# A Study of Relationship between Hardiness and Self-Efficacy with Mental Health in Iran

## Dr. Kazem Shriatnia[1], Fatemeh Mirdoraghi[2], Hamideh Pakmehr[3], Dr Mohammad Reza Iravani[4]

[1]Department of psychology, Islamic Azad University, Azadshahr branch, Azadshar,
Golestan Province, Iran
[2]Master Student of general psychology, Ferdowsi University of Mashhad
Mashhad, Iran
[3]Master Student of curriculum studies Ferdowsi University of Mashhad
Mashhad, Iran
[4]Assistant Professor, Department of Social Work,Islamic Azad University
Khomeinishahr Branch, Daneshjou Blvd, Iran.

## ABSTRACT

This research was performed at the Ferdowsi University of Mashhad to study the relationship between hardiness and self-efficacy with mental health of students. Method: The method used in this research is descriptive and correlation. 377 students (231 females and 146 males) were selected using cluster sampling. Method of descriptive statistics and inferential were used to analysis the data. Results: There is a positive and meaningful relationship between hardiness and mental health ($r = -0.40$, $p<0.001$) and also between self-efficacy and mental health($r = -0.48$, $p<0.001$). The results of the analysis enter multiple regression about total students showed that both predictor variables-hardiness and self-efficacy are able to predict mental health ($p<0.001$). The results of analysis of stepwise regression with gender separation also showed that although both predictor variables are able to predict mental health at two gender, for girls, self-efficacy and for boys, hardiness are better predictors ($p<0.001$). Based on the findings of present research, it can be concluded that factors of hardiness and self-efficacy can predict the changes of mental health of students.

**KEYWORDS**:  Hardiness, self-efficacy and mental health

## I. INTRODUCTION

Before 1980's, mental health was considered as lack of mental illnesses and morbid signs while since 1980's many changes and evolutions were created [1] so that the world Health Organization defines health as physical, mental and social prefect welfare and not just lack of illness and inability [2]. Also mental health is a certain state of the psyche which causes improvement, development and perfection of personality of mankind and helps the individual to be compatible with oneself and others [3]. Ryff and Colleagues (1977) as quoted by Wissing and Fourie (2000) presented a multidimensional model of mental health. In this model, mental health has a positive performance nature which is a combination of different elements. Some of these elements include: 1) Self- Determined: positive view in relation to oneself, knowing different dimensions of oneself which can be positive or negative, positive feeling in relation to past of oneself. 2) Positive relations with others: close and satisfactory relation along with trusting in others, caring for other's health and their satisfaction, sympathy with others. 3) Anatomy: having independence, ability to confront the social stress, self- control and evaluation oneself on the basis of personal standards. 4) Environmental mastery: feeling of dominance over environment, use of gained opportunities and ability to choose to create bases for needs and personal values. 5) Purpose in life: having purpose and meaning in life, having faith and belief which give purpose to life. 6) Openness: feeling of development and evolution, welcome new experiences, having the power to distinguish [4].

Many researches have been done in the field of relationship of mental health with personality features such as psychological hardiness [5-6] and self-efficacy [7-8]. One of the personality variables which has relationship with mental health is hardiness. Maddi 1998 (as quoted by Thomas and Segal, 2006) defines hardiness as a combination of the individual's believes about him/her self and events which is combined of three components Commitment, Control and Challenge, using theory of existentialism in personality [9]. Committed people interact with environment and their entourage in the best way, people having control consider the events of life predictable and controllable and they depend on their abilities in confrontation with difficulties and eventually campaigner people consider the changes inseparable element of life and an opportunity to learn [10]. The research have been done in the field of hardiness during the past two decades could confirm the theory of Khoshaba on the positive effect of this factor on welfare of individuals in confrontation with stressful events of life [11]. Findings of Bartone, Ersano, RaitoIngraha [9] indicated that psychological hardiness has a negative relationship with depression and post-damage stress. Research findings [6-12] also indicated that hardiness has a relationship with improvement of performance, leadership, health and psychological

