SELF-PERCEPTION OF SPORTING ABILITIES OF FEMALE ATHLETES WHEN COMPARED WITH SAME-SEX AND OPPOSITE-SEX ATHLETES

UDC 796.332:159.9

Jovana Trbojević¹, Jelica Petrović²

¹Matica srpska, Novi Sad, Serbia
²Faculty of Philosophy, University of Novi Sad, Novi Sad, Serbia

Abstract. The aim of this study is to determine how top-level female soccer and volleyball players, and young, cadet and junior female volleyball players view themselves, their abilities, and their specific motor skills for sport in relation to other female and male athletes. In Study 1, the sample consisted of 24 female top soccer and volleyball players of the highest sporting rank in Serbia. In Study 2, the sample consisted of 31 female cadet and junior volleyball players. They all filled out a brief questionnaire regarding self-perception about their sporting abilities, when compared with same-sex and opposite-sex athletes of the same rank, sport and age. The results of Study 1 show that female top soccer and volleyball players perceive themselves as less competent when compared with male athletes of the same sport and age (t(22)=5.97, p=.00). The results of Study 2 show that female cadet and junior volleyball players perceive themselves as less competent in Serve strength (t(29)=3.27, p=.030) and Physical endurance and strength (t(29)=2.52, p=.017) when compared with male volleyball players of the same age. The obtained results call for further examination of gender differences in perceived self-competence.

Key words: Female Athletes, Self-Perception, Competence, Soccer, Volleyball

INTRODUCTION

The sense of competence has represented a significant construct within the psychology of sport over the years. The beginnings of research into athlete behavior as well as athletic achievement are tied precisely to the athlete's experience of being competent. Starting with Susan Harter’s self-esteem theory (Harter, 1987), followed by
attribution theory (Weiner, 1985), achievement goal theory (Nicholls, 1989), and self-determination theory (Deci & Ryan, 2012), competence is the significant construct associated with many behavioral, affective, and cognitive sport outcomes, and as such plays an important role in the life of the athlete.

According to these theories, the need for competence is innate and each individual strives to feel competent in different domains of life. The sense of competence directly influences an athlete's behavior. An athlete with a sense of competence will strive for a goal, a situation of achievement, while an athlete with a sense of incompetence will strive to avoid situations where he or she may fail and be perceived as incompetent. The sense of competence refers to the athlete's belief that he or she possesses the necessary skills and abilities to overcome challenges and tasks. Perceived competence in fact plays a more crucial role in an individual's activity than concrete indicators of competence (Bandura, 1977).

Bandura considers similar constructs, where the perception of self and self-performance can also be viewed as self-efficacy. According to Bandura's theory of self-efficacy (1977), it is based on the personal belief and expectation that a person can master or perform a task. In a match-like situation, a high level of self-efficacy contributes to better achievement on the field and a lower level of emotional arousal. The sense of competence and efficacy are directly linked to achievement of the goal (Bandura, 1977). More specifically, a belief in one's own efficacy is a fundamental factor in setting and achieving goals, as well as the choice of activities to be pursued by the person, and whether he or she will continue the activity (Eccles & Wigfield, 2002). According to Bandura (1977), the evolvement of self-efficacy is affected by personal experience, the experience of others, significant others, and the psychophysiological state of pleasantness. In addition to a personal experience of competence, for the development of self-efficacy, feedback from significant others represents a significant factor. Bandura's theory, as well as other social-cognitive theories, stress the importance of social factors, or the environment, in the development of an individual's internal processes. In addition to assessing performance, the way others value a certain situation also shapes athletes' beliefs about themselves as well as the activity in which they are participating.

In the past, sport was the dominant masculine category of physical activity; women slowly entered the sports scene in late nineteenth and early twentieth centuries, first only those belonging to higher circles of socioeconomic status, and later, in the twentieth century, within competitive categories (Đorđić et al., 2013). When comparing the number of female athletes (1.8% of the total number of participants) at the 1908 Olympic Games in London and the last Olympic Games in Rio de Janeiro (45%), there is a trend of increase in the number of women competing in sports at the national and international level. However, despite a greater number of women competing in sports, there are still gender differences in both the level of participation in sports and the perception of women about their personal performance in sports.

