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THE EFFECT OF SPORT PARTICIPATION AND HARDINESS ON SELF-EFFICACY IN FEMALE HIGH SCHOOL STUDENTS

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ABSTRACT

Sport participation and psychological factors have become extremely important in today's mechanical age. Psychological hardiness and self-efficacy are among two of these factors that have a significant effect on quality of life. The purpose of the present research was to examine the effect of sport participation and psychological hardiness on self-efficacy. The population of this descriptive-correlational research consisted of all the high school students of Tehran of whom 188 were selected as the sample using convenience sampling. Data were collected using Ahwaz Hardiness Inventory (AHI), the Physical Activity Index of Sharkey (1979), and the Generalized Self-Efficacy Scale (GSE) of Schwarzer and Jerusalem (1995). Descriptive statistics, Kolmogorov-Smirnov test, regression analysis, and model estimation were used for data analysis. The results indicated the positive effect of sport participation and hardiness on self-efficacy of high school students. Sport participation and hardiness were significant predictors of self-efficacy and the estimated model adequately fit the data. Recommendation for future research and implications are provided.

Keywords: *Self-Efficacy, Sports, Female*

INTRODUCTION

Sport is a key indicator of development and is becoming increasingly important in all its professional, recreational, or economic aspects. Sport participation can improve physical and mental health and serve as a healthy recreation (Cohen *et al.*, 2014; Sun, 2013). Physical activity prevents cardiovascular disease by decreasing blood pressure, plasma fibrinogen, viscosity, improvements in glucose metabolism, and blood lipid levels. (Talaie *et al.*, 2013). Regular physical activity has a positive effect on health. Sport participation enhances physical, mental, cognitive, and social development (Colman and Dave, 2013).

Today researchers are concerned with the effect of psychological factors on the efficiency of individuals and organizations. Stress has been shown to cause repeated prolonged psychological arousal. Psychological hardiness can help in coping with stressful situations. Hardiness as a psychological construct was first introduced by Kobasa (1979) as a pattern of personality characteristics that distinguished managers and executives who remained healthy under life stress from those who developed health problems. Hardiness comprises the three attitudes of commitment, control, and challenge that together provide the courage and motivation needed to turn stressful circumstances from potential calamities into opportunities for personal growth (Maddi, 2004). Commitment is defined as a tendency to involve oneself in the activities in life and having a genuine interest in and curiosity about the surrounding world. Control is defined as a tendency to believe and act as if one can influence the events taking place around oneself through one's own effort. Finally, challenge is defined as the belief that change, rather than stability, is the normal mode of life and constitutes motivating opportunities for personal growth rather than threats to security (Kobasa, 1979). The present research tries to find whether sport participation and psychological hardiness have an impact on behavioral outcomes such as self-efficacy. According to Bandura (1997), self-efficacy is as the belief one has in being able to execute a specific task successfully in order to obtain a certain outcome. People with high self-efficacy are more likely to view difficult tasks as something to be mastered rather than something to be avoided.

Physical activity, hardiness, and self-efficacy are especially important in academic development. Various studies have reported the positive effect of these factors on physical and mental health, coping with stress,

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and efficiency in work and study. Sun (2013) showed that leisure sports can improve quality of life, physical and mental health, personality, learning, self-concept, and self-efficacy. Shelangoski *et al.*, (2014) studied self-efficacy in intercollegiate athletics to investigate gender and experience level differences related to self-efficacy. The results indicated have high levels of self-efficacy in student-athletes. Male students possessed higher levels than female students and experience levels were not statistically related to self-efficacy.

The purpose of the present research is to examine the effect of sport participation and hardiness on self-efficacy in female high school students.

MATERIALS AND METHODS

The present research was descriptive-correlational. The population consisted of all the female high school students of Tehran of whom 188 were selected as the sample using convenience sampling. Data were collected using Ahwaz Hardiness Inventory (AHI), the Physical Activity Index of Sharkey (1979), and the Generalized Self-Efficacy Scale (GSE) of Schwarzer and Jerusalem (1995). Descriptive statistics, Kolmogorov-Smirnov test, regression analysis, and model estimation were used for data analysis in SPSS and LISREL.

RESULTS AND DISCUSSION

The results of multiple correlation analysis show that sport participation and hardiness are positively associated with self-efficacy in the participants ($r = 0.142$; $p < 0.01$) (Table 1). Also the coefficient of determination (R^2) indicates that 37.7 percent of the variance in self-efficacy is explained by sport participation and hardiness and 62.3 percent is caused by other factors.

