

## **A Comparative Study of Psychological Hardiness in Athlete and Non-Athlete Students**

<sup>1</sup>Atena Mehrparvar, <sup>2</sup>Mehrdad Mazaheri

<sup>1</sup>MSc in Physical Education and Sports Science

<sup>2</sup>Associate Professor, Sistan and Baluchestan University

---

### **ABSTRACT**

The purpose of the present research was to study and compare the psychological hardiness of athlete and non-athlete students. The population of the research includes all the female athlete (swimming and mountaineering) and non-athlete students of the Islamic Azad University, Zahedan Branch, studying in the period 2010-2011. The sample consists of 150 volunteers from the population that were selected using convenience sampling (30 swimmers, 30 mountaineers, and 90 non-athletes). The present research is descriptive and ex post facto. Bartone's Hardiness Questionnaire was used for data collection. Chi-square test was applied to examine the psychological hardiness of the athlete and non-athlete groups. The results showed that there is a significant relationship between psychological hardiness and type of activity (athlete and non-athlete) ( $\chi^2 = 22.59$ ;  $DOF = 2$ ;  $p < 0.001$ ). The results of one-way ANOVA showed that the difference between the two groups in terms of psychological hardiness is statistically significant at 95% confidence level. However, the results of post hoc testing showed that only the difference between swimmers and non-athletes is significant. Based on these findings, swimmers have a higher level of psychological hardiness than the other two groups. They can more easily cope with environmental stressors and one of the strategies they employ is psychological hardiness.

**Keywords:** psychological hardiness, athletes, non-athletes

---

### **INTRODUCTION**

Human beings have found over time that some events can jeopardize their health, balance, comfort, and adaptation. However, evidence has shown that stressful situations do not always lead to disease and maladaptation [2]. Nowadays, the performance of athletes depends on a variety of factors. Mental skills of athletes in different sports vary depending on the requirements of each specific sport. Moreover, in highly competitive situations where physical fitness of athletes reaches its maximum level, it is the psychological factors that play a crucial role in the success of athletes. Psychological hardiness is one of the most important characteristics of successful athletes. It is a multifactor structure that everyone possesses to some extent and it consists of three components: commitment, control, and challenge. Hardy individuals have understood the meaning, value, and purpose of themselves, their job, and their life in general. They give more credence to effort than chance and believe that they can control the events of life. They believe that positive and negative events are the consequences of one's actions. They also consider change as a fixed rule of life and an opportunity for learning and growth, rather than a threat to their safety [1, 5]. Hardy individuals do not appraise events as threatening, but positive and controllable [5, 6]. Researchers believe that several factors moderate the relationship between stress and disease. Some people have certain characteristics that increase their resistance to stress and prevent its negative consequences [8]. In addition, human beings are not easily overwhelmed by stress and its consequences; rather, they have come up with various strategies for regaining their adaptation and balance and for preventing, controlling, or coping with stress. The present research studies one

of these strategies against stress, i.e. psychological hardiness, and tries to compare it in a sample of athlete and non-athlete students. Psychological hardiness refers to individuals who are resistant against stress. It is a multifactor structure that is everyone possesses to some extent and consists of three components: commitment, control, and challenge [7, 1, 9]. The studies of Kobasa and colleagues have shown that hardiness is positively associated with physical and psychological health. Although stress weakens the immune system in the long run and exposes the individual to various diseases, there are certain moderators known as stress-resistant resources that reduce the negative effects of stress on the body. Psychological hardiness is the most important of these resources. Research has shown that people with low psychological hardiness will be afflicted with diseases in the long run, while people with high levels of hardiness are immune against the negative effects of stress. Hardy people feel responsible for their actions and behaviors and believe that events in life can be controlled and predicted. They consider change as an opportunity and challenge for further growth rather than a threat. According to Kobasa, hardy individuals experience the events of life just like others, but do not appraise these events as stressful and are confident of their ability to cope with them.

Swimming is one of the most favorite sports in different societies. Swimming is not only relaxing and refreshing, but it also increases the physical abilities of swimmers, including the circulatory and respiratory systems, strength, speed, and flexibility of joints. According to Kobasa, swimmers have a greater control over their life and enjoy a higher level of psychological hardiness. Mountaineering, on the other hand, is one of the sports that increases physical strength and enhances mental abilities of its practitioners. Mountaineers have a more balanced control over release of adrenaline that leads to stress. Accordingly, the present research studies and compares psychological hardiness in athletes (swimming and mountaineering) and non-athlete students.

## RESULTS

The frequency distribution of the studied sample is provided in table 1.

