Original Article

Immunological Role of Hardiness on Depression

Vinita Sinha, R. N. Singh[1]

ABSTRACT

The present study holds hardiness as the independent variable and depression as the dependent variable. The immunological role of hardiness was ascertained on depression. Sample constituted of 320 people aging 21 to 65. Subjects were administered hardiness scale and depression scale. Based on the scores obtained on hardiness scale, subjects were categorized specifically into three hardy groups: high, moderate, and low to see their differential effects on depressive feelings. The differences between the means of three hardy groups were found to be significant and the immunological role of hardiness on depression is thoroughly highlighted.

Key words: *Hardiness, depression, immunological or buffering role*

INTRODUCTION

Health professionals often quote, 'prevention is better than cure.' This simply suggests that it is wiser to take necessary steps to ensure a better health than to run after the medical professionals after the illness occurs. It may create a lot of problems; it may be clinical or psychological health problems like physical health or psychological health. Psychological well-being may be promoted, and immunity may be increased by adapting some psychological strategies. There may be a number of factors which are assumed to control the susceptibility to various types of mental or psychological problems and among them 'hardiness' appears to be of greatest importance. The immunological role of hardiness still needs to be intensively explored as well as exhaustively evaluated because this area of research has yet to receive the attention it truly deserves. The hardiness as a personality component plays an important role in reducing the effect of negative psychological phenomenon like depression felt in undesirable circumstances.

The proposed study embraces 'hardiness' as the causal (independent) variable and 'stress' as the consequent (dependent) variable.

Hardiness

The term "Hardiness" was introduced by 'Kobasa.'[1] She defined hardiness as a personality trait having the components of commitment, challenge, and control and is found to be associated with strong resistance to negative feelings induced by adverse circumstances.[2] As stated above, it has three components.

Commitment

Commitment involves one's feelings towards work, family, social encounters, and self. Those with a sense of commitment experience a sense of purpose within themselves and in what they do; they perceive themselves to be a vital and active participant in their own lives. The hardy person believes in the truth, importance, and interest of who he/she is and what he/she is doing. Hardy people have a strong commitment to self, work, family, and other values and are often role models for their children and their community.

Control

Control refers to a sense of power. Those with a high profile of control are able to take an active role in and possess a sense of responsibility for their lives. The attitude of those who possess high levels of control is one of influence; they perceive they can influence

Yale-Great Lakes Center for Management Research, Great Lakes Institute of Management, Chennai, [1]Department of Psychology, T.D. College, Purvanchal University, UP, India

Address for correspondence: Vinita Sinha,
C/O Sameer Kumar Sinha, R. Stahl Pvt. Ltd., 9, Arcot Road, Lakshmi Nagar, Porur, Chennai-600 116, India. E-mail: vinitasinha167@gmail.com

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the outcome of events affecting them. When control is low, individuals suffer from a sense of helplessness and hopelessness consumed by a feeling that they are powerless to meet the situation. A hardy person believes that he/she has the power to influence the course of events in his/her life, even unpleasant events, and he/she accepts personal responsibility for both the failures and successes in his/her life.

Challenge

Challenge is the ability to view all situations as potentially positive with successful outcomes. Individuals who experience low levels of challenge often perceive any given situation as a threat to their well-being. Hardy people see change in their lives as a challenge, not a threat. They enjoy facing challenges in their work and lives. Change is seen by them as an incentive for further growth and is responded to by accepting the unexpected, exploring the environment and discovering which resources to approach and use when needed.[3]

Depression

The second dependent variable that has been tapped in this study is 'depression' which refers to chronic sadness, characterized by negative emotions and reduced physical activity. It hinders the adaptive capacity of the individual and deteriorates the sense of psychological well-being. In other words, depression reduces psychological immunity of the person suffering from it.