---

*Corresponding Author: Dr. Kazem Shriatnia, Department of psychology, Islamic Azad University, Azadshahr branch, Azadsar, Golestan Province, Iran. Kazemshariatnia@yahoo.com 00989113721404

puberty. The second personality feature which has a relationship with mental health is self-efficacy. Bandura (1977 as quoted by Bandura 1997) defines self-efficacy as individuals' perception of his/her abilities and that how much he/she does a behavior successfully which has three dimensions Magnitude (an individual's belief in performance at very difficult and complicated aspects of assignment), strength (perseverance and resistance in confrontation with obstacles) and Generality (generalization of efficacy of oneself in a situation to various situations) [13]. The concept of general self-efficacy is derived from dimension of generality of allocated self-efficacy [14]. Sherer consider general self-efficacy as a collection of expectations considering past successes which transfers to new situations in other words it is very allocated self-efficacy that has been generalized to other situations (the same source). The result of the researches of Luszczynska, Gutierrez- Dona and Schwaze (2005) indicated that general self-efficacy has a positive relationship with optimism, self-regulatory and self- esteem and a negative relationship with anxiety and depression[15]. Research of Raggi, Leonardi, Mantegazza, Casale and Fioravanti (2009) led to the result that self-efficacy is one of the predictors of mental health [16]. The result of the research of Bandura (1986 as quoted by Lenz and Baggett 2002) also indicated that individuals who have high self-efficacy become afflicted with stress and anxiety less in their performance and individuals who have low self-efficacy suffer from depression more. So considering the relationship between each of two variables hardiness and self-efficacy with mental health, in this research, we seek to study the predicting role of each of these variables for mental health and also to answer the question that among available variable which one is a better predictor for mental health of total students and in separation for female and male students?[17].

## II. METHOD

### A. *Participants and procedures and Data Analysis*
The research population included all students in Ferdowsi University of Mashhad, Iran, during academic year of 2009-2010 , from which 377 students (231 girls and 146 boys) were selected randomly by using cluster multiple steps method according to Morgan and Kerjcie's table. They were requested to complete Sherer et al.'s (1982) General Self-efficacy Scale,  Goldberg mental health scale(1979) and questionnaires of hardiness. The data were analyzed using descriptive statistics indexes (mean, standard deviation and Pearson correlation coefficient) and inferential statistics (regression analysis simultaneous and stepwise).

### B. **Instrumentation**
*General self-efficacy scale of Sherer and Madox***:** This scale has 17 question  which was regulated by Sherer in 1982 and Alpha Cronbakh reported it 0/86 [14]. In the research of Asgharnejad and his colleagues (2006), Cronbakh˓sAlpha is 0.83 and criterion narrative is 0/34. in this scale , questions have 5 degrees Likert are regulated from 1 to 5 [18]. *Hardiness questionnaire***:** This 28- question- questionnaire is about personality features that include three components "Commitment", "Control" and "Challenge" and is evaluated by a 4 degree scale. In the research of Covarian (2008) Alpha Cronbakh coefficient to inner similarity of the scale for female and male students was reported in order 76% and 74% [19].*Goldberg mental health scale***:** This questionnaire was provided by Goldberg (1979) to distinguish [20]. In this research 28 question – from of mental health questionnaire which has four fragment scales of physical damage, anxiety, depression and social ill- treatment was used. Totally cut score 23 was distinguished suitable to separate healthy people from suspicious to mental disorder people [21]. In the research of Chan (1995) Cronbakh˓sAlpha for reliability was reported 0.83 [22].

## III. RESULTS

Table 1 indicates the descriptive statistics indexes (mean and standard deviation) according to hardiness, self-efficacy and mental health scores in separation about females and males. As observed, mean of male student's scores in hardiness and self-efficacy was higher than female students but findings of independent t-test indicated that there was not any meaningful difference in variables of the research.

