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Personality Characteristics of University Athletes Based on Gender

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Abstract

This study aims to describe the personality characteristics of university athletes based on the Big Five Personality Traits model and to analyze differences between male and female athletes. This study is expected to provide theoretical contributions in strengthening the application of the Big Five model in the context of university sports in Indonesia, as well as providing practical contributions for coaches and educational institutions in designing psychological coaching strategies that are more adaptive, gender-sensitive, and evidence-based. A quantitative approach with a descriptive-comparative design was employed. The sample consisted of 200 university athletes from student sport units at Universitas Pendidikan Indonesia, including 100 male and 100 female athletes. Data were collected using the Big Five Inventory-10 (BFI-10) and analyzed through descriptive statistics and paired-sample t-tests. The results indicate that university athletes exhibit relatively high mean scores across all personality dimensions, with openness to experience showing the highest mean ($M = 7.40$; $SD = 1.41$). Inferential analysis revealed a significant overall difference in personality characteristics between male and female athletes ($t = 7.264$; $p < 0.05$). Significant differences were also found in extraversion ($t = 3.637$), neuroticism ($t = 2.447$), openness to experience ($t = 3.250$), agreeableness ($t = 6.438$), and conscientiousness ($t = 4.501$). This study concludes that personality characteristics of university athletes differ significantly by gender, highlighting the importance of considering gender differences in athlete development and training programs in higher education.

How to Cite

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INTRODUCTION

Athletes performance in competitive sports is the result of a complex interaction between physical ability, technical skills, game tactics, and psychological factors (Guo et al., 2022). In practice, differences in performance often arise not solely because of physical limitations, but because of variations in athletes' abilities to manage pressure, maintain focus, and display emotional stability during training and competition (Седбазар & Сухинина, 2024). Psychological factors become increasingly crucial at higher levels of competition, including for university athletes, where academic and athletic demands run concurrently (Guntoro et al., 2023). This situation makes psychological aspects, particularly personality, an important element that needs to be understood scientifically in order to improve the quality of athlete training (Stanford et al., 2022).

Personality is understood as a relatively stable pattern of thoughts, emotions, and behaviors that distinguish individuals from one another (Steinmetz et al., 2022). In the context of sports, personality influences how athletes respond to competitive pressure, interact with coaches and teammates, and maintain motivation and training discipline (Kemarat et al., 2022). A number of sports psychology studies show that personality characteristics are related to competitive anxiety, emotional regulation, mental resilience, and performance consistency (Mollazadeh et al., 2020). Therefore, understanding the personality profile of athletes is not only theoretically relevant, but also has strong practical implications in training planning and long-term coaching (Budnik-Przybylska et al., 2025).

The Big Five Personality Traits model is the most widely used theoretical framework for describing human personality structure, including in the context of sports (Bazkiaei et al., 2020). This model consists of five main dimensions, namely extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness (Wang et al., 2024). Previous studies have shown that these five dimensions have different relationships with athletes' performance and mental readiness. Extraversion and conscientiousness are often associated with achievement motivation and training consistency, while neuroticism is related to vulnerability to anxiety and emotional pressure. Openness and agreeableness play a role in flexibility of thinking, acceptance of new strategies, and the quality of interpersonal relationships within sports teams.

In this study, personality measurements were conducted using the Big Five Inventory-10 (BFI-10), a concise instrument designed to measure five personality dimensions efficiently without reducing the essence of the psychological constructs being measured (Jirjahn & Ottenbacher, 2023). The extraversion dimension reflects athletes' tendency to be active, energetic, confident, and comfortable in social interactions. Neuroticism describes the level of emotional stability, where high scores indicate a tendency to be anxious, tense, and sensitive to pressure. Openness to experience relates to openness to new ideas and experiences, creativity, and the ability to adapt to changes in training strategies or methods. Agreeableness represents cooperative, empathetic attitudes and a tendency to maintain social harmony, while conscientiousness reflects discipline, responsibility, and a strong orientation toward achieving goals (Liu et al., 2023).

A number of international studies report that athletes' personality characteristics vary based on gender. Female athletes tend to score higher on the dimensions of neuroticism and agreeableness, which are related to emotional sensitivity and social empathy, while male athletes score higher on the dimensions of extraversion and conscientiousness, which are related to courage, social dominance, and training discipline (Alderotti et al., 2023). However, findings regarding personality differences based on gender are not entirely consistent and are greatly influenced by cultural context, type of sport, and level of competition (Agbaria & Mokh, 2022). This shows that studies of athlete personality need to be conducted contextually and cannot be generalized universally.

