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Anna Andersen

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A Test of the Hypothesis about Hardiness as an Index of Mental Health

Anna C. Andersen

Southern Illinois University at Carbondale

Abstract

Previous studies have examined the relationship between Hardiness and health. This study tested the hypothesis that Hardiness is a measure of mental health using positive indicators of adjustment. Undergraduates were given the Dispositional Resilience Scale, Self-Efficacy Scale, Life Orientation Test, Positive and Negative Affect Schedule, and Self-Esteem Scale. Results strongly supported the hypothesis.

A Test of the Hypothesis about Hardiness as an Index of Mental Health

The present study tested the hypothesis about Hardiness as an index of mental health. A mentally healthy individual is a generally well-adapted person. Individuals are considered unhealthy if they are intellectually defective, morally insensitive, socially deviant, or show signs of psychopathology. If it were known why or how mentally healthy and unhealthy individuals differed, the mentally unhealthy individuals could more easily be identified and helped. One explanation may lie with the personality characteristic Hardiness.

The Hardiness personality construct was introduced by Kobasa (1979) as a means of explaining why some individuals remain healthy under high levels of stress while others fall ill. According to the original conceptualization of Kobasa (1979), the Hardy personality construct acts as a moderator of stress-illness relationships in that Hardy individuals experience less vulnerability to illness resulting from potentially stressful situations. The Hardiness concept encourages a positive and optimistic view of coping with stress. Hardiness as a positive affect originates from Maddi's fulfillment model (Maddi 1976). This model theorizes that a person acquires capabilities, meanings, and values. Life's stressful situations cause conflicts through challenging and inhibiting one's capabilities, meanings, and values. One must be able to fulfill his/ her capabilities, meanings, and values by continuing to carry them out and believe in them. Maddi's fulfillment model along with initial personality tests used to measure Hardiness are, in turn, based on the existential theory of personality (Smith & Williams 1992). Three components

of Hardiness; namely, commitment, challenge, and control, have been derived from the existential theory and the fulfillment model.

Hardiness has been defined in general as the personality characteristic with the capability of enduring weariness and exertion from stress, pain, and suffering while strengthening from the process. More specifically, commitment, challenge, and control have been considered as the basic components of Hardiness. A committed individual deeply involves him/ herself in activities and the environment instead of estranging one's self. Through this interaction a sense of purpose emerges which compels one not to give up. Challenge involves viewing life's changes positively and as a way to grow. Control represents belief in one's own influence on life and the environment. Thus, a high Hardy individual is committed to one's self and environment, believes life's challenges are positive, and perceives one's self as having control.

High Hardy individuals are more likely than low Hardy individuals to interpret past experiences and stress as positive and controllable which also allows high Hardy persons to evaluate current and future situations or stimulus as less threatening. Because stress is experienced as less threatening, avoidance and withdrawal from a stressful situation is unlikely. For this reason high Hardy people are less likely to use ineffective or regressive coping skills unlike individuals low in Hardiness. Those high in Hardiness actually use an optimistic transformational coping through viewing the situation as a chance to grow through the challenge and change. High Hardy individuals can then be said to have an optimistic orientation along with a sense of self-confidence.

Until recently practically all the research on Hardiness involved testing the hypothesis that Hardiness operates as a moderator of the relationship between stress and mental or physical illness. The basic hypothesis in all these studies states that the correlation between stress and illness would be low for the high Hardy individuals and would be high for the low Hardy individuals (e.g. Kobasa 1982; Kobasa & Puccetti, 1983). More specifically, Hold, Fine, and Tollefson (1987) reported that high Hardy teachers with high stress experienced low burnout as compared with low-Hardy teachers with high stress who experienced high level burnout. Similarly, Hills and Norvell (1991) found that male highway-patrol officers with high Hardiness experience moderately low levels of stress as compared with low Hardy patrol officers. Modest support has been found for Hardiness as a moderating variable.

