lowered self-esteem (Scanlan and Passer, 1978). Puente-Diaz and Anshel (2005) obtained similar findings that confirmed that Mexican tennis players find it most stressful when they receive negative feedback from their coach or family on their performance, as well as when rivals cheat during the game. Conducting research related to sources of stress and strategies for coping with it on a student athlete from Jordan, university researchers Abedalhafiz, Altahajneh and Al-Haliq (2010) learned that the most common sources of stress are injury, illness, competition pressure, referees, disputes with the coach and spectators. Such findings are in concert with more recent research studies that revealed that student athletes suffer from stress resulting from the pressure to win, excessive anxiety, finances, frustration, academic failure and fear of negative social evaluation, all of which have a great impact on their physical, mental and emotional health (Cox, 2011; Humphrey, Yaw, Bowden, 2000; Weinberg, Gould, 2011 cited in Parnabas et al., 2014)

Scanlan and Lawthwaite (1984) discovered that young athletes of both genders believe the greatest source of stress is parental pressure. In their research study on sources of acute competitive stress and employment of strategies for overcoming it in relation to athletes' age and gender, Goyen and Anshel (1998) came to the conclusion that the intensity of stress depends on the stressful event. The findings indicated that there is a difference in sources of stress between the two genders. Namely, the greatest stress in women (adolescent and grown up) results from societal evaluation. They find it very stressful when they are criticized by parents, when the audience disapproves of some aspects of their performance or when the coach yells at them or pressures them. On the

other hand, the most common stressors found among male athletes seem to be performance-related (making mental or physical mistakes, referees' poor judgments etc.). The same research study showed that there are also differences in relation to the athletes' age. More precisely, older athletes (older than 19) find a performance more stressful than adolescents for whom the most stressful element is the feedback received after the match. A few years later, Anshel and Sutarso (2007) conducted a study on the relationship between the sources of acute stress and the styles of coping with it that athletes use. The researchers grouped sources of stress into two categories: performance-related (unfair judging, injury and performance while in pain, receiving negative comments, the rival not being caught cheating) and coach-related (a dispute with the coach, the coach is angry with the player, unfair treatment). The obtained findings indicate that there is a difference in the sources of stress and strategies of copying with it with respect to the gender and the age of the athlete. On the other hand, Asztalos et al. (2012) found out that there is a very small difference in perceiving stress and the amount of emotional distress among male and female athletes doing different sports.

Investigating the symptoms of stress in relation to the competition level among student athletes who compete at the national, state, provincial or university level in Malaysia, researchers found out that there is a difference in stress symptoms in relation to the competition level. Owing to such a finding, sports psychologists and trainers should offer cognitive and psychological strategies for overcoming those symptoms to those who compete at the university level and behavioral strategies to those competing at the national level (Parnabas et al., 2014).

The literature cited in this paper so far confirmed that sport, due to its nature, can be very stressful. Identifying and understanding stressors in sport has become a common subject of investigation for many sports psychologists. The research this paper is based on is aimed at identifying the primary sources of stress among footballers and swimmers of both genders, of different ages and at varying competition levels. The participants in the research are from Serbia, more precisely, from the north of the country, Vojvodina. The aim of the research is also to find out whether or not there is a difference in sources of stress in relation to the gender, age and the competition level of athletes.

METHOD

Sample and procedure

The sample comprised 323 athletes (193 footballers and 130 swimmers) from Serbia, more precisely, from Vojvodina, of both genders (272 male and 51 female), of different ages (12-32; AS=17,59; SD=5) and at different levels of competition (83 top/elite athletes competing at the international level, who are representatives or play football in first-league clubs; 189 standard/sub-elite athletes competing at the national level and 45 recreational athletes swimmers who train daily, and footballers who play in lower-league clubs). The sample included swimmers and footballers as representatives of two different kinds of sports. Namely, in this paper, swimming represents an individual, cyclic, aquatic sport, whereas football presents a collective, acyclic, on land, ball sport.

The respondents were asked to fill in the given material anonymously and in groups on their club premises. The material comprised several scales aimed at identifying potential sources of stress in sport: Martens Competitive State Anxiety Inventory (CSAI), a scale for

evaluating emotional competence, a scale for evaluating readiness to take risk, a scale for identifying perceptions of the coach's style of behavior, a scale for identifying sources of stress, as well as a scale aimed at identifying levels of stress and ways of overcoming it. For the purposes of this paper, the researchers utilized only the scale for identifying sources of stress.

