

PERSONALITY TRAITS AMONG CROATIAN WOMEN BASKETBALL PLAYERS THAT PLAY ON DIFFERENT POSITIONS IN THE TEAM

Gordana Ivković¹, Nevja Mavra² and Gordana Furjan Mandić²

¹University of Zadar, Croatia

²Faculty of Kinesiology, University of Zagreb, Croatia

Original scientific paper

Abstract

The concept of the development in sport games and competitive efficiency is based on coordination between players in team in order to exploit the full potential of a team in the desired operational tactics of the game. Therefore, it is necessary to connect professional and scientific approach in subjective and objective assessment of players and the entire team. The aim of this study was to determine the factors of differences in the dimensions of Big Five personality traits, measured with Croatian version of the questionnaire IPIP50 on sample of 46 basketball players, participants of the student finals in Croatian Women Championship 2016, players that play on positions: small forward, centre and guard, aged 20-26 years. Results showed that in all positions outstanding value in one single dimension (intellect) which can be explained by the fact that the subjects (basketball players) belong to the student population. Results of correlation analysis show that there is a statistically significant positive correlation between dimensions: Extraversion is positively correlated with Intellect, Conscientiousness and Emotional Stability; the Openness to Experience with Conscientiousness, Emotional Stability and Conscientiousness with Intellect. Positive correlation between Conscientiousness, Intellect and Openness to Experience is preferable in team sports.

Key words: five-factor model of personality, basketball, player position in the game

Introduction

Basketball is structurally (by number and complexity of actions) and by the complexity of the movement structures and necessary motor skills - complex sports game, therefore it requires a lot of cognitive load for the individual. Basketball player on a relatively small area, in the dynamic interaction with a number of team players and opponents, in a very short time has to make a decision and respond quickly, hitting a small target (Horga and Sabioncello (1994). The results of the previous researches showed different and sometimes conflicting degrees of integration of sports achievement and different personality traits, as well as group cohesion in team, from zero to consistently statistically significant, for example Bray and Brawley (2002) suggest the importance of the role of the individuals in the team to its effectiveness. Allen, Greenlees and Jones (2013) emphasize that only a few studies dealt with differences in personality based on the position or "their role" in the game. Studies are usually focused on specific behavior of athletes, rather than the characteristics of personality (Allen, Greenlees and Jones, 2013). Empirical findings on a sample of football players showed that players on the offensive positions have better control of anxiety (Cox and Yoo, 1995), while results in research on baseball players suggest that the players on the offensive positions are more responsible (Greenwood and Simpson, 1994) than players in defensive positions. Evidence show that the athletes in the attacking positions are more extroverted than the athletes on the defensive positions (Schurr et al., 1984), and that they are less emotionally stable (Kirkcaldy, 1982b). A recent study, conducted on a sample of 578 hockey

players, shows that the attackers, defenders and goalkeepers are not significantly different in any of the five fundamental personality dimensions (Cameron et al., 2012). Sindik (2009) conducted a study to determine the differences in individual specific personality traits and perceived group cohesion basketball senior players who play in different positions in the game. The results showed no statistically significant difference between players who play in different positions in the game, nor in relation to two basic positions in the team (shooting guard and small forward / centers), nor in relation to the four positions in the team (point guard, shooting guard, small forward, power forward / center). However, it is not unreasonable to expect differences in personality between players in different playing positions considering the fact that different positions often require different behaviors that may be more or less suitable for people with certain personality characteristics.

Associated with this statement, Cox (2012) argues that the athletes who play in different positions can vary in severity of certain personality traits and motivational dimension. Nevertheless, at present there is insufficient evidence to draw firm conclusions about these differences (Allen, Greenlees and Jones, 2013). A large number of meta-analyzes and studies on large samples of non sport population discussed the differences in personality between men and women (Feingold, 1994; Costa, Terracciano and McCrae, 2001; Schmitt et al., 2008). The overall conclusion of these studies is that, compared to men, women tend to higher levels of Neuroticism, Extraversion, Agreeableness and Conscientiousness.

