

## **A Study on the Relationship between Hardiness and Psychological Stress Responses**

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### **Abstract**

This research is to investigate the relationship between hardiness and psychological stress response. Myanmar Version of Hardiness Scale, originally developed by Paul.T.Bartone and Myanmar Version of Hopkins Symptoms Check-list adapted by Dr. Myint Myint Aye were used in this study. A total of 151 Grade Eleven students from No.14 B.E.H.S and other education centers and boarding schools in Mandalay participated in the present study. This study confirms the relationship between hardiness at time (1) and psychological stress response at time (2). The t-test analysis was conducted to see if there was difference between high-scoring group and low-scoring group in responding to psychological stress. Total scores of stress response were also compared by 4 categories of hardiness (created by median split of commitment, control and challenge). The results indicated that hardiness was negatively correlated with psychological stress responses. The people high in hardiness were less affected by stressors or less express psychological response to it.

**Key words** : Hardiness, psychological stress response, stressors

### **Introduction**

Stress is basic to life – no matter how wealthy, powerful, good-looking, or happy, you might be – and it is related to many areas of Psychology. Stress is the process of adjusting to or dealing with circumstances that disrupt, or threaten to disrupt a person's physical or psychological functioning (Selye, 1976; Burchfield, 1979; Lazarus and Folkman, 1984). In other words, stress is any circumstances that threaten or are perceived to threaten one's well-being and thereby tax one's coping abilities. Stress involves a relationship between people and their environments – more specifically, between stressors and stress reaction. Stressful events, a person's reactions to those events, and interactions between the person and the situations are all important components of stress process.

In responding to stress, responses may be several; psychological, physiological, and behavioral. Psychological responses include emotive and cognitive-behavioral responses.

The potential effects of stress are impaired task performance, disruption of cognitive functioning, burnout, posttraumatic stress disorders, psychological problems and disorders, and physical illness.

The interactions are stress mediators; they moderate or intensify the impact of a stressful situation. Stress mediators, such as predictability, control, cognitive, interpretation, social supports and coping skills, can alter the impact of stressors.

Mild stress can be stimulating, motivating, and sometimes even desirable. But, if it becomes more severe, stress can bring on physical, psychological and behavioral problems. Stressful conditions can lead to a range of health problems and performance decrements. But not everyone reacts in negative ways to environmental stress. Most people remain healthy and continue to perform well even in the face of high stress levels. While much attention in recent years has focused on identifying and treating stress-related breakdowns such as post-traumatic stress disorder, scant investment has gone toward the study of healthy, resilient response patterns in people.

A number of researches have shown that some people are more resistant to stress and better able to cope with it than others. This is partly due to the fact that some people have a number of personality traits that protect them from the effects of stress; psychologists call this the stress-hardy personality.

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One of the researchers in the hardiness field is clinical psychologist at the City University, New York, Doctor Susan Kobasa PhD. In the late 1970s, she carried out a study on a group of executives who were under a lot of stress whilst their company, the Bell Telephone Company in the USA was undergoing radical restructuring. On completion of the study, when the data were analyzed, she found that certain personality traits protected some of the executives and managers from the health ravages of stress. The executives who had these stress hardy personality traits decreased their risk of developing a stress related health problem by a massive 50%.

Using the concept of hardiness to describe those who underwent stressful life events, but did not succumb to illness, Kobasa (1979) studied employees who either were losing their jobs or being reassigned. Over a period of eight years, she found that there were two different patterns in the way these executives responded to the stress. People in one group developed more medical and psychological problems and symptoms and visited doctors more frequently. In contrast, people in the second group showed no difference in symptoms during this stressful period as compared to the period before and they seemed healthier and more robust.