Although there are clear biological differences between genders, which affect the very differences in male and female sports, socio-cultural differences and gender stereotypes equally affect different understanding and treatment of male and female athletes (Chalabaev, Sarrazin, Fontayne, Boiché, & Clément-Guillotin, 2012). If we consider that there is a difference in the socialization of boys and girls from birth, it is not surprising that these differences have been transmitted to the domain of sport. Thus, boys focus on sports to develop motor skills, physical strength, and achieve considerable sporting success (Chalabaev et al., 2012), while girls focus on sports to develop good posture and body appearance.
The different socialization of men and women, as well as the stereotypical understanding of men and women's sports, have proven to be significant in the formation of athletes' self-confidence and competence. Research has shown that women and girls find that they are less athletically competent than men and boys (Kalaja, Jaakkola, Watt, Liukkonen, & Ommundsen, 2009; O'Connor, Gardner, Larkin, Pope, & Williams, 2020). The beliefs they have about themselves and their abilities greatly influence the decision to continue participating in sports, as well as the decision to play sports professionally.

With the notion that women should not have a strong body, and that it is not socially desirable to be overly aggressive and penetrating, women in sports face many stereotypes and prejudices that make sport experts view women's sports differently than men's.

As sports self-esteem has a considerable impact on athletic achievement alone (Moritz et al., 2000), it seems the relevant research problem within women's sports due to the decreasing number of girls taking active part in sports, as well as the increasing percentage of girls dropping out of sports (Guillet, Sarrazin, Carpenter, Trouilloud, & Cury, 2002; Enoksen, 2011).

Hence, previous studies pointed out gender differences in sports, and how they affect the development of the athlete themselves.

The aim of this study is to determine how top-level female soccer and volleyball players, and young, cadet and junior female volleyball players view themselves, their abilities, and their specific motor skills for sport in relation to other female and male athletes.

**METHOD**

The current study is divided into Study 1 and Study 2.

**Study 1**

The sample consisted of 24 female athletes playing soccer (N=13) and volleyball (N=11) in the Super League of Serbia (the highest level of sport competition in Serbia), aged 14 to 27, who have been actively involved in soccer and volleyball for 9.95 years on average. The athletes completed a sociodemographic questionnaire on the premises of the club in the presence of psychologists, which included two questions regarding self-assessment of athletic ability.

The first question (Q1) pertained to self-assessment of athletic ability in relation to other female athletes of the same age and competitive rank (“What grade would you give yourself as a player in relation to female athletes of your age involved in this sport?”). The second question (Q2) addressed self-assessment of athletic ability in relation to male athletes of the same age and competitive rank (“What grade would you give yourself as a player relative to male athletes of your age involved in this sport?”). The score ranged from 1 to 5, with five representing the highest score.

**Study 2**

In order to further investigate the differences in perceptions of female athletes (in specific volleyball elements) competing within the cadet and junior categories, an additional study was conducted.

The sample consisted of 31 female athletes playing volleyball, aged 12-17, who were attending a volleyball camp at the time of data collection. The athletes have been actively involved in volleyball for 4.5 years on average.
On this occasion, the respondents evaluated their own performance in specific volleyball elements in relation to other female volleyball players and in relation to other male volleyball players of the same age, on a three-step scale. The specific volleyball elements within which they evaluated their performance at all the positions (how good they were at performing a particular element) were: the spike, block, receive, serve, setting, spike strength, serve strength, defense game, offense game, reaction speed, quality of relations with the teammates, quality of the relationship with coach, physical endurance and strength.

The participants of both Study 1 and 2 evaluated their abilities in these elements with respect to both female and male volleyball players of the same age.

