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DIFFERENCES IN PERSONALITY TRAITS BETWEEN ATHLETES AND NON-ATHLETES

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Abstract: The aim of this research is to examine the differences in personality traits between athletes and non-athletes. The research sample consists of 136 athletes who participate in sports competitions, and 100 non-athletes. The sample consists of 76 athletes of individual sports (archery, kayak, tennis) and 60 athletes of collective sports (basketball, football, American football, volleyball). Personality traits were measured by HEXACO-60. The results showed statistically significant differences in extraversion ($p < 0.00$), emotionality ($p < 0.00$), conscientiousness ($p < 0.00$) and openness to new experiences ($p < 0.05$). Namely, athletes have higher extraversion and conscientiousness, and lower emotionality and openness to new experiences. Extraversion is more pronounced in athletes ($M = 3.47$) than in non-athletes ($M = 2.88$), and conscientiousness is also higher in athletes ($M = 3.70$) than in non-athletes ($M = 3.31$). And emotionality is lower in athletes ($M = 2.90$) than in non-athletes ($M = 3.39$), just as openness to new experiences is lower in athletes ($M = 3.59$) than in non-athletes ($M = 3.39$). There are no statistically significant differences between athletes and non-athletes in honesty and agreeableness. This study provided a better understanding of the personality traits of athletes compared to non-athletes.

Keywords: personality traits, athletes, non-athletes

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Introduction

Personality traits

Personality is considered to be the most important field of psychology because of its undoubted influence on the understanding of human nature and his psychological life, but also because of its direct influence on individual differences in people's behavior. Despite this, there is no universally accepted definition of personality (Petz, 2005), because it is difficult to find a definition that is so comprehensive as to include internal characteristics, social effects, qualities of mind, physical characteristics, relationships with others, and internal goals (Larsen & Buss, 2010). Some common and accepted meanings of the concept of personality can be singled out. Personality represents a comprehensive whole, the integration of an individual's traits into a relatively stable and unique organization that determines his activity in a changing environment, is shaped and changed under the influence of that activity (Petz, 2005). There are many theories that explain the structure and development of personality in different ways, but one thing they agree upon is that personality significantly affects human behavior.

In the last two decades of the 20th century, the Big Five model developed into a dominant theoretical and research paradigm when it comes to the structure of basic personality traits (Goldberg, 1990; John et al., 2008; Costa & McCrae, 2008). According to this model, personality is structured from five basic, mutually orthogonal traits: neuroticism, extraversion, openness, cooperation and conscientiousness. These five traits have proven to be successful predictors of various types of behavior (Soto & Jackson, 2013). However, studies conducted in the late 1990s provided indications that a six-factor structure of latent dimensions should be examined. Probably the most well-known operationalization of the revised lexical model of personality is the HEXACO structure (Ashton & Lee, 2007; Lee & Ashton, 2008; Ashton et al., 2014), whose name is an acronym for the dimensions represented in it: Honesty (H – Honesty/Humility), Emotionality (E – Emotionality), Extraversion (X – eXtraversion), Agreeableness (A – Agreeableness), Conscientiousness (C – Conscientiousness) and Openness to experience (O – Openness).

HONESTY/HUMILITY. The trait of honesty is characterized by qualities such as honesty, modesty and avoidance of greed as opposed to conceit and greed. People with this highly expressed dimension are not prone to cheating and manipulation, nor are they motivated by material benefit or social status. Contrary to that, the individuals low on the honesty dimension tend to break the rules, are motivated by material benefit, and have a strong sense of self-confidence.

EMOTIONALITY. Timidity, anxiety, dependence on others, and sentimentality versus fearlessness, independence, and unemotionality are the basic descriptions of the di-

mension of emotionality. Highly emotional people are more likely to experience fear and anxiety, and have a need for close relationships and receiving emotional support. On the other hand, people with low emotionality have no worries or fears, even in stressful or dangerous situations, and they do not share their emotions with others.

EXTRAVERSION. The characteristics of this dimension are sociability, liveliness, social boldness and self-esteem as opposed to shyness and passivity. People with high extraversion feel positive in their own skin, enjoy company and interactions with people, and experience positive feelings of enthusiasm and energy. Unlike to them, people on the opposite pole of the dimension feel uncomfortable in social situations, that is, they are more shy and passive in their relationships with others, are indifferent to social activities and feel less optimistic.

