

Assessing the big five personality on categories of athletes and gender among tennis players

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Abstract:

The purpose of this study was to investigate and establish a comparison of Big Five personality traits between elite and non-elite tennis players in Malaysia. A comparison between gender had also been investigated. One hundred ten (N=110) Malaysian tennis players (male = 66, female = 44) within the age range of 12 to 25 years old participated in this study. These players were identified and selected based on their active participation in the national tournaments. Elite tennis players are those who have at least represented their state in any national games competition while non-elite players are those who are active participating in tournaments but never been selected to represent their state in any national competitions. Big Five Personality Traits Scale questionnaire was administered in this study and was distributed online to all participants with the assistance of their coaches from respective states. The Big Five Personality consists of Extraversion, Agreeableness, Conscientiousness, Neurotic and Openness. Descriptive statistics was used to determine the dominant personality between the elite and non-elite tennis players while an independent t-test was used to determine the differences of Big Five personality factors between them, as well as the factors that were associated with the largest gender difference in personality. The findings show that there is no significant difference in Big Five personality between both elite and non-elite groups. The study also shows that the dominant personality in both groups of elite and non-elites tennis players is Agreeableness which indicates that this type of personality is usually concern for social harmony and is good in getting along with others. However, the result between gender shows that female tennis players are found to be dominant in Neuroticism personality trait and there is no difference in other traits between the two genders. It can be concluded that Big Five Personality may have a significant influence in tennis players performance by providing better understanding and effective communication between coaches and their athletes.

Key Words:- Elite, Non-elite, Trait, Agreeableness, Neuroticism

Introduction

Personality can be defined as the individual differences in the characteristics of the way one thinks, what one is feeling, and the way one acts (Lindner et al., 2018). Personality differs based on different individuals as each person holds his or her personality, which will differentiate how he or she acts in a situation (Harari et al., 2020). In other words, it has to do with individual differences among people in terms of behavioral patterns and emotions (Khan, 2017). The disposition of a personality trait includes characteristics that narrate an individual's behaviors across a variety of unusual situations and which are expressed by that individual distinctively (Slaby & von Scheve, 2019). The five main personality traits include Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. Correspondingly, there have been many studies and research regarding personalities and also on sports performance. There is also a need to find out how personalities can be important in determining an athlete's sports achievement (Kovacs, 2010). The athletes' personality disposition was said to be one of the factors that are increasingly considered by researchers as a key to sports performance (Olmedilla et al., 2019). Accordingly, the athletes' personalities may differ based on their types of sport and whether the sport is an individual or a team sport.

People will achieve beyond their potential if they understand themselves better and what pushes their motivation (van der Steen et al., 2019). Some people know what they are capable of, and some may not have a clue about it. It is about how far they know themselves, and this is significant in sports performance. When one knows his or her potential, he or she accomplish bigger goals and achievement in sports. These are important to both the athletes and coaches (Rutten et al., 2011) as they are relevant to the youngsters and coaches in order for them to discover their potential in the sport, which later can turn them into professionals in the future (Prophet et al., 2017). The ideas about appropriate behavior for each gender, such as masculine and feminine, tend to change over time. This type of attitude change has been accompanied by behavioral shifts that coincide with changes in

trait expectations and shifts in personal identity for men and women (Y. Weisberg et al., 2011). In another perspective, culture is also one of the most important factors that shape personality as it is influenced by both biological and environmental factors. Findings have shown that the strong points of personality traits vary greatly across cultures (Terracciano & McCrae, 2006). There is a group of people who live in individualist cultures that tend to value competition, and personal achievement, while people from socialist cultures tend to value social harmony and group needs. In other words, it can be said that the norms can influence personality and behavior, gender norms also emphasize different traits between different genders and thereby influence the development of personality.

