

Effectiveness of Hardiness Training Intervention on Students' Perceived Stress and Psychological Hardiness

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Abstract

Introduction: Today's world is full of unavoidable stress. Therefore, this study aimed to investigate the effectiveness of psychological hardiness training intervention on perceived stress among students of Payame Noor University.

Method: By available sampling, 31 subjects (29 females and 2 males) whose perceived stress scores were higher than the mean ($M = 27.26$) were selected and randomly assigned into experimental and control groups. Participants in the experimental group received 12 sessions of the hardiness training intervention. Participants completed perceived stress scale and the hardiness personality inventory before and after the intervention.

Results: The results of one-way analysis of variance showed a significant decrease in perceived stress and a significant increase in psychological hardiness ($P < 0.05$) in the experimental group compared to the control group.

Conclusion: Therefore, the psychological hardiness training increased the psychological hardiness and its components including challenge, commitment, and control and decreased perceived stress in students in the face of stressful events.

Declaration of Interest: None

Keywords: Hardiness, Perceived Stress, Challenge, Commitment, Control.

Introduction

Stress is a physical-psychological stimulus that can disrupt an individual's adaptation state and elicit coping responses. Acute and chronic stress may become so concentrated that they cause strain reactions (1). This strain may negatively impact the physical and mental status of individuals. (2). Symptoms of a physical or mental strain include muscle stiffness, headache, palpitations, increased or decreased appetite, irritability, anxiety, loss of concentration, and sleep disturbances (3). Increasing these pressures can be associated with detrimental effects on individuals' performance, health, and mood (4). Prolonged persistence of these pressures can lead to personal ineffectiveness, which in turn can lead to physical, mental, or behavioral breakdowns (3). Health experts believe that stressful life events are not a necessary or sufficient cause of pathology and disease, but the threatening power of an event depends on the interaction between the person and the environment (5). According to Lazarus and Lazarus (6), stress is determined by the relative balance between two types of appraisal: perceived demands and perceived resources. Distress, or suffering, arises when perceived demands outweigh perceived resources, which in turn can lead to a decrease in physical and mental health (7). In other words, the negative emotions result from an event that individuals appraise as threatening and find themselves unable to cope with a specific situation (8).

On the other hand, a person's ability to reframe the stressful situation and perceive it as an opportunity rather than a threat

called hardiness (9). Hardiness refers to a pattern of personality characteristics that distinguish people who remain healthy under life stress compared with those who develop health problems. Kobasa (10) describes hardship as a combination of beliefs about oneself and the world that protects one from external and internal stresses. Hardiness moderated the relationship between stressful life events and illness and is a factor in promoting health (11). The trait is made up of three factors, which include the following: a sense of control over external events, commitment in daily life, and a challenge perspective if unexpected changes occur (12). The three counterparts of hardiness amalgamate, which results in the individual more growing transform potentially stressful situations into opportunities (11).

Those strong in the controlling attitude believe that through effort, they can more often than not influence what is going on around them rather than perceiving themselves as powerless in the face of circumstances (13). Relying on their knowledge, skills, and power of choice, these people can predict and control life events and, accordingly, rely on their responsibility in the face of more problems than others (12). Persons strong in commitment rely on themselves to find ways of turning whatever they are experiencing into something that seems interesting and important to them, getting involved rather than feeling alienated (13). Highly committed people feel responsible for what they do and dedicate themselves to their activities. These people believe in the importance and value of their activities and can give meaning to their activities (14). Committed people are ready to adapt to stressful situations whenever necessary.

They can distinguish between their values and goals, and their power to make optimal decision-making in stressful situations and establish balance in their lives (15). In this regard, Sandvik, et al (16) showed that low levels of commitment seem to be a risk factor for experiencing anxiety.

Strong people believe that fulfillment is to be found in continual growth in wisdom through what is learned from experience rather than in easy comfort, security, and routine (14). They believe in their ability to change life experiences in an interesting and meaningful way, so instead of avoiding life's challenges, they interact with many aspects of it, such as work, family, and interpersonal relationships (15). The challenge component refers to the belief that change in life is natural (12). One who indicates the realm of life as a battleground for problems sees life change as an opportunity to learn and grow rather than a threat to one's safety and comfort. Such a belief is associated with cognitive flexibility and tolerance of distress in stressful life situations because challenging people perceive unexpected events as interesting and valuable experiences (13). Challenging people seek change in their lives and find resources to reduce their stress in the environment to help them cope more effectively with stressful situations (15).