Depression is one of the most prevalent psychological disorders. Depression can be caused by several factors, including interpersonal relationships. Interpersonal relationships are the relationship between individuals and the reactions and emotions of each individual expressed directly and discreetly to each other. Common interpersonal relationships include: (1) within the family, such as between the parents and between parents and children; (2) the social environment where differences in ethnicity and social class come into play; and (3) interactions between genders across age groups for both females and males.

Everyone experiences times when they are unhappy. Sometimes this is because of a loss, or a change. The feeling of sadness, though, is appropriate and transitory. When such feelings persist and impair daily life, they may signal an underlying depressive illness. So it is the severity and duration of symptoms, plus the presence of other features, that help distinguish this normal sadness from a depressive disorder.

Depression is a mood disorder characterized by a range of symptoms that may include feeling depressed most of the time, loss of pleasure, feelings of worthlessness, and suicidal thoughts, as well as physical states that may affect eating and sleeping and other activities. Depression is more than just a mood disorder, it is a real illness that not only affects one's mood and thoughts but also appetite, sleep patterns, and self-esteem. It may also involve physical symptoms such as stomach pains, headaches, and rapid heartbeat. There are several different types of depression like major depression, endogenous depression, chronic depression, and so on. These terms tend to describe the predominant symptoms, their severity or their duration.

The American Psychiatric Association's Diagnostic and Statistical Manual, Fourth Edition (DSM-IV) lists nine symptoms for major depression, five or more which must be present over the same two-week period, including one of the first two: (1) feeling depressed most of the day, nearly every day, or (2) markedly diminished pleasure. The other seven symptoms include: (3) significant weight gain or loss, (4) insomnia or hypersomnia, (5) psychomotor agitation or retardation, (6) fatigue or loss of energy, (7) feelings of worthlessness or inappropriate guilt, (8) diminished ability to think or concentrate, (9) recurrent thoughts of death, suicidal thinking, and suicide attempts.

The causes are complex. It may be a combination of changes in circumstance, changes in the chemical balance of the brain cells, and genetic factors may also be involved.

Some types of depression run in families. However, there are many other factors that can be involved such as a stressful environment, death of a close family member, marital dispute, divorce, low self-esteem, stress, bereavement, chronic illness, difficult relationships, financial problems, or any unwelcome change in your life pattern.

There are many treatments available for depression including counseling and medicines, but the first step is always to get a physical and psychological assessment to find out whether you have a depressive illness. Antidepressant medications are often used. There are different types and the doctor will recommend which is the right one under the particular circumstances. When the negative reactions to life's situations become repeatedly intense and frequent we develop symptoms of depression. Life throws up innumerable situations, which we greet with both negative and positive emotions such as excitement, frustration, fear, happiness, anger, sadness, and joy. Depression is prevalent among all age groups, in almost all walks of life.

Persons of any age—children or adults, may develop depression symptoms. Even minor stress events can stir

up depression symptoms depending on the personality type. Symptoms such as intense sadness, loss of interest or pleasure in normal activities, sleep disturbances or oversleeping, change in appetite and decreased energy level, feelings of helplessness and thoughts of suicide are sequel to stress-induced depression. Different things seem to trigger depression in different people and sometimes it happens that for no clear reasons people get depressed.

Some things that increase the risk of depression are as follows:

- A past experience of depression
- A family history of depression
- Loss or stress including unemployment, loneliness, lifestyle changes, or relationship problems
- Feeling at odds with your environment (e.g., your work, home, or other surroundings)
- Psychological or physical trauma in the past
- Physical illness or long-term health problems

Depressive disorder

A depressive disorder is an illness that involves the body, mood, and thoughts. It affects the way a person eats and sleeps, the way one feels about oneself, and the way one thinks about things. A depressive disorder is not the same as a passing blue mood. It is not a sign of personal weakness or a condition that can be willed or wished away. People with a depressive illness cannot merely 'pull themselves together' and get better. Without treatment, symptoms can last for weeks, months, or years. Appropriate treatment, however, can help most people who suffer from depression.