In summation, the variable sample in this research included 23 items on the scale aimed at identifying the psychological sources of stress in sports as the dependent variables, and gender, type of sport and competition level as the independent variables.

Measuring instrument

For the purposes of this research, a scale for identifying sources of stress (Source of Stress in Sport - SSS) was utilized. Its construction is based on theoretical assumptions about sources of stress in sport. Initially the scale contained 27 items that described different states and situations athletes go through during training and competition. After checking its metric characteristics, 23 items were retained. On a 4-point Likert scale the respondents were supposed to circle a number 1-4 (1 – do not agree at all, 4 – fully agree) to indicate the extent to which each statement was true for them.

Statistical procedure

The questionnaire was assessed employing two procedures: (1) a Scale Reliability Analysis (to determine Cronbach's Alpha) and (2) a factor analysis, Principal Components Analysis (PCA) with a direct oblimin method of rotation. All statistically-based decisions were made at the significance level of 0.05 (Sig. < .05). For determining the primary sources of stress, descriptive statistics was used (frequencies, arithmetic mean, standard deviation, sum). For testing the significance level between average scalar values of the three subsamples (elite, sub-elite and recreational athletes), an analysis of variance was performed. Also, the researchers made use of an independent sample t-test for testing the significance level in relation to gender and type of sport. The gathered data were analyzed using SPSS.

RESULTS

The questionnaire for the assessment of the sources of stress

Before applying any statistical procedure, the transformation of items into positive statements was performed (8, 15, 17, 18, 19, 20 and 21) to ensure that all items are formulated as sources of stress, i.e. a greater score indicates a more intense source of stress. The questionnaire metric was assessed using two procedures: (1) Scale Reliability Analysis (to determine Cronbach's alpha) and (2) a factor analysis, Principal Components Analysis (PCA) with a direct oblimin method of rotation (Table 1). All statistically-based decisions were made at the significance level of 0.05 (Sig. < .05). Cronbach's alpha coefficient was 0.722 before correction. After removing items 8, 22, 24 and 27, the coefficient was 0.773, which implies sound reliability and internal compatibility of the scale for the given sample (Table 1).

After calculating Cronbach's alpha and reducing the number of items, the remaining 23 items comprising the scale for identifying sources of stress in sport were subject to the Principal Component Analysis (PCA) for which purposes SPSS 19 was used. Before conducting the PCA, the adequacy of the items for the factor analysis was assessed. The analysis of the correlation matrix revealed that there were many coefficients whose value was 0.3 and more. The value of the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = .796) exceeds the suggested value of 0.6 (Kaiser, 1970). Moreover, the values of Bartlett's test of sphericity (sig. = .00) were statistically significant, which justifies the factor analysis (Table 1). The Principal Component Analysis revealed there were six components with values over 1, which accounts for 17.8%, 11.4%, 8.8%, 5.3%, 4.8% and 4% of the variance. The analysis of the scree plot revealed a very clear breakpoint after the third component. Following Catell's criterion (1966), it was decided to retain three components. Such a decisions was further supported by the results of the parallel analysis with three components whose values exceed the suitable threshold values obtained through an equally large matrix of random numbers (23 variable x 323 respondents). The three-factor solution accounted for 37.6% of the variance, with the first component making up 17.9%, the second 11.4% and the third 8.3%. In order to understand the components better, a direct oblimin method of rotation was performed. The three components have significant factor loadings, but a few variables show a significant loading for the first and the third factor (3, 5, 6, 7, 8, 9), while variable 12 is common to the first and the second component. The analysis of the three components reveals that the first one is saturated by the variables related to career as a source of stress (16, 5, 14, 17, 4), whereas the second one is saturated by the variables indicating relationship with others as a source of stress (20, 19, 21, 22, 23) and the third is saturated by the variables pertaining to the athlete's self-confidence (6, 7, 1, 11) (Table 1). A weak positive correlation was identified between the first and the second factor (r = 0.026), whereas between the third and the first factor, as well as between the third and the second factor, a weak negative correlation was identified ((r = -0.217) and (r = -0.062) respectively). The results obtained through this analysis support the use of the three factors as separate scales.

