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Hassles, hardiness and absenteeism: results of a 3-year longitudinal study

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In this 3-year longitudinal study of 229 full-time employees, the authors investigated the association between hassles, two measures of personality hardiness, and absenteeism verified from medical personnel records and self-reported hospitalization owing to injury and illness. Using stepwise multiple regression analysis, hassles, but neither of the hardiness measures, significantly predicted absenteeism when controlling for psychological well-being and relevant demographic variables over the 3-year period. The alternative measure of hardiness, but not any of the original Kobasa personality hardiness scales, predicted self-reported hospitalization for injury and illness. Little evidence for the predictive validity of the Kobasa personality hardiness components, or composite hardiness score, existed for either absenteeism or self-reported hospitalization in this study. These findings support the concept that the current conceptualization, measurement and use of the original Kobasa hardiness scales should be re-evaluated.

1. Introduction

A growing body of research supports a consistent, albeit modest, relationship between daily work and life hassles, personality hardiness and organizational outcomes in employed men and women (Kobasa 1979, 1982a,b, Kobasa *et al.* 1981, Kobasa *et al.* 1982a, Nowack 1991). Specific organizational stressors such as heavy job demands, role ambiguity, role conflict, poor communications between supervisors and employees, inadequate training, dysfunctional support systems, interpersonal conflict, inability to reach career goals, lack of feedback from supervisors, and lack of control over decision-making have consistently been shown to be associated with various productivity and diverse health problems (Taylor 1990, LaCroix and Haynes 1984, 1987, Rabkin and Struening 1976, Beehr and Newman 1978, Frew and Brunning 1987, Karasek *et al.* 1981). One approach to understanding this small, yet consistent, association between hassles and organizational outcomes has been to explore the role of specific individual variables such as personality hardiness on the stress-strain relationship.

Personality hardiness is typically conceptualized as a multi-dimensional construct consisting of internal locus of control (versus powerlessness), commitment to work and life activities (versus alienation), and perception of life changes and demands as a challenge (versus threat). Results from a growing body of studies suggest that personality hardiness may exert a protective effect against physical illness and psychological distress in the face of

the same data set (cf. Hull *et al.* 1987) and the counting of near-significant interactions as evidence of hardiness as a stress moderator (Kobasa and Puccetti 1983, Kobasa *et al.* 1983). In addition, many findings in the hardiness literature might be interpreted differently owing to inconsistencies in the way hardiness sub-scales have been used, or even measured, from study to study (Kobasa 1982a,b). The previous studies also vary as to whether they use an overall hardiness score in their analyses, or scores from separate sub-scales composing the construct (Ganellen and Blaney 1984, Schmied and Lawler 1986). While retaining the hardiness construct, researchers have frequently operationalized it in very diverse ways, complicating the interpretation of these studies.

Numerous studies have directly explored hardiness as a moderator of stress, organizational outcomes, and health status with other psychosocial variables (e.g. social support, exercise, type A behaviour). Of these studies using a composite measure of hardiness, few have found consistent evidence for a moderating effect. Overall, the empirical evidence that the personality hardiness construct operates as a stress buffer is weak, at best. However, except for a recent study by Schmied and Lawler (1986), most research suggests the concept that personality hardiness assessed by the Kobasa scales has direct and main effect influences on well-being. In their study of working women, Schmied and Lawler (1986) found no significant main effect of hardiness and no hardiness × stress interaction in a measure of recent physical illness.

Several recent criticisms have centred on the construct validity and reliability of the hardiness measures. It is important to emphasize that in Kobasa's initial conceptualization, hardiness was conceived as consisting of three components of a single inseparable constellation, and not as independent aspects. Recently, Carver (1989) has raised questions about the nature of this multifaceted construct and recent factor analyses have consistently failed to reproduce separate commitment, control, and challenge components (Funk 1992, Funk and Houston 1987, Hull *et al.* 1987). Additionally, modest correlations between the pairs of scales used to measure each of the three components as well as low intercorrelations between the components are typically found in the hardiness literature (Kobasa *et al.* 1981, Hull *et al.* 1987, Pierce and Molloy 1990). These low correlations do not support the view that the personality hardiness construct consists of 'inextricably intertwined aspects that bear a considerable resemblance to each other' (Kobasa 1979, p. 369). Although some components of hardiness may prove to ameliorate the negative effects of work and life stress, it is unclear exactly what these components are, and whether they should be considered separately or treated as a single meaningful construct (Carver 1989).