**RESULTS**

**Study 1**

Based on Table 1, it can be observed that female athletes have higher scores when evaluating themselves compared to female athletes (Mean=3.58), than when they compared themselves to male athletes of the same rank and sport. To test for statistically significant differences in these two estimates, a t-test analysis for paired samples was performed.

| Table 1 Athlete’s self-assessment scores |
|------------------------------------------|
|                                        |
| N | Minimum | Maximum | Mean | SD |
|---|---------|---------|------|----|
| Compared to other female athletes (Q1) | 24 | 3 | 5 | 3.58 | .65 |
| Compared to male athletes (Q2)          | 23 | 1 | 4 | 2.60 | .72 |

*Legend: Q1-Question 1; Q2-Question 2; SD-Standard Deviation.*

The results of the t-test for paired-samples (Table 2) indicate that there is a statistically significant difference in the assessment of athletic ability when female athletes evaluate their performance compared to other female athletes and male athletes.

| Table 2 Results of the t-test for paired-samples |
|------------------------------------------------|
|                                                |
| Q1-Q2 | Mean | SD | df | t   | p   |
|-------|------|----|----|-----|-----|
|       | .95  | .76| 22 | 5.97| .00 |

*Legend: Q1-Question 1; Q2-Question 2; SD-Standard Deviation; p-significance set at level p<.05.*

A t-test analysis for independent samples was conducted to further examine whether there were statistically significant differences in the self-evaluation of female athletes regarding the type of sport they were engaged in.

| Table 3 Results of the t-test for independent samples |
|------------------------------------------------------|
|                                                      |
| Sporting group | Mean | SD | df | t   | p   |
|----------------|------|----|----|-----|-----|
| Self-evaluation of athletic ability in relation to female athletes | FCP | 3.76 | .72 | 22 | 1.56 | .133 |
|                       | FVP  | 3.36 | .50 |    |     |     |
| Self-evaluation of athletic ability in relation to male athletes | FCP | 2.75 | .62 | 21 | .979 | .339 |
|                       | FVP  | 2.45 | .82 |    |     |     |

*Legend: FCP- Female Soccer Players; FVP- Female Volleyball Players; SD-Standard Deviation; p-significance set at level p<.05.*
The results show that there is no statistically significant difference in the self-evaluation of the athletic ability of female soccer players and female volleyball players (Table 3).

**Study 2**

In order to further examine the differences in the athletes' perceptions of personal athletic ability (specific sport skills) in relation to female volleyball players and male volleyball players, within Study 2, a t-test for paired samples was conducted, where the variables were scores on specific volleyball elements relative to female and male volleyball players.

**Table 4** Results of t-test for paired samples for specific volleyball elements

|                      | Scores                  | Mean  | SD  | df | t    | p     |
|----------------------|-------------------------|-------|-----|-----|------|-------|
|                      | Compared to FP          | 2.03  | .66 | 29  | 1.00 | .26   |
|                      | Compared to MP          | 1.90  | .70 |     |      |       |
| Spike                | Compared to FP          | 1.76  | .72 | 29  | -2.54| .001  |
|                      | Compared to MP          | 1.77  | .80 |     |      |       |
| Block                | Compared to FP          | 2.26  | .69 | 29  | 1.07 | .293  |
|                      | Compared to MP          | 2.25  | .68 |     |      |       |
| Receive              | Compared to FP          | 2.29  | .69 | 28  | -0.57| .573  |
|                      | Compared to MP          | 1.89  | .72 |     |      |       |
| Serve                | Compared to FP          | 2.43  | .57 | 29  | 1.07 | .293  |
|                      | Compared to MP          | 2.29  | .69 |     |      |       |
| Setting              | Compared to FP          | 1.89  | .72 | 28  | -0.57| .573  |
|                      | Compared to MP          | 1.96  | .87 |     |      |       |
| Spike strength       | Compared to FP          | 2.10  | .66 | 29  | 1.88 | .070  |
|                      | Compared to MP          | 1.90  | .70 |     |      |       |
| Serve strength       | Compared to FP          | 2.30  | .70 | 29  | 3.27 | .030  |
|                      | Compared to MP          | 1.96  | .83 |     |      |       |
| Defense game         | Compared to FP          | 2.33  | .70 | 29  | .701 | .489  |
|                      | Compared to MP          | 2.25  | .63 |     |      |       |
| Offense game         | Compared to FP          | 2.20  | .71 | 29  | .571 | .573  |
|                      | Compared to MP          | 2.12  | .71 |     |      |       |
| Reaction speed       | Compared to FP          | 2.48  | .63 | 28  | .372 | .712  |
|                      | Compared to MP          | 2.45  | .67 |     |      |       |
| Quality of relationship with teammates | Compared to FP | 2.58  | .73 | 28  | -1.14| .264  |
|                      | Compared to MP          | 2.64  | .55 |     |      |       |
| Quality of relationship with coach | Compared to FP | 2.26  | .69 | 29  | -0.902| .375  |
|                      | Compared to MP          | 2.32  | .70 |     |      |       |
| Physical endurance and strength | Compared to FP | 2.56  | .56 | 29  | 2.52 | .017  |
|                      | Compared to MP          | 2.25  | .68 |     |      |       |