Descriptive statistics

In order to identify the most and the least stressful sources of stress among athletes and how often they experience them, the gathered data were analyzed using descriptive statistics, and are presented as frequencies in Table 2. Moreover, the following parameters were calculated for each variable: mean, standard deviation and sum (Table 2).

The data given in Table 2 show that the respondents are exposed to the majority of stressor more or less frequently. While the majority of respondents almost never perceive variables 10, 11, 16, 17, 19, 21, 22 and 23 as sources of stress, it can be concluded that all the other ones are, to a greater or a lesser degree, common sources of stress for the majority of the respondents. The finding that more than 10% of the respondents almost always see variables 4, 8, 13, 14 and 15 as stressors should be given due attention. The respondents are exposed to other sources of stress rarely or sometimes. The mean scores in the same table reveal that the most commonly experienced stressors are: 14, 13, 8, 4, 15, 5 and 2, whereas variables 22 and 19 have the lowest mean and standard deviation scores. The variables with the greatest standard deviation scores are 14, 13, 8 and 4. When the variables are compared in relation to the total sum, it is evident that variables 14, 13, 8 and 7 have the highest sum, whereas variables 22 and 19 have the lowest.

Table 1 Factor analysis and reliability statistics for the sources of stress

Q		Cronbach's Alpha if item deleted	Communalities extraction	Pattern matrix			Structure matrix		
				F1	*F2*	*F3*	*F1*	*F2*	*F3*
1	The audience makes me nervous.	.761	.375			**-.527**			**-.564**
2	I find it hard to be in quarantine.	.772	.231			**-.484**			**-.480**
3	I feel weak during preparations because the training sessions are more difficult than usual.	.761	.296	**.349**		-.344	**.425**		-.422
4	I feel hopeless when I am not chosen to play a match / compete.	.762	.285	**523**			**.527**		
5	I am worried that during a competition / match I will disappoint those who believe in me.	.755	.461	**.454**		-.418	**.544**		-.514
6	Before a competition I think how my rivals are in better shape than I am.	.757	.563			**-.666**	.369		**-.717**
7	I am worried that something will go wrong during the competition / match.	.758	.431	.316		**-.512**	.427		**-.580**
8	I find it demotivating when my pay is late (salary, fellowship)	.778	.546	**.620**		.559	**.499**		.424
9	I feel under tremendous pressure before the competition.	.759	.447	**.426**		-.425	**.515**		-.510
10	Trade deadlines are very stressful for me.	.769	.243	**.476**			**.482**		
11	I feel bad when my teammates get a better transfer.	.764	.369			**-.493**	.372		**-.549**
12	Training sessions are monotonous and boring.	.761	.311	.319	**.354**		.372	**.375**	
13	I am scared by the thought of ending my sports career.	.768	.262	**.481**			**.500**		
14	I am afraid of injuries as they can end my career.	.761	.303	**.534**			**.542**		
15	Poor training conditions demotivate me.	.765	.302	**.518**			**.487**		
16	I am afraid of not being provided with adequate medical care.	.764	.298	**.550**			**.554**		
17	What media write about me has a great influence on me.	.759	.575	**.518**			**.533**		
18	Poor communication with the coach.	.770	.372		**.599**			**.597**	
19	Bad relations with my teammates.	.774	.513		**.683**			**.683**	
20	I do not feel appreciated in the club.	.770	.483		**.696**			**.695**	
21	Training sessions do not help me progress.	.773	.476		**.684**			**.676**	
22	I am not supported by the people close to me.	.770	.503		**.665**			**.674**	
23	I fail to adjust my school obligations and training.	.766	.411		**.635**			**.637**	
KMO = .796 Bartlett's test of sphericity = 1549.135 *Sig.*= .000 *Cronbach's alpha* = .773									

Table 2 The distribution of frequencies of the replies given as percentage, arithmetic mean, standard deviation and sum

