The impact of hardiness on sport achievement and mental health

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Abstract

To examine the impact of hardiness on sport achievement and mental health in a sample of athletes, 74 students (44 males, 30 females) were included in this study. All participants completed Hardiness Scale (HS) and Mental Health Inventory (MHI). To measure sport achievement, athletes’ coaches rated the Sport Achievement Scale (SAS). Hardiness was positively associated with sport achievement and psychological well-being. A simple negative correlation was found between hardiness and psychological distress, but the correlation was not statistically significant. Hardiness is supposed to increase levels of sport achievement and psychological well-being through feelings of commitment, control, challenge, and coping skills.

Keywords: Hardiness, sport achievement, mental health, sport psychology, students.

1. Introduction

The psychological factors involved in athletic performance have long been of interest to athletes, coaches, and sport psychologists (Gucciardi, Gordon, & Dimmock, 2009). Psychological characteristics of athletes has been investigated in some researches (e.g., Crust, 2008; Mendelsohn & Warren, 2010; Nicholls, Polman, Levy, & Backhouse, 2009; Nippert & Smith, 2008; Roters, Logan, Meisner, & Baker, 2010; Robazza & Bortoli, 2007; Sheard, Golby, & Wersch, 2009). Hardiness is a combination of attitudes that provides the necessary courage, motivation and capability to turn developmental and environmental stressors into opportunities for growth and many positive outcomes have been found to relate to measures of hardiness, such as improved psychological and physical health in the face of work and life stress, and improved sporting performance (Thomson & Morris, 2009). Hardiness was first described by Kobasa (1979), and characterized by three main components: Control of various life situations; Commitment, being when one tends to involve him / herself in the action they are doing; and Challenge, the extent to which individuals see challenges as opportunities (Kaiseler, Polman, & Nicholls, 2009). Hardiness researchers suggest that athletes with high levels of this construct display higher levels of sport performance (e.g., Golby & Sheard, 2004; Maddi & Hess, 1992). The purpose of this article was to address the impact of hardness characteristics on sport achievement and mental health in a sample of athletes.

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2. Method

2.1. Participants

Participants were 74 students (44 male, 30 female; mean age = 22.17 years, SD = 2.44), from the Faculty of Physical Education and Sport Sciences, the University of Tehran.

2.2. Materials

**Hardiness**- Hardiness was assessed by the use of the Hardiness scale. The HS is a 45-item scale that yields a total hardiness score (a composite of the scores of the three subscales), as well as scores for the three 15-item subscales: Commitment, Control, and Challenge. Scores were recorded on a 4-point likert scale anchored at 0 = not at all true and 3 = very true. Studies have shown the HS to have acceptable internal consistency (.88 - .93 for commitment, .85 - .94 for control, .89 - .95 for challenge, and .87 - .94 for total hardiness; Besharat, 2008), and satisfactory test-retest reliability (.82 - .90 for commitment, .80 - .88 for control, .79 - .87 for challenge, and .80 - .88 for total hardiness; Besharat, 2008).

**Mental Health**- Mental Health Inventory is a 34-item, and to assess 2 Situations including Psychological Well-being & Psychological distress. Each item is related on a five-point likert scale ranging from 1= strongly disagree to 5 = strongly agree. To examine reliability and validity of the MHI in Iranian samples, Test-retest reliability and internal consistency of the MHI were examined at satisfactory levels (r = .89 for Psychological Well-being, r = .87 for Psychological distress, p < .001 in normal participants, and r = .77 for Psychological Well-being, r = .82 for Psychological distress, p < .001 in patient participants; Besharat, 2006). Concurrent validity of the MHI was calculated according to correlation coefficients between the scores on the MHI and total score of GHQ. All correlations were statistically significant (r = -.85, p < .001 for Psychological Well-being and r = .86, p < .001 for Psychological distress; Besharat, 2006).

**Sport Achievement**- Sport Achievement was assessed using the Sport Achievement Scale. SAS is a 16-item scale. The items on the SAS were rated on a 5-point likert-type scale anchored at 1 = very low and 5 = very high. According to the judges & coaches, the results of content validity showed that the Kendall's coefficient of concordance was (.54 for coaches, and .44 for judges; Besharat, Abbasi, & Shojaeddin, 2002). The results of Chi-Square for over concordances was statistically significant (X² = 163.18, df = 15, p < .001 for coaches, and X² = 106.64, df = 15, p < .001 for judges; Besharat, Abbasi, & Shojaeddin, 2001). In addition, in a sample of athletes The Cronbach Alphas for items in SAS was (.97 for coaches, .98 for judges, and .97 for total sample; Besharat, Abbasi, & Shojaeddin, 2002), it showed acceptable internal consistency.

2.3. Procedure

All participants were asked to complete HS and MHI. To measure sport achievement, athletes’ coaches were asked to rate the SAS.

2.4. Statistical analyses

Statistical procedures involved in analyzing questionnaires included Pearson's correlation coefficient, and regression analyses were conducted to assess the relationship between Hardiness, Sport achievement and mental health. Analysis of research data was performed using SPSS.