AGREEABLENESS. Patience, gentleness, flexibility and forgiveness are associated with agreeableness. Gentle nature and tolerance is specific to individuals who have a high expression of agreeableness, as well as willingness to compromise and cooperate with others, and also to control their own temper. The opposite pole is characterized by a impetuous, temper, irritability, criticality and a tendency to argue.

CONSCIENTIOUSNESS. The traits that define conscientiousness are diligence, organization, prudence and perfectionism as opposed to sloppiness, carelessness, irresponsibility and laziness. Devotion to work, striving for perfection and caution when making decisions are characteristics of a person with a high degree of conscientiousness. On the other hand, people with a low level of conscientiousness avoid difficult and demanding tasks, and make decisions impulsively or without thorough consideration.

OPENNESS (to experiences). The dimension of openness to experiences consists of curiosity, appreciation of aesthetics, creativity and unconventionality as opposed to unimaginativeness and conventionality. Creativity, imagination, originality and intellectual curiosity and interest in unusual people and ideas are specific to people who have a high degree of openness to experiences. People with a low expression of this dimension are not intellectually curious, so they are not attracted to unconventional ideas.

The study of personality traits occupies an important place in the field of sports psychology (García-Naveira Vaamonde et al., 2011). It is important to study the personality traits of athletes and their effects on other psychological characteristics that are crucial factors of success and achievement (Shuai et al., 2023; Zubić, 2021a; Zubić, 2021b). It is also important to study of fans of clubs (Penezić, Selenić, 2023), young people when they appear in the media (Vitković, 2023) and trainers (Raab, Wolfe, Gould, Piland, 2011). The personality traits of athletes differ from those of people who do not play competitive sports. Thus, athletes, compared to non-athletes, are characterized by greater extraversion and lower neuroticism (Mckelvie et al., 2003; Wilson et al.,

2005; DeMoor et al., 2006), greater emotional stability (García-Naveira Vaamonde et al., 2011; Rhodes et al., 2005; Wilson et al., 2005; Steca et al., 2018), conscientiousness (Talyabee et al., 2013; Malinauskas et al., 2014), greater openness to experiences (Kajtna et al., 2004; Steca et al., 2018).

Moreover, further results have suggested that personality traits are also related to the participation in specific types of sports. More specifically, individual-sport athletes demonstrated higher conscientiousness, openness and emotional stability as well as lower levels of extraversion than team-sport athletes (Allen et al., 2011). Athletes practicing extreme sports are more extroverted and less conscientious than athletes practicing low-risk sports (Rhea & Martin, 2010; Tok, 2011; Castanier et al., 2010; Coetzee, 2010). Combat athletes are less neurotic than team sport athletes (Bojanić et al., 2019) and even within team sports, athletes differ in neuroticism, extroversion, agreeableness, and conscientiousness (Piepiora, 2021a). Top-level athletes are more conscientious and less neurotic than lower-level athletes (Allen et al., 2011; Piepiora, 2021a; Piepiora & Piepiora, 2021; Piepiora, 2021b). Talyabee et al. (2013) compared big five personality traits including Neuroticism, Extraversion, Openness to experiences, Agreeableness and Conscientiousness between athlete and non-athlete students. To evaluation of variables, NEO-FFI (revised short form) personality questionnaire was used. The research results showed that there were significant differences between groups in neuroticism, extraversion, agreeableness and conscientiousness, but, no any differences observed between athletes and non-athletes in openness to experiences. Athletes' group gained higher score at Extraversion, Agreeableness and Conscientiousness and lower score at Neuroticism. Shariati & Bakhtiari (2011) compared personality characteristics (neuroticism, extraversion, openness to experience, agreeableness and conscientiousness) non-athlete students and student athletes, Islamic Azad University of Ahvaz deals. The results showed that between athletes and non-athlete students in terms of personality characteristics [neuroticism ($p=0.032$, $F=4.68$), extraversion ($p=0.0001$, $F=12.59$), openness to experience ($p=0.287$, $F=1.14$), agreeableness ($p=0.580$, $F=0.307$) and conscientiousness ($p=0.038$, $F=4.36$)] there significantly was a difference. Results showed that participation in sports has a positive effect on the personality characteristics of people. Besides, athletes have more positive personality characteristics than non-athletes. Fazel (2013) compared big five personality traits between athletes and non-athletes. 200 athlete and non-athlete students were selected by simple random sampling method as the sample of the study. The subjects completed NEO-FFI. The results showed a significant difference among groups in neuroticism, extraversion, agreeableness and conscientiousness while no difference was observed among groups in flexibility.