Furthermore, the findings show that women in the sporting population often show personality characteristics closer to men population than women who are not involved in sports (Fleming, 1934; Williams, 1980). Also, numerous studies compared test personality results of women and men who participated in organized sports. Newcombe and Boyle (1995) researched athlete adolescents and found that girls are more extroverted and emotionally unstable than boys. Some studies performed on adult athletes also have found that women are more emotionally unstable than men, but with no significant differences in extroversion (Kirkcaldy, 1982; and Colley, Roberts and Chipps, 1985). However, more recent study assessing a larger range of dimensions of personality, showed that compared to men, women have higher levels of Neuroticism, Agreeableness and Conscientiousness (Allen, Greenlees and Jones, 2011). From the results of the task orientation from previous studies, it is evident that women are more focused on the task, while men are more focused on the goal (Ewing, 1981; Duda, 1986a, 1986b, 1988; Gill, 1986). Specifically, women see sport in the context of cooperation with others, while men believe that the main purpose of the sport to improve the competitive spirit and winning at all costs (Duda, 1989).

Description of the five basic personality traits (Costa and McCrae, 1992):

1. Extraversion: assessing the amount and intensity of interpersonal interaction
2. Agreeableness: estimated individual desire for cooperation and social harmony
3. Conscientiousness: evaluates the organization and goal-oriented behavior
4. Emotional Stability: measures the degree to which individuals are prone to emotional instability
5. Openness: measures the tendency of individuals to seek new experiences

Methods

At the final student Croatian Championship 2016., questionnaires were distributed to basketball players from University of Zagreb, Zadar, Split and Osijek. The sample consisted of 46 student women basketball players (17 small forward, 12 centre/power forward position and 17 guard).

Total 78% of subjects (36 basketball players) played in A-1 Croatian Women Basketball League. In addition to general information, they were asked about the position in the game. Basic variables of this study, along with data on the position they play and age, included the five personality traits. Personality traits that were evaluated, and according to modern conceptions they rank among the basic personality traits, are: Extraversion, Agreeableness, Conscientiousness, Emotional stability and Openness to Experience. In this study we used a questionnaire IPIP50 (Goldberg, 1992)

Results and discussion

Data for all variables are distributed normally. In all positions there are high average values of Intellect which can be explained by the fact that this is the student population, especially in the position of guard, a position that requires creativity and organization of the game, as opposed to research (Sindik, 2009) where similar values obtained for Openness to Experience and Conscientiousness.

In the area of personal characteristics of subjects to IPIP50 (Table 2) Extraversion is positively correlated with Intellect, Conscientiousness and Emotional Stability; Openness to Experience with Conscientiousness, Emotional Stability and Conscientiousness with Intellect. Positive correlation between Conscientiousness, Intellect and Openness to Experience is preferable in team sports

Table 1. The basic descriptive parameters and the distribution of personality traits

Variable	Descriptive statistics– small forward position				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Extraversion	17	3,18	2,60	3,70	0,29
Agreeableness	17	3,52	2,90	4,10	0,32
Conscientiousness	17	3,28	2,60	3,80	0,27
Emotional stability	17	3,01	2,40	3,60	0,36
Openness to Experience	17	3,28	2,50	3,90	0,43
Variable	Descriptive statistics– centre position				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Extraversion	12	3,01	2,40	3,70	0,35
Agreeableness	12	3,16	2,60	3,60	0,36
Conscientiousness	12	3,24	3,00	3,50	0,13
Emotional stability	12	2,88	2,10	3,90	0,55
Openness to Experience	12	3,13	2,60	3,80	0,40
Variable	Descriptive statistics– guard position				
	Valid N	Mean	Minimum	Maximum	Std.Dev.
Extraversion	17	3,05	2,30	3,50	0,29
Agreeableness	17	3,30	2,30	4,10	0,47
Conscientiousness	17	3,29	2,30	4,70	0,55
Emotional stability	17	2,98	1,90	4,20	0,59
Openness to Experience	17	3,37	2,40	4,20	0,49

Table 2. Correlations between the dimensions of the IPIP50 for Croatian female basketball players

	Extroversion	Agreeableness	Conscientiousness	Emotional	Openness
Extroversion	1,00	-0,09	0,15	0,00	0,36*
Agreeableness	-0,09	1,00	0,37*	0,30*	0,18
Conscientiousness	0,15	0,37*	1,00	0,25	0,40*
Emotional	0,00	0,30*	0,25	1,00	0,23
Openness to	0,36*	0,18	0,40*	0,23	1,00

