

2014

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دکتر سید محمد کلانتر کوشه, Seyed Mohammad, Kalantarkousheh

The Relationship between Cognitive Hardiness against Life Stresses and Coping Styles with an Emphasis on Gender Differences

Samaneh Ghahremani^{1*}, Seyed Mohammad Kalantarkousheh²

¹MA in Career Counseling, Faculty of Psychology and Education Sciences, Department of Counseling, Allameh Tabataba'i University, Tehran, Iran.

² Assistant Professor, Department of Counseling, Faculty of Psychology and Education Sciences, Allameh Tabataba'i University, Tehran, Iran.

Abstract:

This study intended to examine the relationship between cognitive hardiness against life stresses and coping styles with an emphasis on gender differences. A descriptive research method was used. The population is comprised of teachers from different educational areas of Tehran, Iran. There were 141 subjects: 41 males and 100 females. We used the following questionnaires: Stressful Life Events Screening Questionnaire (SLESQ), Coping Inventory for Stressful Situations (CISS), General Health Questionnaire (GHQ-28) and Ahvaz Hardiness Inventory (AHI). For data analysis, the Pearson correlation test, independent t-test, and multiple regression analysis were performed. The results showed a significant positive relationship between hardiness, coping ability, and life stress. Thus, an increase in psychological hardiness would result in the increase of task-oriented coping ability. On the other hand, there is a negative relationship between hardiness and emotion-oriented coping style. The results also showed that men deal with problems using task-oriented and avoidance-oriented coping styles, while emotion-oriented coping is used by women. No significant difference was noted between men and women according to hardiness. The findings indicated the effect of individuals' hardiness on their employment of an effective coping style in dealing with life events and stresses, so that the findings can be used in the fields of counseling and therapy.

Keywords: Stress, Coping style, Hardiness, Gender

Introduction

Modern life is accompanied by many complexities and difficulties such as social and family transformation, dangerous diseases, environmental pollution, war, and competition each of which can alone put a lot of pressure and stress on individuals. Living in such a world requires abilities, skills and good planning in order to increase the adjustment and stability in the face of difficulties and adversity besides keeping one's health. Stress factors cannot be completely eliminated, but people must be trained how to interpret stressors and how to use effective methods to deal with the problems they face.

When faced with problems, people show various reactions which can be emotional, behavioral, or cognitive, and sometimes may lead them to a problem-solving or that may divert them from the problem in which their recognition plays an important role in the management process of the problem. High levels of stress have a devastating effect on individuals' focus on dealing with the psychological pressures. Health specialists believe that stress is a major influence on people's lives which is closely related to mental health (Abedalhafez, Altahayne, & Alhaliq, 2002). Stress is a general response to environmental demands and pressures accompanied with limited resources to deal effectively with them (Hamid, 2013). Stress is a situation that occurs as a result of a conflict between the individual and the environment, causing inconsistency between the requirements of the situation and the individual's biological, psychological, and social resources (Dehkordi, 2011). Although in little amounts stress can be a positive influence on the increase of motivation and be a stimulus to deal with problematic situations, a large amount of stress can make individuals feel angry, feared and frustrated, and also endangers physical and mental health (Giga, Cooper, & Faragher, 2003). Several studies in the field of health psychology have shown that stress, anxiety and other similar factors can affect life quality (Mitchell, 2006). Failure to deal effectively with stress can cause undesirable changes in behavioral-psychological processes and threaten health (Besharat, 1386).

Studies have shown that the type and severity of reactions against stress adopted by individuals does not always have a direct relationship with the stressors, but are primarily related to how they understand the events and also associated with the degree of danger and threats perceived (Sabet, 2005).

Studies have also indicated that the relationship between stress and mental health is influenced by a number of variables such as personality traits, coping styles, and gender (Berrocal, Pennato, & Bernini, 2009; Brebner, 2001; Pallant & Lae, 2002; Penley & Tomaka, 2002).

A great bulk of studies is inconsistent in examining the amount of experiencing stress based on gender differences (Moreland & Dumas, 2008). Nevertheless, some researchers have shown that women have reported more stressful experiences as compared to men (McDonough & Walters, 2001). In another research, (Matud, 2004) gender variable can affect each and every element of the stress process (e.g. determining whether a situation is stressful or not; influencing coping strategies, health consequences, stress responses).