Q	Never 1	Rarely 2	Average often 3	Almost always 4	M	SD	∑
1.	47.1	36.3	9.7	6.9	1.76	.881	566
2.	35.6	39.2	15.6	9.7	2.02	.996	635
3.	42.2	38.6	15.0	4.2	1.79	.817	574
4.	28.8	36	20.8	14.4	2.23	1.030	721
5.	29.9	38.8	21.3	10	2.1	.940	678
6.	42.4	30.5	19.1	8	1.88	.940	607
7.	33.2	42.7	18.6	5.5	1.96	.855	626
8.	43.9	23.3	15	17.8	2.28	1.106	724
9.	38.2	38.8	17.7	5.3	1.9	.870	606
10.	52.9	32	9.2	5.8	1.71	.878	523
11.	60.9	21.9	12.2	5	1.61	.876	495
12.	43.2	41.3	11.1	4.4	1.77	.809	566
13.	32.9	27.3	21.4	18.4	2.28	1.10	724
14.	27.4	25.2	22.4	24.9	2.43	1.13	778
15.	28	38.8	22.4	10.8	2.15	.954	691
16.	51.8	32.7	11.9	3.6	1.67	.827	537
17.	51.5	27.1	14.4	6.9	1.79	.930	549
18.	46	32.3	13.7	8.1	1.8	.946	592
19.	74.3	16.6	5.3	3.8	1.4	.755	442
20.	33.2	42.5	19.3	5	1.96	.851	631
21.	58.5	27.7	9.7	4.1	1.59	.826	507
22.	75.5	16.1	6.5	1.9	1.34	.685	434
23.	57.6	25.6	11.7	5.1	1.64	.877	519

Comparative statistics

Table 3 contains all the statistically significant results of the t-test performed in order to identify the differences with relation to gender and type of sport. The table also contains the results of the ANOVA test employed with the aim of identifying differences with respect to the nature of the respondents' engagement in sport (recreation, standard or elite). The findings indicate that there is a statistically significant difference in sources of stress with respect to gender, type of sport and competition level.

Variables 1, 2, 3, 6, 7, 8 and 11 show that there are statistically significant differences in sources of stress in relation to gender. Moreover, variables 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 19 and 22 reveal statistically significant differences in sources of stress with respect to the type of sport. As for sources of stress with relation to the competition level, statistically significant differences are found for variables 1, 4, 5, 8, 19, 21 and 22.

The findings presented in Table 3 also show that variables 1, 2, 3, 5, 6, 7, 9, 11, 12, 19 and 22 are significantly more stressful for swimmers than for footballers, whereas the opposite is true for variables 4 and 8. Moreover, the findings reveal that variables 1, 2, 3, 6, 7 and 11 are significantly more stressful for women athletes, whereas variable 8 is more stressful for male athletes. In addition, recreational athletes find variable 1 significantly more stressful than elite athletes. On the other hand, variables 4, 5 and 8 are significantly more stressful for sub-elite athletes than recreational athletes who find variables 19, 21 and 22 more stressful than the other two groups of athletes.

Table 3 The significance of the difference in sources of stress in relation to type of sport, gender and competition level

Q	Difference with relation to sport			Difference with relation to gender			Difference with relation to competition level	
	Mf	Ms	Sig.	Mm	Mfm	Sig.	M. dif. I-J	Sig.
1.	1.66	1.98	.000*	1.70	2.08	.004*	R-V= .428	.029*
2.	1.84	2.28	.000*	1.96	2.33	.014*		
3.	1.69	1.94	.006*	1.74	2.06	.010*		
4.	2.34	2.08	.026*				S-R=.424	.042*
5.	2.01	2.23	.041*				S-R=.370	.049*
6.	1.61	2.28	.000*	1.79	2.37	.000*		
7.	1.86	2.10	.013*	1.90	2.27	.004*		
8.	2.73	1.60	.000*	2.42	1.52	.000*	S-R=.463	.050*
9.	1.82	2.10	.037*					
10.								
11.	1.41	1.90	.000*	1.54	2.00	.001*		
12.	1.69	1.88	.048*					
13.								
14.								
15.								
16.								
17.								
18.								
19.	1.31	1.49	.039*				R-S=.50; R-V=.569	.000*
20.								
21.							R-S=.354; R-V=.475	.008*
22.	1.28	1.44	.034*				R-S=.421; R-V=.489	.000*
23.								