3. Results

The results of Pearson's correlation showed that there is a significant positive correlation between the scores of hardiness subscales and the scores of athletes' sport achievement, as follows (r = .59, P = .001 for Commitment; r = .82, P = .001 for Control; r = .90, P = .001 for Challenge; r = .82, P = .001 for total Hardiness; there is a
significant positive correlation between the scores of hardiness subscales and the scores of athletes' Psychological Well being, as follows \( r = .48, P = 0.001 \) for Commitment; \( r = .51, P = 0.001 \) for Control; \( r = .55, P = 0.001 \) for Challenge; \( r = .58, P = 0.001 \) for total Hardiness; Then relationship commitment, control, challenge, and total hardiness of athletes' were analyzed as predictor variables and their sport achievement as criterion variable in Regression equation. The results of analysis of regression between sport achievement with commitment, control, challenge, and total hardiness are presented in table 1. According to these results, the amount of observed F is significant \( (p < 0.001) \) and 90% the variance of athletes' sport achievement is explained by hardiness variables \( (R^2 = 90\%) \). The coefficients of the effect of commitment \( (\beta = .120) \), control \( (\beta = .563) \), challenge \( (\beta = .491) \), and total hardiness \( (\beta = 1.867) \), according to t statistics show that every four variables of hardiness can predict the changes of athletes' sport achievement with 99% confidence; meaning that the increase of any of subscales of hardiness will result in the increase of sport achievement.

<table>
<thead>
<tr>
<th>variable</th>
<th>( \beta )</th>
<th>t</th>
<th>p</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>commitment</td>
<td>.120</td>
<td>2.79</td>
<td>.007</td>
<td></td>
</tr>
<tr>
<td>control</td>
<td>.563</td>
<td>4.01</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Challenge</td>
<td>.491</td>
<td>2.52</td>
<td>.014</td>
<td></td>
</tr>
<tr>
<td>total hardiness</td>
<td>1.86</td>
<td>6.22</td>
<td>.000</td>
<td>.909</td>
</tr>
</tbody>
</table>

The similar analyses about Relationship Commitment, Control, Challenge and total Hardiness of athletes as the predictor variables and athletes' Psychological Well-being as criterion variable showed that the amount of the observed F is significant \( (p < 0.001) \) and 41% of the variance related to the athletes' Psychological Well-being is analyzed by hardiness variances \( (R^2 = 41\%) \). The coefficients of the effect of commitment \( (\beta = .229) \), control \( (\beta = .547) \), challenge \( (\beta = .783) \), and total hardiness \( (\beta = 1.730) \), according to t statistics show that every four variables of hardiness can predict the changes of athletes' Psychological Well-being with 99% confidence; meaning that the increase of any of subscales of hardiness will result in the increase of Psychological Well-being (See table 2).

<table>
<thead>
<tr>
<th>variable</th>
<th>( \beta )</th>
<th>t</th>
<th>p</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>commitment</td>
<td>.229</td>
<td>2.10</td>
<td>.039</td>
<td></td>
</tr>
<tr>
<td>control</td>
<td>.547</td>
<td>1.54</td>
<td>.128</td>
<td></td>
</tr>
<tr>
<td>Challenge</td>
<td>.783</td>
<td>1.58</td>
<td>.116</td>
<td></td>
</tr>
<tr>
<td>total hardiness</td>
<td>1.73</td>
<td>2.27</td>
<td>.026</td>
<td>.413</td>
</tr>
</tbody>
</table>

4. Discussion

The results of the research showed that there is a positive correlation between hardiness and its components including Commitment, Control and Challenge with Sport Achievement and Psychological Well-being, and these variables can predict the changes of Sport Achievement and Psychological Well-being significantly. These results, which are same with the limited published findings about athletes (Maddi & Hess, 1992), are analyzed according to some probabilities:

1. Hardy personality of the athlete provides the necessary bases for the Sport Achievement through his / her Commitment to performance and Sporty responsibilities. This Commitment makes the athlete sacrifice him / herself to the Sporty aims (Kobasa, 1979), and find and choose the appropriate ways to reach the aim (Janda, 2001); the mechanisms which any of them will increase the success probability in a way.
2. Hardy personality of the athlete, through another factor of the Hardiness, i.e. Control, makes the athlete feel he/she is dominant to the situation and can be determinant (Kobasa, 1979). The feeling of dominance to situation makes the belief in the athlete that his/her effort can change the circumstances and dominate the result of the race. This belief improves his/her performance and increases the success probability.

3. Challenge is another characteristic of the Hardy personality. This characteristic in different fields, makes the person see the changes and situations as challenges and chances to growth and improvement rather than limitation or threat (Kobasa, 1979), and it helps without avoidance he/she to be an active and constructive person, and increases the success probability.

4. Psychologically, Kobasa (1979) found that hardiness is a buffer of the association between stress and illness. Ostensibly, hardiness entails maximizing existing circumstances and minimizing difficulties (Vance, Struzick, & Masten. 2008).

5. It is clear that hardiness is associated with Psychological, social, and Physiological Well-being. Hardy people, in general, tend to depend on problem-focused strategies to modify stressful situations into transformative experiences (Vance, Struzick, & Masten. 2008).

However, hardiness has been shown to be especially important for promoting well-being in athletes.

References