In the Indonesian context, especially among university athletes, studies on gender-based personality characteristics are still relatively limited. Most previous studies have focused on professional athletes or have been conducted abroad, so they do not fully represent the psychological dynamics of Indonesian university athletes who are in different socio-cultural environments and training systems (Andolšek & Salkić, 2023). This condition indicates a research gap related to the lack of empirical data examining the personality profiles of Indonesian university athletes, taking gender differences into account. In fact, understanding the psychological characteristics of athletes at the university level is very important as a foundation for long-term performance development (Hu et al., 2023).

Based on this background, this study aims to describe the personality characteristics of university athletes based on the Big Five Personality

Traits model and analyze the differences in personality characteristics between male and female athletes using the BFI-10 instrument. This study is expected to provide theoretical contributions in strengthening the application of the Big Five model in the context of university sports in Indonesia, as well as providing practical contributions for coaches and educational institutions in designing psychological coaching strategies that are more adaptive, gender-sensitive, and evidence-based.

METHODS

This study uses a quantitative approach with a descriptive-comparative design (Sultan & Hulya, 2025). This research design was chosen because it aims to describe the personality characteristics of university athletes based on the Big Five Personality Traits model and to analyze the differences in personality characteristics between male and female athletes. The quantitative approach allows personality to be measured objectively through standardized instruments, which are then analyzed using statistical techniques in accordance with the research objectives (Allari et al., 2023).

The research was conducted on athletes who were members of the Student Activity Unit for sports at the Universitas Pendidikan Indonesia (UPI). Data collection was carried out in one research period during the current academic year. The time and place of the research were determined briefly and adjusted to the conditions and training schedules of the Student Activity Unit athletes so that the research process did not interfere with academic activities or ongoing sports coaching programs.

The population of this study consisted of all athletes from the Student Activity Units of Universitas Pendidikan Indonesia who actively participated in training and competitions, totaling 450 athletes. The sample comprised 200 athletes (100 males and 100 females), selected using purposive sampling with the following criteria: active undergraduate students, registered as Student Activity Unit athletes, regularly participating in training, having competed in university-level competitions, and willing to participate as respondents. The sample included athletes from various sports, namely soccer, basketball, handball, hockey, futsal, volleyball, pencak silat, swimming, taekwondo, badminton, and table tennis. The balanced gender composition and sample size were intended to ensure data representativeness and to enable proportional comparative analysis of personality characteristics.

The research procedure began with providing information to the research subjects regarding the objectives, benefits, and research procedures. Next, data collection was carried out by distributing questionnaires online through the Google Forms (G-Forms) platform. The online data collection method was chosen because it was considered effective, efficient, and facilitated access for respondents who had busy training and academic schedules. The questionnaire link was shared with respondents through the communication media used by each, and respondents were asked to fill out the questionnaire independently according to their personal circumstances and experiences.

The data collection instrument used in this study was the Big Five Inventory-10 (BFI-10) developed by Rammstedt and John (2007) with a reliability value (r = .84). This instrument consists of 10 statement items representing five personality dimensions, namely extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness. The BFI-10 was chosen because it is concise, easy for respondents to understand, and suitable for use in online data collection without reducing the reliability of personality construct measurement. Responses were given using a Likert scale with a specific range of values in accordance with the instrument specifications.

Data analysis was conducted in two main stages, namely descriptive analysis and inferential analysis (Paired Sample t-Test). Descriptive analysis was used to describe the personality characteristics of athletes at the Student Activity Unit Universitas Pendidikan Indonesia in each dimension of the Big Five Personality Traits. Furthermore, inferential analysis was used to test differences in personality characteristics based on gender between male and female athletes. The statistical analysis techniques used were tailored to the research objectives and data characteristics, so that the analysis results were expected to provide a comprehensive understanding relevant to the context of university athlete development.

RESULTS AND DISCUSSION

Tabel 1. Deskriptive Analysis

Dimension	N	Min.	Max.	M	SD
Extraversion	200	3	10	7.15	1.809
Aggreeableness	200	4	10	7.19	1.454
Conscientiousness	200	3	10	7.12	1.413
Neuroticism	200	3	10	7.00	1.649
Openness	200	3	10	7.40	1.411

Based on the descriptive statistics in **Table 1**, the personality profile of university athletes generally shows relatively high average scores across all dimensions of the Big Five Personality Traits. The openness to experience dimension has the highest mean value (M = 7.40; SD = 1.411), followed by agreeableness (M = 7.19; SD = 1.454), extraversion (M = 7.15; SD = 1.809), conscientiousness (M = 7.12; SD = 1.413), and neuroticism (M = 7.00; SD = 1.649). These findings indicate that university athletes tend to be open to new experiences, have good teamwork skills and discipline, and exhibit a fairly high level of extraversion, although they still show certain emotional tendencies.