Types of depression

Major depression

It is manifested by a combination of symptoms (see symptom list) that interfere with the ability to work, study, sleep, eat, and enjoy once pleasurable activities. Such a disabling episode of depression may occur only once but more commonly occurs several times in a lifetime.

Dysthymia

A less severe type of depression involves long-term chronic symptoms that do not disable, but keep one from functioning well or from feeling good. Many people with dysthymia also experience major depressive episodes at some time in their lives.

Bipolar disorder

Another type of depression, also called manic-depressive illness. Not nearly as prevalent as other forms of depressive disorders, bipolar disorder is characterized by cycling mood changes: Severe highs (mania) and lows (depression). Sometimes the mood switches are dramatic and rapid, but most often they are gradual. When in the depressed cycle, an individual can have any or all of the symptoms of a depressive disorder. When in the manic cycle, the individual may be overactive, over talkative, and have a great deal of energy. Mania often affects thinking, judgment, and social behavior in ways that cause serious problems and embarrassment. For example, the individual in a manic phase may feel elated, full of grand schemes that might range from unwise business decisions to romantic sprees. Mania, left untreated, may worsen to a psychotic state.

Causes of depressive disorder

Some types of depression run in families, suggesting that a biological vulnerability can be inherited. This seems to be the case with bipolar disorder. Studies of families in which members of each generation develop bipolar disorder found that those with the illness have a somewhat different genetic makeup than those who do not get ill. However, the reverse is not true: Not everybody with the genetic makeup that causes vulnerability to bipolar disorder will have the illness. Apparently additional factors, possibly stresses at home, work, or school, are involved in its onset.

In some families, major depression also seems to occur generation after generation. However, it can also occur in people who have no family history of depression. Whether inherited or not, major depressive disorder is often associated with changes in brain structure or function.

People who have low self-esteem, who consistently view themselves and the world with pessimism or who are readily overwhelmed by stress, are prone to depression. Whether this represents a psychological predisposition or an early form of the illness is not clear.

In recent years, researchers have shown that physical changes in the body can be accompanied by mental changes as well. Medical illnesses such as stroke, heart attack, cancer, Parkinson's disease, and hormonal disorders can cause depressive illness, making the sick person apathetic and unwilling to care for his/her physical needs, thus prolonging the recovery period. Also, a serious loss, difficult relationship, financial problem, or any stressful (unwelcome or even desired) change in life patterns can trigger a depressive episode. Very often, a combination of genetic, psychological, and environmental factors is involved in the onset of a depressive disorder. Only mild stresses or none typically precipitates later episodes of illness at all.

Good experiences such as a close bond with a partner, friend, and family may help to prevent depression. Depression can interact with life stress through two

mechanisms: Those with high levels of stress may be more prone to depression and individuals who are already feeling somewhat depressed or anxious may feel even more helpless and hopeless when faced with greater levels of life stress. Social isolation can further add to the impact of major life events because individuals who are depressed and socially isolated may feel specially helpless and hopeless regarding their current situation.

Brown and Harris[4] (The social origins of depressions) focus on the role of social factors in depression. They show that interpersonal factors are crucial in the creation of the vulnerability to life stress. The most persuasive of these factors is the lack of intimate and confiding relationships. The international theorists have sought to extend these findings by demonstrating that depressed persons engage in environment in ways that lose support from significant others and actually elicit depression-supporting feedback, making the person vulnerable to increased depression. Studies demonstrate that experiences such as early parental loss,[4] having depressed parents[5] and poor parenting contribute to the development of depression in adolescence and later stage of life, supporting the orientation of both the adult manual as well as the adolescent adaptations. Interestingly, another group of researchers has focused the role of adaptive interpersonal functioning in protecting against depression. They have demonstrated the coping strategies, such as approach instead of avoidance, direct problem solving, and seeking out information from others rather than making assumptions, can buffer people against the depressogenic effects of negative life events.[6] These protective techniques are the very focus on middle phase of interpersonal psychotherapy and re-significant strategies use to facilitate recovery from depression as well as to prevent relapse or reoccurrence.