A study by Walton (2002) showed that people with high levels of positive perceived stress, usually use 'venting' strategy, while those with lower perceived stress use 'denial' strategy. Besharat (1386) also showed the effect of personality characteristics on employed coping strategies.

Methods of coping with stressful circumstances vary according to each individual which can be used to examine coping styles. Coping is expending conscious psychological and behavioral effort to solve personal and interpersonal problems, and seeking to master, reduce, minimize or tolerate stressful events or conflicts (Larijani & Besharat, 2010).

According to Lazarus and Folkman (1984), coping is a set of behavioral responses aimed at minimizing the pressures of a stressful situation. Gallagher, South, & Oltmanns (2003), believe that coping is the individual's emotional, cognitive and behavioral effort to overcome, endure, or minimize the effects of stress when confronting a psychological pressure. Therefore, in a comprehensive definition of coping it can be acknowledged that coping is primarily a process; secondly, cognitive assessment plays a major role in coping; thirdly, coping depends on cognitive, emotional and behavioral efforts; fourthly, coping is employed to maintain mental health.

Coping process is mainly composed of cognitive and behavioral procedures employed to manage stress. In the coping process, learned behavioral responses reduce stress, via limitation of the importance of dangerous or unpleasant situation (Besharat, 1386). Coping has two major functions: 1. Regulation of unpleasant emotions, and 2. Taking an action to change or improve the bothering problem (Karademas & Kalantzi-Azizi, 2004). Coping strategies are divided into two categories of task-oriented and emotion-oriented coping. Task-oriented coping strategies include: Active problem-solving techniques used to solve the stressful relationship between self and environment. The most important of these strategies include: confrontive coping, aggressive efforts, seeking social support, efforts to get emotional and informative support from mothers, and problem-solving (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001).

On the other hand, emotion-oriented strategies include practices based on which individuals achieve the optimal level of emotional adjustment and the ability to deal with intense emotions and critical situations (Saarni, 1999). The most notable emotion-oriented strategies include: self-concept, attempt to regulate and control one's own emotions, distancing, attempt to break away from the situation, reappraisal/adaptation, attempt to find a positive meaning from the experience with an emphasis on personal growth (Taylor, 1999).

Masoudnia and Ebrahim (2008) showed that individuals with high levels of self-esteem use emotion-oriented coping strategies including reappraisal/adaptation.

Recent researches have shown that the type of coping strategy employed affects mental health as well as physical well-being (Piko, 2001). Latifian (1384) also concluded that there is a relationship between personality factors and

coping strategies used. Gender can also have an important role in the determination of employed coping strategies. Shapiro, McCue, Heyman, Dey, & Haller(2010) showed that men usually use task-oriented coping methods, while women prefer to employ solutions based on emotion, social support, emotional experience and wishful thinking. The results of this study also emphasized the effect of coping styles on mental health. Wilson, Pritchard, & Revalee(2005) also showed that there is a significant difference between both genders in coping style scores.

Another psychological structure that can be predicted to be crucial in the face of life events is 'hardiness'. Hardiness is a stable personality structure comprising the three related general components of 'commitment', 'control', and 'challenge that functions as a resistance resource in the encounter with stressful conditions (Kobasa, Maddi, & Kahn, 1982). Hardy individuals are committed to what they do and devote themselves to their goals, feel dominant, determinative, and recognize life challenges as motivating opportunities for personal growth rather than deprivation or threats to security (Kobasa, 1979).

Different studies indicate that there is a positive relationship between hardiness, physical well-being and mental health. Hardiness as an inner source of strength reduces the negative effects of stress, and prevents the occurrence of physical and psychological disorders (Brooks, 2003; Kobasa, 1979). Another study has shown that individuals with high hardiness use task-oriented coping methods while those with low hardiness employ emotion-oriented coping methods in stressful situations (Giga, et al., 2003). It also has been shown that individuals with low hardiness would be afflicted by cardiac coronary disease, cholesterol and blood pressure in the long run, while people with high hardiness will remain immune from the negative effects of stress (Brydon, Magid, & Steptoe, 2006).