Table 1: The results of multiple correlation for the effect of sport participation and hardiness on self-efficacy

Regression Model	N	R	R^2	P
Simultaneous	180	0.142	0.377	0.000

The results of multivariate regression show that sport participation ($t = 5.198$; $p < 0.001$) and hardiness ($t = 0.003$; $p < 0.003$) are significant predictors of self-efficacy (Table 2). Comparing sport participation (1.378) and hardiness (0.006) reveals that the former is a stronger predictor of self-efficacy (Table 3).

Table 3: The results of regression analysis for the effect of sport participation and hardiness on self-efficacy

Simultaneous Regression	Non-Standardized Coefficients		Standardized Coefficients	t-value	P
	Std. Err.	B	Beta		
Intercept	4.069	0.266	-	15.32	0.000
Sport Participation	0.478	0.094	0.378	-5.198	0.000
Hardiness	0.003	0.041	0.006	0.003	0.01

Each unit increase in hardiness causes 0.003 change in self-efficacy. There was also a significant relationship between the components of sport participation and self-efficacy. Multiple correlation coefficients indicate that there is a significant positive relationship between sport participation and self-efficacy ($r = 0.104$; $p < 0.05$) (Table 4). The coefficient of determination (R^2) shows that 11 percent of the variance in self-efficacy is explained by sport participation.

Table 4: The results of multiple correlation between sport participation and self-efficacy

Regression Model	N	R	R^2	P
Simultaneous	180	0.104	0.011	0.016

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The results of multiple regression indicate that sport participation is a significant predictor of self-efficacy (Table 5).

Table 5: The results of regression analysis for the effect of sport participation on self-efficacy

Simultaneous Regression	Non-Standardized Coefficients		Standardized Coefficients	t-value	P
	Std. Err.	B	Beta		
Intercept	2.922	0.158	-	18.48	0.000
Sport Participation	-0.58	0.042	-0.104	-1.39	0.016

A significant positive relationship is observed between the components of hardiness and self-efficacy ($r = 0.298$; $p < 0.05$) (Table 6). The coefficient of determination (R^2) shows that 15.7 percent of the variance in self-efficacy is explained by hardiness.

Table 4: The results of multiple correlation between hardiness and self-efficacy

Regression Model	N	R	R^2	P
Simultaneous	180	0.397	0.157	0.000

The results of multiple regression indicate that control ($t = -4.294$; $p < 0.05$) and commitment ($t = 1.53$; $p < 0.05$) are significant predictors of self-efficacy, while challenge is not ($t = -1.713$; $p < 0.05$) (Table 7). The slope of the regression line (B) shows that control ($B = 0.202$) and commitment ($B = 0.167$) are positively associated with self-efficacy. The beta coefficients indicates that control is a stronger predictor of self-efficacy than commitment.

Table 7: The results of regression analysis for the effect of hardiness components on self-efficacy