This study is concerned with the measures of personality between elite and non-elite tennis athletes. Personality is one of the factors which often affect the athlete's performance in sports. Having a good personality is as important as the specific skills needed in certain areas (Anderson et al., 2018). Notably, a negative personality may cause certain tendencies in sports which may lead to an uncertain outcome due to the lack of communication and leaves the athletes with insecurities (Bojanić et al., 2019). Athletes tend to have less awareness about their personality and do not know what they are capable of achieving (Becker, 2009). This is because they may not even realize or understand about their own major traits. A study by Rasmus and Kocur (2006), found that extraversion was major in both the trained and untrained tennis athletes. However, elite tennis athletes was found to have low neuroticism (Piepiora, 2019) which meant that they were resistant to stress and less likely to experience negative emotions such as fear and sadness. While Vaughan and Edwards (2020) have stated that elite athletes actually score higher in extroversion, openness and conscientiousness. Thus, personality traits can be considered when investigating competitiveness and personality as it plays a role in determining the outcome (Kopp & Jekauc, 2018).

In terms of gender, the record shows a lower score in men than in women for neuroticism (Steinbrink et al., 2020). According to Y. J. Weisberg et al. (2011), the largest factor which contributes to gender differences in personality traits is agreeableness. Even so, there are lesser studies that are related to the Big Five personality factors and to gender (South et al., 2018). At the same time, non-elite tennis athletes have higher neuroticism and agreeableness (Vaughan & Edwards, 2020). On the other hand, Steinbrink et al. (2020) have stated that non-elite athletes who train regularly have a lower level of neuroticism and conscientiousness. They also have higher levels of extraversion and openness. Understanding the personality of athletes proves to be beneficial for the athletes to achieve better performance (Widyaningsih et al., 2018) and success in their range of sports participation. The chances for a person to find success will be higher if he or she knows his or her own potential and what he or she is able to undertake.

In Malaysia, tennis has continued to grow and many approaches are being made in order to raise the standard of the sport for the past years. A number of programs were organized to help develop more elite athletes in tennis (Rahim et al., 2021). Even so, more space can still be filled for improvement. Through the process of understanding the persona of the athletes, it can help to enhance sports performance and at the same time improve the connections between the athletes and coaches (Razali Chong, 2011). Thus, there is a need to study and explore the personality factors that is associated with Malaysian tennis athletes. It's also to find out whether the big five personality factors can be a predictor for sports performance. However, the support for this study is still considered to be insufficient and there are much more to be explored (Allen et al., 2013). Hence, Kaplánová (2018) has suggested that the future researcher explores more research sample and compares the results with the findings in sports. Therefore, the aim of this study is to provide answers concerning the comparison of the Big Five personality factors between elite and non-elite tennis players as well as to explore the factors that is associated with the largest gender differences in personality traits.

Material & Methods

This study is a non-experimental comparative design because the intention was to determine the differences in Big Five personality between the elite and non-elite tennis players. It is non-experimental as there was no treatment given to them. The variables involved in this study were the categories of athletes and gender. The study was intended to investigate the comparison of personality factors on the categories of athletes and gender among tennis players. The target population comprises all Malaysian tennis athletes.

Participants

The sampling technique used in this study was the purposive sampling technique since there are certain criteria that are required for the participants to comply. Athletes with a ranking in the National Ranking System were selected because they were categorized as elite athletes. This is due to the fact that not all competitive athletes can be considered fully elite or expert since there are varying levels or 'tiers' (Swann et al., 2015). They are considered competitive athletes, yet vary in terms of playing standards. The population of competitive tennis athletes is approximately 153 athletes (N=153) with the age range between 18 to 30 years old based on the Lawn Tennis Association of Malaysia (LTAM) (<http://www.ltam.my/v3/>). It was suggested by (Kurebayashi et al., 2012) that a bigger number for relationship study would be better in achieving a better result. One hundred ten (N=110) Malaysian tennis players (male = 66, female = 44) within the age range of 12 to 25 years old were selected to participate in this study. These players were identified and selected based on their active participation in the national tournaments. Elite tennis players are those who have at least represented their state in any national

games competition while non-elite players are those who are active participating in tournaments but never been selected to represent their state in any national competitions.