Table 2. Paired Sample t-Test

Variable	M	SD	t	Sig.	Information
Personality Characteristics (Male - Female)	3.180	5.245	7.264	.000	Significant

The results of the paired sample t-test in **Table 2** show a significant difference between the overall personality characteristics of male and female athletes ($t = 7.264$; $p = 0.000 < 0.05$). The mean difference value of 3.810 indicates a fairly strong difference in personality scores between the two gender groups. The 95% confidence interval that does not cross zero reinforces the conclusion that the difference is statistically significant.

Table 3. Differences in the extraversion dimension between females and males

Variable	M	SD	t	Sig.	information
Extraversion (Male - Female)	.760	2.090	3.637	.000	Significant

In **Table 3**, the results of the paired sample t-test show that there is a significant difference in the extraversion dimension between male and female athletes ($t = 3.637$; $p = 0.000 < 0.05$). The mean difference value of 0.760 indicates that male athletes have higher extraversion scores than female athletes. This indicates that male athletes tend to be more active, assertive, and confident in social interactions and competitive situations.

Table 4. Differences in the neuroticism dimension between females and males

Variable	M	SD	t	Sig.	information
Neuroticism (Male - Female)	.490	2.002	2.447	.016	Significant

The results of the analysis in **Table 4** show that there is a significant difference in the dimension of neuroticism between male and female athletes ($t = 2.447$; $p = 0.016 < 0.05$). The mean difference value of 0.490 indicates a difference in the level of negative emotional tendencies between the two groups. These findings show that gender differences contribute to variations in athletes' emotional stability, with one group showing a higher tendency toward neuroticism.

Table 5. Differences in the openness dimension between females and males

Variable	M	SD	t	Sig.	information
Openness (Male - Female)	.590	1.815	3.250	.002	Significant

Based on **Table 5** the results of the paired sample t-test show a significant difference in the openness to experience dimension between male and female athletes ($t = 3.250$; $p = 0.002 < 0.05$). The mean difference value of 0.590 indicates that there is a difference in the level of openness to new experiences between the two gender groups. This indicates that gender affects flexibility of thinking, acceptance of new strategies, and athletes' adaptation to changes in training and competition.

Table 6. Differences in the agreeableness dimension between females and males

Variable	M	SD	t	Sig.	information
Agreeableness (Male - Female)	1.200	1.864	6.438	.000	Significant

The results of the analysis in **Table 6** show a very significant difference in the agreeableness dimension between male and female athletes ($t = 6.438$; $p = 0.000 < 0.05$). The mean difference value of 1.200 indicates that there is a significant difference in the tendency toward cooperation, empathy, and social harmony between the two groups.

Table 7. Differences in the conscientiousness dimension between females and males

Variable	M	SD	t	Sig.	information
Conscientiousness (Male - Female)	.770	1.711	4.501	.000	significant

Based on **Table 7** the results of the paired sample t-test show a significant difference in the dimension of conscientiousness between male and female athletes ($t = 4.501$; $p = 0.000 < 0.05$). The mean difference value of 0.770 indicates that the levels of discipline, responsibility, and consistency in carrying out training tasks differ significantly between the two gender groups. These findings show that gender differences also influence athletes' orientation towards achievement and behavioral regularity.

This discussion emphasizes that personality characteristics are psychological aspects that cannot be separated from the context of university athlete development. Personality shapes how athletes understand training demands, respond to competitive pressure, and interact with the social environment of sports. The findings of this study reinforce the view of sports psychology that places personality as a relatively stable internal factor that is still influenced by training and competition experiences. Within this framework, university athletes not only develop physically, but also experience the formation of distinctive personality patterns in accordance with the demands of their roles and the competitive environment they face (Karim, 2020).

The Big Five Personality Traits model has proven to be relevant in explaining the variation in personality characteristics of university athletes. Each personality dimension contributes differently to the mental readiness of athletes, both in training and competition situations. This is in line with Dimitriou & Galanakis, (2022) view that the five personality dimensions are universal and capable of describing individual behavior across contexts, including sports. Previous studies have also shown that dimensions such as conscientiousness and extraversion play an important role in shaping athletes' discipline, motivation, and active involvement in the coaching process, while neuroticism is closely related to vulnerability to psychological pressure.