In a similar study, Maddi (1987) investigated managers and executives at Bell Telephone Co. during the downsizing process. It was shown that about two-thirds of the employees in the study suffered significant performance, leadership and health decline as a result of the extreme stress from the deregulation and poor performance reviews. However, the other one-third actually thrived during the upheaval despite experiencing the same amount of disruption and stressful events as their co-workers. These employees maintained their health, happiness and performance and felt renewed enthusiasm (Maddi, 1987; 2002). Furthermore, those who thrived maintained three key beliefs that helped them turn adversity into an advantage. Commitment attitude urged them to strive to be involved in ongoing events, rather than feeling isolated. The control attitude urged them to struggle and try to influence outcomes, rather than lapse into passivity and powerlessness. The challenge attitude views stress changes, whether positive or negative, as opportunities for new learning (Kobasa 1979; Kobasa *et al.*, 1982; Maddi, 1987, 2002), viewing that change, rather than stability is normal in life, and that the anticipation of change was an incentive to growth, rather than a threat to security (Kobasa *et al.*, 1988, Maddi, 2002). The three elements have since been adapted by Santrock, who states that hardiness is a personality style characterized by “a sense of commitment rather than alienation, and a sense of control rather than powerlessness, and a perception of problems as challenges rather than threats” (Santrock, 2003, p.605).

Psychologists Salvatore Maddi and Suzanne Kobasa coined the term “psychological hardiness” and spawned much research into the relationship between it and physical health. They concluded and others have largely affirmed that hardiness could promote physical health under stress. Maddi and Kobasa identified three dimensions that tend to promote this sense of hardiness and in turn physical wellness. They were (1) Commitment, (2) Control and (3) Challenge.

### **(1) Commitment**

People with psychological hardiness tend to have and hold a sense of purpose in what they do. So, if they are on the sinking Titanic, they are working with purpose; if in a downsizing company they are holding to purpose. Personally, this measure invites us to reach to our deeper values which exist no matter what the context is.

### **(2) Control**

People who have a sense that there are things they can do, and people who focus in the domain of what they can do, rather than what’s outside their control, tend to be more hardy and less painfully stressed.

### (3) Challenge

People with hardiness, enjoy challenge. They generally see themselves as capable of change and expect life around them to change. They suggest mistakes are for learning, losses are preludes to winning, weaknesses create opportunities to grow better.

Hardiness with its origins embedded in existential philosophy and psychology is probably most applicable to people who are searching for a sense of meaning of purpose in life, who are motivated by responsibility and freedom, who view subjective experience as reality, and who believe that they are capable of significantly shaping society. It is not a mere rigidity or stress "endurance" but a power to cultivate one's way under difficult conditions and go through stressful events.

This paper focuses attention on mental hardiness, an important pathway to resilience. Research over the past 25 years has confirmed that psychological hardiness is a key stress-resilience factor. People who show high levels of psychological hardiness exhibit greater commitment (the abiding sense that life is meaningful and worth living), control (the belief that one chooses and influences his or her own future) and acceptance of challenge (a perspective on change in life as something that is interesting and valuable).

From a personality perspective, "hardiness is a constellation of personality characteristics functioning as a resistance resource when encountering stressful life events". Hardiness protects against stress in two ways by altering perceptions of stress and by mobilizing effective coping strategies. Hardiness transforms difficult life events into opportunities for increased meaning in life (Kobasa, Maddi, and Khan, 1982).

The "hardiness" construct, first described by Suzanne Kobasa in 1979, provides valuable insight for understanding highly resilient stress response patterns in individuals and groups. Conceptually, hardiness was originally seen as a personality trait or style that distinguishes people who remain healthy under stress from those who develop symptoms and health problems. Hardy persons have a high sense of life and work commitment and greater expectation of control, and are more open to change and challenges in life. They tend to interpret stressful and painful experiences as a normal aspect of existence, a part of life that is overall interesting and worthwhile.

The concept of hardiness is theoretically grounded in the work of existential philosophers and psychologists, including Martin Heidegger, Ludwig Binswanger and Viktor Frankl. It involves the creation of meaning in life, even life that is sometimes painful or absurd, and having the courage to live life fully despite its inherent pain and futility.

Maddi and Kobasa suggested that hardy personality as the combination of three factors: (1) Commitment, (2) Control, and (3) Challenge.

Commitment is the tendency to involve oneself fully in one's total life space. Commitment means having a purpose to life and involvement in family, work, community, social, friends, religious faith, ourselves etc, giving us a meaning to our lives. Control, including responsibility, is the tendency to believe and act as if one can influence the course of events within reasonable limits. Researchers have found there are basically two types of control, Internal and External, and these can either exacerbate or reduce a stressful situation. Challenge is based on the belief that changes rather than stability as an opportunity for personal growth (Orr and Westman, 1990).