*Legend: FP-Female Players; MP-Male Players; SD-Standard Deviation; p-significance set at level p<.05.*

Table 4 shows that female volleyball players generally rate themselves better when compared to other female volleyball players than male volleyball players, in all specific volleyball elements, except when it comes to assessing the quality of relationships with team mates and coaches. However, statistically significant differences were only obtained when it comes to measures of strength such as Serve strength and Physical endurance and strength. Female volleyball players rate themselves as weaker in two domains when compared to male volleyball players of the same age than when compared to female volleyball players.
The social understanding of sport as a male domain impedes the entry of girls into certain sports characterized as typically male, and further impedes and affects the motivation of girls to pursue sports. Gender stereotypes refer girls to academia and boys to strength development within sports (Vealey & Chase, 2016), which causes both genders to suffer certain consequences and have reduced opportunities. Within sport, different values are nurtured in relation to the gender of the athletes, so the importance of team play, interpersonal relationships is emphasized in women's sports, while the need for and importance of competence is emphasized in men's sports. This creates an environment where women are sent the message that sport is a domain in which they should not strive to achieve high results, while it creates pressure among men, especially young men, where failure in the sports domain causes ridicule and rejection from others, which contributes to the evolution of a negative self-image (Vealey & Chase, 2016).

On the other hand, in addition to individual stereotypes and sports perceptions that sports professionals have, sports institutions that finance the realization of sports activities also have a stereotypical understanding of sport, as do the media. The data point to significant differences in the financial support of women and men's sports, as well as in media representation. Thus, women's sports clubs receive 10% of the total funds earmarked for sports, while men's sports clubs receive 61% and mixed clubs 29% of the budget of AP Vojvodina (Đorđić et al., 2013). Men's sports are largely media-driven, unlike women's sports which are invisible to the media despite sport achievements. The lack of media coverage of women's sports, as well as the invisibility of women's role models in sports, affect girls' interest in sports (Đorđić et al., 2013a), as well as their confidence and perceptions of personal performance in the field of sport in relation to men.

The issue of the influence of gender stereotypes on the performance and development of athletes has been explored in the context of identifying stereotypes about women and men's sports and the impact of these stereotypes on self-efficacy (self-assessment of personal performance), motivation and participation in sport (Chalabaev et al., 2012). When it comes to the influence of stereotypes on the development of self-image, motivation and participation in sport, researchers have been guided by Bem's gender model (Bem, 1981) and Eccles' expectancy-value theory (Eccles et al., 1983). Both models assume that stereotypes of the environment and significant others influence the individual by internalization in the personal self during the process of socialization (Chalabaev et al., 2012). In fact, stereotypes influence how an individual perceives himself/herself, and therefore how he/she behaves.

Perceptions and beliefs about one's own performance in sport have proven to be significant factors in sports performance (Moritz, Feltz, Fahrbach, & Mack, 2000), as well as in continuing to do sports (Guillet et al., 2002; Enoksen, 2011).