**Table 1. The frequency distribution of the studied groups**

Group	Freq.
Athlete – Swimming	30
Athlete – Mountaineering	30
Non-athlete	90
Total	150

To examine the psychological hardiness of the subjects, they were divided into groups with high and low hardiness based on their scores in Bartone's Hardiness Questionnaire. The frequency distribution of the subjects with high and low hardiness is provided in table 2.

**Table 2. The frequency distribution of the studied groups based on their level of hardiness**

Group	Frequency		Percentage
	Low hardiness	High hardiness	
Athlete – Swimming	Low hardiness	11	36.7
	High hardiness	19	63.3
	Total	30	100
Athlete – Mountaineering	Low hardiness	19	63.3
	High hardiness	11	36.7
	Total	30	100
Non-Athlete	Low hardiness	74	82.2
	High hardiness	16	17.8
	Total	90	100

As shown in table 2, among the compared groups, the swimmers have a higher level of hardiness (63.3%). The mountaineers assume the next rank with 36.7% and the non-athletes had the least hardiness as compared to the other groups. Chi-square test was applied to examine whether there is a significant relationship between psychological hardiness and type of activity. The results are presented in table 3.

**Table 3. The results of chi-square test**

Group		Hardiness		
		High	Low	Total
Athlete – Swimming	Observed Frequency	11	19	30
	Expected Frequency	20.8	9.2	30
Athlete – Mountaineering	Observed Frequency	19	11	30
	Expected Frequency	20.8	9.2	30
Non-Athlete	Observed Frequency	74	16	90
	Expected Frequency	62.4	27.6	90
Total	Observed Frequency	104	46	150
	Expected Frequency	104	46	150

**$\chi^2 = 22.596$ , **DOF = 2**,  **$p < 0.00$****

Table 3 shows that the observed chi-square at 99% confidence level is significant and thus there is a significant relationship between psychological hardiness and type of activity. In addition, one-way analysis of variance was used to see whether there is a significant difference between the studied groups in terms of psychological hardiness.

**Table 4. The results of one-way ANOVA**

	Sum of Squares	DOF	Mean Squares	F	Sig.
Between-Group	4.804	2	2.402	13.036	0.000
Within-Group	27.089	147	0.184		
Total	31.893	149			

As shown in table 4, the value of F is significant at 99% confidence level and degree of freedom of 2 and 147; thus, it can be concluded that there is a significant difference between at least two groups in hardiness scores. Scheffe's post hoc test was applied to identify the groups that significantly differ and the results suggested that there is only a significant difference between the mean hardiness scores of swimmers and non-athletes.

### CONCLUSION

The results of the present research show that psychological hardiness of swimmers is significantly higher than that of the non-athletes. This finding is consistent with the results of Golby and Sheard (2004) and Kashani (2011). Perhaps, the experience and higher physical fitness of the swimmers can be the reasons for such an outcome. Swimmers can considerably control negative energies and they continue their development despite the various changes they encounter in life. In addition, no significant difference was observed between mountaineers and non-athletes in hardiness scores. The possible reason for this finding is the gender and job of the participants. Psychological hardiness is an inherited or developed characteristic that predicts the success of athletes. Being placed under difficult conditions (competition and training) can enhance the hardiness of athletes. Various factors play a role in the formation and development of mental skills that need to be individually examined, including age, competitive experience, level of activity, the nature of the sport, and individual differences. Since employing coping strategies in stressful situations is an important factor in physical and mental health, the higher scores obtained by swimmers can be justified.

### REFERENCES

- [1] Agha-Mohammadian HR, Oladi F, Noor-Mohammadi L, *J Psych*, **1999**, 10(3): 164-170.
- [2] Agha-Yousefi AR, Dadsetan P, Ejei J, Mansour M, *J Psych*, **2000**, 16(4): 347-370.
- [3] Anshel MH, Jamieson J, Raviv S, *J Sport Beh*, **2001**, 24(2): 128-143.
- [4] Folkman S, Lazarus RS, *J Health Soc Beh*, **1980**, 21: 219-239.
- [5] Ghorbani N, *J Psychol Res*, **1995**, 3&4: 76-92.
- [6] Kashani MR, MA Thesis, Kish University (Kish, Iran, **2011**).
- [7] Kiamarsi A, Najarian B, Honarmand MM, *J Psych*, **1998**, 7(2): 271-284.
- [8] Kobasa SC, Stressful life events, *J Person Soc Psych*, **1979**, 37(1): 1-110.
- [9] Lazarus RS, Folkman S, Stress, appraisal, and coping. New York: Springer, **1984**.
- [10] Roth S, Cohen LJ, *Am Psych*, **1986**, 41(7): 813-819.