**Hardiness as a Stress Mediating Factor of Burnout among Healthcare Providers**

M. Michelle Rowe, PhD

**Abstract**: Given the changing health care environment, it is believed that individuals employed in healthcare settings are at significant risk for occupational burnout. In the present study, the relationships between hardiness, stress, anxiety, and burnout were examined in a sample of 264 healthcare providers. Univariate statistics identified that individuals experiencing burnout reported greater stress and diminished hardiness. However, multivariate statistics indicated that hardiness did not account for a significant amount of the variance of burnout after stress and anxiety had entered the regression equation. In general, the variables best predicting burnout were stress and anxiety, not hardiness, and most individuals expressed some level of burnout. [Am J Health Studies 1998; 14(1): 16-20]

Given the rapid and ongoing changes in the medical industry during the past several years, healthcare providers are regularly exposed to stressful environments and consequently are at risk for burnout. According to Maslach (1978), burnout is the result of repeated emotional pressure related to involvement with people and is characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. Burnout could be viewed, therefore, as a stress-related illness of those in any profession where constant involvement with people is a critical aspect of the job. Since prior studies have reported professionals such as nurses require high levels of commitment and interpersonal involvement (Keane, Ducette, & Adler, 1985), it is conceivable that healthcare providers are at greater risk for occupational burnout.

It is notable, however, that many people remain healthy despite experiencing rather stressful situations. One variable believed to buffer the relationship between stress and burnout is hardiness. In general, it is suspected that hardy individuals manifest the capacity to remain healthy during stressful times (Kobasa, 1979). These individuals are deeply interested in and excited by their lives and possess the characteristics of control (life manageability), commitment (strong life involvement), and challenge (perceive change as growth). Considerable research has been generated using the hardiness construct, and it has been found that hardy individuals are less prone to physical illness, more optimistic, less stressed and burned out, more readily accept social support, and employ a wider variety of coping strategies than their nonhardy counterparts (Funk, 1992; Nowack, 1991; Nowack, 1990; Schmeid & Lawler, 1986; Kobasa, 1979).

The controversies surrounding the hardiness construct have generated an impressive body of research and extensive detail regarding these issues can be found by referring to Rowe (1997), Bernard & Belinsky (1993), Williams, Wiebe, & Smith (1992), Funk (1992), Hull, Van Treuren, & Virnelli (1987). Despite the enormous accumulation of data on hardiness, several essential issues have yet to be resolved which are addressed in the present study. First, some have suggested that hardiness scales simply identify negative personality character-
istics such as negative affectivity (Williams et al., 1992; Funk, 1992; Nowack, 1990). Second, there is considerable disagreement about the relationships between hardiness, stress, and burnout. Theoretically, hardiness works to mediate the effects of stress on burnout. That is, people who are hardy, even if they are under great stress, should not be burnout out in their work. These hypotheses make good sense; however, research has yielded contradictory findings (Funk, 1992; Nowack, 1991; Hull et al., 1987). Third, since changes in the structure of the health care system over the past several years have had a significant impact on the stress experienced by those employed in this system because of downsizing and restructuring, it is important to evaluate occupational burnout in healthcare providers. Therefore, the purpose of this study is to examine the relationships between hardiness, stress, negative affectivity or anxiety, and burnout in the health care environment.

**Method**

**Sample**

Participants were approached in person at three medical universities and six hospital settings in the Philadelphia area and asked to participate in a study on burnout. Subjects in the university setting were practicing healthcare professionals taking courses for career advancement. Subjects from the hospital settings were contacted through personnel directories printed by each hospital and given the questionnaire to complete in the hospital. A total of 292 professionals were approached and 264 professionals agreed to participate for a response rate of 90.4%. The only criterion for inclusion in the study was having assumed their present employment position for at least one year.