Lately, Maddi (13) has characterized hardiness as a combination of three attitudes (commitment, control, and challenge) that together provide the courage and motivation needed to turn stressful circumstances from potential calamities into opportunities for personal growth (11). Hardiness function includes three behaviors and cognitions: a) social

support, b) positive health practices, and c) transformational copings (14). Transformational coping involves altering stressful events so they are less stressful (17). To do this, individuals must take decisive actions to change stressful situations so that they become less stressful (16). Transformational coping skills are usually called into action before a stressful situation causes excessive strain (17). Lazarus & Folkman (18) explained transformational copings as a phenomenon that involves both cognitive and behavioral responses that individuals use in an attempt to manage internal and/or external stressors perceived to exceed their resources.

Existing literatures have been suggested that hardiness is associated with lower levels of physical and psychological strain following exposure to stress (12). Maddi (13) argues that hardy health practices include exercise, stress relief, nutrition, medication, and the use of vitamins. Hardy coping and hardy health practices are difficult to deal with stress because stress decreases motivation and discipline (10). The three attitudes of hardy, including commitment, control, challenge, and hardy social support, can inspire courage and motivation to implement health hardship and coping (13). Therefore, people must learn to exercise health and deal with stress before stress occurs or in non-stressful environments to facilitate informed decision-making when experiencing stress (11). The findings of Maddi, et al (19) indicated that hardiness training can reduce anxiety, depression, and suspicion. Therefore, hardiness as a model of attitudes and skills has an effective role in the resistance of people under stressful conditions, however, there

is little research on the effectiveness of hardiness training on various variables. Accordingly, the present study investigated the effect of hardiness training on perceived stress.

Method

The statistical population of the present study consisted of all male and female students studying at Payame Noor University in 1398. Using available sampling, 31 students were selected from among the volunteer students whose perceived stress score was higher than the mean (M =27.26) and were randomly assigned to the experimental and control groups. Then, the members of the experimental group underwent 12 sessions of 90 minutes (once a week) on coping with stress and difficulty skills according to Khoshaba & Maddi protocols (20). The control group was placed on a waiting list.

Tools

Hardiness personality inventory: This questionnaire is a 50-item scale. Items are scored in four Likert scores from zero to three for the three subscales of commitment (16 items), control (17 items), and challenge (17 items). From the sum of the subscales, a total score for stiffness is obtained (21). The three components of this test have the desired internal reliability and consistency and factor analysis indicates the relationship between these three components (22). Cronbach's alpha coefficients of the whole scale are equal to 0.81 and for the components of

commitment are equal to 0.78, control is equal to 0.84 and challenge is equal to 0.75 (22).

Perceived stress scale: The Perceived Stress Scale (PSS) was designed by Cohen, et al (23) to determine how unpredictable, uncontrollable, and arduous respondents rate their lives. PSS shows the extent to which a person assesses life situations as stressful. Cohen, et al (23) calculated the test-retest reliability of the Perceived Stress Scale as 0.85 and its internal consistency as 0.84 to 0.86. The simultaneous validity of this test has been confirmed by comparing this scale with two the life events scale for students (LESS) and the Center for Depression Epidemiology Studies Scale (CES-D) (23). The validity and validity of this questionnaire in Iran are examined and Cronbach's alpha coefficient of its items is reported to be 0.74 (24).

Research data were analyzed using the 16th version of SPSS statistical software and one-way analysis of variance.

Results

After examining the analysis of variance (normality of score distribution and equality of variance of group scores), one-way analysis of variance test was used to analyze the data. The results of one-way analysis of variance test for perceived stress scores in both experimental and control groups are presented in Table1.

Table 1: Results of analysis of variance for the difference between the mean scores of perceived stress in the two groups

Group		M	SD	R ²	F	Df1	Df2	P
Experimental	Pre test	36.187	5.269	0.683	65.717	1	29	0.001
		21.125	6.075					
Control	Post test	29.533	7.818					
		32.933	7.126					

The results of one-way analysis of variance test to test the difference between the mean scores of the experimental and control groups in the perceived stress variable showed that the mean scores of the experimental group compared to the control group had a significant decrease. After examining the assumptions of

analysis of variance (normality of score distribution and equality of variance of groups), one-way analysis of variance test was used to compare hardiness scores and its components in the experimental and control groups, the results of which are shown in the table. 2 is presented.

