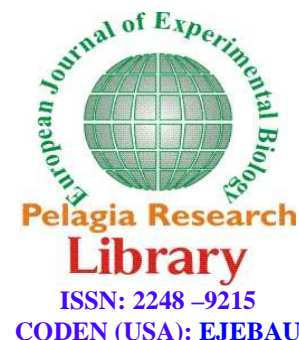




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## A comparison of psychological hardiness in male athlete and non-athlete students

Atena Mehrparvar<sup>1</sup> and <sup>2</sup>Marzieh Khalife Soltani

<sup>1</sup>Department of Physical Education and Sports Science, Zahedan Branch, Islamic Azad University, Zahedan, Iran

<sup>2</sup>Sistan and Baluchestan University, Iran

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### ABSTRACT

*The purpose of the present research was to examine and compare psychological hardiness in the male high-school students of Zahedan Province. The research sample consisted of 400 students who were divided into an athlete group (N=150) and a non-athlete group (N=250) using diagnostic interview. Bartone's 45-item Dispositional Resilience Scale that includes all the psychometric characteristics required for this study was used to collect data. The results showed that athletes had significantly higher scores in hardiness and the control subscale than non-athletes. Moreover, no significant difference was observed between team and individual athletes. In sum, we can conclude that athletes have higher levels of psychological hardiness than non-athletes and physical activities have positive effects on hardiness. It could also be that hardy individuals tend to participate in sport activities.*

**Keywords:** psychological hardiness, commitment, control, challenge

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### 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 [11]. Today, 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. Students are the fundamental capitals of modern societies and any investment on their individual and social growth and development is of utmost importance. Personality factors significantly influence the progress of students. Psychological hardiness is one of these personality factors and affects performance in stressful situations, including sport contexts. It appears that this relationship is mutual, i.e. sport increases psychological hardiness and psychological hardiness improves performance. Meanwhile, many studies have reported the effect of sport and physical activity on reducing stress. Apparently this reduction in stress happens as a result of reinforcement of personality characteristics such as hardiness. The purpose of the present research was to

compare psychological hardiness and its subscales in athlete and non-athlete groups and in individual and team sports. Sports in general are full of opportunities for facing obstacles and adopting proper strategies for overcoming them. This is very important for the psychological health of adolescents. In fact, choosing tactics and strategies for overcoming obstacles in sports help adolescents develop a resilient, solution-minded, flexible, and hardy character. Therefore, overpowering problems in sports increases the athlete's sense of competence and self-control, motivates them to display decent behavior, and positively affects their character. Children and adolescents who have the opportunity to display their talents, capabilities, and skills in sport scenes and show creativity in techniques and tactics will have be more prepared for tackling future problems [8]. Hardy individuals are more committed and devoted to their responsibilities and goals. They believe that they dominate the circumstances and they do not appraise change as stressful or threat, rather as opportunities for growth and progress [10]. This reduces their anxiety in different competitive situations. Research has shown that there is a relationship between personality, mood, and exercise. On the one hand sport and physical exercise create positive changes in personality and emotional variables. On the other hand, personality characteristics affect the choice of sport and physical exercises. It appears that the effect of sport on personality depends on several variables including the type and duration of exercise [2]. Cox did an extensive review of the studies related to personality and sports and came to the conclusion that athletes and non-athletes differ in terms of personality characteristics. Athletes are more independent, more self-confident, more objective, more extroverted, and less anxious than non-athletes [1].

Most athletes and coaches believe that psychological factors are as important as physical characteristics. After acquiring the necessary physical skills for participating in a tournament, the winners are those who have the greatest control over their mind. Diligence cannot replace skills, but it can be a determinant of win or loss in highly competitive situations. Hardy athletes can probably achieve consistent results regardless of situational factors. Even when the conditions are not in their favor, they still maintain a positive and optimistic view and are unaffected by the pressures. They get along with distractors without allowing them to disturb their concentration. They can turn stressful circumstances from potential calamities into opportunities for personal growth [2]. Not many studies have transferred the concept of psychological hardiness to sport and exercise settings. A study on the relationship between hardiness and performance in basketball showed that hardiness can predict six out of seven indexes of performance excellence [12]. In another study, Golby and Sheard (2003) studied hardiness in rugby players and showed that performers playing at the highest standard (International players) scored significantly higher in all three hardiness subscales (commitment, control, and challenge).