Keeping psychological health under stressful situation is important for effective performance. Psychological hardiness is one of the indicators of psychological health based on existential personality theory. It is necessary to keep psychological health for performance as effective self expression. Kobayashi *et al.* (1994) defined neurosis patient group as "performance defective group". They adopted psychological health will have effect to performance even in non-clinical people or people who doesn't need psychotherapy. Psychological hardiness has been shown to reduce the occurrence of illness in reaction to

stress; it also is linked to the ability to thrive under pressure in both one's personal and professional life. It is necessary to have stress-overcoming personality trait for effective performance.

Theoretically, hardiness develops in early childhood and emerges as the result of rich, varied, and rewarding life experiences (Maddi and Kobasa, 1984). Stress hardy people obviously have a natural advantage than those of us who do not have these personality traits; however research is suggesting that those of us who do not naturally have the stress hardy personality traits can actually learn them, with time and practice, and so increase our own levels of stress hardiness. Having a stress hardy personality doesn't mean that a person never ever suffers stress. It's about learning to control how we react to the challenges we face in a more flexible, confident and less destructive way.

From these backgrounds, the aim of this study was to investigate the relationship between hardiness and psychological stress response, confirming the hypotheses of "People high in hardiness express less psychological response on experiencing stressful situation."

## **Method**

### **Participants**

Questionnaires were distributed to 151 Grade Eleven students from No. (14) B.E.H.S and other private education centers and boarding schools (K.M.T, Golden Goal, S.E.C, Aung Moe Hein, Pyinnya Dagoon, etc).

### **Measures**

#### **Hardiness Scale**

##### **(Dispositional Resilience Scale: DRS)**

34-items Hardiness Scale (DRS) was used. It was originally developed by Paul.T. Bartone *et al.* (1989).The original scale includes 45 items. After an item analysis had been done, 11 items which had no discriminative power were left out. Responses were made on 4-point scale.

##### **Personal Distress Scale (PDS)**

This scale includes 47 items and is usually self- administered. Responses are made on 4-point scale. It was adapted by Dr. Myint Myint Aye in (2007) to Myanmar Version of Hopkins Symptoms Check-list. It was originally developed by Derogates, Lipman, Rickels, Unlenhuth.E.H & Cov: (1974).

The above scales are gathered as a package of questionnaires with demographic data such as name, age, sex and so on.

### **Procedure**

Data were collected twice to fulfill one of the conditions for confirming causal relationship. As Time 1, questionnaires of hardiness (Dispositional Resilience Scale: DRS) were distributed to all subjects. The days around one month after Time 1, when the examination which was to be taken by the subjects participated in this study was very near, was set as time 2 and questionnaires of psychological stress response (Personal Distress Scale: PDS) were distributed to all subjects participated in Time 1. As subjects, 151 Grade eleven (tenth standard) high school students were collected.

In order to examine the results of the study, the data were entered on to a database in the statistical package for the social science (SPSS: 11.0 versions). Coefficient alpha available in SPSS was used to calculate the internal consistency reliability of the Myanmar Version of the hardiness scale. The correlation between three groups of hardiness (High-scoring group, Average-scoring group, and Low-scoring group) and the total scores of psychological stress

response scale was calculated by using One-way ANOVA, Turkey's HSD test. In the same way, the correlation between seven groups of hardiness and the total scores of psychological stress response was also calculated. Subjects were categorized by using median split method.

### Results

Table 1 indicates basic statistics and correlation of commitment, control, and challenge. Reliability of each component of hardiness was low level and inner correlation between commitment and control was moderately high but challenge was not correlated with either commitment or control.

Table 1. Means, standard deviations reliability and correlations of the three components of hardiness (N=151)

	M	SD	Cronbach's Alpha	(correlations)		
				commitment	control	challenge
Commitment	28.62	3.94	.48	-		
Control	37.52	4.11	.49	.39**	-	
Challenge	21.56	3.36	.19	-.05	-.06	-

\*\* p<.01

Table 2. indicates the internal correlations among total scores and sub scores of hardiness and the total scores of psychological stress response obtained from Personal Distress Scale: PDS. The results supported that the hardiness and its components were negatively correlated with psychological stress response. The correlation is significant at 0.01 level.