Mf – arithmetic mean football; Ms – arithmetic mean swimming; Mm – arithmetic mean male; Mfm – arithmetic mean female; sig. – statistical significance; M. Dif. – Mean difference; R – recreational athletes, **S** – standard athletes, V – top level competitors

DISCUSSION

The results of the factor analysis suggest that the greatest source of stress pertains to career-related factors. The next most commonly experienced source of stress is the relationship with other people, whereas the third most frequent source of stress includes items pertaining to the athlete's self-confidence. When these findings are analyzed in the light of those that Silva (1990) obtained, it can be concluded that the first two factors indicate a negative adaptation that can eventually lead to overtraining and burnout (Silva, 1990; Anderson et al., 2003; Tišma, 2009), whereas the third factor shows a positive adaptation to training and competition and enables the athlete to make psychophysical progress. The findings obtained through this research showed that the prevailing stressors in sport are those related to one's career and those resulting from the athlete's relationship with others are in concert with the findings obtained by Gould, Jackson and Finch (1993) and Scanlan, Stein and Ravizza, (1991), revealing performance-related factors and organizational factors, also identified by Fletcher and Hanton (2003). These

factors should be given as much attention as the technical-tactical preparation of athletes since they are responsible for the lack of the desired results following a several-month long effort. Different authors, including Lazarus and Folkman (1984), Noblet and Gifford (2002), Telvel et al. (2007), Tacher and Day (2008), Abedalhafiz et al. (2010) and many others, also point to these sources of stress while giving them somewhat different names and grouping them in more or fewer subgroups. The fact that there is a weak positive correlation ($r = 0.026$) between the first and the second factor, while between the third and the first factor, as well as between the third and the second factor, there is a weak negative correlation (($r = -0.217$) and ($r = -0.062$) respectively) indicates the fact that all three factors can be used as separate scales. Furthermore, based on the findings it can be concluded that athletes' self-confidence is inversely proportional to one's career and one's relationship with others as sources of stress. In other words, the higher the level of self-confidence, the lesser the impact of different sources of stress.

The analysis of individual items, i.e. the frequencies that the respondents used as answers, shows that those items that belong to the first factor are the most stressful, i.e. those that are career-related. Such a finding proves again that it is paramount to talk to athletes about the strategy, i.e. about the reason why a certain athlete is chosen to compete and the other one is not. Moreover, it is important to understand that athletes find it essential to get their pay on time. It is even more important to teach them how to redirect their motivation to their inner resources. Furthermore, it is vital to control levels of stress and avoid becoming overtrained since it is a common cause of injuries (Anderson et al., 2003; Tišma, 2009). Similar results were obtained through the analysis of sums and arithmetic means for each item. Therefore, it can be concluded that athletes find it most stressful when they think about the end of their career, when their pay is late and when they are not chosen to compete. These items belong to the first factor. It is an encouraging finding that the least stressful situations include poor relations with teammates and the lack of support given by people important to the athletes. Such findings reveal that athletes are given support by the people they find important and that they have good relations with their teammates, which is contrary to the findings gathered by Skanlan and Passer (1978) and Diaz and Anshel (2005). The respondents were most hesitant when it came to items with the highest standard deviation (14, 13, 8 and 4). In order to possibly identify existing patterns, the gathered findings were compared with respect to gender, type of sport and the level of competition.

The most significant result of this research is that there is a statistically significant difference in sources of stress in relation to the type of sport. It is interesting to note that swimmers perceive spectators as a source of stress, whereas footballers play before much larger audiences and have greater media attention. Moreover, swimmers handle quarantine with more difficulty than footballers, they also feel weak during preparations as their training sessions are more intense, they are concerned about disappointing those who believe in them, they think their rivals are in a better shape, they are afraid that something will go wrong during the competition, they feel burdened before the competition, they feel bad when their teammates sign a better contract, they find their training monotonous and boring, they have poor relationships with teammates and they think they are not adequately supported by those important to them. The analysis of these items reveals that swimmers have a greater level of anxiety than footballers and that negative rivalry is more common among them. Such results can be understood when the nature of sport and competition are taken into consideration. More precisely, swimming is an individual sport in which athletes are