**Instrumentation**

Each subject completed a packet of questionnaires that included measures of demographic characteristics, hardiness, negative affectivity, stress, and burnout. Each measure is customarily used in current research and has been demonstrated as a valid and reliable scale for each of these constructs. A detailed description of these measures can be obtained by referring to Rowe (1997) and the following citations. Demographic characteristics were assessed using a self-report questionnaire including variables selected on the basis of previous research (Keane et al., 1985). Hardiness was appraised using the 30-item Cognitive Hardiness Scale (CHS) which yields scores for the three dimensions of hardiness and a total hardiness score (Nowack, 1990). There are several advantages to using this third generation scale over more traditional hardiness measures (Funk, 1992). In general, the negatively key items have been balanced with positively key items (i.e., negatively stated items generally produce negative responses), and the scores of the subscales can be combined into a total hardiness score allowing the researcher to analyze both the subscales and total hardiness. Although the CHS has demonstrated some evidence of autonomy of negative affectivity, the State-Trait Anxiety Inventory (STAI) was included to estimate a subject’s emotional state during the data collection process (Spellberger, 1983). The Stress Assessment Inventory (SAI), which was based upon the Hopkins Symptom Checklist, assesses stress and health risk behavior of employees within health organizations (Nowack, 1990). Finally, to identify burnout, the Maslach Burnout Inventory (MBI) was utilized which consists of 22-items separated into three subscales: Emotional Exhaustion, Depersonalization, and Personal Accomplishment (Maslach, 1978; Maslach & Jackson, 1986).

**Procedures**

Introductory letters and a packet of questionnaires were given to each subject. These subjects were then asked to complete the packet and return it in a sealed envelope by the end of their shift and were assured that all information was confidential. Data were coded and analyzed using Statistical Package for Social Sciences. All analyses were consistent with those done in prior research in an attempt to model and replicate previous studies.

**Results**

Of the 264 respondents, 75.4% were females. The ages of the subjects ranged between 20–29 years (28.8%), between 30–
39 year (45.4%), and between 40-49 years (20.9%). The marital status of the subjects included 52.7% married, 34.1% single, 3.4% cohabitating, 2.3% separated, 6.8% divorced, and .8% widowed. They all had bachelors degrees, 22% had master’s degrees, and 6.4% had doctoral degrees. The sample included nurses (43.6%), clinical staff (23.5%), administrators (10.6%), psychologists and social workers (9.8%), wellness educators (9.8%), and physicians (7.2%). The number of years respondents held their present position ranged from 1 to 23, with most between 1 and 5 years (73.9%), however subjects had been active in their profession on the average of 10.60 years (sd=6.91).

Pearson product–moment correlations and one–way Analyses of Variance identified no significant relationships between any of the demographic variables and burnout. However, as seen in Table 1, significant correlations were found between burnout and each of the predictors.

To identify variables predicting total burnout, a Stepwise Multiple Regression was conducted using all of the variables as potential predictors. This demonstrated that stress (b=.41, P<.001) and anxiety (b=.21, P<.01) best predicted burnout. Separate Stepwise Multiple Regression Analyses were also conducted on each of the three burnout dimensions and demonstrated that the variables best predicting emotional exhaustion (b=.52, P<.001) and depersonalization (b=.36, P<.001) was stress, while the variables best predicting lack of personal accomplishment was anxiety (b=.32, P<.001) and age (b=-.12, P<.05).

To control for the effects of demographic characteristics (i.e., gender, age, marital status, educational level, and the number of years employed in the field), hierarchical multiple regressions were conducted. Demographic variables were entered first in the regression equation followed by the remaining predictor variables. The results of this analysis were consistent with the analyses reported earlier. That is, stress (b=.41, P<.001) and anxiety (b=.21, P<.01) predicted total burnout, stress predicted emotional exhaustion (b=.52, P<.001) and depersonalization (b=.36, P<.001), while
When subjects were grouped into low, medium, and high hardiness, and the magnitude of the correlation between stress and burnout was examined within each group, the correlation between stress and burnout was greater for subjects who were in the low hardiness group than those in the high hardiness group, however the difference was not significant. This provides only modest, if any, support for the mediating effect of hardiness on stress and burnout. In fact, it appears that perceived stress most significantly influences psychological burnout. These results are consistent with a number of recently studies that have failed to replicate the earlier Kobasa investigations (Rowe, 1997; Nowack, 1991, Hull et al., 1987).