The current results are, first and foremost, one of the first steps in the prevention of dropping out of sports in adolescence, since girls are at a greater risk of quitting sports compared to boys (Guillet et al., 2002). Between 25% and 50% of female athletes, ages 13-17, drop out of sports annually (Craike, Symons, & Zimmermann, 2009; Møllerløkken, Loras, & Pedersen, 2015). If taken into account that one top and outstanding athlete is selected from 10000 children (Jevtić, 2011), it is necessary to work on encouraging and preventing young girls from dropping out, both for their individual development and for the creation of top teams and high sporting achievements. Therefore, examining how female athletes view themselves is a step in advancing women's sports.
In Study 1, it has been shown that female soccer and volleyball players competing in the highest rank in Serbia rate themselves as less successful players than male players who practice the same sport at the same rank. These results indicate that female top athletes in Serbia have low self-evaluation of their sports performance. The differences obtained may be due to gender stereotypes in sports. According to Bandura's theory of self-efficacy (Bandura, 1977) and Eccles' expectancy-value theory (Eccles et al., 1983), the beliefs and behavior of the environment and significant others shape the way a person perceives himself/herself and his/her abilities. By internalizing gender stereotypes that sport is primarily a male category of physical activity, female athletes form an image of themselves and their abilities in relation to the evaluation of male sport. Namely, if the sports and social environment creates gender stereotypes in which women in sport should not be directed towards achievement, but towards the development of interpersonal relationships, it directly affects the perception of women's sport, and above all the perception of women athletes.

The different forms of socialization of boys and girls have been conveyed in the domain of sports. Thus, boys are directed toward sports to develop motor skills, physical strength, and achieve significant sporting success, while girls are directed toward sports to develop good posture and good body appearance. Differences are also observed in the period when parents begin to work on developing their children's motor skills. The sensitive period for the acquisition of basic motor skills is from age two to eight (Vealey & Chase, 2016). However, girls are taught basic motor skills later compared to boys, thus maintaining a stable difference in the motor skills of boys and girls in later years (Vealey & Chase, 2016). These differences in the training process of motor skills between boys and girls are in line with the results of Study 2.

When looking at the results of Study 2 (Table 4), although statistically significant differences in self-assessment were obtained when it comes to the serve strength and physical endurance and strength, results in global show that there is a significant distinction in the evaluation of sports efficiency in girls in relation to gender. The results support the assumption that the way girls and boys are coached depends on the gender of the athletes. Girls view themselves as more capable within interpersonal relationships, as previous studies have shown (Vesković, Valdevit, & Đorđević-Nikić, 2013). This indicates that within organized youth sports, and in the case of promising young female athletes who should become professional volleyball players, focus is in on developing social skills through sport. Earlier research has noted that girls evaluate themselves as less physically competent and score lower on scales related to physical self-assessment, but as more socially competent (Kalaja et al., 2009; O'Connor et al., 2020). In this study, girls estimated they were weaker in physical elements than boys too, primarily in elements that require strength. Encouraging boys to be strong and girls to be cooperative leads to this discrepancy.

As mentioned above, the social understanding of sport as a male domain makes it difficult for girls to enter certain sports characterized as typically male, and further influences girls' motivation to continue playing sports. Girls are directed towards academia, with an emphasis on education, and consequently, girls mention school responsibilities and higher levels of education as priorities over sports (Vealey & Chase, 2016). Social relationships become more relevant and girls are stimulated to form and maintain interpersonal relationships in and out of sport.

Despite the fact that there are gender-based differences in the maturation and physical characteristics of boys and girls, what needs to be taken into consideration when creating a training process for boys and girls are that the differences in the treatment of boys and
girls are often not conditioned by genetic and physical predispositions, as much as social and cultural norms. Previous studies have shown different behavior of coaches and parents towards girls and boys in sports. Thus, girls who practice sports are more likely to perceive that parents, coaches and teammates create a task-oriented motivational climate than boys (White, Kavassanu, & Guest, 1998; Vazou, Ntoumanis, & Duda, 2006; Veskić et al., 2013). Coaches in women’s sports emphasize the significance of cooperativeness and teamwork, while they emphasize the importance of achievement in men’s sport. Thus, girls perceive themselves to be less athletic competent in relation to boys (Van Wersch, Trew, & Turner, 1990), but to a greater extent socially competent (Tubić, Đorđić, & Poček, 2012).

The results of Study 1 and Study 2 show that differences in self-assessment (in general physical abilities and specific motor abilities) exist at different levels of competitive rank. Self-assessment of specific motor skills (Study 2) can be an indicator of the first steps of development of poorer self-assessments of the general physical abilities of female athletes. If female athletes perceive that they are less competent than male athletes in specific motor skills needed for success in their sports, over time they will develop a general belief about their physical abilities.

