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# A comparison of psychological well-being in athlete and non-athlete women

## Authors' Contribution:

- A Study Design
- B Data Collection
- C Statistical Analysis
- D Data Interpretation
- E Manuscript Preparation
- F Literature Search
- G Funds Collection

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## abstract

**Background:** The present study was aimed to compare psychological well-being in athlete and non-athlete women.

**Material and methods:** The statistical population of the present study included all athlete and non-athlete women in Shiraz, Iran. The sample consisted of 764 subjects (382 athletes, 382 non-athletes), of which the athlete and non-athlete samples were selected by Gerjesy and Morgan' sample size table and purposeful sampling method, respectively. Also, Ryff's psychological well-being scale (Ryff, 1989) was used for measuring subjects' psychological well-being. Independent t-test and multivariate analysis of variance (MANOVA) tests were used for data analysis.

**Results:** The results showed a significant difference between athlete and non-athlete women in terms of their psychological well-being and its subscales ( $p < .01$ ).

**Conclusions:** According to this finding, it can be concluded that psychological well-being is better in athlete compared to non-athlete women. Therefore, it can be argued that sport activities are effective in improving the psychological well-being of women.

**Key words:** psychological well-being, athletes, non-athletes, women.

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## INTRODUCTION

Health is defined as a state of complete physical, psychological, and social well-being, which is important to humans [1, 2]. Mental health is also a form of well-being that helps people find their potential aptitude and abilities in personal, social, and work life [3]. On the other hand, psychological well-being is a general concept used to describe mental health and is interpreted in various ways [4]. With such a description, the concepts of psychological well-being and positive mental health can be used interchangeably [5]. In fact, psychological well-being can be considered a form of psychological and emotional flexibility that allows people to enjoy life [1]. In general, psychological well-being involves different aspects, such as happiness and pleasure [4], good experiences and finding meaning in life [6], having a good mood and positive emotions and satisfaction with life [7]. In the past decade, Ryff [8] presented a model of psychological well-being that was widely used in the world. In this model, the six dimensions of self-acceptance (the ability to see and accept one's own strengths and weaknesses), positive relationships with others (having close and valuable relationships with important people in one's life), having autonomy (ability to follow demands and actions based on personal principles, even if they are opposed to the customs and social demands), having a purpose in life (having goals that direct one's life), personal growth (the actualization of one's talents and abilities over time and throughout life), and environmental mastery (ability to adjust and manage life affairs, especially daily life issues) as the determinants of psychological well-being [5, 9, 10]. Therefore, psychological well-being results from the balance between expectations and individuals' achievements in different fields of work, life, health, material condition, emotional, and interpersonal relationships [10]. Thus, according to the concept of psychological well-being, it seems that exercise can affect the dimensions of psychological well-being [11]. This proposition is not unwarranted since one of the theoretical models in the study of sport psychology is the positive psychological approach, which examines people's abilities, strengths and talents, and psychological well-being is one of the concepts considered and studied in positive psychology [8]. On the other hand, studies have shown that sports activities play an important role in reducing mental health problems and increasing psychological well-being [12, 13]. In this regard, Penedo and Dahn [14], Keyes [15], and Ghiami et al. [11] conducted studies in which they showed that those participating in physical activities had better lifestyles and enjoyed physical and mental health. Accordingly, and as it can be noticed, there is a link between individuals' lifestyles and doing physical activities, because psychological well-being has a positive effect on people's lives [14], and theories support the impact of physical activity on psychological well-being [11]. Therefore, the present study was conducted aiming to compare psychological well-being in athlete and non-athlete women in order to fill the research gap, find a scientific response to the hypothesis that athlete women have better psychological well-being than non-athlete women, and take the necessary measures to promote the psychological well-being of women.

## MATERIAL AND METHOD

### POPULATION, SAMPLE, AND SAMPLING METHOD

The research method was causal-comparative. The statistical population of the study included all athlete and non-athlete women in Shiraz, Iran. In the present study, the athlete sample was selected using Gerjesy and Morgan's sample size table method. After receiving the total statistical population for the athlete women

from the active sport boards of Shiraz (the total number of athletes women in Shiraz was 47,442 in 2015), 382 were selected as the athletes sample. The sample of non-athlete women was also 382 who were selected by a purposeful sampling method. In other words, after completing the questionnaire, the athlete participant was asked to introduce a non-athlete friend who would meet the study inclusion criterion. That is how in both samples, athlete and non-athlete, there were the same numbers of participants. It is worth noting that athlete women had at least 5 years of continuous sporting experience in team and individual sports while and non-athlete women had no sports activity for at least 5 years.

The sample characteristics for athlete and non-athlete women are presented in Table 1. There were no significant differences in the mean age, educational level, and family income between the two groups (see Table 1).