Researchers in a study have concluded that nurse managers with high hardiness as compared to those with low hardiness suffer from lower levels of stress and enjoy better task-oriented coping skills (Beirami, 1391). Other researchers have indicated that individuals with high hardiness as compared to their low hardy counterparts assess stressful situations less threatening and more manageable and employ more effective coping strategies (Besharat, 1386). Another research has shown that hardiness reduces the stressfulness of events, as well as the psychosomatic arousal derived from them, it also has a positive effect on individuals' health (Kobasa, et al., 1982). (latifean, 1384) showed that in stressful situations those with a higher level of hardiness enjoy more mental health as compared to those with lower levels of hardiness.

Accordingly, this study utilizing studies discussed in the introduction tries to answer the question that 'how people react to the stresses of life? In other words, 'how factors such as different levels of stress and coping styles affect the lives of people by amount of hardiness, and how would the role of gender be described?' Therefore, following hypotheses are proposed:

1. There is a significant difference between men and women in terms of stress, hardiness and cognitive coping styles.
2. Stress and coping style can predict the amount of hardiness.

Materials and methods

Participants and sampling methods:

The population is comprised of teachers from different educational areas of Tehran, Iran with an average age of 29 to 50. The sample consists of 200 teachers selected by available sampling method, among whom the questionnaires were distributed. Among two hundred questionnaires were distributed only 141 (100 females and 41 males) were returned to the researcher.

Research instruments

1. The Stressful Life Events Screening Questionnaire (SLESQ): SLESQ was developed by Pickle (1971) as a general post-traumatic event screening questionnaire for use in non-treatment seeking samples. The SLESQ is a 13-item self-report screening measure designed to assess lifetime exposure to a variety of traumatic events. The measure was developed in the context of a research study that required a comprehensive self-report traumatic event exposure screening questionnaire to be administered to a large pool of respondents. The Cronbach's α coefficient obtained in this study was 0.85.

2. Coping Inventory for Stressful Situations (CISS): The questionnaire was developed by Endler and Parker (1994) and was translated into Persian by Akbarzadeh (1376). Respondents are asked to rate each of the 48 items on a five-point Likert-type rating scale ranging from (1) "Not at all" to (5) "Very much." The CISS focuses on three major dimensions of coping in response to a stressful situation: Task-oriented, Emotion-oriented, and Avoidance-oriented coping. The multidimensional approach to the assessment of coping with stressful situations provides great precision in predicting preferred coping strategies. There are also two subscales for the Avoidance-oriented scale: Distraction, and Social Diversion. Cronbach's α reliability coefficient of the questionnaire have been reported 0.81 and its

validity has been proven through different researches conducted on Iranian population (Ahmadi, 1380). This study used the three major methods of coping (Task-oriented, Emotion-oriented, and Avoidance). The reliability obtained using Cronbach's α for each of the major dimensions of coping was 0.84, 0.68 and 0.80 respectively.

3. General Health Questionnaire (GHQ): GHQ-28 was developed as a screening tool to detect those likely to have or to be at risk of developing psychiatric disorders by Goldberg and Hiller (1979), whose items are selected from an original 60-item questionnaire. The questionnaire like the original one is composed of 4 sub-scales, each of which has 7 questions. Recognition scales of GHQ-28 are as follows: (1) somatic symptoms (items 1-7), (2) anxiety/insomnia (items 8-14), (3) social dysfunction (items 16-21), and (4) depression (items 22-28). There are different methods to score the GHQ-28. It can be scored from 0-3 for each response with a total possible score on the ranging from 0-84. Using this method a total score of 22 is usually the threshold for the presence of distress. The criterion validity of the questionnaire is 0.78, the alpha reliability coefficient is 0.90, and Cronbach's α is 0.97. Houman (1376) reported the alpha coefficient for the questionnaire in its Iranian normalization (0.85). We used all four subscales in this study.

4. Ahvaz Hardiness Inventory (AHI): The inventory was developed and validated by Kiumarsi, et al. (1377). AHI is a 27-item instrument containing 4 options for each item and its measurement is Likert based. The inventory is in the range of 0 to 81. High score on this questionnaire indicates a high psychological hardiness. Kiumarsi, et al. (1377) reported the reliability coefficients of the questionnaire in retest and Cronbach's α methods 0.84 and 0.76 respectively. The Cronbach's reliability obtained in this study was 0.71.