Instrumentation

The Big Five Inventory was developed by Goldberg in 1993, which is filled with 44 items. Each item is a statement demanding answers from the respondent on a five-point scale from 1 to 5, where 1 is the answer for ‘strongly disagree’ and 5 represents ‘strongly agree’. This 44-item scale yield an overall scores of the Big Five personality that comprise of Extraversion (items 1, 6, 11, 16, 21, 26, 31, 36), Agreeableness (items 2, 7, 12, 17, 22, 27, 32, 37, 42), Conscientiousness (items 3, 8, 13, 18, 23, 28, 33, 38, 43), Neuroticism (items 4, 9, 14, 19, 24, 29, 34, 39), and Openness (items 5, 10, 15, 20, 25, 30, 35, 40, 41, 44). The Cronbach Alpha reliability coefficients for all the factors were above the minimum acceptable level of 0.7 (Hee, 2014). Therefore, all the items were administered in this study.

Statistical analysis

The statistical significance value was set at an alpha level <.05. The descriptive statistic including the mean and standard deviation was used to describe the categorical and demographic variables of the respondents. Accordingly, the normality test was used to check if the data are normally distributed or not normally distributed, and the parametric test was used when the data is normal. The demographic variables of gender and age of the group were summarized using descriptive statistics. On the other hand, in order to find the comparison of Big Five personality factors between the elite and non-elite tennis players, the data analysis that was used for this study is the independent t-test to compare the means that have been obtained by manipulating two factors. The gender differences were also analyzed using independent samples based on a t-test. Data were analyzed using the Statistical Package for the Social Science (SPSS) statistical software version 23.0.

Results

There was a total of 110 tennis players that took part in this study which consisted of 66 (60%) male tennis players and 44 (40%) female tennis players as shown in Table 1. These participants are in three different age groups where 44 (40%) players are within the age of 12-16, 51 (46.4%) players are in the range of 17-21, and another 15 (13.6%) players in the range of 22-25 years old. Sixty-five (65) tennis players were listed as elite tennis players while forty-five (45) tennis players were listed as non-elite. Elite and non-elite tennis players have been reported to be 65 (59.1%) and 45 (40.9%) respectively. As shown in Table 1, it is reported that 47 (42.7%) player’s highest achievement were at the international level and 35 (31.8%) players have played at the national level. These 2 groups of players can be considered elite tennis players. While 22 (20%) player’s highest achievement was at the state level, and the remaining 6 (5.5%) player’s highest achievement was at school level and were considered as non-elite tennis players.

Table 1. Respondent Socio-Demographic Profiles

Profile		Frequency (n)	Percentage
Age Group	12-16	44	40.0
	17-21	51	46.4
	22-25	15	13.6
Gender	Male	66	60.0
	Female	44	40.0
Categories	Elite athlete	65	59.1
	Non-elite athlete	45	40.9
Highest Achievement	International Level	47	42.7
	National Level	35	31.8
	State Level	22	20.0
	School Level	6	5.5

n = 110

Table 2 presents the Big Five personality of the elite tennis players where the mean and standard deviation for Agreeableness, Conscientiousness, Openness, Extraversion and Neuroticism are 3.66 (SD = 0.39), 3.50 (SD = 0.38), 3.34 (SD = 0.27), 3.21 (SD = 0.39) and 2.79 (SD = 0.55) respectively. The result shows that the major Big Five personality of elite tennis players was Agreeableness. The mean scores indicate the highest for Agreeableness while Neuroticism is the lowest.

Table 2. Major Big Five personality of the elite tennis players

Personality Factors	Elite	
	Mean	SD
Agreeableness	3.66	0.39
Conscientiousness	3.50	0.38
Openness	3.34	0.27
Extraversion	3.21	0.39
Neuroticism	2.79	0.55

n = 65

The Big Five personality for the non-elite tennis players were derived from Table 3. It is reported that the Agreeableness’s mean is 3.74 (SD = 0.37). While Conscientiousness has a mean of 3.52 (SD = 0.45). The mean

of Openness for non-elite tennis players is 3.37 (SD = 0.21). Extraversion and Neuroticism are reported sequentially to have mean equal to 3.31 (SD = 0.31) and 2.80 (SD= 0.60). Table 3 shows that the highest mean score for the non-elite tennis players is also Agreeableness and the lowest is Neuroticism.