CONCLUSION

The results obtained call for further exploration of the concept of self-efficacy and competence of female athletes. Although the research sample is small, it has included top female athletes, as well as promising female athletes (cadets and juniors). The way they see themselves as athletes professionally engaged in sports can be used in order to rethink the training process and approach to women’s sports in order to improve self-confidence in women, as well as the factors contributing to the creation of a positive or negative self-image in sports.

Finally, further research is needed to examine gender differences in the assessment of athletic ability.

REFERENCES

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191-215.

Bem, S.L. (1981). Gender schema theory: a cognitive account of sex typing. Psychological Review, 88, 354-364.

Chalabaev, A., Sarrazin, P., Fontayne, P., Bochê, J., & Clément-Guilloton, C. (2013). The influence of sex stereotypes and gender roles on participation and performance in sport and exercise: Review and future directions. Psychology of Sport and Exercise, 14(2), 136-144.

Craike, M., Symons, C. & Zimmermann, J. (2009). Why do young women drop out of sport and physical activity? A social ecological approach. Annals of Leisure Research, 12(2), 148-172.

Deci, E.L., & Ryan, R.M. (2012). Self-determination theory. In: P.A.M. Van Lange, A.W. Kruglanski, & E.T. Higgins (Eds.), Handbook of theories of social psychology, (pp. 416-437). Thousand Oaks, CA: Sage.

Đorđić, V., Mršević, Z., Valić-Nedeljković, D., Vujanović, S., Milankov, S., Pralica, D., et al. (2013). Žene u sportu-Osvajanje slobode (Women in sports-Conquering freedom). In: M. Srdić (Ed.), Izveštavanje o sportu: uvođenje rodne dimenzije (Sport reporting: Introducing a gender dimension), (pp. 13-17). Kikinda: Women's Support Center. In Serbian

Đorđić, V., Mršević, Z., Valić-Nedeljković, D., Vujanović, S., Milankov, S., Pralica, D., et al. (2013a). Prezentacija ženskog sporta u medijima ili ko je Šeli En Frejzer Prais? (Presentation of women's sports in the media or who Shelley Ann Fraser Pryce is?). In: M. Srdić (Ed.), Izveštavanje o sportu: uvođenje rodne dimenzije (Sport reporting: Introducing a gender dimension), (pp. 42-47). Kikinda: Women's Support Center. In Serbian

Eccles J.S., Adler, T.F., Futterman, R., Goff, S.B., Kaczala, C.M., Meece, J.L., & et al. (1983). Expectancies, values, and academic behaviors. In: J.T. Spence (Ed.), Achievement and achievement motivation, (pp. 75-146). San Francisco, CA: W.H. Freeman.
Cilj ove studije je da se utvrdi kako fudbalerke i odbojkašice najvišeg nivoa, kao i mlade odbojkašice, kadetkinje i juniorke, vide sebe, svoje sposobnosti i svoje specifične motoričke sposobnosti u sportu u odnosu na druge sportiste i sportistkinje. U studiji 1 uzorak je sačinjavan 24 vrhunskih fudbalerki i odbojkašica najvišeg sportskog ranga u Srbiji. U studiji 2 uzorak je sačinjavan 31 odbojkašica, kadetkinja i juniorka. Sve su popunile kratki upitnik u vezi sa samopoimanjem njihovih sportskih sposobnosti u poređenju sa sportistima istog i suprotnog pola, istog ranga, sporta i starosti. Rezultati studije 1 pokazuju da fudbalerke i odbojkašice sebe doživljavaju kao manje kompetentne u poređenju sa muskim sportistima istog sporta i uzrasta (t (22)=5.97, p=.00). Rezultati Studije 2 pokazuju da kadetkinje i juniorke odbojkašica sebe doživljavaju kao manje kompetentne u Snaži servisa (t (29)=3.27, p=.030) i Fizičkoj izdržljivosti i snazi (t (29)=2.52, p=.017) u poređenju sa odbojkašima istog sporta i uzrasta. Dobijeni rezultati zahtevaju dalje ispitivanje rodnih razlika u percepciji samokompetentnosti.

Ključne reči: Sportistkinje, Samopercepcija, Kompetencija, Fudbal, Odbojka.