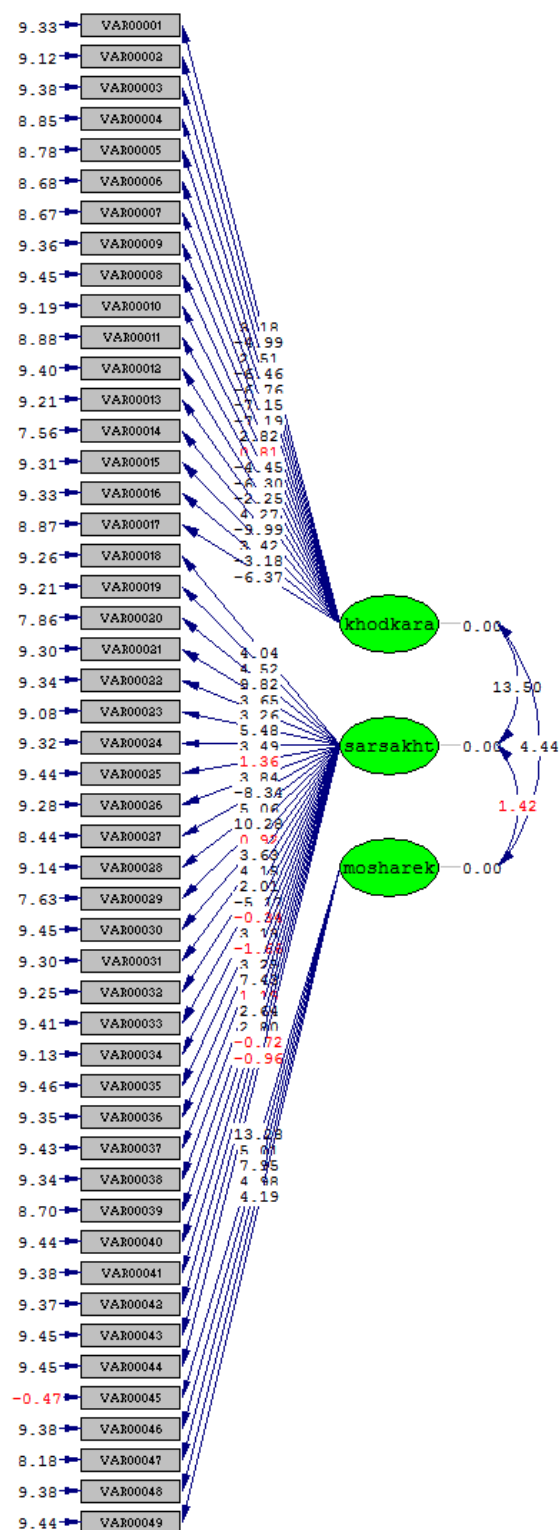
Simultaneous Regression	Non-Standardized Coefficients		Standardized Coefficients	t-value	P
	Std. Err.	B	Beta		
Intercept	3.95	0.23	-	14.82	0.000
Control	0.202	0.065	0.225	3.126	0.002
Commitment	0.167	0.039	0.303	4.294	0.000
Challenge	0.083	0.049	0.123	1.713	0.089

The results of structural equations modeling show that the proposed model for the effect of sport participation and hardiness on self-efficacy is statistically significant.

Table 8: The results of structural equations modeling

Path	t	Path Coefficient	Significance Level
Participation, Hardiness, Self-Efficacy	0.77	0.07	0.001

Considering the t-value and significance level we can conclude that sport participation and hardiness are positively associated with self-efficacy. The factor loadings were examined and the initial model was estimated, and the resulting statistics showed that the model adequately fit the data.



Chi-Square=4403.32, df=1124, P-value=0.00000, RMSEA=0.128

Figure 1: The results of testing the conceptual model of the research (predicting self-efficacy from hardiness and sport participation)

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The standardized regression coefficients and t-values in Figure 1 all support the relationship between sport participation, hardiness, and self-efficacy. The components of hardiness are the most important predictors of self-efficacy.

Table 9: Goodness of fit indices

Index	Value
Chi-Square	4403.32
Degree of Freedom (df)	124
Root Mean Square Error of Approximation (RMSEA)	0.128
Normed Fit Index (NFI)	0.89
Goodness of Fit Index (GFI)	0.87
Root Mean Square Residual (RMR)	0.057

The data in Table 9 show that almost all the values indicate the adequate fit of the model; only RMSEA seems to be inappropriate as its value is between 0.096 and 0.14 at 90% CI ($p < 0.001$). Therefore the conceptual model adequately fits the collected data.

Conclusion

Self-efficacy is one of the main characteristics of a healthy personality. It is the belief one has in being able to execute a specific task successfully in order to obtain a certain outcome. Self-efficacy can be affected by a variety of external factors, including sport and physical activity that have been shown to have a significant positive effect on self-efficacy and self-confidence. Hardiness is another factor that enhances self-efficacy. It consists of attitudes that provide the courage and motivation needed to turn stressful circumstances from potential calamities into opportunities for personal growth. Its components, i.e. control, commitment, and challenge, positively affect an individual's perception of their abilities. People with high commitment tend to involve themselves in the activities in life and have a genuine interest in and curiosity about the surrounding world. Those with high control tend to believe and act as if they can influence the events taking place around themselves through their own effort. Finally, people with high challenge believe that change, rather than stability, is the normal mode of life and constitutes motivating opportunities for personal growth rather than threats to security. These attitudes provide the person with flexibility and endurance to cope with stressful and distressing events and situations. On the other hand, sport participation enhances physical, mental, cognitive, and social development. Sport has a significant positive effect on self-efficacy. Those with high levels of self-efficacy perceivesport as a challenge that can be overcome, enjoy competition, employ greater effort when faced with difficulties, and when they do not surmount it (loses a game), recover the perception of efficacy quickly, ending up with an active participation in the game (with high levels of participation and performance). We recommend training different populations in psychological skills such as hardiness and future research can examine other factors that affect this construct.

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