Results

69.9% of the study population were females and 30.1% were males. Table 1 reports the descriptive analysis for research scales separately for males and females.

Table 1. Descriptive analysis for scales by gender

	Statistical index Scale	min	max	error	Standard deviance	mean	number
Cognitive Hardiness	Male	20	72	10.65	10.75	53.87	41
	Female	22	76	0.85	8.52	55.34	100
Stress	Male	0	22	0.59	3.78	1.75	41
	Female	0	36	0.43	4.38	2.14	100
Task-oriented Style	Male	35	75	1.45	9.30	56.58	41
	Female	31	68	0.80	8.01	49.9	100
Emotion-oriented Style	Male	19	44	1.07	6.88	23.03	41
	Female	10	43	0.67	6.78	29.70	100
Avoidance Style	Male	19	45	0.90	5.80	31.04	41
	Female	17	47	0.61	6.18	25.66	100

Levine F-test was conducted to examine the homogeneity of variances in the two groups of men and women, the results of which are given in Table 2.

Table 2. Levine F-test for homogeneity of variances according to gender

Variables Index	Avoidance Style	Emotion-oriented Style	Task-oriented Style	Stress	Cognitive Hardiness
df 1	1	1	1	1	1
df2	139	139	139	139	139
F	0.367	0.139	2.25	0.68	2.73
Sig	0.56	0.71	0.14	0.41	0.10

Considering the sample size in each group, and the establishment of the hypothesis of equal variances (Levine F test), independent t-test was used to determine the significance of differences between the two groups in any of the variables.

Table 3. Independent T-test for the differences between men and women

Statistical index scale	Significance level	<i>r</i>	T	df	Difference
Cognitive Hardiness	0.05	0.39	0.86	139	-1.46
Stress	0.05	0.62	0.49	139	6.68
Task-oriented Style	0.05	0.001	4.29	139	6.65
Emotion-oriented Style	0.05	0.001	5.26	139	3.38
Avoidance Style	0.05	0.003	3.01	139	-1.28

According to Table 3, the results indicate significant differences between men and women in all the three styles of coping (task-oriented, emotion-oriented and avoidance) ($p < 0.05$). The results indicate that there are significant differences between men and women according to the means of the two groups based on task-oriented, emotion-oriented and avoidance styles. With respect to the scores mean, men employ task-oriented and avoidance coping styles more than women do. Table 3 shows that there is no significant difference between men and women in cognitive hardiness and stress.

Table 4. Correlation coefficients of predictor variables (stress, coping styles) according to cognitive hardiness

Criteria Predictor	Avoidance Style	Emotion-oriented Style	Task-oriented Style	Stress
Cognitive hardiness	0.19*	-0.34**	0.25*	0.32**

* $p < 0.05$ ** $p < 0.01$

As shown in Table 4, there was a significant positive relationship between cognitive hardiness and stress, task-oriented and avoidance coping styles, while there was a negative relationship between the cognitive hardiness and emotion-oriented coping style.

Multiple regression analysis was used to examine which of the predictor sub-scales can play a more important role in predicting cognitive hardiness. After confirming the establishment of the basic assumptions of multiple regression analysis, the model was tested, the results of which are presented in Table 5.

Table 5 - Regression analysis of hardiness prediction by predictor scales (stress and coping styles)

Model	sig	R ² _{adj}	R ²	R	F	MS	df	Total square
Regression	0.001	0.29	0.31	0.55	15.88	933.48	4	3733.95
Residual						58.76	136	7991.03
Total							140	11724.98

As shown in Table 5, the significance level is less than 0.05, indicating the significance of regression at a level of 95%. Index R²_{adj} "corrected coefficient of multiple determination" suggests that task-oriented, emotion-oriented, and avoidance coping styles, and stress subscales can predict 29% of the cognitive hardiness among men and women. Given the significance of the entire model, we used t-test to investigate which variable or variables have a significant effect on the model.

