Available online at www.sciencedirect.com

SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 30 (2011) 2427 – 2430

Procedia
Social and Behavioral Sciences

WCPCG-2011

# The Role of Hardiness in Decreasing the Stressors and Biological, Cognitive and Mental Reactions

Nazila Seyyed Khorasani Sadaghiani*

*Department of Counselling, Islamic Azad University, Shabestar branch, Shabestar, IRAN*

**Abstract**

**In this research relations between stressors, hardiness and biological, mental, cognitive syndromes have been studied.**

**Method**: Research design is correlational and expost facto. Approximately 300 female students in Tabriz senior high schools were chosen randomly and studied. Data was gathered by using 3 questionnaires (hardiness, stressors, stress syndromes) in order to statistical analysis has used variance analysis.**Results**: The findings show that there is a positive and significance correlation between stress and biological, mental and cognitive syndromes.**Conclusion**: meanwhile there is a negative correlation between components of hardiness (control, commitment, and challenge) and mental, biological and cognitive syndromes. Commitment is more effective than control and challenge in decreasing students' syndromes. Variance analysis shows that hardiness has affected the decreasing of physical syndromes but it hasn't effected the decreasing of mental and cognitive syndromes.

*Keywords: Stress; stress syndromes; hardiness*

## 1. Introduction

One of the most important and basic problems that affects all the people in different ages is stress. Few of them know how to control stress and to reach an agreement with it or even use it for their own benefits. Stress is a kind of mental, physical and chemical reaction of body against events and life happenings that causes fear, excitement, and feeling of danger or anger in human. Stressors may be good or bad. Life without stress is impossible. Each age has especial stress like full dependency and disability of childhood, problems among teenagers and stress in old ages.

If we treat stress correctly, stress will be a friend that will give us power to confront problems in the future but we aren't resistant against stress and if we leave it uncontrolled, stress will become an enemy which causes different kinds of physical illnesses and cognitive, mental and behavioural disorders that include physical illnesses such as high blood pressure , stomach ulcer , asthma , arthritis , hyperactive thyroid ,migraine , coronary heart disease ,headache, insomnia ,diabetes , anorexia nervosa, mental problems like anxiety, depression, the state of being moody, cognitive problems such as memory disorder, concentration and behavioural problems like stammering, nail-biting, and restlessness.

Usually little stress is necessary for people to work and do activities normally, although severe or long stress causes traumatic effects so we must study the role of harmful stress in creating psychosomatic disorders and the importance of hardiness as a source of resistance against stress .

* Nazila Seyyed Khorasani Sadaghiani.Tel:09143165659

E-mail address: ronak.sadaghiani@gmail.com

1877-0428 © 2011 Published by Elsevier Ltd. Open access under CC BY-NC-ND license.
Selection and/or peer-review under responsibility of the 2nd World Conference on Psychology, Counselling and Guidance.
doi:10.1016/j.sbspro.2011.10.474

### 1.1. Research aims

- Kinds of stressors should be identified in senior high school students.
- Effects of stress should be studied from different aspects (physical, cognitive, mental)
- School teachers and counsellors and finally students become aware of the basis of stress in school and in their life and using resistance sources against it.

Findings of Selya's researches show that stress causes severe damage to organism. He gained this result that persistent stress may cause illness in human specially if related organ is hurt or some extra work is forced to them. When one severe stimulus that Hans Selya called it stressor affects the organism, he responses to it through physical, chemical and biological changes in endocrine gland. On the other hand the researches have not only studied the personal qualities that affect the illness but also those that prevent that illness. One of these researches is Kobasa who discussed the hardiness theory. He showed in the late 80s persons who did not get ill in stressful situation; they had a personal quality that is called hardiness. In other words, to study people who have high scores in stress test but do not become ill, we must study interfering factors that balance the relationship between stressors and illnesses in this case (Selya, 1975) has pointed to individual differences and Kobasa, based of Selya's theory, studied some factors that decrease negative effects of stressors events.

Kobasa has noticed the role of personality as a balancing variable in relationship between stress and illness. During the previous decade, a lot of researches have been carried out on hardiness and stressor events, and their role in preventing different illnesses has been determined (Barker, Rendal ,1988)

#### 1.1.1. Research questions

The research aims to respond the following questions:

1. Does hardiness decrease the effect of stress and cause balance?
2. Which one of the hardiness components (control, commitment, and challenge) is more effective to decrease stress syndromes?