Table 3. Major Big Five personality of the non-elite tennis players

Personality Factors	Non-elite	
	Mean	SD
Agreeableness	3.74	0.37
Conscientiousness	3.52	0.45
Openness	3.37	0.21
Extraversion	3.31	0.31
Neuroticism	2.80	0.60

n = 45

Table 4 shows the result of an independent t-test for Big Five personality between elite and non-elite tennis players. The component of Extraversion for elite tennis players has a mean of 3.21 (SD = 0.39) while the non-elite tennis player's mean score is 3.31 (SD = 0.31). The t-value for Extraversion was reported to be -1.52 and the *p*-value is at 0.13. It was not statistically significant. For Agreeableness, the mean score for elite tennis players is 3.66 (SD = 0.39) and non-elite's mean is 3.74 (SD = 0.37). The value for *t* is at -1.11 and the value for *p* is 0.27. Agreeableness was also not statistically significant. The elite tennis players' mean score in Conscientiousness is 3.50 (SD = 0.38) and slightly lower than non-elite tennis players with a mean score of 3.52 (SD = 0.45). Result shows that Conscientiousness was not statistically significant as the *t* value was -0.23 and *p*-value 0.82.

Table 4. Independent *t*-test for Big Five personality between elite and non-elite tennis players

	Group	N	Mean	SD	<i>t</i>	<i>p</i>
Extraversion	Elite	65	.21	1.39	-1.52	0.13
	Non-elite	45	.31	1.31		
Agreeableness	Elite	65	.66	1.39	-1.11	0.27
	Non-elite	45	.74	1.37		
Conscientiousness	Elite	65	.50	1.38	-0.23	0.82
	Non-elite	45	.52	1.45		
Neuroticism	Elite	65	.79	1.55	-0.07	0.94
	Non-elite	45	.79	1.60		
Openness	Elite	65	.34	1.27	-0.73	0.47
	Non-elite	45	.37	1.21		

Significant, *p* < .05

Neuroticism mean scores was the lowest for both elite and non-elite tennis players with the value of 2.79 (SD = 0.55) and 2.79 (SD = 0.60). Neuroticism was also not statistically significant as the *p*-value is at 0.94 and the *t*-value is at -0.07. Openness personality trait was also reported as not significant with the *p*-value at 0.47 and *t*-value at -0.73. The result shows the mean score for elite tennis players for Openness is 3.34 (SD = 0.27) while it is 3.37 (SD = 0.21) for non-elite tennis players. Overall, the *p*-value for Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness was more than 0.05. Therefore, there is no significant difference in the Big Five personality between elite and non-elite tennis players.

Table 5. Independent *t*-test for Big Five personalities between genders

	Group	N	Mean	SD	<i>t</i>	<i>p</i>
Extraversion	Male	66	3.26	0.33	0.38	0.71
	Female	44	3.23	0.40		
Agreeableness	Male	66	3.69	0.39	-0.10	0.92
	Female	44	3.69	0.37		
Conscientiousness	Male	66	3.57	0.36	1.92	0.06
	Female	44	3.42	0.46		
Neuroticism	Male	66	2.66	0.51	-2.99	0.00
	Female	44	2.98	0.61		
Openness	Male	66	3.32	0.25	-1.32	0.19
	Female	44	3.39	0.26		

Significant, *p* < .05

Table 5 shows the result for the factor that is associated with the largest gender differences in personality traits among tennis players. The component of Extraversion for male tennis players has a mean of 3.26 (SD = 0.33) while the female tennis player's mean score is 3.23 (SD = 0.40). The *t*-value for Extraversion was reported to be 0.38 and the *p*-value is at 0.71. It was not statistically significant. For Agreeableness, the mean score for male tennis players is 3.69 (SD = 0.39) and female's mean score is 3.69 (SD = 0.37). The value for *t* is at -0.10 and the value for *p* is 0.92. Agreeableness was also not statistically significant.