* Statistically significant differences at the level $p < 0.05$

These results can be explained by the fact that these are mostly professional players that interweave university and sport obligations, which requires organization, social skills and better mutual cooperation. Specifically, women see sport in a context of cooperation with others, while men believe that the main purpose of the sport is to

improve the competitive spirit and emphasize the importance of winning at all costs (Duda, 1989). These results are consistent with a study by Allen, Greenlees and Jones, 2011, which assessed a greater range of personality traits, and showed that, compared with men, women have higher levels of Agreeableness and Conscientiousness.

Table 3: Analysis of variance between the dimensions IPIP50 and position in the game Croatian basketball player

Personality traits	SS	Degr. of	MS	F	P
Extroversion	0,23	2,00	0,12	1,25	0,30
Agreeableness	0,99	2,00	0,50	3,26	0,05*
Conscientiousness	0,02	2,00	0,01	0,06	0,95
Emotional stability	0,14	2,00	0,07	0,27	0,76
Openness to	0,68	2,00	0,34	0,83	0,44

* Statistically significant differences at the level $p < 0.05$

Results of Analysis of Variance (Table 3) showed a statistically significant difference in the variable Openness to Experience. The Openness to Experience indicates that an individual is nice, cooperative, tolerant, generous and warm (Costa and McCrae, 1992b; Costa and McCrae, 2011; Goldberg, 1990). This refers to one's interactions with others, and it describes what an individual thinks and feels about others. Individuals that have high scores in the Openness to Experience, have compassion for others and harder to get along well with others (Piedmont, 1998). In this case basketball players that play the small forward position (Figure 1) have higher values of Openness to Experience which can be explained by dependency on other players in the game, and thus they have less pressure on the action. Body height is dominant in the position of the centre, so they have the ability to facilitate the access of balls in the rebound, and therefore better scoring. Also, guard, who in average has longer ball possession, is crucial for the outcome of the action. Ball possession as well as the total contribution of the small forward position, often depends on the decisions of the guard and the center, so their cooperation and good relations in the game is very important. According to some authors (Helson et al. 2002), an increase in chronological age, under the influence of sociocultural factors increases the level of Agreeableness and Conscientiousness, or the principle of maturation (Roberts, Walton and Viechtbauer, 2006). Openness to Experience mostly includes harmonization of behavior and social adjustment of the general and sport-specific standards, as well as the ability to control impulses, it is logical that the more pronounced in individuals adulthood, but also in professional senior players in basketball.

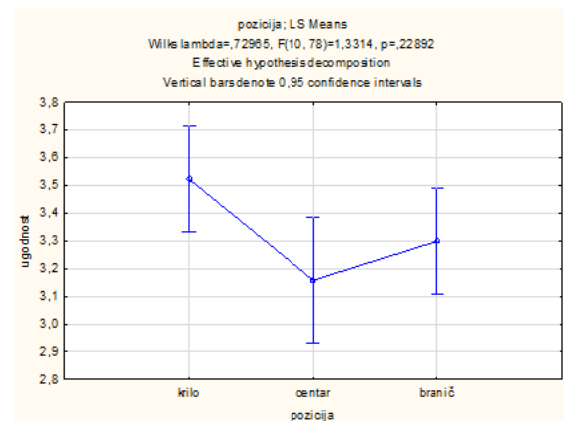


Figure 1. Graphical display of the variable Openness to Experience considering the position in the game of Croatian basketball player

Sindik (2009) conducted a study to determine the differences in individual specific personality traits and perceived group cohesion of basketball senior players in different positions in the game. The results showed no statistically significant difference between players who play in different positions in the game, however, the results show that Conscientiousness and Openness to Experience are most pronounced.