Since the HEXACO framework of personality is relatively newer than other models, the number of studies conducted relying on this model is fewer respectively. For this

reason, the purpose of study (Zekioglu et al., 2018) was to examine the sports participation and personality relation in non-athlete adults based on HEXACO personality model and to compare personality profiles of the individuals who do and who do not engage in sports. The results obtained in the study showed that there are differences between those who do sports regularly, who do sports occasionally and those who do not do any sports at all. According to the results, differences were determined between the group that does sports regularly and the group that does not do any sports at all in the Honesty-Humility, Emotionality, Extraversion and Openness to Experience factors. The group that does sports regularly had higher scores in the Honesty/Humility and Emotionality factors, but lower scores in the Extraversion factor. The group that does not do any sports at all had lower mean scores in the Openness to Experience factor. In other words, the group that does sports regularly showed more honesty, humility and introverted characteristics than the other two groups. This group also showed more conservative characteristics compared to the group which does not do any sports at all. Similarly, the group that does sports occasionally showed more humility and introverted characteristics compared to the group that does not do any sports. These results are more meaningful when it is considered that the participants were not professional athletes.

It is not very clear whether doing sports affects personality traits or personality traits affect the frequency of sports participation because some personality theories emphasize the importance of the environmental factors additionally, so there is no consensus (Boomsma et al., 1999; Bouchard & Loehlin, 2001; McGue et al., 1993; Riemann et al., 1997). However, the main focus of this study was not the source of such differences but determining the differences.

Sport plays a significant role in personal (Jović et al., 2024) and professional (Zubić, Dašić, Vitković, 2024) development of a person. The previously presented review of papers indicates differences in the personality traits of athletes and non-athletes. In most of the research that studied the personality of athletes, the traits were operationalized through the five-factor personality model (Rhodes et al., 2005; Wilson et al., 2005; DeMoor et al., 2006). Given the small number of existing studies and the increasing popularity of the six-factor solution of basic personality traits, the HEKSAKO personality model was used in this study. The aim of the research is to examine the differences in personality traits of the HEXACO model between athletes and non-athletes. The assumptions of this research were defined based on the results of the previous studies. Namely, it is expected that: 1) athletes have more pronounced extraversion, conscientiousness and openness to new experiences compared to non-athletes; 2) non-athletes are more emotional than athletes; 3) there are no statistically significant differences between athletes and non-athletes in the emphatic insincerity and agreeableness.

Method

Sample of respondents

The research sample consists of 136 athletes who participate in different levels of sports competitions and 100 non-athletes. The sub-sample of the athletes consists of 76 athletes in individual sports (archery, various types of martial arts, tennis) and 60 athletes in team sports (basketball, football, American football, volleyball).

Research Procedure

The research was conducted from October to the end of December 2022. Athletes from Belgrade, Pirot, Niš, Novi Sad and Novi Pazar were examined. The respondents were informed about the purpose of the research, anonymity and the method of data use. Filling out the questionnaire took an average of 15 minutes.

Instruments

HEXACO basic personality traits were measured with the HEXACO-60 instrument (Ashton & Lee, 2009). This instrument, which represents the operationalization of the HEXACO personality structure model, measures six broad domains of personality: Honesty, Extraversion, Emotionality, Agreeableness, Conscientiousness and Openness to experiences. The HEXACO-60 questionnaire contains a total of 60 items that measure those 6 domains (10 for each factor). Respondents on a scale of 1 to 5 (from "do not agree at all" to "completely agree") express their degree of agreement with each of the 60 statements. Traits included in this model are: honesty ("I would never accept a bribe, even a very huge one"), emotionality ("Sometimes I can't help but worry about little things"), extraversion ("I prefer jobs that involve contact with people rather than jobs where I would work alone"), agreeableness ("I generally don't get angry with people, even those who have hurt me badly"), conscientiousness ("I plan ahead and organize myself to avoid finishing something at the last minute") and openness ("I like people who have unconventional (strange attitudes)"). The reliability and (Krombach alpha coefficient) scale of this instrument are high (honesty $\alpha=0.86$; emotionality $\alpha=0.74$; extraversion $\alpha=0.87$; agreeableness $\alpha=0.69$; conscientiousness $\alpha=0.87$; openness $\alpha=0.77$). The questionnaire also contained a part related to demographic variables: gender (male/female), age, sport the respondent practices (individual or team), number of years of sports training.