Table 5 also shows that male tennis players' mean score of Conscientiousness is 3.57 (SD = 0.36) and higher than female tennis players with a mean score of 3.42 (SD = 0.46). The Conscientiousness report shows that it was not statistically significant as the *t* value is 1.92 and *p*-value is 0.06. The Openness personality trait was also reported as not significant with the *p*-value at 0.19 and *t*-value at -1.32. The result shows the mean score

for male tennis players for Openness is 3.32 (SD = 0.25) while it is 3.39 (SD = 0.26) for female tennis players. Neuroticism mean scores were the lowest for both male and female tennis players with the value of 2.66 (SD = 0.51) and 2.98 (SD = 0.61). However, Neuroticism was found to be statistically significant as the p -value is at 0.00 and the t -value is at -2.99.

From the results indicated in Table 5, the highest mean score for males and females on the Big Five personality factors is Agreeableness. The lowest mean score reported was Neuroticism. It shows that there is no significant difference between male and female tennis players on the Extraversion, Agreeableness, Conscientiousness, and Openness however, there is a significant difference in Neuroticism with $p = 0.00$. The t -value that was recorded at -2.99.

Discussion

The current study found that elite and non-elite tennis players score the highest in Agreeableness. High Agreeableness includes trust, straightforwardness, altruism, modesty, sympathetic and empathy. The lows of this personality trait include demanding, stubbornness, show off, ignorance, and insulting behaviour towards others. People who score high for Agreeableness are soft-hearted, they trust people and behave in every good possible way (van der Steen et al., 2019). This might be because elite tennis players believe that trust, straightforwardness, and all the related feelings are the most important aspect in order to succeed. It is not important only to others but to themselves as well. The trust they have in themselves and other people is equally important. Being positive and having people you can trust can be one of the most crucial factors in the life of a sports person. Tennis players also tend to be cooperative while those who are low in this trait tend to be more competitive and sometimes even manipulative.

In the given sample, a trait of Agreeableness was major among the non-elite tennis players. Just like elite tennis players, they also have the tendency to develop and maintain pro-social relationships. Pro-social means that they have a good social relationship with others or the people around them. The study found that a good relationship between athletes and coaches may help contribute to the success of the sports. Agreeableness and pro-social were found to be interrelated and it is highly related to a positive coach-athlete relationship (Rutten et al., 2011). This can help in improving the communication between coaches and the athletes.

The third finding of this study found out that there is no significant difference of the Big Five personality traits which consist of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness when the elite tennis players are compared to the non-elite tennis players. It shows that both groups of players share the same personality trait. There may not be many recent and past studies on the comparison of elite and non-elite tennis players, as more investigations have been conducted between athletes and non-athletes.

The result of final analysis indicates that Extraversion, Agreeableness, Conscientiousness, and Openness were not statistically different in both male and female tennis players. However, there's a large difference in Neuroticism. The result for genders in Neuroticism is statistically significant with a p -value less than 0.05. The female tennis players' score on Neuroticism was higher when compared to the male tennis players. It shows that female tennis players are sensitive and easily influenced by personal feelings.

Conclusion

The findings of this study reveal that there was no significant difference in the Big Five personalities between the categories of athletes. Yet, the Agreeableness personality trait was found to be the major personality trait in both elite and non-elite tennis players. The investigation of the personality of human beings is considered very important to develop a basic understanding of human variation. This is in order to implement and facilitate future activities and training with the athletes. Since they know their own details it is easier for them to control their activities accordingly. In general, people with high Agreeableness are usually concerned about social harmony and are good at getting along with others. This is highly linked with the ability of the players to understand the circumstances and to perform accordingly, which is depicted as a major personality trait of these players.

In the gender differences, the researcher has found that there is a significant difference in one of the components which is Neuroticism in female tennis players is found to be higher, which means that they possess different personality and are very emotional when compared to the male tennis players. It is not something new that females are very sensitive and emotional. Other studies may have shown different outcomes by using a different personality questionnaire in comparing the personality but knowing one's personality can help the athletes to achieve better results in their performance. Generally, it can be concluded that Big Five personality may be a great influence in tennis sports. A person is not limited to having only one type of personality trait. It can also be used as a reference in identifying the personality of the tennis players as well as to help them to improve their performance.

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