In their review of the hardiness construct, Hull *et al.* (1987) proposed that the challenge sub-scale should be eliminated and that only the commitment and control sub-scales should be utilized in future hardiness research. They found the psychometric properties of the commitment scale 'quite acceptable' (p. 529) but those of the control scale more doubtful, suggesting that only the Rotter (1966) Internal-External (I-E) scale should be used instead. Hull *et al.* (1987) also examined the validity of the hardiness components and concluded that control and commitment are related to health status, but that challenge is not. More recently, Roth *et al.* (1989) explored the effects of exercise participation, self-perceived fitness level, and hardiness for promoting stress resistance in a sample of 373 college students. Challenge was found to be virtually unrelated to any measure, including the other hardiness components, leading the researchers to conclude that this component, as it is currently measured, offers little benefit to health (Wiebe 1989).

Some limited findings in the literature on sensation-seeking appear to be somewhat contradictory to the conclusions of Hull *et al.* (1987) and Wiebe *et al.* (1989) that challenge and health status are completely unrelated (Contrada 1989, Smith *et al.* 1978, Zuckerman

found in the recent review of the theory and research of the hardiness construct by Funk (1992).

The diversity in measures of this personality construct makes the body of hardiness research difficult to interpret. As such, differences in health outcomes across hardiness studies may be due to the scales being used, rather than a true hardiness effect. Despite a growing literature, the true relationship between hardiness and health status remains somewhat elusive and unclear. In the light of these recent criticisms of the hardiness construct and research literature, this study was designed to compare an alternative measure of hardiness (CHS) with the original Kobasa scales using a 3-year prospective design with diverse health outcomes. Specifically, this study investigated the association of hassles, composite and component Kobasa personality hardiness scales, and an alternative cognitive hardiness scale (CHS) with absenteeism (based on physical illness verified from medical personnel records and self-reported hospitalization owing to injury and illness). The study involved 229 employees over a 3-year period. In this study the authors examined personality hardiness as it is commonly measured, despite the criticisms mentioned earlier. Although not providing a solution to these criticisms, this study remains applicable to the previous literature in that a new measure of the hardiness construct and both self-report and organizational measures of absenteeism reflecting health status were included. Consistent with previous research, it was hypothesized that personality hardiness would have direct, but not moderating, effects on the objective measure of absenteeism and subjective report of hospitalization owing to illness or injury assessed in this study.

2. Methods

2.1. *Participants and procedures*

The data utilized in this report were drawn from a broader longitudinal study investigating the predictors of job performance, stress resistance and health in a police population (LAPD 1989). In 1983, the newly-hired employees were administered a comprehensive battery of psychological questionnaires and behavioural assessments. As part of a broader police department study protocol, exactly three years later the same assessment battery was re-administered to all remaining employees. A total of 229 employees were included in the present sample for analysis. The subjects in this study were 69 % male and 31 % female with a mean age of 25.3 years (SD = 3.54 years). The sample of 229 full-time employees were 18.8 % African-American, 25.3 % Latino/Hispanic, 3.9 % Asian, and 52.0 % Caucasian. All dependent measures analysed in this study were collected in 1986, three years after initial measures were administered.

2.2. *Measures*

2.2.1. *Independent variables*: the two independent variables were hassles and hardiness.

(1) *Hassles*: Perceptions of recent work and life stress were measured using a brief 6-item scale based upon factor analytic procedures from the original 117-item *Hassles Scale* (Kanner *et al.* 1981). The original Hassles Scale has correlated more strongly than life events measure of stress to a wide variety of health outcomes in a number of recent studies (Kanner *et al.* 1981, Monroe 1983). The derived hassles scale used in this study assessed six independent factors of daily living including the following areas of concern: work, health, family, financial, social and environmental. Specific examples of hassles were provided to respondents in each of the six major factor analytically derived categories of work and life stressors (Nowack 1990).

1987). Respondents were asked to rate how strongly they agree with specific statements about their beliefs on a 1–5 scale ('strongly agree', 'agree', 'neither agree nor disagree', 'disagree', 'strongly disagree', respectively). Sample items included, 'My involvement in non-work activities and hobbies provides me with a sense of meaning and purpose', 'I am committed to my job and work activities that I am currently pursuing', and 'I tend to view most work and life changes, disappointments, and setbacks as threatening, harmful, or stressful rather than challenging'. This scale demonstrated a moderate internal consistency reliability (α) of .84 in the present study.

