

## SUBJECTIVE WELL-BEING, ATTACHMENT STYLES AND PERSONALITY FACTORS IN FEMALE ATHLETES

Sara ALIZADEH<sup>1\*</sup>, Reyhaneh TAJFARD<sup>1</sup>, Adrian MOLDOVAN<sup>2</sup>,  
Aysan Imanzad TAPPEH<sup>3</sup>, Radu PREDOIU<sup>4</sup>

<sup>1</sup> Islamic Azad University, Department of Psychology, Ardabil, Iran

<sup>2</sup> George Emil Palade University of Medicine, Pharmacy, Science and Technology, Petru Maior Faculty of Sciences and Letters, Târgu Mureș, Romania

<sup>3</sup> Urmia University of Medical Sciences, Department of Psychology, Urmia, Iran

<sup>4</sup> National University of Physical Education and Sports, Faculty of Physical Education and Sport, Bucharest, Romania

\*Corresponding author: s.alizadeh.psy@gmail.com

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**Abstract.** Subjective well-being plays an important role in athletes' positive life experiences and psychological functioning. The research aimed to predict subjective well-being based on personality factors and attachment styles among female athletes. This study included female athletes aged 18–35 years who regularly participated in individual and team sports during the second quarter of 2025 in officially licensed sports clubs in District 1 of Tehran. A total of 384 participants were selected through voluntary convenience sampling. Data were collected using the Keyes and Magyar-Moe (2003) Subjective Well-Being Questionnaire, the NEO Personality Inventory (Costa and McCrae, 1992), and the Hazan and Shaver (1987) Attachment Style Questionnaire. The findings showed a significant negative association (using Pearson correlation) between neuroticism and subjective well-being, whereas extraversion and agreeableness were positively linked with subjective well-being ( $p < 0.01$ ). Regarding attachment styles, avoidant and anxious attachment were negatively associated to subjective well-being, while secure attachment showed a positive association ( $p < 0.01$ ). Regression analysis indicated that personality factors and attachment styles jointly explained 50.8% of the variance in subjective well-being. Lower neuroticism and greater extraversion, agreeableness, and secure attachment were associated with higher subjective well-being among female athletes, whereas avoidant and anxious attachment were associated with lower well-being. The results underscore the relevance of these characteristics in understanding subjective well-being among female athletes and may inform psychological approaches aimed at promoting athletes' well-being.

**Keywords:** subjective well-being, personality factors, attachment styles, female athletes.

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### Introduction

Mental well-being is one of the important indicators of optimal psychological functioning and refers to an individual's cognitive evaluation and emotional experience of life, “encompassing pleasure, positive affect, life satisfaction, meaning, purpose, and self-acceptance” (Predoiu et al., 2026). In the field of sport, “athletes experience a range of daily stressors, so exploring ways to enhance their well-being [...] is of importance” (Mansell et al., 2024), mental well-being being considered part of the healthy and sustainable functioning of

athletes. The competitive nature of sport, performance pressures, continuous evaluation, the possibility of injury, training demands, and the complexity of relationships within the sporting environment can all influence athletes' psychological experiences. Therefore, explaining the factors affecting athletes' well-being requires both simultaneous attention to individual characteristics and interpersonal factors (Peng et al., 2020; Davis et al., 2021; Scott et al., 2026; Felton & Jowett, 2013).

One of the most important individual resources is personality characteristics. Personality shapes one's experience of life through its influence on the perception of situations, emotional responses, behavioral regulation, social interaction, and ways of coping with events. Meta-analytic evidence has shown that personality traits within the framework of the Five-Factor Model have significant associations with psychological and subjective well-being (Anglim et al., 2020; Sutin et al., 2016). More recent findings also indicate that the relationship between personality and well-being cannot be reduced to a single trait and that the multidimensional pattern of traits is important (Busseri & Erb, 2024). Among athletes, characteristics such as hope and optimism may play a role in explaining the hedonic and eudaimonic dimensions of well-being beyond athletic identity (Chang, 2024). Meta-analytic studies have also highlighted the role of conscientiousness and extraversion in athletic performance and adjustment (Yang et al., 2024; Shuai et al., 2023).