Table 6 - Coefficients, standardized and un-standardized t-statistic variables entered into regression equation

Predictive variable	Significance level	sig	t-test	Regression coefficients	
				Standardized	Un-standardized
Constant	0.05	0.001	11.198		50.71
Stress	0.05	0.039	2.09	0.15	0.33
Task-oriented style	0.05	0.001	5.36	0.43	0.44
Emotion-oriented style	0.05	0.001	-5.41	-0.46	-0.56
Avoidance style	0.05	0.147	-1.46	-0.12	-0.18

Table 6 shows that the factors of *stress* (0.15) and *task-oriented style* (0.43) have a significant positive effect on the cognitive hardiness at a level of 5%. Table 6 indicated that an increase in these factors would result in an increase in cognitive hardiness among men and women. Emotion-oriented coping style (-0.56) has a significant negative effect on the cognitive hardiness, thus an increase in emotion-oriented coping style would result in the reduction of cognitive hardiness.

Discussion and Conclusion

This research aimed to study the issue of "how people react to stress?" In other words, it examined the effect of factors such as stress, coping styles, individuals' hardiness and related gender differences. The results showed that individuals with high hardiness and using task-oriented coping rather than emotion-oriented enjoy more mental health. The results of this study were in line with the results of Zhou (2008) which examined the relationship between coping styles, self-esteem and personal and mental health factors among Chinese students and indicated that mental health is correlated with coping styles and stress. Therefore, to reduce health problems we should reduce stress and passive avoidance coping.

Vergara, Smith and Keele (2010) examined the coping responses among students, the results of which showed that lower levels of stress are significantly correlated with active coping responses. In other words, a reduction in stress will result in the application of positive coping styles. The present study also showed that task-oriented coping style reduces stress.

Shokri(1390) in his study showed that women would obtain higher scores in avoidance and emotion-oriented coping styles, while men earn higher scores in task-oriented coping style. Another research by Misra(2000) concluded that women had higher scores and experienced more stress than men on stressors. The results of another study indicated that task-oriented and emotion-oriented coping styles are in higher priority than avoidance coping. Furthermore, men use avoidance coping more than women (Tasaddoghi, 1391). The study findings also showed that men score higher than women in task-oriented coping and avoidance; women also use emotion-oriented coping style more than men.

This study is also in line (Hamid, 2013) which examined the effect of effective stress coping strategies on mental health among students, the results of which indicated that individuals with a high level of hardiness enjoy more mental health than those with lower levels of psychological hardiness. It also showed that their amount of somatic and anxiety symptoms, insomnia and depression were much lower than their un-hardy counterparts. The results of present study also indicated that there is a positive significant correlation between hardiness, coping and stress in life which means the increase of hardiness would result in the increase of task-oriented coping which is also in line with the results of Kooshaba, et al. (2006).

Narimani (1386) concluded that there is a significant positive relationship between hardiness, thinking style, social skills and academic achievement. He also indicated that hardiness makes individuals react to life events with a special and stable style. Kobasa and colleagues(1982) and Zakin and colleagues (2003) reported that hardy individuals consider life events as comprehensible and diverse. In contrast, un-hardy individuals usually have a sense of alienation towards events, disability, feel threatened, and have less control over them. Brooks (2003) in his study found that individuals with high hardiness have a positive interpretation of life changes, prevent stress and rarely complain of physical symptoms. In fact, hardy individuals employ more adaptive methods of coping in dealing with life's problems. The findings of Brooks (2003) are in line with the present study in showing that hardiness and use of effective coping strategies is highly effective on mental health.

Antonovsky(1979) and Lazarus (2004) suggest that a reduction in the amount of hardiness against life problems is associated with a feeling of stress, anxiety or depression. (Narimani, 2010) showed that perceived stress is associated with life satisfaction among students. Shokri (1390) found that women use emotion-oriented and avoidance coping styles, while task-oriented style is used by men. All the studies mentioned above are in line with the findings of the present study.

Study results suggest that the variables of Hardiness, Stress, and Coping styles can be predictors of health. Considering the fact that the present study was conducted on teachers in Tehran, similar researches are needed to generalize the obtained results. In this regard, further research on several groups with a greater sample size is recommended. Using of different age groups to enjoy the possibility of results comparison is also suggested. Furthermore, classes and workshops can be held to reduce stress and train effective coping styles.

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