More recently, Maddi and Khoshaba (1994) proposed that Hardiness is a general measure of mental health. They tested this hypothesis using 175 undergraduates who completed the Dispositional Resilience Scale (Bartone, et al., 1989) which measures Hardiness, along with the Minnesota Multiphasic Personality Inventory (MMPI) and the Hopkins Symptom Checklist measuring negative affect. They found that Hardiness was negatively correlated with several MMPI clinical scales measuring psychopathology, supporting the tested hypothesis.

The purpose of the present study was to test Maddi and Khoshaba's hypothesis that Hardiness is a measure of mental health. Unlike Maddi and Khoshaba's study, the present study investigated the relationship between Hardiness and health using positive indicators of adjustment or mental health, namely, health locus of control, self-efficacy, optimism, positive

affect, and self-esteem. More specifically, the following research hypothesis were tested in this study.

Hypothesis #1: Hardiness vs. Health Locus-of Control

The Multidimensional Health Locus of Control Scale developed by Wallston and De Villes (1978) provides three scales, namely, 1) personal control over one's health, 2) control of powerful others, and 3) control of chance. Because high Hardy individuals are assumed to have a general sense of perceived control, they would be expected to have higher personal control over their health than the low Hardiness group. On the other hand, individuals low in Hardiness would believe more that their health depends on powerful others in society or chance as compared with the high-Hardiness group.

Hypothesis #2: Hardiness vs. Self-Efficacy

The Self-Efficacy Scale (Sherer et al., 1982) provides a measure of general self-efficacy which was defined as "willingness to initiate behavior, expend effort in completing the behavior, and persistence in the face of adversity." High Hardy individuals would be expected to score high on general self-efficacy as compared with low Hardy individuals.

Hypothesis #3: Hardiness vs. Optimism

Scheier and Carver (1985) define optimism in terms of generalized outcome expectancies and measure it using the Life Orientation-Test. Optimism refers to the general tendency to expect good rather than bad outcomes in life. A high Hardy individual would tend to assess events in a favorable manner and generally tend to have an optimistic outlook on life. Perceived control over

a situation and the environment allows one to be hopeful in causing events to result in favorable outcomes. Challenge allows a high Hardy individual to see stressful events and failures as a chance to grow and develop. Thus, optimism strengthens the person through failures and stressful situations. Commitment drives a Hardy individual to exert effort, continue through, and not easily give up. A committed individual has just reason to expect something good to happen through continuous committed work. Also possessing a high self efficacy level increases optimistic outlook. Believing to have adequate capabilities to accomplish tasks and be successful would lead the Hardy individual to expect good outcomes. For these reasons a high Hardy individual would have a high level of optimism.

Hypothesis #4: Hardiness vs. Positive and Negative Affect

Positive affect (Watson, Clark, & Tellegen 1988) involves feelings of enthusiasm, activeness, and alertness. An individual with high positive affect is full of energy, concentration, and pleasurable involvement. Negative affect characterizes sadness and apathy with unpleasurable involvement producing aversive moods. High Hardy persons would have high positive affect while low Hardy individuals would have high negative affect. Perceived control demands concentration in order to influence surrounding environment and situations. Through commitment high Hardy persons become involved, demanding effort and energy from the individuals. Being so involved would encourage high Hardy individuals to be energetic and excited in what they are doing in order for them to continue doing so. A committed individual would definitely not be apathetic. Challenge gives high Hardy individuals a sense of pleasurable

involvement because they know they are going to grow and develop from the situation. Self-efficacy also allows high Hardy persons to enjoy the involvement because they know they have the capability to complete the task at hand, and they concentrate and exert effort when they know a situation requires it. Overall, high Hardy individual should be able to accomplish their goals, resulting in high positive affect as compared with low Hardy people. On the other hand, low Hardy individuals may not have good goals and also may not accomplish much, resulting in high negative affect.