## MATERIALS AND METHODS

### Subjects

The population of the research consisted of all the high-school students of Zahedan City who were studying at the period 2011-2012. The members of the population were divided into an athlete and a non-athlete group based on the diagnostic interviews carried out by the researcher among more than 700 students. Using Morgan's table and random cluster sampling, 400 students were selected as sample of whom 150 were athletes (37.5%) and 250 were non-athletes (62.5%). Among the athletes, 70 students were individual athletes and 80 students were team athletes. The frequency and percentage of different sports were as follows: 56 basketball players (37.33%), 24 volleyball players (16%), 22 swimmers (14.67%), 28 taekwondo athletes (18.67%), and 20 fitness athletes (13.33%). The sampling procedure was as follows: 4 high schools were randomly selected for sampling from the high schools of Districts 1 and 2 of Zahedan City. Then, at least one class from each grade was selected and all the students of these classes participated in the diagnostic interview. After interviewing more than 700 students, 150 students were identified as athletes and were assigned to the athlete group and 250 students were randomly selected from non-athletes and were assigned to the non-athlete group.

### Instruments

Dispositional Resilience Scale [4]: This scale includes 45 items which are rated on a 4-point Likert scale from 0 to 4 with 15 items for each of the subscales (commitment, control, and challenge). This scale is a valid instrument for measuring hardiness and resilience [6]. Besharat (2005) examined the validity and reliability of this scale in 283 athlete and non-athlete students of the University of Tehran. Test-retest reliability of the hardiness scale and its subscales was confirmed in both groups with 0.77 to 0.88 correlation coefficients. The internal consistency of this scale was also tested using Cronbach's alpha and the coefficients (0.65-0.78) confirmed its internal consistency. Also the validity of the subjects' scores in the measures of psychological well-being, psychological symptoms, positive affect, and negative affect was examined and confirmed [4].

## RESULTS

Table 1 presents the measures of central tendency for the subjects' scores in hardiness and its subscales.

**Table 1. Mean and standard deviation of commitment, control, challenge, and overall hardiness scores of the subjects**

Groups Variables	Non-athletes	Athletes	Team Athletes	Individual Athletes
Commitment	28.27±5.98	28.39±5.59	28.3±5.19	29.03±6.01
Control	30.64±5.97	32.67±6.01	32.79±6.49	32.54±5.47
Challenge	26.22±5.25	26.21±2.33	26.14±4.32	26.29±4.59
Hardiness	85.12±12.13	87.37±9.90	86.95±9.87	87.86±9.99

T-test was applied to compare athlete and non-athlete groups as well as individual and team athlete groups in terms of their scores in psychological hardiness and its subscales. The results are presented in tables 2 and 3.

**Table 2. The results of t-test for comparing the scores of athletes and non-athletes in hardiness and its subscales**

Index	df	t	p
Commitment	398	0.374	0.709
Control	398	3.290	0.001
Challenge	398	0.018	0.985
Hardiness	398	2.018	0.044

As can be seen in Table 2, there is a significant difference between the scores of the two groups ( $p \leq 0.05$ ). That is, the hardiness scores of the athletes are higher than the scores of the non-athletes. However, there is no significant difference between athletes and non-athletes in challenge scores ( $p \leq 0.05$ ). Also no significant difference is observed in the commitment scores of the athlete and non-athlete groups ( $p \geq 0.05$ ). Finally, there is a significant difference between athletes and non-athletes in control scores ( $p \leq 0.05$ ), where the control scores of athletes are higher than the scores of non-athletes.

**Table 3. The results of t-test for comparing the scores of team and individual athletes in hardiness and its subscales**

Index	df	t	p
Commitment	148	1.098	0.274
Control	148	0.248	0.805
Challenge	148	0.203	0.839
Hardiness	148	0.558	0.557

As can be seen in the table above, there is no significant difference between individual and team athletes in commitment, control, challenge, and hardiness ( $p \leq 0.05$ ).

## DISCUSSION AND CONCLUSION

The results of the present research showed that there is a significant difference between the athletes and non-athletes in terms of control and hardiness scores. No significant difference was observed in commitment and challenge scores of the two groups. Moreover, no significant difference was observed between the scores of individual and team athletes in hardiness and its subscales. These results can be explained as follows:

1. Athletes' control disposition allows them to believe that they can influence the events taking place around them through their own effort. Thus, through planning and optimal use of environmental variables, they increase their chance of success.
2. Resilient individuals value sport and physical activity and find physical exercises and challenges of tournaments interesting. In other words, these individuals believe that change, rather than stability, is the normal more of life and appraise events of life not as threats but as opportunities for growth.
3. It was expected that team athletes would have a higher level of hardiness than individual athletes. However, the results did not support this hypothesis. The possible reason is that adolescents are not professional athletes yet and

are studying along with their participation in sports. If they pursue sports professionally, they will show more resilience for achieving success.

The limitations of the research include the non-professional athletes studied and the type of the research (casual-comparative) which inhibit generalization and interpretation of the results and these issues must be taken into account in future studies.

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