Conclusion

The rules and the complexity of basketball require certain cognitive aspects, conative and motivational characteristics and is indeed necessary to take into account a number of factors related with specific characteristics of basketball. Results of this study showed that one dimension is statistically

significantly better (Intellect) than others which can be explained by the fact that this basketball players belong also to the student population. Positive correlation between Conscientiousness, Intellect and Openness to Experience is preferable considering that basketball is a team sport and has

a complex structure. Results of analysis of variance showed a small but significant difference in dimension Openness to Experience. Cooperation, tolerance and interaction with other team players explains the highest level of Openness to Experience in Small forward position.

References

- Allen, M.S., Greenlees, I. & Jones, M.V. (2011). An investigation of the five-factor model of personality and coping behaviour in sport. *Journal of Sports Sciences*, 29(8), 841-850.
- Bray, Steven R.B. & Lawrence R. (2002). Role efficacy, role clarity and role performance effectiveness. *Small group research*, 33(2), 233-253.
- Costa, P.T. Jr. & McCrae, R.R. (1992) *Revised NEO personality inventory and NEO five-factor inventory; Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Duda, J.L. (1989). Relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of Sport and Exercise Psychology*, 11, 318-335.
- Goldberg, L.R. (1992). The development of markers for the Big-Five factor structure. *Psychological assessment*, 4(1).
- Helson, R., Kwan, V.S.Y., John, O.P. & Jones, C. (2002). The growth of evidence for personality change in adulthood. Findings from research with personality inventories. *Journal of Research in Personality*, 36, 287-306.
- Michael C.A. & Lee, K. (2008). *Social and Personality Psychology Compass* 2(5), 1952-1962.
- Horga, S. & Sabioncello, N. (1994). *Osnove psihologije sporta*. [Basics of sport psychology. In Croatian.]. Zagreb, Faculty of Kinesiology.
- Piedmont, R.L. (1998). *The revised NEO personality inventory: Clinical and research applications*. New York, NY: Plenum Press.
- Rhodes, R.E. & Smith, N.E.I. (2006). Personality correlates of physical activity: A review and meta-analysis. *British Journal of Sports Medicine*, 40, 958-965.
- Roberts, B.W., Walton, K.E. & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin*, 132, 1-25.
- Sindik, J. (2010). Relationship between big five personality markers with situation-related performance at top croatian basketball players. *Sport Science* 3(2), 34-38.

OSOBINE LIČNOSTI HRVATSKIH KOŠARKAŠICA OBZIROM NA POZICIJU U IGRI

Sažetak

Koncept razvoja sportske igre i natjecateljske učinkovitosti temelji se na usklađenom i zajedničkom djelovanju igrača/ica u grupi (momčadi/ekipi) kako bi se iskoristio cjelokupan momčadski potencijal u željenoj operativnoj taktici igre. Stoga, nužno je povezivanje stručnog i znanstvenog pristupa pri subjektivnoj i objektivnoj procjeni igrača kao i cijele momčadi. Cilj istraživanja bio je utvrđivanje faktora razlika u dimenzijama Velikih Pet osobina ličnosti, mjerenih hrvatskom verzijom upitnika IPIP50 na uzorku 46 košarkašica, sudionica finala studentskog prvenstva Hrvatske 2016.g., koje igraju na pozicijama krilo, centar i branič, starosti od 20 do 26 godina. Rezultati su pokazali kod svih pozicija iznadprosječne vrijednosti samo u jednoj pojedinačnoj dimenziji (intelekt) što možemo objasniti činjenici da se radi o košarkašicama koje pripadaju i studentskoj populaciji. Dobiveni rezultati u području ispitivanja povezanosti (Pearson Interkorelacije) između dimenzija pokazuju statistički značajne pozitivne korelacije između dimenzija: Ekstraverzija je u pozitivnoj korelaciji sa Intelektom, savjesnosti i Emocionalnom stabilnosti; Ugodnost sa Savjesnosti, Emocionalnom stabilnosti, te Savjesnost sa Intelektom. Savjesnost, Intelekt i Ugodnost u međusobnoj su pozitivnoj korelaciji što je poželjno u ekipnim sportovima.

Ključne riječi: petofaktorski model ličnosti, košarkašice, pozicije u igri

Received: March 17, 2016

Accepted: December 15, 2016

Correspondence to:

Gordana Ivković, PhD.

University of Zadar, Zadar, Croatia

Tel: 023 200 665

E-mail: givkovic@unizd.hr