Brief survey of literature

Subsequent retrospective and prospective research has produced mixed support for the concept of hardiness. Rhodewalt and Agustsdottir[7] demonstrated that life event perceived as undesirable was associated with psychological distress in subject low in hardiness, and hardy individuals were more likely to perceive an event as desirable or controllable than the subjects low in hardiness, which supports the theoretical basis of the concept. In the later study of urban women, Rhodewalt and Zone[8] demonstrated an international mediation effect of hardiness in relation to both depression and illness with respect to events perceived as undesirable but not for desirable ones.

Hardiness is defined as commitment to life, viewing change as challenge, and having control over one's life. Previous research suggests that hardiness is related to better outcomes in stressful situations. The effects of individual and family hardiness on depression and fatigue of caregivers of disabled older adults (DA) were examined using a descriptive, cross-sectional design. The study was conducted by Patricia C. Clark and Hodgson.[9] The sample was 67 caregivers of DA with high functional impairment. One-third of caregivers reported moderate to high fatigue, and 40% had scores indicating possible clinical depression. Memory and behavior problems of the DA were positively correlated with caregiver depression and fatigue. Family hardiness was negatively related to memory and behavior problems of the DA. Controlling for covariates, individual hardiness was negatively associated with depression and fatigue; coping strategies did not mediate the relationship. Caregivers with low individual and family hardiness had more depression than those high in both resources.

Hardiness has been shown to have a buffering effect on stresses that maintains and enhances performance, morale, and health. A study done by Maddi *et al*.,[10] investigates how hardiness and religiousness compare in their relationship to depression, anger, and the coping and social support mechanisms whereby they may have these relationships. Participants were military and governmental personnel who completed accepted measures of hardiness, religiousness, and other variables on a volunteer basis. Co-relational and multiple regression analyses showed that, by comparison with religiousness, hardiness has the larger and more comprehensive negative relationship with depression and anger, and positive relationship with coping and social support. The conceptual and empirical implications of these findings are discussed.

MATERIALS AND METHODS

Hypothesis

People, who possess high, moderate, and low hardy characteristics, would differ significantly in experiencing depression in their lives.

Sample

Sample of the present study was constituted from 320 persons aging 21-65. Subjects were selected randomly and were properly motivated to participate in the study. The sample consisted of both the male and female respondents. They belonged to either rural or urban areas. The geographic area of the sample was limited to Jaunpur district of U.P. The break-up analyses of the sample are presented here. Based on the scores obtained on hardiness scale, subjects were categorized into three groups of high, moderate, and low. Therefore, hardiness had three levels each, i.e. high, moderate, and low so that differential effects, if any, of the independent variable could be ascertained on the depression [Table 1].

Measurement of variables

Hardiness scale

The level of hardiness in the subjects was measured with the Hindi version of Kobasa's hardiness scale prepared by Singh.[11] This scale consists of 50 items accompanied by four alternative responses, viz, absolutely incorrect, somewhat correct, much more correct, and absolutely correct [Table 2].

Depression scale

Depression in subjects was ascertained with the 'Depression Scale' developed by Karim and Tiwari.[12] This scale consists of 96 items related to 12 areas of depression, i.e. apathy, sleep disturbance, pessimism, fatigability, irritability, social withdrawal and self-centeredness, dejection or sadness, self-dislike, self-acquisition, self-harm, somatic reoccupation, and indecisiveness [Table 3].