Table 1- mean and standard deviation of predictor and criterion variables

| statistic indexes | Female | | Male | | Total | |
|---|---|---|---|---|---|---|
| variables | mean | SD | mean | SD | mean | SD |
| hardiness | 51.02 | 10.12 | 51.86 | 9.31 | 51.35 | 9.81 |
| self-efficacy | 61.83 | 10.28 | 62.55 | 11.24 | 62.11 | 10.65 |
| mental health | 19.97 | 11.60 | 18.98 | 10.92 | 19.58 | 11.33 |

Correlation coefficients among predictor variables (hardiness and self-efficacy) and criterion variables (mental health) in separation for female students and male students and also total students are presented in Table 2. As observed in the table both predictor variables correlate with mental health so among them for females (-0.48) and self-efficacy for

female (-0.50) indicates the highest correlation. On the basis of presented table, total correlations are meaningful in the level of 0.001.

Table 2- correlation coefficients between predictor and criterion variables

| statistic indexes | mental health | | | | | |
|---|---|---|---|---|---|---|
| | Female | | male | | total | |
| Variables | R | N | r | n | r | n |
| Hardiness | -0.37*** | 231 | -0.45*** | 146 | -0.40*** | 377 |
| self-efficacy | -0.50*** | 231 | -0.44*** | 146 | -0.48*** | 377 |

*** p < .001

Multiple regression analysis method simultaneous was used in order to study closer the relationship between hardiness and self-efficacy with mental health and to determine portion of each of these variables in predicting criterion variable that its results for total students is presented in table 3. In this research the amount of correlation coefficient between two predictor variables and mental health (r =0.50) and the $R^2$ is equal to 0.25-0.25 mental health is explanatory through hardiness and self-efficacy. In order to study meaningfulness of gained correlation coefficient, the result of analysis of variance indicates that the observed F is meaningful (F=65.55, p<0.001). So two variables- hardiness and self-efficacy in general are able to predict mental health.

Table 3- the result of multiple regression simultaneous to predict mental health of total Students

| the source of changes | SS | d.f | MS | F | Sig. |
|---|---|---|---|---|---|
| Regression | 12547.56 | 2 | 6273.78 | | |
| Residual | 35791.71 | 374 | 95.70 | 65.55 | 0.000*** |
| Total | 48339.27 | 376 | - | | |

*** p < .001

t Also regarding o table 4, the test of meaningfulness of regression coefficient indicates tat hardiness (t=-3.83, p>0.001) and self-efficacy (t=-7.07, p<0.001) can explain variance of mental health of students.

Table 4- the results related to regression coefficients

| Predictor variables | Regression coefficient $b$ | SE | Regression coefficient $\beta$ | t | Sig. |
|---|---|---|---|---|---|
| hardiness | -0.23 | 0.06 | -0.20 | -3.83 | 0.000*** |
| Self-efficacy | -0.39 | 0.05 | 0.-37 | -7.07 | 0.000*** |

*** p < .001

As observed in tables 5 and 6, the results of analysis of regression stepwise for female students indicate that predictor variables, self-efficacy and hardiness have meaningful correlation with mental health and entered to the regression equation. The presented results in these tables indicate that in the first step, self-efficacy entered to the regression equation, its correlation coefficient was (0.50) and this variable explained 0.25 percent variance of mental health. In the second step hardiness entered to the regression equation and correlation reached to 0.52. So in general self-efficacy and hardiness explain 0.26 percent of variance of mental health in females.