##### 1.1.1.1. Literature

Academic stress is associated with a variety of negative outcomes such as physical illness and deteriorating mental health. Results showed that hardiness was negatively associated with both academic stress and number of health complaints, and that hardiness moderated the association between academic stress and health.

Hardiness as a personality factor suggested to be a determining factor in the promotion and maintenance of health behaviours and has been widely studied. Kobasa's hardiness factor, composed of control, commitment and challenge, was reported to be an important component in explaining why some people can withstand stress without getting sick. A review of the literature supportive, as well as unsupportive of Kobasa's research is in serious jeopardy, and continues to provide avenues for further exploration and study.

Current studies are looking at the effects of hardiness on family system specifically marital conflict. Other needed studies are related to the relation between physiological measures and hardiness, stress and behavioural illnesses as well as the implications of hardiness development across the life span.

## 2. Method

The female students, who were 18 years old in senior high school (2009), were chosen as statistical population. 300 female students in senior high school in 3 schools of Tabriz whose age mean was 18 were chosen with random sampling method. Meanwhile, in this research two variables, age and sex, were controlled.

## 2.1. Measurement

### 2.1.1. Hardiness test

This test contains 50 items that has formed to be right or wrong sentences in Likert Scale. Hardiness test has specify 3 components, control, commitment, and challenge, each one in a row has 17, 16, 17 items. Scores of 30 items have been calculated by the method of inverse and there is a separate score for each of them.( Maddi ,1978,1990)believes 50 items that have used in this test, specify third generation and 3 components have internal consistory and reliability.( Maddi and Cobasa,1990) believe this test is the best method for assessment of hardiness. Validity coefficient of hardiness test has estimated by using SPSS software: Challenge validity coefficient calculated by Cronbach's alpha coefficient is α=0.45. Commitment validity coefficient calculated by Cronbach's alpha coefficient is α=0.66. And control validity coefficient estimated by Cronbach's alpha coefficient is α=0.61.

### 2.1.2. Stress questionnaire

This questionnaire has been prepared on the basis of Holmes and Rahe scale that measures stress, caused by changes in our life. Validity coefficient of stress test by Cronbach's alpha has been calculated to be α=0.89.

### 2.1.3. Stress syndromes questionnaire

This questionnaire has been made on the basis of research on stress like ( Maslach stress syndrome test 1989) and a book (locke and Colligan , 1986). Validity coefficient of stress syndrome test calculated by using Spearman Brown method is 0.83.

## 3. Data analysis

Research findings related to first question, correlation between stress and its syndromes based on table 1, Show that there is a positive and significant correlation between mental, physical, and cognitive syndromes and stress in return for increasing stress , mental, physical and cognitive illnesses increase as well.
(Macfarlin and his colleagues ,1980) believe that positive events are stressors but negative events cause more mental and physical syndromes.( Shelley E.Taylor ,1986) found that response against stress contains not only physiologic but also cognitive and behavioural changes.

Table 1.Analysis of variance tow factors, amount of hardiness, stressors and biological symptoms

| Source of changing | Sum of squares | df | Sum of means | F | Significant surface |
|---|---|---|---|---|---|
| Main effects of stress and hardiness | 555.015 | 3 | 1851.672 | 22.996 | 0.000 |
| | 4571.972 | 2 | 2285.986 | 28.390 | 0.000 |
| | 334.834 | 1 | 334.834 | 4.158 | 0.042 |
| Co effects or stressors and hardiness | 1960905 | 2 | 98.452 | 1.223 | 0.296 |
| Hardiness | 196.905 | 2 | 98.452 | 1.223 | 0.296 |
| Explanation | 5751.920 | 5 | 1150.384 | 14.287 | 0.000 |
| Error | 23673.400 | 294 | 80.522 | | |

On the other hand, in response to the second research question, findings show challenge, in comparison to control and commitment has more effect to decrease mental, physical, and cognitive syndromes in students.
Sheppard and Kashani (1991), during a research on 150 adolescents, have found that in stressful conditions male adolescents who have gained high score in control and commitment have shown less mental and physical syndromes in comparison to male adolescents who have gained less score in these two components, but in female adolescents hardiness components haven not shown special reaction to stress. Schmied and Lawler (1992) showed that hardiness and locus of control decrease stress effects. So, there is a conformity between results of table 1, findings of (Shepherd and Kashani ,1991) and( Schmied and Lawler, 1992).