However, personality characteristics do not develop in a vacuum. Attachment theory provides a framework for explaining individual differences in the experience of relationships, the seeking of support, and responses to interpersonal threats. Attachment styles are relatively stable patterns of relating to oneself and others and influence feelings of security, trust, intimacy, and emotion regulation. Secure attachment provides the psychological resources necessary for supportive relationships and adaptive emotion regulation, whereas insecure styles may limit well-being through increased concerns about rejection or avoidance of intimacy (Dugan et al., 2023; Zhang et al., 2022).

In sport, athletes function within a social network consisting of coaches, teammates, and significant others. The quality of attachment relationships is associated with more positive experiences and athlete flourishing (Davis et al., 2021; Davis & Jowett, 2014), and coach-athlete attachment is related to subjective well-being through perceived support and self-esteem (Peng et al., 2020). Personality and attachment are not independent of one another, and well-being may result from the interaction between intrapersonal and interpersonal resources (Busseri & Erb, 2024; Audet et al., 2026; Felton & Jowett, 2017).

Despite the growing body of research, a comprehensive understanding of the simultaneous role of attachment styles and personality factors in athletes' subjective well-being remains lacking. This issue is of particular importance among female athletes.

Subjective well-being in athletes is a multidimensional construct influenced by both intrapersonal and interpersonal factors. From a trait perspective, the Five-Factor Model of personality provides a relatively stable framework for explaining individual differences in well-being. Meta-analytic evidence has shown that neuroticism is associated with lower well-being, whereas extraversion, agreeableness, and conscientiousness are generally associated with higher levels of well-being (Anglim et al., 2020; Busseri & Erb, 2024; Sutin et al., 2016). In addition, attachment theory suggests that relatively stable patterns of intimacy, trust, support-seeking, and emotion regulation may contribute to individual differences in well-being (Hazan & Shaver, 1987). Secure attachment is associated with greater interpersonal security and access to support, whereas attachment anxiety and avoidance are associated with less favorable mental

health outcomes and lower life satisfaction (Zhang et al., 2022). Among young women, both insecure attachment dimensions have also been associated with lower subjective well-being (Peng et al., 2023).

In sport, secure attachment to coaches and parents has been linked to flourishing, while coach–athlete attachment is associated with subjective well-being through perceived support and self-esteem (Davis et al., 2021; Peng et al., 2020). More recent evidence further indicates that attachment to coaches may influence athletes' psychological outcomes through emotion regulation and the quality of interpersonal relationships (Xin et al., 2025). Despite these findings, personality and attachment have often been examined separately. Therefore, the present study adopts an integrated intrapersonal–interpersonal perspective and examines the contribution of personality factors and attachment styles to subjective well-being among female athletes.

## **Methodology**

### *Scope*

The present study was conducted with the aim of predicting subjective well-being based on attachment styles and personality factors among female athletes in District 1 of Tehran, in order to provide indigenous evidence regarding factors associated with the subjective well-being of Iranian female athletes.

### *Hypothesis*

*H<sub>1</sub>*: Personality factors are significantly related to athletes' subjective well-being.

*H<sub>2</sub>*: Attachment styles are significantly related to female athletes' perceived well-being.

*H<sub>3</sub>*: Personality factors and attachment styles predict experienced well-being among female athletes.

### *Participants and Procedure*

The statistical population consisted of 384 female athletes, aged 18 to 35 years, who were continuously active in individual and team sports at official clubs in District 1 of Tehran during the second quarter of 2025. Convenience voluntary sampling was employed.

The inclusion criteria for the current study were: being female, aged between 18-35 years old, having at least 10 years of regular experience with a minimum of four training sessions per week, having at least a high school diploma, residing in Tehran, and providing informed consent. The exclusion criteria included: diagnosed psychological disorders, an influential chronic physical illness, incomplete questionnaires, and withdrawal from the study.

After obtaining the necessary permissions, coordination with women's clubs was carried out. The questionnaires were completed through in-person or electronic self-report. In the current study, all ethical principles related to human research, including voluntary participation, obtaining informed consent, and maintaining the anonymity and confidentiality of participants' information were ensured.

### Instruments

For personality assessment (neuroticism, extraversion, openness, agreeableness, and conscientiousness), the Costa and McCrae (1992) Five-Factor Personality Questionnaire was used – the Persian version by Garousi Farshi (1998).