Table 2: Results of analysis of variance for the difference between the mean scores of hardiness in the two groups

	Group		M	SD	R ²	F	Df1	Df2	P
commitment	Experimental	Pretest	29.375	13.725	0.574	41.473	1	29	0.0001
		Post-test	43.375	5.897					
	Control	Pretest	36.533	4.853					
		Post-test	26.333	8.706					
control	Experimental	Pretest	19.500	4.472	0.919	343.068	1	29	0.0001
		Post-test	43.562	3.265					
	Control	Pretest	42.333	3.696					
		Post-test	26.266	6.540					
challenge	Experimental	Pretest	25.250	5.118	0.148	6.206	1	29	0.019
		Post-test	73.062	110.048					
	Control	Pretest	46.800	3.549					
		Post-test	25.333	6.309					
Hardiness	Experimental	Pretest	74.125	18.927	0.435	24.137	1	29	0.0001
		Post-test	160	111.009					
	Control	Pretest	125.67	10.054					
		Post-test	77.93	12.441					

The results of one-way analysis of variance test to test the difference between the mean scores of the subjects in the experimental and control groups on the hardiness scale and its components indicate that the mean hardiness scores of the experimental group had a significant increase compared to the control group.

Discussion

The results of statistical analysis showed that hardiness training reduced the perceived stress scores in the experimental group. Stress is the perceived discrepancy between the internal and external demands

of the individual and the perceived ability to handle stressful situations. Lazarus & Folkman (18) believe that people's response to stress depends on their conscious or unconscious evaluation and interpretation of a particular event. Demands that put pressure on a person or system; implicitly indicate a temporary state of system imbalance (25). These demands are not exactly the result of external pressure on a particular point, but are the product of an interaction between internal and external forces that comprises an individual or system (6). The mechanism that seems to explain the beneficial effects of hardiness is that

people with hardy personality are prepared to be optimistic about stressful situations (26), efficiently adapt to such events (27), avoid excessive physiological arousal (28), do beneficial activities to maintain good health, and avoid harmful activities (8). Research on stress and psychological hardiness has mainly focused on significant environmental stressors. But in this study, it was shown that training the components of hardiness has increased the level of control, challenge, and commitment in the subjects. As a result, their appraisal of the stressors has improved, and so they interpret the situation as less stressful, which in turn reduces the level of perceived stress (13). The findings of this study are in line with the findings of Maddi (13) who showed that hardiness training can reduce anxiety, depression, and distress. In the perception and evaluation of specific stressful life events, hardy persons find opportunities for the exercise of decision making, the confirmation of life (12). Researchers argue that in the face of difficult situations the hardy people exhibit optimistic and positive emotional reactions and expectations (13). They expect to have positive outcomes even when things are difficult and tend to be confident and persistent. Therefore, the tendency to find a positive meaning in life events is an important aspect of perseverance. The second mechanism of hardiness adaptive action is that hardy people can place stressful situations from a broader perspective so that they no longer appraise potentially stressful situations as stressful (14). Achieving a deeper understanding of the requirements of the environment increases the decision-making power for action rather than avoidance, and such a process leads to

problem-solving and decreases the effect of stressors (15).

Data analysis of this study showed that hardiness training increases the scores of commitment, challenge, and control components. This finding is consistent with finding of Maddi, et al (27) that hardiness training increases hardy attitudes and feelings, perceived social support, reduce anxiety, depression, and hypertension. The results of related research have shown that hardiness training not only enhances hardy attitudes but also performance and health in working adults (27). In working adults, hardiness training led to increased job satisfaction and constructive cooperation with colleagues (29). In students, hardiness training improved their academic performance. The noteworthy point in this study is that the group under hard training received better results than the relaxation, meditation, and placebo groups in the variable of the social support (30). According to the model of hardiness (17), hardy coping training is effective in improving the mental-physical perception of stress and the actions of the individual. Psychological hardiness training promotes health by teaching health-oriented behaviors such as healthy eating, exercise, and stress relief. People are also able to better manage stressful events by learning hardy attitudes, including commitment, control and challenge, and being encouraged to receive social support and cooperation with others, thereby reducing stress perceptions of stressful situations (22).

Therefore, training hard skills improve the challenge, commitment, and resilience in the face of stressful life events. On the other hand, hardiness acts as a barrier that can moderate the effects of stress (30).

King, et al (31) also showed that hardy individuals find adverse situations challenging rather than threatening, more committed to themselves and others; they experience more control over their lives and see stressors as potential opportunities for change and therefore have less stress and maintain their mental health. Therefore, in educational and therapeutic programs of stress management and intervention, it is better to pay special attention to the variable of hardiness.

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