The CHS has demonstrated adequate internal consistency reliability ($\alpha = .83$), adequate test re-test reliability over a period of two-weeks ($\alpha = .95$), moderate stability over the 3-year study period ($\alpha = .55$), and criterion-related validity with diverse organizational (absenteeism, job satisfaction) and self-report health outcome measures (job burnout, physical illness, psychological well-being, and mood states) in several recent retrospective and prospective studies (Andrassy 1992, Schwartz *et al.* 1992, Nowack 1989, 1990, 1991, 1994). This scale has also been found to significantly contribute to predictions of both problem- and emotion-focused coping as well as significantly correlated ($r = .74$, $p < .01$) with the Scheier and Carver (1985) Life Orientation Test measure of optimism in a recent unpublished study (Andrassy 1992). Principal component factor analytic procedures of the Cognitive Hardiness scale across diverse samples typically identify seven to eight factors with eigenvalues exceeding 1.0 that account for approximately 55% of the explained variance in this variable. The first three factors include items reflecting challenge, control and commitment but generally account for no more than 30% of the explained variance in these analyses.

The CHS has shown some limited evidence of independence of negative affectivity (NA) in two recent unpublished studies (Nowack 1992, Schwartz *et al.* 1992). In the first study, four groups of subjects ($n = 122$) between the ages of 60 and 70 years were pretested and retested 3 months and one year after participating in an 11-day intensive preventive health promotion programme for the elderly. As part of a battery of psychological and biological variables, hardiness (CHS), negative affectivity (NA), defensiveness, and psychological distress (SCL-90) were obtained. For the total sample, CHS uniquely and significantly contributed to predictions of somatic symptoms and incrementally to interpersonal sensitivity and interpersonal paranoia (cynical mistrust) after controlling for NA in the first step of stepwise multiple regression analyses. The second study explored the psychosocial predictors of burnout and substance use in 897 professional working women (Nowack 1992). A statistically significant correlation was found between the CHS, hassles, and the emotional exhaustion scale of job burnout ($r(897) = -.46$ and $-.44$, respectively, both $p < .01$). Partial correlation coefficients were also calculated controlling for negative affectivity using a measure of psychological distress that has shown a previous association with diverse measures of neuroticism (Nowack 1990). Although not as strongly associated, the CHS was still significantly correlated with hassles and emotional exhaustion ($r = -.19$ and $-.20$, respectively, $p < .01$) in this sample.

2.2.2. *Dependent variables*: the dependent variables were absenteeism, hospitalization and psychological well-being.

Table 1. Intercorrelations of the scales ($n = 229$).

Scale	1	2	3	4	5	6	7	8	9	10	11	12	Mean	SD	Reliability[1]
(1) Commitment		.02	.49**	.76*	.22**	−.42**	−.01	−.28**	.08	.04	.13	.09	0.0	1.0	.73
(2) Challenge			.08	.53**	.07	.05	.00	.06	.06	.02	.10	.06	0.0	1.0	.71
(3) Control				.75**	.29**	−.58**	.00	−.27**	.07	.09	.08	.05	0.0	1.0	.44
(4) Hardiness					.29**	−.46**	.01	−.24**	.01	.02	.06	−.10	0.0	1.0	.86
(5) Hassles						−.34**	.15*	−.26**	.10	.01	.09	.03	13.55	3.68	.70
(6) Cognitive Hardiness Scale (CHS)							−.09	.42**	−.17*	.04	.01	.00	109.41	11.23	.83
(7) Absenteeism								−.12	.12	.09	.01	−.09	1.39	0.86	.46[2]
(8) Psychological well-being									−.13	.06	.03	.03	44.10	7.13	.93
(9) Hospitalization										.10	.01	−.09	1.04	0.19	–[3]
(10) Age											.15*	−.08	25.28	3.54	–[3]
(11) Gender												−.09			–[3]
(12) Ethnicity															–[3]

*$p < .05$; **$p < .01$.

[1]Internal consistency reliability is measured by Cronbach's α.

[2]Test re-test reliability over the 3-year study period.

[3]Internal consistency or test re-test reliabilities are not appropriate for these variables.

Note. These intercorrelations represent the independent variables of hassless, Kobasa hardiness, Cognitive Hardiness Scale, hassles, and psychological distress scales assessed at time 1, with the dependent measures of absenteeism and hospitalization assessed at the end of the 3-year study period.

4. Discussion

Among personal resources relevant to stress resistance, personality hardiness has received a great deal of attention. Previous research, however, has been largely limited to retrospective studies of self-strain, reported illness, or somatic complaints that failed to take into account conceptual and psychometric criticisms of the Kobasa hardiness scales. The present investigation with 229 full-time employees explored the association between hassles and two different measures of hardiness with absenteeism and self-reported hospitalization in a 3-year prospective design.