Hypothesis #5: Hardiness vs. Self-Esteem

Self-esteem refers to the general tendency towards self acceptance and possessing positive attitudes towards one's self. Self-esteem was assessed using the Self-Esteem Scale (Rosenberg, 1965). Through commitment high Hardy persons get involved in activities and the environment rather than estranging one's self. Friendships and support systems develop from this commitment. Acceptance by others helps produce a sense of self-worth increasing self-acceptance. Perceived control enables high Hardy individuals to possess a high level of esteem because one believes to influence and affect situations and environment.

Method

Subjects

Seventy-five undergraduate students (35 males and 40 females) from an introductory psychology class voluntarily participated in the study for partial course credit. The mean age was 19.02 with a range of 18-25.

Instruments

Dispositional Resilience Scale: Hardiness was assessed by the Dispositional Resilience Scale (Bartone et al., 1989) which contains three 15-item subscales: Commitment, Control, and Challenge. The response format includes a four-point scale ranging from "Not at all true (0)" to "Completely true (3)". Internal consistency for Commitment is .82, Control is .66, and Challenge is .66 (Bartone et al., 1989).

Multidimensional Health Locus of Control Scale (MHLC): The MHLC contains three 6-item scales: Internal Health Locus of Control, Powerful Others, and Chance. Response format includes a six-point scale ranging from "Strongly disagree (1)" to "Strongly agree (6)". The internal consistency for the three scales ranges from .67 to .77 (Wallston, Wallston, & DeVilles 1978).

Self-Efficacy Scale (SE): The SE contains 30 items and provides a measure for general self-efficacy. Response format ranges from A (Disagree strongly) to E (Agree strongly). Internal consistency for the general subscale is .86 (Sherer et al., 1982).

Life Orientation Test (LOT): The LOT contains eight items with a five-point response scale ranging from "Strongly disagree (0)" to "Strongly agree (4)". The LOT has an internal consistency of .76 and a test-retest reliability of .79 with a four week interval (Scheier & Carver, 1985).

Positive and Negative Affect Schedule (PANAS): The PANAS has 10 items measuring Positive Affect (PA) and 10 items measuring Negative Affect (NA). The response format includes a five-point scale ranging from “Very slightly” or “Not at all” to “Very much” in terms of the extent to which participants had experienced each mood state. The internal consistency for positive affect is .88 and .87 for negative affect. The PANAS has a test-retest reliability of .68 for PA and .71 for NA for an eight-week interval along with an intercorrelation of -.17 (Watson, Clark, & Tellegen 1988).

Self-Esteem Scale (SES): The SES consists of ten-items. The response format uses a four point scale from Strongly agree (1) to Strongly disagree (4). The Rosenberg Self-Esteem Scale has an internal consistency of .92 and a test-retest reliability of .85 over a two week period (Rosenberg, 1965).

Procedure

All the instruments were administered to groups of 5-10 subjects outside of class. The order of presentation of the instruments was counter-balanced across different sessions to eliminate order effects. IBM sheets were used for recording responses.

Data Analysis

Using the median score on the Dispositional Resilience scale (Median = 33.75), subjects were divided into high and low-Hardiness-groups. Subjects who scored above the median were included in the high Hardiness group ($n=39$) and those scoring below the median were put in the low Hardiness group ($n=36$). Analysis of variance was performed to compare the two

Hardiness groups on each of the personality scales. Multivariate analysis of variance was performed to test whether the two Hardiness groups were significantly different across all the personality scales included jointly.

Results and Discussion

The means and standard deviations of high and low Hardiness groups are summarized in Table 1.

Hypothesis #1: Hardiness vs. Health Locus of Control

As expected, the high Hardy group scored higher on personal control than the low Hardy group but the difference was not statistically significant. Similarly, the high Hardiness group scored lower than the low Hardiness group as expected on Control of powerful Others Scale as well as the Control of Chance Scale but the differences were not significant. Thus on all the three subscales of the Multidimensional Health Locus of Control Scale, there were no significant differences between the high Hardy and low Hardy groups.