To assess athletes' well-being, the Keyes and Magyar-Moe (2003) Subjective Well-Being Questionnaire was used. The instrument consists of 45 items and three components: emotional well-being, psychological well-being, and social well-being. Also, the Hazan and Shaver (1987) Attachment Styles Questionnaire, consisting of 15 items and assessing secure, avoidant and anxious styles was applied. The instruments were translated through retroversion, a procedure used in various research (Piotrowski et al., 2021).

### Results

In order to describe the status of the main study variables, descriptive statistics were calculated (mean, standard deviation, minimum, and maximum scores) for subjective well-being, the five personality dimensions, and attachment styles. Data were analyzed using SPSS version 27.

The results showed that the mean overall score of the participants for subjective well-being was 208.18, with a standard deviation of 26.46 (Table 1). The observed score range also varied from 107 to 261.52, indicating considerable individual differences in the experience of perceived well-being among the female athletes under study. Among the personality factors, the mean scores for neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness were 31.51, 42.86, 36.04, 40.87, and 44.01, respectively. Furthermore, among the attachment styles, the mean scores for avoidant attachment, secure attachment, and anxious attachment were 11.61, 16.73, and 13.16, respectively.

The dispersion of scores across the variables examined indicates that the participants showed important individual differences in terms of personality characteristics, attachment patterns, and levels of subjective well-being. These differences provide the necessary basis for examining the relationship between intrapersonal and interpersonal resources and subjective well-being.

Table 1. *Descriptive indices of the study variables*

| Variable               | Mean   | Standard Deviation | Minimum | Maximum |
|------------------------|--------|--------------------|---------|---------|
| Subjective well-being  | 208.18 | 26.46              | 107     | 261.52  |
| Neuroticism            | 31.51  | 5.68               | 16      | 52      |
| Extraversion           | 42.86  | 6.95               | 23      | 57      |
| Openness to experience | 36.04  | 4.83               | 22      | 55      |
| Agreeableness          | 40.87  | 4.89               | 26      | 54      |
| Conscientiousness      | 44.01  | 7.50               | 23      | 60      |
| Secure attachment      | 16.73  | 3.17               | 8       | 25      |
| Avoidant attachment    | 11.61  | 4.11               | 5       | 24      |
| Anxious attachment     | 13.16  | 3.29               | 5       | 25      |

Subjective well-being, within the theoretical framework of the present study, was regarded as one of the important indicators of an individual's evaluation of quality of life and emotional and psychological experiences. Accordingly, the existence of individual differences in the

subjective well-being overall scores of female athletes can be considered in relation to differences in the way they perceive sports-related pressures, regulate emotions, interact with others, and evaluate experiences of success and failure. This interpretation is consistent with the perspective of Keyes and Magyar-Moe (2003) regarding the multidimensional nature of well-being.

To examine the relationships among the study variables and test the hypotheses, the Pearson correlation coefficient and regression analysis were subsequently used. First, the existence of a significant relationship between personality factors and the subjective well-being of female athletes was investigated.

The results showed that there is a significant negative relationship between neuroticism and subjective well-being ( $r = -0.549$ ,  $p < 0.001$ ,  $r^2 = 0.30$ ). Therefore, as neuroticism increases, the level of subjective well-being among female athletes decreases (Table 2). In contrast, extraversion showed a significant positive relationship with subjective well-being ( $r = 0.549$ ,  $p < 0.001$ ,  $r^2 = 0.30$ ). Furthermore, a significant positive relationship was observed between agreeableness and athletes' perceived well-being ( $r = 0.456$ ,  $p < 0.001$ ,  $r^2 = 0.21$ ), and conscientiousness also had a significant positive relationship with subjective well-being ( $r = 0.417$ ,  $p < 0.001$ ,  $r^2 = 0.17$ ). The effect size index (coefficient of determination  $r^2$ ) showed a strong association between neuroticism, extraversion and athletes' perceived well-being, respectively a moderate to strong link between agreeableness, conscientiousness and subjective well-being (see Predoiu, 2020 for effect size interpretation).