In this study hassles, but not personality hardiness, significantly contributed to predictions of absenteeism assessed as physical illness verified by employee personnel records over a period of 3 years after controlling for relevant demographic variables and psychological well-being. In general, individuals who reported greater levels of work and life hassles experienced significantly greater absenteeism owing to physical illness, or illness complaints, than those reporting less hassles. This finding is particularly interesting in light of the brief hassles measure used in this study (Nowack 1990, Schwartz *et al.* 1992), its moderate test re-test stability over the 3-year study period (.61) and previous research suggesting that this type of hassles scale is typically conceptually confounded with negative affectivity (Watson and Pennebaker 1989, Burke *et al.* 1993). As Watson and Pennebaker (1989) point out, it is likely that most stress-complaint correlations (subjectively defined) are overestimating the true association between hassles and health status.

Despite the fact that so little variance in absenteeism is explained by hassles, this prospective study provides some limited support for the interpretation that hassles, conceptualized and measured as an appraisal of chronic concerns and minor irritants, is significantly associated with absenteeism. Although the assessment of absenteeism as physical illness used in the present study was based upon review of existing medical personnel records, it is not entirely possible to distinguish between true illness *per se*, or illness complaints, resulting in employee absences from work over the 3-year period. Despite this limitation, this study provides support for a positive association between hassles and absenteeism in a longitudinal design after controlling for initial levels of psychological well-being to control for the potential hassles–negative affectivity confound. The small variance in absenteeism explained by hassles is not entirely surprising given the length of the study period (3 years), the potential error in measurement of absenteeism (verification from personnel records) and other salient personal and organizational factors that might be hypothesized to contribute to missed days of work in a police population (e.g. organizational climate, family balance issues, shiftwork, salary/benefits, etc.).

In this study, the 30-item CHS (Nowack 1990, 1991), but not any of the original Kobasa hardiness scales, significantly contributed to predictions of self-reported hospitalization over the 3-year period. This finding provides limited construct and predictive validity for the CHS, but little evidence of validity for the original Kobasa measures (composite or sub-scales) with either absenteeism or self-reported hospitalization assessed in this study. These results generally support the overall findings of Schmied and Lawler (1986) who found no association between a measure of composite hardiness and a measure of physical illness in a sample of working women, but contradict other studies finding a relationship between composite hardiness and other health measures (Kobasa 1982a,b or c, Wiebe and McCallum 1986, Kobasa, Maddi, Puccetti & Zola 1985).

It is important to note that most interpretations of the hardiness-health relationship have been based on empirical studies that have been largely retrospective in design and included primarily subjective physical and psychological health outcome measures. One explanation for the current results and previous literature findings showing main and moderating effects

Third, future applied research with hardiness should routinely include a measure of negative affect so that its influence can be identified and isolated. Individual difference factors such as hardiness may well prove to be significantly associated with objective measures of health status, but subjective health complaint and symptom measures most likely overestimate this relationship. Since negative affect has been consistently shown to be related to subjective health outcomes, but not strongly to objective health outcomes, any study without inclusion of a measure of negative affect remains difficult to interpret fully (Burke *et al.* 1993, Watson and Pennebaker 1989). Fourth, future hardiness studies should include measures of defensiveness, self-deception, and repression to explore if, and how, they are related to each other. Based on previous research indicating that repressive coping styles (conceptualized and defined by a combination of low negative affect and high social desirability) may be associated with greater autonomic activity and risk for physical illness (cf. Schwartz 1990), it might be interesting to speculate that some defensive individuals who report high levels of hardiness may actually be subjected to deleterious health consequences under stressful work and life conditions. These defensively hardy individuals may actually prove to be more susceptible to negative health outcomes owing to direct psychophysiologic reactions or indirectly through adverse lifestyle coping behaviours. Additional research in this area could test these hypotheses directly and clarify such relationships.

Finally, inclusion of the CHS in future research studies appears warranted, based on the results of the present study. The CHS appears to be most conceptually consistent with current conceptualizations of optimism and most predictive of the 'cynical mistrust' components of the SCL-90 in a recent unpublished study (Schwartz *et al.* 1992). Future research should continue to establish the construct validity of this measure as well as its potential confound with negative affect. Although current research suggests that the Kobasa individual-difference measures should be used cautiously, this does not necessarily mean that hardiness, as a cognitive stress-resistant factor, should be entirely abandoned in future stress–illness studies. In general, current research suggests that a hardy cognitive outlook and explanatory style including optimism, internal locus of control, and self-appraisal may be directly related to healthy functioning (Taylor 1990, Taylor and Brown 1988).

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