One interesting finding consistently noted was the relationship between anxiety level (i.e., negative affectivity) and burnout. Because recent research has identified negative affectivity to be a potential confound of hardiness (Williams et al., 1992; Funk, 1992), these results are important. Although hardiness and negative affectivity are not identical, the two constructs do conceptually and empirically overlap. Another noteworthy finding was the lack of relationship between burnout and the demographic variables.

In general, most individuals expressed some level of burnout from mild and manageable to severe and cumbersome. This is important because healthcare providers may be susceptible to the burnout syndrome because of the intense psychological demands placed upon them each day. With the increasing pressures of societal health problems, such as drugs, poor nutrition, violence, AIDS, and lack of social support, as well as changes in the organizational structure of the healthcare system, healthcare providers are fighting a difficult battle which some will lose. Thus, any strategy to help these individuals through these increasingly difficult times should be open to exploration and investigation. Perhaps these results combined with future studies can aide those individuals employed in healthcare settings to better understand the relationship between personality factors, stressors, and occupational burnout before the detrimental consequences of burnout occur.

**DISCUSSION**

Univariate statistics identified relationships between hardiness, stress, and burnout. Specifically, individuals experiencing burnout reported greater stress and diminished hardiness. However, multivariate statistics indicated that hardiness did not account for a significant amount of the variance of burnout after stress and anxiety had entered the regression equation. Similarly, when subjects were grouped into low, medium, and high hardiness, and the magnitude of the correlation between stress and burnout was examined within each group, the correlation between stress and burnout was greater for subjects who were in the low hardiness group than those in the high hardiness group, however the difference was not significant. This provides only modest, if any, support for the mediating effect of hardiness on stress and burnout. In fact, it appears that perceived stress most significantly influences psychological burnout. These results are consistent with a number of recently studies that have failed to replicate the earlier Kobasa investigations (Rowe, 1997; Nowack, 1991, Hull et al., 1987).

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Table 2

<table>
<thead>
<tr>
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<th>Pearson Correlation Coefficients Between Stress and Burnout</th>
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<tr>
<td><strong>Stress</strong></td>
<td><strong>Burnout</strong></td>
</tr>
<tr>
<td>Low Hardiness</td>
<td>.47**</td>
</tr>
<tr>
<td>Medium Hardiness</td>
<td>.36**</td>
</tr>
<tr>
<td>High Hardiness</td>
<td>.36**</td>
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* **p < .01

Anxiety predicted lack of personal accomplishment ($r = .32$, $p < .001$).

To determine whether there are mediating effects of hardiness on stress and burnout, subjects were divided into low, medium, and high hardiness groups using the frequency distribution of the total hardiness score. For example, if a subject had obtained a hardiness score in the upper 1/3 of the distribution, he or she was placed in the high hardiness group. Next, separate Pearson product-moment correlations were computed between total burnout and stress for each of the three hardiness groups. Theoretically, the correlation between stress and burnout should be high in the low hardiness group, moderate in the medium hardiness group, and insignificant in the high hardiness group. As seen in Table 2, there was a significant correlation between stress and burnout for each of the hardiness groups. It was interesting to note that the correlation between stress and burnout was greater for subjects who were in the low hardiness group ($n = 93$) than those subjects in the high hardiness group ($n = 88$), however a Fisher’s Z-Statistic showed that these differences were not statistically significant ($p > .07$).
These results are limited by several factors. First, this study does not explain the direct cause and effect relationships between hardiness, stress, and burnout. Multivariate statistics permit the researcher to establish a significant relationship between the variables and the potential direction of those relationships, but the direct causal relationships are not identified. Therefore, it would be interesting in future research to determine whether less hardy individuals can be taught strategies to be more hardy and whether this teaching would promote temporary or permanent changes in adaptive coping. Second, there is no baseline measure of burnout prior to the onset of healthcare reform. Finally, the techniques used in this study rely on self-report measures and there is always a question as to whether or not self-report measures are truly valid and reliable given the Hawthorne effect. Future studies should attempt to further evaluate the relationship between these variables as well as determine the types of coping strategies used to manage occupational stress and burnout in the healthcare setting.

**References**