Table 5- multiple regression coefficient stepwise between predictor variables and mental health of female students

| Predict variable | SS | df | MS | F | Sig. |
|---|---|---|---|---|---|
| Self-efficacy | 7962.47 | 1 | 7962.47 | 79.31 | 0.000*** |
| | 22990.42 | 229 | 100.39 | | |
| Self-efficacy and hardiness | 8376.73 | 2 | 4188.36 | 42.290 | 0.000*** |
| | 22576.16 | 228 | 99.01 | | |

*** p < .001

Table 6- the reults related to determine coefficient and regression coefficients for female students

| Criterion variable | Predictor variable | Coefficient correlation | Coefficient determination $R^2$ | Regression coefficient $\beta$ | t | Sig. |
|---|---|---|---|---|---|---|
| Mental health | Self efficacy | 0.50 | 0.25 | -0.34 | -4.90 | 0.00*** |
| | Hardiness | 0.52 | 0.26 | -0.13 | -2.04 | 0.04* |

*p < .05.  *** p < .001

On the basis of what is presented in the tables 7 and 8, results of analysis of regression stepwise for male students indicates that both variables hardiness and self-efficacy has a meaningful correlation with mental health. The findings presented in these tables indicate that in the first step hardiness entered into the regression equation and its correlation coefficient had been 0.45. Also hardiness explains 0.19 percent of variance of mental health of males. In the second step with adding the self-efficacy to the regression equation, correlation coefficient reached to 0.51. So in general self-efficacy and self-esteem can explain 0.25 mental health of males.

Table 7- multiple regression stepwise between predictor variables and mental health of male students

| Predictor variable | Source index | SS | d.f | MS | F | Sig. |
|---|---|---|---|---|---|---|
| Self-efficacy | Regression Residual | 3519.88 13776.00 | 1 144 | 3519.88 95.66 | 36.7 | 0.000[***] |
| Self- efficacy and hardiness | Regression Residual | 4495.12 12800.76 | 2 143 | 2247.56 89.51 | 25.1 | 0.000[***] |

*** $p < .001$

Table 8- the results related to determine coefficient and regression coefficients for male students

| Criterion variable | Predictor variable | Coefficient correlation | coefficient of etermination $R^2$ | Regression coefficient $\beta$ | t | Sig. |
|---|---|---|---|---|---|---|
| Mental health | Self-efficacy | 0.45 | 0.19 | -0.30 | -3.58 | 0.000[***] |
| | Hardiness | 0.51 | 0.25 | -0.28 | -3.30 | 0.001[**] |

**$p < .01$. *** $p < .001$

## IV. DISCUSSION

The relationship between headiness and self-efficacy with mental health was studied this research. On the basis of the findings of the research presented in table 2, there is a positive and meaningful relationship between hardiness and mental health, so the more the individual has hardiness, the more mental health he/her will have. This findings are similar to the results of past researches [6-11-12]. From the other hand hardiness is considered as a predictor of mental health so that 0.19 percent of variance of mental health of male students is explanatory by hardiness. Considering the gained result, it can be said that the more resistance and hardiness of males in confrontation with stressful events of life, the more mental health they will have. The findings also indicate that there is a positive and meaningful correlation between self-efficacy and mental health. This findings is similar to the results of researches of Raggi and colleagues (2009) and Bandura (1986; as quoted by Lenz and colleagues, 2002) [16-17]. Self-efficacy is considered as predictor for mental health of female and male students so that 0.25 percent of mental health of females is explanatory through self-efficacy.

In general, from the gained results it can be concluded that although a positive and meaningful relationship between two predictor variable and criterion variable in both gender was gained and both variables are able to predict mental health in both gender but while hardiness was a better predictor for mental health of males, self-efficacy had a more potential to predict mental health of females. In other words, although high level of hardiness in males is considered as an index for more mental health but in females having high level of self-efficacy is considered as an index for mental health. So considering what is said before and since health is a substantial need of human and the individual always tries to reach that and that has a special importance, this research suggest that some ways should be planned in order to improve hardiness and self-efficacy of students.

## REFERENCES

[1] P. Abbaspoor, "Studying the relationship between perfectionism and self-esteem with psychological health of Medical students of government University of Tehran in 2004-05", Psychology and Training Sciences of Teacher-Training University of Tehran, 2006.

[2] E.P. Sarafino, "Health psychology: bio psychosocial interactions".TheUniversity of Michigan. John Wiley & Sons, 1998.