Table 2. *Pearson correlation – the relationship between personality factors, attachment styles and athletes' subjective well-being*

| Variables              | Subjective Well-Being (r) | Significance Level |
|------------------------|---------------------------|--------------------|
| Neuroticism            | -0.549                    | <0.001             |
| Extraversion           | 0.549                     | <0.001             |
| Openness to Experience | -0.062                    | 0.227              |
| Agreeableness          | 0.456                     | <0.001             |
| Conscientiousness      | 0.417                     | <0.001             |
| Secure Attachment      | 0.347                     | <0.001             |
| Avoidant Attachment    | -0.496                    | <0.001             |
| Anxious Attachment     | -0.312                    | <0.001             |

The relation between openness to experience and subjective well-being was not significant ( $r = -0.062$ ,  $p = 0.227$ , see Table 2). Therefore, in the sample under study, sufficient statistical evidence to confirm a direct association between openness to experience and perceived well-being of female athletes was not observed. Based on the overall findings, the first research hypothesis was partially supported, as a substantial proportion of the personality dimensions showed significant relationships with female athletes' subjective well-being. Among the links observed, neuroticism and extraversion demonstrated the strongest associations with athletes' subjective well-being.

Considering the second hypothesis (the relationship between attachment styles and subjective well-being) the results showed that avoidant attachment had a significant negative relationship with subjective well-being ( $r = -0.496$ ,  $p < 0.001$ ,  $r^2 = 0.24$ ). Furthermore, a significant negative relationship was also observed between anxious attachment and subjective well-being ( $r = -0.312$ ,  $p < 0.001$ ,  $r^2 = 0.09$ ). In contrast, secure attachment showed a significant positive relationship with perceived well-being ( $r = 0.347$ ,  $p < 0.001$ ,  $r^2 = 0.12$ ). Accordingly, individuals with a more secure attachment pattern generally reported higher levels of subjective well-being, whereas increased avoidant and anxious tendencies in relationships were associated with lower subjective well-being.

The effect size index ( $r^2$ ) underlined a strong association between avoidant attachment style and athletes' well-being, respectively a moderate link between anxious attachment style, secure attachment style and subjective well-being. The null hypothesis was rejected (regarding the second hypothesis). This finding indicates that the quality of interpersonal relationship patterns and the degree of perceived security in interpersonal relationships may be associated with how female athletes experience subjective well-being.

To test the third hypothesis of the study regression analysis was used. In this analysis, subjective well-being was entered as the criterion variable, while the personality factors and three attachment styles were entered into the model as predictor variables.

The results showed that the overall regression model was statistically significant ( $F = 48.46$ ,  $p < 0.001$ ). The adjusted coefficient of determination was obtained as 0.498,  $R = 0.713$ , while  $R^2 = 0.508$ . This finding indicates that personality factors and attachment styles, collectively, explain approximately 50.8% of the variance in subjective well-being among female athletes. Table 3 presents the standardized coefficients for the significant predictors.

Table 3. *Results of the regression analyses for predicting subjective well-being*

| Predictor Variable  | B      | SE    | $\beta$ | t      | p      |
|---------------------|--------|-------|---------|--------|--------|
| Neuroticism         | -1.257 | 0.211 | -0.270  | -5.968 | <0.001 |
| Extraversion        | 0.686  | 0.222 | 0.180   | 3.093  | 0.002  |
| Agreeableness       | 0.817  | 0.234 | 0.151   | 3.492  | 0.001  |
| Secure Attachment   | 1.266  | 0.332 | 0.152   | 3.818  | <0.001 |
| Avoidant Attachment | -1.038 | 0.301 | -0.161  | -3.443 | 0.001  |
| Anxious Attachment  | -1.622 | 0.313 | -0.202  | -5.187 | 0.001  |

Neuroticism had a significant negative effect on subjective well-being ( $\beta = -0.270$ ,  $p < 0.001$ ). Extraversion had a significant positive effect ( $\beta = 0.180$ ,  $p = 0.002$ ), while agreeableness also significantly and positively predicted subjective well-being ( $\beta = 0.151$ ,  $p = 0.001$ ). Among the attachment styles, avoidant attachment had a significant negative effect on subjective well-being ( $\beta = -0.161$ ,  $p < 0.001$ ), secure attachment showed a significant positive effect ( $\beta = 0.152$ ,  $p < 0.001$ ), and anxious attachment also had a significant negative effect ( $\beta = -0.202$ ,  $p < 0.001$ ).