Table 1. Sample characteristics for athlete and non-athlete women

	Athlete women (n = 382)	Non-athlete women (n = 382)
Mean age (years) (SD)	26.09 (8.32)	26.88 (8.65)
Range (years)	19-60	18-60
Educational level (%): < 12 years(> 12 years)	31.68 (68.32)	32.72 (67.28)
Family income (%): ( $\leq$ 10,000,000 IRR, 10,000,001-30,000,000 IRR, $\geq$ 30,000,001 IRR)	(28.9, 50.00, 21.1)	(23.1, 52.3, 24.6)

US\$1 = 47730 IRR

## INSTRUMENTS

A shortened form of Ryff's psychological well-being scale [8] was used in this study. It featured 18 items and 6 subscales including self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. This scale is a six-point Likert scale from strongly disagree (score 1) to strongly agree (score 6). Negatively worded items are reverse scored so that higher scores on each subscale represent higher perceived positive functioning in the corresponding area. Also, higher scores for all 18 items indicate higher overall psychological well-being. For this 18-item version, Li [16] indicated that factor loadings were at least .60, and the reliability alpha coefficients were .92 and .60-.75 for its six subscales. That 18-item version of RPWB correlates well with the Geriatric Depression Scale (GDS)-15, and the quality of life criteria indicate very acceptable criterion-related validities. Additionally, the correlation between the 18-item version of RPWB and the main version of RPWB scale ranged from .70 to .89 [9, 17]. It should be noted that the participants individually completed the paper-and-pencil form of the 18-item version of RPWB.

## ETHICAL CONSIDERATIONS

Athlete and non-athlete women gave consent for their participation in this study. The participants were aware of the purpose of the study, and they had the right to leave the study at any time they happened to wish so. They were assured that all their information would remain confidential. The ethical review board of the regional Sports and Youth Organization approved the study.

## RESULTS

Table 2 presents the scores of psychological well-being and its subscales in athlete and non-athlete women

Table 2. Mean and standard deviation of psychological well-being and its subscales in two groups

Groups	Athlete women		Non-athlete women	
	M	SD	M	SD
Dependent variable				
Total psychological well-being	83.71	7.90	79.21	8.79
Self-acceptance	14.46	2.01	13.75	2.71
Positive relations with others	14.37	2.71	13.17	2.97
Autonomy	12.18	2.71	11.11	2.01
Environmental mastery	14.71	2.02	14.13	2.23
Purpose in life	13.10	2.29	12.49	2.24
Personal growth	14.94	2.16	14.60	2.54

As shown in Table 2, there is a difference between the means of the two groups. To examine this difference, independent t-test and multivariate analysis of variance were used.

Actually, in order to test the hypothesis that athlete women had better psychological well-being than non-athlete women, independent t-test was used, and the results are presented in Table 3. It is worth noting that the results of Kolmogorov-Smirnov test showed that the distribution of data in all research variables was normal ( $P > .05$ ). Also, in order to examine the homogeneity of variance, Levine test was used. This test was not significant for the total score of psychological well-being ( $P \geq .05$ ); thus, the use of the independent t-test was possible.

Table 3. The results of Independent T-test for Psychological Well-being in two groups

Variables	Groups	n	M	SD	T	Df	P
Psychological Well-being	Athlete women	382	83.71	7.90	7.44	762	.001
	Non-athlete women	382	79.21	8.79			

As it can be observed from Table 3, there is a significant difference between athlete and non-athlete women in terms of their psychological well-being. The average score of non-athlete women in psychological well-being was lower than the average score of athlete women [ $T = 7.43$ ,  $P < .01$ ]. Moreover, to test the hypothesis that there was a significant difference between the subscales of psychological well-being in athlete and non-athlete women, multivariate analysis of variance test was used. Before performing the multivariate analysis of variance, the Levin test was first used to determine the homogeneity of variances, but this test was not significant for any of the variables ( $P \geq .05$ ). As a result, the use of MANOVA was permissible. Also, the homogeneity of variance and covariance matrices were examined by the Box's M Test. The results showed that the Box's M value was not significant ( $P \geq .05$ ); consequently, the homogeneity between the covariates was established. It is worth noting that the results of the Kolmogorov-Smirnov test showed that the distribution of data in all research variables was normal ( $P > .05$ ).

Table 4. The results of MANOVA for the Subscales of Psychological Well-being in two groups

Effect		Value	F	Hypothesis df	Error df	P
Group	Wilks' Lambda	.905	13.04	6.000	746	.001

Based on the data shown in Table 4, the effect of group on the linear combination of dependent variables was significant. For this reason, MANOVA was used to determine for which of the dependent variables this effect was significant. The results are presented in Table 5.