Table 2. Means, standard deviations and internal correlations among hardiness and its components, and psychological stress responses (N=151)

	M	SD	1	2	3	4	5
1. Hardiness	88.42	8.03	-				
2. Commitment	28.62	3.94	.73**	-			
3. Control	37.52	4.11	.75**	.39**	-		
4. Challenge	21.56	3.36	.35**	-.05	-.06	-	
5. Psychological Stress responses	45.45	19.00	-.29**	-.26**	-.33**	.04	-

\*\* p<0.01

Discrimination of high-group and low-groups of hardiness were categorized by using median split. Then, t-test analysis was conducted to see if there was difference between high-scoring group and low-scoring group in responding to psychological stress. Means and standard deviation of psychological stress response for the two different groups of hardiness with the results of t-test were shown in Table 3.

Table 3. Mean and SD of psychological stress response for the two different groups of hardiness with the results of t-test

	High group in hardiness (N=97)	Low group in hardiness (N=54)	t Value
Psychological Stress Response	41.22 ± 17.92	53.06 ± 18.65	-3.83***

\*\*\* p<.001

According to the preceding studies, subjects were discriminated in high and low groups by using median split as for three components of hardiness and they were categorized into four groups: high in all components, high in two components, high in one component and low in all components. An analysis of variance was performed with the categories of hardiness as the independent variable and total score of psychological stress response obtained from PDS as the dependent variables. Means of PSRS total by 4 categories of hardiness were indicated in Table 4.

Table 4. Means, standard deviations, and results of ANOVA by 4 categories of hardiness and psychological stress responses

	Group 1 (High in all components) N = 10	Group 2 (High in two components) N=86	Group 3 (High in one component) N=46	Group 4 (Low in all components) N=9	F Value
Psychological Stress Response	47.90 (21.78)	41.80 <sup>a</sup> (17.99)	48.59 (18.26)	61.56 <sup>b</sup> (20.58)	3.90**

**Note** - Superscript letters denote statistically significant means difference between groups.  
\*\*p < 0.01

### Discussion

This study was to confirm the relationship between hardiness and psychological stress responses. According to the results, it was found that hardiness was negatively correlated with psychological stress responses. But, among three components of hardiness, challenge was not correlated with other two components or with psychological stress responses (Table 2).

As indicated in Table 3, a significant difference in psychological stress responses was found between the two groups of hardiness, high-scoring group and low-scoring group. Hence, the relation between hardiness and stress responses was clarified in the context of original hardiness theory by Kobasa (1979), and the hypothesis of this study was almost proved.

As indicated in Table 4, there was a statistically significant means difference between the group in which two components of hardiness were in high group and the group in which all components of hardiness were in low group. It was found that the group the scores of which were high in two components of hardiness showed the lowest scores of stress responses. The group the scores of which were low in all components of hardiness showed the highest scores of stress responses. In this study, the correlation between commitment and control was clear and apparent. But challenge was not correlated with any variables.

However, the results showed that hardiness was negatively correlated with psychological stress responses and people high in hardiness expressed less psychological stress responses on experiencing stressful situations. These results indicated possibility that hardiness has influence to individual's effective performance.

Most of the reasons are that the reliability was low and the numbers of items were few for hardiness scale. However, some problems are still needed to be discussed in this study.

In this study, questionnaires were distributed just before the examination and stressors were not measured, because the examination was seemed to be a common stressor for all subjects. Influences of stressor except the examination need to be controlled in further studies.

Second, some items of hardiness are not suitable for high school students. And the high school students might not be more exposed to stress than office workers and other workers. Though psychological stress is subjective and it is not clear that there are differences in the ways of responses in stressful situations.

In this study, Myanmar version of Hopkins Symptoms Check-list, used to measure psychological stress responses, included somatic and psychic complaint items and these checklist symptoms are general. And it was not only for measuring psychological stress response symptoms. For being the time when the examination was very near, some subjects may be reluctant to participate in this study. This might be one of the problems.

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