[3] Z. Mohammad amini," The relationship between emotional intelligence with self-efficacy and mental health and comparing them in clever and normal students", Science and Research journal in psychology of Islamic Azad University of Khorasegan, vol, 35, 107-122, 2008.

[4] M.P., Wissing, & A. Fourie," Spirituality as a Component of Psychological wellbeing". 27th international congress of psychology, 23-28 July, Stockholm, Sweden, 2000.

[5] N., Ghorbani, P.J, Watson, R. J. , Morris, "Personality, Stress and Mental Health: evidence of relationship a sample of Iranian managers". Personality and Individual Differences. 28, 647-657, 2000.

[6] S. R ,Maddi, D. M , Khoshaba,. "Hardiness and Menal Health". Journal Of Personality Assessment. 63, 265-274, 1994.

[7] Y. Tong,;Sh ., Song, "A Study on General Self-Efficacy and Subjective Well-Being of low SES College Students in a Chinese university". College Student Journal. 38, 4, 637-642, 2004.

[8] E. C ,Karademas, A .,Kalantzi, "The stress process, self-efficacy Expectations, and psychological health". Personality and Individual Differences. 37, 1033-1043. 2004.

[9] J.c. Thomas, D.l. Segal, "Comprehensive Hand book of Personality and Psychopathology. New Jersey. John Wiley & sons, Inc., 2006.

[10] L. M .Brown, "cultivating Hardiness Zones for Adolescent Girls". Creating hardiness zones for girls and women, 2001. www.hardygirlshealthywomen.org/docs/HardinessZones.pdf.

[11] M. A., Baccarat, M., Salehi, Kh ., ShahMohammadi, H., Nadali, O., Zebardast, "The relationship between resistance and hardiness with sporting success and mental health of athletes". Contemporary psychology journal. 2, 38-49, 2008.

[12] S. R., Maddi," Relevance of Hardiness Assessment and Training to the Military Context". Military Psychology. 19, 61-70, 2007.

[13] A. Bandura, "Self- efficacy: The exercise of control." New York. W. H. Freeman and company, 1997.

[14] K. D., Stanley, M. R., Murphy, "A Comparison of General Self-efficacy with Self-esteem. Genetic", Social Psychology Monographs. 123, 19-81, 1997.

[15] D ., Gntierrez_, Luszczynska, A., and R. Schwarze, General Self- efficacy in Various Domains of human functioning: Evidence from five countries.International Journal of Psychology. 40(2), 80-89, 2005.

[16] A., Raggi,, M., Leonardi, R., Mantegazza, S., Casale, G., Fioravanti,. "Social support and self-efficacy in patients with Myasthenia G ravis: a common pathway towards positive health outcomes". Neurological Sciences. 31, 231-235, 2010.

[17] E. R., Lenz, &B ., Shortrige_, M ., Lillie. "Self-efficacy in Nursing: Research and measurement perspectives. New York. Springer publishing company". 2002.

[18] T ., Asgharnejad.. D ., Ahmadi, Mohammadi, F., " Studying psychometric features of general self-efficacy scale of Sherer". Psychology journal. 39, 262-27, 2006.

[19] F ., Kovarian,. A ., Khosravi, H ., Esmaeeli, . "Studying the relationship between hardiness and control source with job depression of nurses". The journal of Gonabad University of Medical Sciences and health services. 14, 58-67, 2008.

[20] S. A. ,Willlmott, A.P., Boardman, C. A., Henshaw, , P. , Jones . "Understanding General Health Questionnaire (GHQ-28) score and its threshold". SocPsychiatryPsychiatrEpidemiol. 39, 613-617, 2004.

[21] M., Kafi, V., Mosavi, . "Studying the relationship between the ways of confrontation with stress and mental health of a group of students of Gilan University". The News and Counseling Researches. 23: 67-81, 2007

[22] D. W., Chan. "The two scaled versions of the Chinese General Health Question: A comparative analysis". Social Psychiatry and Psychiatric Epidemiology, 30, 85-91, 1995.