Table 5. The Results of MANOVA for the Subscales of Psychological Well-being in two groups

Variables	Sum of squares	df	Mean square	F	P
Self-acceptance	82.252	1	82.252	14.47	.001
Positive relations with others	252.695	1	252.695	31.37	.001
Autonomy	201.324	1	201.324	35.52	.001
Environmental mastery	52.891	1	52.891	11.79	.001
Purpose in life	57.558	1	57.558	11.24	.001
Personal growth	13.332	1	13.332	2.44	.001

As seen in Table 5, there was a significant difference between the mean scores of the athlete and non-athlete women in the subscale of self-acceptance ( $F = 14.46$ ,  $df = 1$ ,  $P < .01$ ). The mean scores of the athlete women in this subscale ( $\bar{X} = 14.46$ ) were higher than those of the non-athlete women ( $\bar{X} = 13.75$ ). Furthermore, a significant difference was observed between the mean scores of the athlete and non-athlete women in the subscale of positive relations with others ( $F = 31.36$ ,  $df = 1$ ,  $P < .05$ ). The mean scores of the athlete women in this subscale ( $\bar{X} = 14.37$ ) were higher than those of the non-athlete women ( $\bar{X} = 13.17$ ). In addition, there was a significant difference between the mean scores of the athlete and non-athlete women in the subscale of autonomy ( $F = 35.51$ ,  $df = 1$ ,  $P < .05$ ). The mean scores of the athletes women in this subscale ( $\bar{X} = 12.18$ ) were higher than those of the non-athlete women ( $\bar{X} = 11.11$ ). Also, a significant difference was observed between the mean scores of the athlete and non-athlete women in the subscale of environmental mastery ( $F = 11.79$ ,  $df = 1$ ,  $P < .01$ ). The mean scores of the athlete women in this subscale ( $\bar{X} = 14.71$ ) were lower than those of the non-athlete women ( $\bar{X} = 14.13$ ). Finally, a significant difference was observed between the mean scores of the athlete and non-athlete women in the subscale of purpose in life ( $F = 11.24$ ,  $df = 1$ ,  $P < .01$ ). The mean scores of the athlete women in this subscale ( $\bar{X} = 13.10$ ) were lower than those of the non-athlete women ( $\bar{X} = 12.49$ ). There was no significant difference between the two groups with respect to 'personal growth'.

## DISCUSSION

The purpose of this study was to compare psychological well-being and its subscales in athlete and non-athlete women. The results showed that psychological well-being was better in athlete women compared to non-athlete women. In explaining these findings, we can say that physical activity leads to an improvement in the psychological well-being of individuals by increasing the positive aspects of their personality such as self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth [18-24]. Actually, physical activity and regular exercise lead to improvement in both mental and physical health status of humans [10, 23, 25].

Furthermore, the findings of this study showed that the average score of athlete women in self-acceptance was significantly higher than that of the non-athlete women. It can be argued that doing sport provides athletes with positive feedback. This positive feedback, in turn, can lead to a sense of competence, satisfaction, self-confidence, and self-acceptance in them [26, 27].

In addition, the findings showed that in the subscale of positive relations with others, the average score of athlete women was significantly higher than that of the non-athlete women. This finding can be supported by referring to the point that exercise and physical activity, as a social and cultural phenomenon, not only incite individuals to engage in interaction in a social network that has complex social relationships but also increase their social-emotional compatibility and help them to establish positive relationships with others [15, 28].

The findings of this study also showed that in the subscale of autonomy, the mean scores of the athlete women were significantly higher than those of the non-athlete women. It can be contended that exercise causes individuals to evaluate their behavior from within and adjust themselves to personal standards and resist social pressure, based on their own thinking and in their own way. As a result, the athlete women become more independent and show higher levels of autonomy and self-efficacy [29].

Moreover, the findings showed that in the subscale of environmental mastery, the average score of the athlete women was significantly higher than that of the non-athlete women. This finding could be explained by the point that exercise can force one to recognize his/her strengths and talents and use his/her strengths to dominate the environment [30, 31].

The findings showed that in the subscale of purpose in life, the average score of the athlete women was significantly higher than that of the non-athlete women. That could be supported based on the fact that athletes are athletic orientation [27, 32]. That is, athletes choose some goals during the competition and try to reach those goals [33]. That is why athletes have more purposeful in life [34]. As a result, it can be argued that the pursuit of physical and sports activities will increase the purposeful attitude of athletes and stimulate them to strive to compete, overcome the challenges, and achieve success, which considered together means achieving one's goals [35].

Finally, the findings of this study showed that there was no significant difference between the athlete and non-athlete women in the personal growth subscale. It seems that sport and physical activity may not have much effect on the personal growth and other related factors, such as social environment, community values, access to activities, and sports facilities, in Iranian culture. Other factors such as the social and economic status of one's family appear to be effective in that individual's personal growth.

In the end, it should be noted that this research was conducted only on women in Shiraz; therefore, for the results to be more generalizable, it is necessary that more research be carried out on males and in other cities.



## CONCLUSION

According to the results of this study, psychological well-being was better in athlete women compared to non-athletic women. Therefore, it can be concluded that physical activity and exercise can be used as affordable and convenient ways to increase psychological well-being. In fact, we can prevent mental illness by expanding opportunities for participation in sports and physical activity. In addition, sports and youth organizations are recommended to include comprehensive exercise and physical activity programs to improve women's psychological well-being.

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