The differences in personality characteristics based on gender discussed in this study can be understood as the result of interactions between biological, social, and sports experience factors. Male and female athletes are raised with different social expectations, which ultimately influence their patterns of emotion regulation, competitive styles, and ways of coping with stress. These findings are in line with the study by Weisberg and colleagues, which states that gender differences in personality are not a form of superiority, but rather a reflection of different social roles and psychological adaptations. In the context of university sports, these differences are important because they influence effective training and communication approaches (Jeikawati et al., 2023).

In male athletes, personality characteristics tend to reflect an orientation toward achievement, self-control, and assertiveness in competitive situations. This is consistent with the findings of Sanz-García and Rehman, which show that extraversion and conscientiousness are often more prominent in male athletes. These characteristics support their ability to cope with competitive pressure, maintain focus, and demonstrate consistent performance. However, previous research also emphasizes that the tendency to suppress emotions can be a challenge if not balanced with adaptive emotion regulation skills.

In contrast, female athletes exhibit personality patterns that are more prominent in terms of interpersonal relationships and emotional sensitivity. High agreeableness in female athletes contributes positively to teamwork, social cohesion, and effective communication with coaches and teammates. These findings are in line with the results of meta-analyses and cross-cultural studies that state that empathy and social concern are the main psychological strengths of female athletes. However, higher emotional sensitivity also requires appropriate psychological support so that it does not develop into competitive anxiety that hinders performance (Nurmalasari et al., 2024).

The relationship between personality and competitive anxiety is an important issue in this discussion. Previous studies have consistently shown that emotional stability plays a major role in maintaining athlete performance under pressure. Athletes with adaptive personalities tend to be able to use stress as a source of motivation, while athletes with higher emotional vulnerability need effective coping strategies. In the context of gender, women are often reported to be more vulnerable to emotional pressure, while men are more vulnerable to performance pressure and expectations of results. These differences emphasize the importance of a gender-sensitive psychological approach (Muhammad Fixi Nurcahyadi, 2024).

From a humanistic perspective, the findings of this study can also be explained through Carl Rogers' theory, which emphasizes the importance of a supportive environment in personality development. University athletes who are in a training climate that is accepting, empathetic, and trusting tend to show healthier and more adaptive personality development. This approach is relevant for both male and female athletes, as it allows them to actualize their potential without excessive psychological pressure. Thus, personality is not only understood as an innate character, but also as the result of dynamic interactions between individuals and their environment (Arsyia Fajarrini & Raden Rachmy Diana, 2024).

Overall, this discussion confirms that understanding the personality characteristics of university athletes based on gender has strong theoretical and practical implications. From an academic perspective, this study enriches Indonesian sports psychology literature, which is still

limited in examining gender-based personality aspects. From a practical standpoint, the results of this study provide a basis for coaches and sports trainers to design more personalized, adaptive, and psychological well-being-oriented coaching approaches. Thus, the development of athletic performance does not only focus on physical and technical aspects, but also on the overall character development and mental preparedness of athletes.

CONCLUSION

This study concludes that personality characteristics are psychological factors that play an important role in shaping the mental readiness and behavior of university athletes in the context of competitive sports. The Big Five Personality Traits model provides a comprehensive picture of athletes' personality tendencies, which are reflected in how they respond to training demands, match pressure, and social dynamics in the sporting environment. Personality is not only individual in nature, but also contributes to the effectiveness of coaching and the sustainable achievement of athletic performance.

In addition, this study shows differences in personality characteristics between male and female athletes. Male athletes' characteristics are more dominant than female athletes' based on the Big Five Inventory (BFI-10) dimensions. Based on personality characteristic dimensions, the most dominant dimension is agreeableness, while the least dominant dimension is neuroticism. These differences reflect unique patterns of psychological adaptation, which are influenced by biological, social, and experiential factors, rather than being a form of superiority of one gender over another. These findings emphasize that athlete development approaches need to consider personality and gender aspects so that athletes' potential can be developed more optimally, holistically, and with a focus on psychological well-being.

An approach that considers personality and gender differences is expected to improve communication effectiveness, motivation, and competitive pressure management. For educational institutions and university sports managers, the results of this study can be used as a basis for designing more comprehensive athlete training programs that take psychological aspects into account in addition to physical and technical aspects.

For future researchers, it is recommended to develop research by adding other relevant psychological variables, such as competitive anxiety, mental resilience, or achievement motivation, as well as involving more diverse types of sports and competition levels. Longitudinal research is also recommended in order to provide a more in-depth picture of the dynamics of changes in athletes' personalities throughout the coaching process and competitive experience.

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