individually responsible for the results they achieve. In addition, a swimming competition is significantly shorter than a football match, hence swimmers do not have multiple chances for tactical ups and downs if they want to achieve a good result. On the contrary, footballers play as a team and have shared responsibility. It is more often than not that if a player is not in top shape, other players can compensate for his underperformance. In addition, footballers often report that during the match they experience psychological and performance-related ups and downs after which they manage or fail to perform as they were expected to, but it does not prevent their team from winning. A football coach always has the option of substituting a player in order to enable the team to achieve better results, whereas in swimming every athlete earns his own ranking, except when it is a group competition, in which case it is not uncommon for swimmers to perform better than when competing individually. As opposed to swimmers, footballers feel more hopeless when they are not chosen for the starting lineup and are more demotivated when their pay is late. Therefore, it is important for footballers to have a feeling that their career is progressing well. These results indicate certain characteristics of the two sports and reveal that they are not only different in nature (individual - collective, cyclic - acyclic, land - aquatic etc.), but that these two groups of athletes react to different stressors. These are the aspects that need to be given more attention by coaches, sport psychologists and other people in sports especially when they talk to athletes for preventive or curative reasons both before and after a competition.

Earlier research (Goyen and Anshel, 1998) indicated the difference in sources of stress with respect to gender, but there were also those researchers (Scanlan and Lawthwaite, 1984; Asztalos et al., 2014) who found no such differences. The findings gathered during the research process related to this paper is based on the revelation that spectators make female athletes nervous, that they find quarantine very difficult, that they feel weak during preparations because their training sessions are more difficult, that they think their rivals are better, that they worry more that something may go wrong during the competition and that they feel bad when their teammates sign a better contract. On the contrary, male athletes find it more stressful when their pay is late. This difference between male and female respondents would be more precise had more women athletes participated in the research. One of the disadvantages of this research is that it includes no women who play football (they were not available), while the other one may be that it includes more men than women. It is a well-know fact that up to the age of 12 the same number of girls and boys practice swimming and that beyond that age the situation changes drastically. There are more boys in the junior league while the number of athletes, especially girls, competing in the senior league decreases significantly.

The research yielded interesting results with respect to the level of competition. Parnabas et al. (2014) claim that there is a difference in the stress symptoms and ways of managing stress in relation to the level of competition. The results of this research show that there are differences in relation to sources of stress. Namely, recreational athletes, as opposed to elite athletes, find spectators very stressful. At first glance this is a surprising finding, but when the fact that recreational athletes do sports for their own good is considered, owing to which they do not have an audience, then it becomes clear that elite athletes do not find it as stressful due to the fact that they are constantly exposed to large audiences and the media. However, recreational athletes, especially those who are involved in football, are usually followed by people close to them (family, neighbors, friends) since their support and feedback mean most to these athletes, which can be very stressful. When compared to elite and sub-elite athletes, those who do sports for recreation find it more

stressful when they have poor relations with their teammates, if they do not make progress and if they are not supported by the people close to them. This is an interesting finding since elite and sub-elite athletes have more demanding training sessions and they endure a greater pressure related to the expected result. It is advisable to investigate these findings on a larger sample. Furthermore, the gathered findings show that sub-elite (standard) athletes find it more stressful than recreational athletes when they are not chosen to compete, when they fear that they will disappoint those who believe in them, and when their pay is late. As expected, these items are not found to be stressful among recreational athletes for the very reason that they do not experience the same situations as standard athletes.

It is noteworthy that not one item was singled out as being typical of elite (top) athletes even though it might be expected that owing to their frequent competitions, constant pressure and hard training they could be most exposed to stress. Such a finding leads to the conclusion that they have probably devised adequate strategies for managing stress. It might be worth exploring further whether or not there is a difference in the level of stress and ways of managing it with respect to gender, level of competition and type of sport.

All the findings mentioned so far indicate the importance of an individualized approach to different categories of athletes since each investigated subcategory in this research has proved to have its own characteristics.

CONCLUSION

The gathered data reveal that there are differences in sources of stress with respect to the type of sport, gender and the level of competition, at least when the swimmers and footballers from Serbia, i.e. its northern province, Vojvodina, are concerned.