Hypothesis #2: Hardiness vs. Self-Efficacy

High Hardy individuals scored significantly higher than low Hardy individuals on the Self-Efficacy Scale. This result supported the tested hypothesis.

Hypothesis #3: Hardiness vs. Optimism

Results indicated that the high Hardy individuals scored significantly higher than low Hardy individuals on the LOT Optimism Scale, supporting the tested hypothesis.

Hypothesis #4: Hardiness vs. Positive and Negative Affect

High Hardy individuals scored significantly higher than low Hardy individuals on the PANAS Positive Affect scale. Low Hardy individuals scored significantly higher than high Hardy individuals on the PANAS Negative Affect. These results supported the tested hypotheses.

Hypothesis #5: Hardiness vs. Self-Esteem

The results indicated that the high Hardy individuals scored significantly higher than low Hardy individuals on the Rosenberg Self-esteem Scale, supporting the hypothesis.

Results of the multivariate analysis of variance indicated that the high and low-Hardiness groups differed significantly across various personality scales (Wilk's $\lambda = 0.70$; $F_{8,66} = 3.58$, $p < .01$) indicating that the two Hardiness groups have significant personality profiles as measured by the different personality scales used in this study. The effect size was 0.30 which indicates that 30% of the variance between the two Hardiness groups was accounted by the variables included in the study. The effect size is quite substantial.

All the hypotheses tested in this study with the exception of those involving the Health Locus of Control Scales were supported by the present results. One possible reason for the lack of significance for the Health Locus of Control Scale might be the relatively small size of sample used in this study. Another reason may be that each MHLC Subscale contains only six items and thus may not have enough variability to discriminate the two Hardiness groups.

In summary, the results indicated that the high Hardiness group scored significantly higher on self-efficacy, optimism, positive affect and self-esteem, and scored lower on negative affect as compared with the low Hardiness group. In addition, the high Hardiness group and the low Hardiness group had significantly different mean profiles as indicated by the multivariate analyses of variance. These results provided strong empirical support for the hypothesis that Hardiness is related to mental health.

Limitations and Recommendations for Future Research

A major limitation of this study was the small sample size. In the future it would be important to repeat the study with a larger sample size. A second limitation was the use of undergraduate psychology students as subjects. Future research should test these hypotheses using different adult and clinical populations. Another limitation was that the high and low Hardiness groups were identified using the median split on the total Hardiness score. This study should be replicated in the future by identifying high and low Hardiness groups using median splits on the three Hardiness subscales as suggested by Funk (1992). The high Hardiness group would consist of individuals with scores above the median on all three subscales. Finally, this study used only some selected scales, namely, Multidimensional Health Locus of Control Scale, Self-Efficacy Scale, LOT Optimism Scale, Positive and Negative Affect Scale, and Self-Esteem Scale. Future research should test the hypothesis using other measures of both physical and mental health.

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Table 1
Means and Standard Deviations of High and Low Hardiness

Scale	High Hardiness Group n=39		Low Hardiness Group n=36		Univariate F
	M	SD	M	SD	
MHLC Personal Control Scale	27.38	5.28	25.81	4.15	2.05
MHLC Control of Powerful Others Scale	14.90	4.42	16.33	5.30	1.63
MHLC Control of Chance Scale	16.31	4.63	17.83	4.68	2.01
Self-Efficacy Scale	88.74	9.78	76.42	11.56	25.01**
LOT Optimism Scale	21.38	4.97	18.81	5.11	4.91*
PANAS Positive Affect Scale	39.31	5.77	33.69	7.42	13.47***
PANAS Negative Affect Scale	19.69	6.09	24.17	6.35	9.70**
Rosenburge Self-Esteem Scale	34.33	4.53	31.25	5.14	7.61***

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$