Table 1: Break-up analyses of the sample

Division criteria	*N*	Percent
Hardiness groups		
High	60	19
Moderate	162	51
Low	98	30

Table 2: Norm table for hardy personality scale

Description	Value
Mean	150.5
SD	27.5

Table 3: Percentile norms for depression scale

Percentile	Male	Female	Interpretation
99	289	294	A: Very high depression
95	283	290	
90	276	284	
85	268	273	
80	260	267	
75	234	252	B: High depression
65	210	246	
60	198	230	
55	168	198	
50	153	187	C: Moderate depression
45	140	184	
40	110	171	
35	95	152	
30	87	140	D: Low depression
25	80	116	
20	71	98	
15	62	92	E: Very low depression
10	44	73	
5	38	54	
1	32	41	

RESULTS

The results are given in [Tables 4-6].

DISCUSSION

Whether hardiness exerts differential effects on depression? Or whether hardiness is helpful in reducing the depressive feeling and thus helps in improving behavioral efficiency and adjustment? This has been one of the major aims of the present study. So in order to answer this question, the three hardy groups were compared on depressive scale. The results obtained from this point of view are recorded in [Tables 4-6].

It may be observed from Table 4 that there are apparent differences between three means of the hardy groups on depressive scale. For example, the mean and SD values of high hardy group are 89.50 and 10.80, while these values of moderate hardy group are 98.4 and 15.60, and the values of low hardy groups are 92.68 and 13.9, respectively. This shows that the three hardy groups differ with one another in the feeling of depression. The lowest scores of high hardy group suggest that hardiness is an important factor in facing the negative circumstances of life and monitoring their effects the moderate hardy group stands next to it which again suggests that hardiness is helpful in controlling the effects of depression. However, it is striking to note that low hardy group scored a lower mean value in comparison to the moderate hardy group. The assumption of the present study makes it difficult to interpret this finding.

Table 4: Mean and SD of three hardy groups on depression scale

Hardy groups	*N*	*M*	SD
High	60	89.50	10.8
Moderate	162	98.4	15.6
Low	98	92.68	13.9

Table 5: Summary of ANOVA (hardy groups on depression scale)

Sources of variance	df	Sum of square	Mean square	*F*-ratio	*P*
Between groups	2	6,95,892.18	3,47,946.9		
Within groups	317	7,73,676,792.9	2,440,620.12	3.42	0.05
Total	319	7,74,372,685			

Table 6: *t*-ratio (hardy groups on depression scale)

Hardy groups	*t*	*P*
High *vs.* Mod	5.46	
High *vs.* Low	1.40	0.01
Mod *vs.* Low	22.5	

If one inspects [Table 4], it would be clear that the *F*-ratio obtained for three hardy groups on depression scale is 3.42, which is significant at.05 level. This suggests that the three groups differ significantly with one another in experiencing depression. Further to that, *t*-ratios were also calculated and were found to be significant [Table 5]. The *t*-ratio obtained between high *vs* moderate hardy groups is 5.46. It is quite significant and the *t*-ratio obtained between high *vs* low hardy groups and mod *vs* low hardy groups are 1.40 and 22.5, respectively, which are also being fairly significant at .01 level. Since the obtained *t*-ratios for the three groups were found to be significant which imply that the compared groups really differ with one another in the feeling of depression.

Thus, it can be said that hardiness is an important correlate of depression. It reduces depressive feelings and prepares the individuals to face threatening events of life boldly and also is helpful in reducing the effect of depression, so it may be considered that higher the level of hardiness lower the feeling of depression and vice versa. The findings get empirical support from some of the previous studies, e.g., Rhodewalt and Zone,[8] Kobasa.[1]

CONCLUSION

Adversities and unfavorable circumstances are the aspects of the human lives that anyone may face any time in any perspective of his/her life which may bring out depressive feelings and subsequently hamper one's adaptive capacity to live normal life. One may not escape from this fact but certainly can reduce the miserable effects of those negative psychological states induced by adverse life situations by adopting certain personality characteristics. There could be numerous factors which are assumed to resist boldly the susceptibility of negative feelings induced by various adverse life situations and among them 'hardiness' indeed appear to be of tremendously significant.

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