When working with swimmers, special attention should be paid to the following facts: they find audiences very stressful, they find quarantine very difficult, they feel weak during preparations because the training sessions are more difficult, they are concerned about disappointing those who believe in them, they think their rivals are in a better shape, they fear something will go wrong during the competition, they feel burdened before a competition, they feel bad when their teammates sign a better contract, they think their training is monotonous and boring, they have a poor relationship with their teammates and they think they are not adequately supported by those important to them. The analysis of these items shows that swimmers experience more anxiety than footballers, as well as that negative rivalry is more common among them. As opposed to swimmers, footballers feel hopeless when they are not chosen for the starting lineup and are demotivated more when their pay is late. Therefore, it is important for footballers to have a continuous feeling that their career is progressing well. It is of the utmost importance for a psychologist or a coach to talk to athletes about these issues when preparing them for a competition.

As for the differences between female and male athletes, the findings reveal the following: women find spectators more stressful, they find quarantine difficult, they feel weak during preparations because the training sessions are more demanding, before a competition they think their rivals are in a better shape, they fear something may go wrong during the competition and they feel bad when their teammates sign a better contract. Therefore, when working with female athletes special attention should be paid to their self-confidence. As opposed to them, male athletes find it more stressful when their pay is late, which suggests they should be directed more to inner sources of motivation, i.e. to enjoy the very activity and progress.

Based on the gathered findings it can be concluded that recreational athletes consider spectators more stressful than elite athletes. Also, as opposed to elite and sub-elite athletes, recreational athletes find it more stressful when they have poor relations with their teammates, when they make no progress or when they lack support from those important to them. The findings also show that sub-elite (standard) athletes find it more stressful than recreational athletes when they are not selected to compete, when they are concerned about disappointing those who believe in them and when their pay is late. Therefore, when working with recreational athletes it is recommended that special attention be paid to creating conditions that will ensure they make progress and develop the sense of community. Moreover, it is of utmost importance to offer them support.

The questionnaire used for the purposes of this research can be divided into three subscales that identify the following: career-related sources of stress, sources of stress related to other people and self-confidence. The gathered findings indicate that career-related stressors are found to be most stressful, as well as that stressors related to relationships with other people (coach, teammates, close people) are only slightly less stressful. The results also show that greater the self-confidence, the less exposure to the sources of stress.

Even though the research revealed interesting findings, its design has certain flaws. One of them is certainly the disproportionate number of male and female respondents, as well as a large age range (12-32). It is suggested that future research projects should include athletes from a few sports in order to overcome the problem of gender disproportionality. That would also enable researchers to group respondents in appropriate age groups. Moreover, another drawback of the questionnaire is the absence of items pertaining to those sources of stress that are related to unfair judging.

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UTVRĐIVANJE IZVORA STRESA KOD FUDBALERA I PLIVAČA RAZLIČITOG POLA I TAKMIČARSKOG NIVOA

Istraživanje se bavi utvrđivanjem primarnih izvora stresa kod fudbalera i plivača sa teritorije Srbije, odnosno njene severne pokrajne Vojvodine. Sekundarni cilj je da se utvrdi postoji li razlika u izvorima stresa s obzirom na pol, vrstu sporta i nivo takmičenja sportista. Uzorak ispitanika je sačinjen od 323 sportiste, oba pola, različitog uzrasta (12 do 32 godine), različitog takmičarskog nivoa.

Rezultati dobijeni faktorskom analizom sugerišu da najveći izvor stresa predstavljaju situacije koje se tiču karijere. Na drugom mestu su situacije koje obuhvataju odnos sa drugima. Treći faktor obuhvata ajteme koji upućuju na samopouzdanje sportiste. Na osnovu korelacije među faktorima može se reći da što je veći nivo samopouzdanja kod sportiste to će biti manje izraženi pomenuti izvori stresa Najznačajniji rezultati ovog istraživanja se ogledaju u činjenici da je pronađena razlika(sig.=,005) u izvorima stresa s obzirom na vrstu sporta, pol i nivo takmičenja sportista, bar kada su u pitanju uzorkom obuhvaćeni plivači i fudbaleri sa teritorije Srbije, odnosno njene severne pokrajne Vojvodine. Svi gore navedeni rezultati sugerišu važnost individualizovanog pristupa različitim kategorijama sportista jer svaka ovde istraživana podkategorija ima svoje specifičnosti.

Ključne reči: *izvori stresa, fudbal, plivanje, pol i nivo takmičenja*