Findings related to role of hardiness in decreasing effects of stressors based on table 2 shows that hardiness decreases the effects of physical illnesses but are not effective in decreasing mental and cognitive disorders. Findings of (Solcova and Tomanek, 1994) show that hardy people experience less stress in their life and have high level of coping strategies.

*Table 2.Analysis of variance tow factors, amount of hardiness, stressors and mental symptoms*

| Source of changing | Sum of squares | df | Sum of means | F | Significant surface |
|---|---|---|---|---|---|
| Main effects of stress and hardiness | 2584.119<br>1339.101<br>764.351 | 3<br>2<br>1 | 861.373<br>669.550<br>764.351 | 32.696<br>25.415<br>29.013 | 0.000<br>0.000<br>0.000 |
| Co effects or stressors and hardiness | 17.4492 | 2 | 8.724 | 0.33 | 0.718 |
| Explanation | 2601.568 | 5 | 520.314 | 19.750 | 0.000 |
| Error | 7745.379 | 294 | 26.345 | | |

## 4. Discussion

Psychological factors can have effects on physical and organic systems like skin, respiratory system, and cardiovascular system. Positive events are stressors but negative events increase mental and physical symptoms when there is stress. Psychological stress decreases defensive ability in organism, and increases preparation to catch a disease. Findings show that hardy people exercise less stress in their life and use high level of coping mechanisms in comparison to people who have less hardiness. This quality has an effective role in balancing relationship between stress and physical illnesses. Psychologists have been attempting to isolate the components of the stress-hardy personality ever since then (funk, 1992).The belief is that the approach to life used naturally by stress-hardy individuals incorporates mental and behavioural skills which can be taught to others. Overtime, the regular use of these skills can be come effective healthy habits that replace less functional ones. This is the foundation of hardiness for Hard Times. Additional components for hardiness are learned cognitive, behavioural and interpersonal skills, that enhance facing stress as a challenge, an opportunity to grow. Hardiness is a protection against stress and its undesirable effects, so if people experience various events in childhood and have good models who encourage hardiness (commitment, control, challenge), it will be reflected in their behaviour. Teachers, counsellor and students in schools must be aware of stress in their life and they learn how to use resistance resources against stress

## References


Barker, B. Helping Students Cope with Stress. *LEARNING,* **15** (1987): 45-49.

Funk, S.C.(1992).Hardiness. A review of theory and research. *Health psychology*,**11**(5),335-345

Holmes, T. H., and Rahe, R. H. (1967). The Social Readjustment Rating Scale. *Journal of Psychosomatic research,* **11**,213-218

Kobasa, S. D. (1997). Stressful Life Events, Personality and Health: An Inquiry into Hardiness. *Journal of Personality and social Psychology,* **37,** 1-11

Kobasa, S. C., and Maddi, S. R., and Courington, S. (1981). Personality and Constitution as Mediators in *the* Stress-illness Relationship. *Journal of Health and Social Behaviour,* **22** , 368-378.

Kobasa, S. C., and Maddi, S. R., and Kahn, S. (1982). Hardiness and Health: A Prospective Study. *Journal of personality and social psychology,***42**,168-177

Kobasa, S. C., and Maddi, S. R., Puccetti, M. C., and Zola, M. A.(1985). Effectiveness of Hardiness, Exercise and Social Sport as Recourses Against Illness .*journal of psychosomatic research,***29**,525-53

Lawler, Kathleen A; Schmied, Lori A(1992)A prospective study of woman's health: The effects of stress,hardiness, locus of control ,Type A behaviour, and physiological reactivity .*Woman-and Health,***19**(1),27-41

Maddi, S. R., and Kobasa, S. C. (1984). *The Hardy Executive: Health under Stress*. Homewood, IL: Dow Jones – Irwin

Selye, H. (1976). *Stress in Health and Disease*. Boston: Butterworth.

Selye, H. (1973). The Evolution of the Stress Concept. *American Scientist,* **61**, 692-699

Sheppard , james A, kashani , Javad H.(1991)The relationship of hardiness, gender and stress to health outcomes in adolescents. *Journal of personality,***59**(4),747-768.Solcova , IVA, Tomanek ,pavel.(1994)*Daily stress coping strategies: An effect of hardiness.Studia-psychological* **,36**(5),390-392

Taylor,Shelley .E,(1986)*Biobehavioral responses to stress in female*. California university