Results

Table 1 presents the differences in the expression of personality traits according to the HEXACO model between athletes and non-athletes obtained by t-test.

Table 1. T-test – differences in the expression of personality traits between athletes and non-athletes

		M	SD	P
Extraversion	Non-athletes	2.8860	.8846	0.00
	Athletes	3.4757	.77979	
Honesty/humility	Non-athletes	3.5460	.98703	0.19
	Athletes	3.7015	.85262	
Emotionality	Non-athletes	3.3980	.56228	0.00
	Athletes	2.9022	.73580	
Agreeableness	Non-athletes	3.0530	.57057	0.56
	Athletes	3.0985	.62015	
Conscientiousness	Non-athletes	3.3160	.87775	0.00
	Athletes	3.7059	.80211	
Openness to experiences	Non-athletes	3.5830	.75906	0.03
	Athletes	3.3904	.64117	

The results showed that there are statistically significant differences in the expression of extraversion, emotionality, conscientiousness and openness to new experiences between athletes and non-athletes. Namely, athletes have more pronounced extraversion and conscientiousness compared to non-athletes. On the other hand, non-athletes are more emotional and open to new experiences. There are no statistically significant differences between athletes and non-athletes in terms of insincerity and agreeableness.

Discussion and Conclusion

The aim of the research was to examine the differences in personality traits of the HEXACO model between athletes and non-athletes. The results showed that there are statistically significant differences in the expression of extraversion, emotionality, conscientiousness and openness to new experiences between athletes and non-athletes. Namely, athletes have more pronounced extraversion and conscientiousness compared to non-athletes. Athletes are more extroverted, ie. they are more enthusiastic, optimistic, energetic and self-confident compared to non-athletes. They enjoy company and

interactions with people, and experience positive feelings of enthusiasm and energy. Athletes have also a more pronounced trait of conscientiousness. Therefore, athletes have greater diligence, organization, dedication to work and responsibility. On the other hand, non-athletes have greater emotionality and openness to new experiences. Non-athletes have a more pronounced dimension of emotionality compared to athletes, i.e. they are more inclined to experience fear, anxiety, they worry about making mistakes, they have low self-confidence, and a great need for other people's support. The athletes with low emotionality have no worries or fears, even in stressful or dangerous situations, and they do not share their emotions with others. Subsequently, non-athletes have a more pronounced dimension of openness to experiences compared to athletes. Therefore, non-athletes are more curious, creative, original and imaginative. The athletes with a low expression of this dimension are not intellectually curious, so they are not attracted to unconventional ideas. There are no statistically significant differences between athletes and non-athletes in the expression of insincerity and agreeableness. The results of this research are consistent with other studies (DeMoor et al., 2006; Steca et al., 2018; Talyabee et al., 2013, Malinauskas et al., 2014).

Analysis of the results of this study allows suggesting future directions of the similar research. For example, the future research should include a larger number of respondents, as well as a comparison of athletes from different competitive levels (regional, national and international) and different sports (individual and collective). An understanding of the athlete's personality would be more detailed if different personality traits were examined. Further research in this area is necessary in order to fully understand the way the athletes function.

The main drawback of this research, which should be taken into account when interpreting the research results, is the number of respondents. The sample of the study was suitable because it consisted predominantly of athletes who are further improving, getting educated or have graduated from the sports faculty, i.e. athletes who are interested in improving their sports performance with the knowledge offered by science.

The obtained findings are significant, not only for the researchers to better understand the differences in personality traits of athletes and non-athletes, but also for practitioners, coaches, managers and athletes themselves. It is important for psychologists, coaches and professional teams in working with athletes to get to know their personality traits based on which they can develop ways and strategies to deal with them, aiming to better sports achievements.

Author Contributions

Conceptualization, I.Z.; **Resources**, D.M. **Methodology**, I.Z.; **Investigation**, D.M.; **Data curation**, I.Z.; **Formal Analysis**, I.Z.; **Writing – original draft**, I.Z.; **Writing – review & editing**, I.Z.

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