## Discussion

The present study was conducted with the aim of examining the role of personality factors and attachment styles in predicting subjective well-being among female athletes. The theoretical framework of the study was based on the assumption that subjective well-being results from the interaction of intrapersonal and interpersonal resources; accordingly, personality traits and attachment patterns may play a role in individuals' experiences of well-being. Specialized literature emphasized the importance of wellbeing for advancing mental health in athletes (Ciaccioni et al., 2025).

The findings showed that specific personality factors have significant relationships with subjective well-being. This finding is consistent with the results reported by Anglim et al. (2020), respectively Busseri and Erb (2024) results, who emphasized the role of personality traits and their overall pattern in explaining individual differences in well-being. Among female athletes, traits such as neuroticism, extraversion, and agreeableness may play a role in how individuals cope with competitive pressures, performance evaluations, and emotional experiences. In general, higher neuroticism may be associated with a greater experience of negative emotions and more negative evaluations of situations, whereas higher levels of extraversion and agreeableness may be associated with more positive emotional experiences and more adaptive interactions. However, given the correlational nature of the present study, these findings should not be interpreted causally.

The results indicated, also, a significant relationship between attachment styles and female athletes' subjective well-being. This finding is consistent with the results of Zhang et al. (2022) and Peng et al. (2023), who showed that dimensions of attachment insecurity, particularly anxiety and avoidance, are associated with lower levels of well-being and less favorable indicators of mental health. In addition, Ehnold et al. (2024) indicated that athletes' well-being is influenced by a range of individual and environmental factors and cannot be attributed solely to athletic performance. In the sports environment, relationships with coaches, teammates, and significant others may be important to athletes' experiences of well-being, being know, also, the detrimental impact of loneliness for well-being, affecting people of all ages (Piotrowski et al., 2026). The findings of Peng et al. (2020) emphasized the relationship between coach–athlete attachment, perceived support, self-esteem, and subjective well-being. Therefore, feelings of security and the quality of interpersonal relationships, alongside personality characteristics, may explain part of the differences in subjective well-being among female athletes.

In the current study, the significance of the regression model indicated that personality factors and attachment styles have a significant ability to predict subjective well-being. This finding supports the integrated perspective of the study and indicates that the simultaneously examining of intrapersonal and interpersonal resources can provide a more comprehensive picture of subjective well-being among female athletes. Some personality traits and attachment styles had greater contributions to predicting well-being.

From a practical perspective, research findings may be relevant to sports psychologists, coaches, and managers of women's sports clubs. Identifying athletes' personality characteristics and attachment patterns, along with strengthening supportive coach–athlete relationships, feelings of security, and emotion regulation skills, may be useful in programs aimed at promoting athletes' well-being. Also, in order to improve a person's subjective well-being ruminative dialogues should be reduced, while self-knowing dialogues should be

promoted (Puchalska-Wasył & Jaroszek, 2025). Not least, supportive environments enhance a person's subjective well-being (Guo et al., 2025).

Regarding the research limits, the cross-sectional and correlational nature of the study prevents causal inferences. Furthermore, the use of convenience sampling and the focus on female athletes in District 1 of Tehran limit the generalizability of the findings to other athletes, male athletes, and other regions. The use of self-report instruments may also increase the possibility of response bias, the limits of explicit measures being underlined in the literature (Predoiu et al., 2022). Future studies are recommended to use longitudinal designs and more diverse samples to examine the role of factors such as emotion regulation, social support, and the quality of sports-related interactions in the relationship between personality, attachment, and subjective well-being.

Overall, the findings of the study indicate that perceived well-being among female athletes is a multifactorial phenomenon influenced by the interaction between relatively stable individual characteristics and the quality of interpersonal relationships. Therefore, simultaneous attention to personality and attachment can provide a more comprehensive approach to understanding and promoting the well-being of female athletes.

## Conclusion

Subjective well-being in female athletes is associated with specific personality factors and attachment styles. Among personality traits, neuroticism was associated with lower subjective well-being, whereas extraversion and agreeableness were linked to higher well-being. Regarding attachment, the results showed that insecure attachment styles, particularly anxiety and avoidance, were associated with lower subjective well-being, whereas secure attachment was correlated with higher well-being. Overall, the findings support the view that the subjective well-being of female athletes results from the interaction of intrapersonal and interpersonal factors, and that the simultaneous consideration of personality and attachment can provide a more comprehensive understanding of individual differences in well-being.

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