

Deriving Benefits From Stressful Events: The Role of Engagement in Meaningful Work and Hardiness

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This research explored the relationship between the meaningfulness of work, personality hardiness, and deriving long-term benefits from a stressful event. U.S. soldiers participating in a peacekeeping mission to Bosnia completed measures assessing the meaning of their work and personality hardiness midway through a 1-year deployment (mid-deployment) and completed a measure of deriving benefits from the deployment 4–5 months after it was over (postdeployment). Structural equation modeling revealed that personality hardiness was associated with being engaged in meaningful work during the deployment, which was strongly associated with deriving benefits from the deployment months after it was over. Enriching experiences were also associated with deriving benefits from the deployment. Discussion focuses on the linkages between personality processes, meaningful work, and deriving benefits from a stressful experience.

What is the psychological impact of different types of stressful events? What factors determine how a given event will affect an individual? In addition to the wealth of literature on the potential negative outcomes of difficult life events, recent research has begun to devote more systematic attention to the potentially positive outcomes of dealing with stressful events. Researchers have for some time noted the possibility for benefits as a function of dealing with stressful events (e.g., Murphy & Moriarty, 1976). Affleck and Tennen (1996) reviewed research on people with significant physical illnesses and found several types of positive outcomes as a result of dealing with the illness, including closer family bonds, an increased appreciation for life, and an increased resiliency at being able to deal with stress (see also Aldwin, Sutton, & Lachman, 1996). Holo-

han and Moos (1994) proposed a similar categorization of the benefits that may arise from confronting trauma, including enhanced personal resources (e.g., self-reliance and increased empathy), enhanced social resources (e.g., better relationships with family), and the development of new coping skills (e.g., ability to regulate and control affect). To capture these positive outcomes in a more systematic way, Tedeschi and Calhoun (1996) developed a Post-Traumatic Growth Inventory, which assessed positive outcomes in the areas of developing new possibilities, relating to others, personal strength, spiritual change, and appreciation for life.

The increased research attention to the potential benefits people can experience as a result of stressful events provides a multidimensional portrait of how such events affect people's lives. Furthermore, substantial research exists to support the hypothesis that finding benefits in a stressful event is associated with subsequent psychological and physical adjustment (Park & Folkman, 1997; Tennen, Affleck, Urrows, Higgins, & Mendola, 1992; Upton & Thompson, 1992).

Despite the emerging data identifying the benefits that can be derived from stressful events, research is only beginning to examine the determinants of such positive outcomes. Some research has focused on the role of personality in perceiving some form of positive impact in stressful experiences. For example, Tedeschi and Calhoun (1996) found that extraversion, openness to experience, and optimism were most consistently associated with benefiting from

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All authors were at the U.S. Army Medical Research Unit—Europe when the data for the study were conducted. The views of the authors do not necessarily reflect those of the Department of the Army or the Department of Defense (paragraph 4-3, AR 360-5).

We thank Paul Bliese and Kathy Wright for their helpful comments on an earlier version of this article.

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difficult life events. In a longitudinal test of rheumatoid arthritis patients, Tennen et al. (1992) also found dispositional optimism to be a determinant of perceiving benefits as a result of the illness. In addition, Park, Cohen, and Murch (1996) examined appraisal and coping processes as determinants of finding benefits in a stressful experience. It is interesting that no research on personality and deriving benefits from stressful experiences has examined the influence of hardiness on such processes. In theoretical terms, hardiness has been defined as a dispositional tendency to find meaning in events, particularly stressful events that challenge the individual (see Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982). Past research has suggested that hardy individuals are less likely to exhibit physical symptomatology in the face of high levels of stress, in part because they construe the stress as a challenge that is capable of being mastered (Kobasa, 1979). Therefore, it makes theoretical sense that hardiness should be related to deriving benefits from stressful experiences.

Our discussion of hardiness points to a potential determinant of deriving benefits from stressful experiences that has not been addressed by prior research, namely, the meaning the individual assigns to the event. Many authors have noted that there is a fundamental human motive to derive meaning in events (Baumeister, 1991; Frankl, 1963; Park & Folkman, 1997). Park and Folkman (1997) noted that previous authors have used the construct of meaning to refer to a general orientation to life, to the degree of personal significance of an event, and as an outcome of the coping process. Park and Folkman advocated the personal significance of an event as the best indicator of how meaningful an event is to an individual. Schlenker, Britt, Pennington, Murphy, and Doherty (1994) discussed how the self-system becomes activated when an event is viewed as being personally important and relevant, and when the individual becomes engaged in the event (such as by feeling personally responsible for and committed to the event; see Britt, 1999). In the present research, we assessed the meaning individuals assigned to their work during a stressful event and examined whether the meaningfulness of work would predict whether individuals derived benefits from the stressful event after it was over.

The present research was designed to bring together research on hardiness and finding meaning in work as predictors of the tendency to derive benefits from stressful experiences. Our hypothesis was that personality hardiness would be related to the tendency to find meaning in work during a stressful event and that finding meaning in work would be

prospectively related to deriving benefits from the stressor.

One unique but important event that has the potential for both stress and meaning is peacekeeping duty. Since the end of the Cold War, soldiers of many nationalities have participated in an increasing number of peacekeeping operations (e.g., Operation Restore Democracy in Haiti, Operation Restore Hope in Somalia, and Operation Provide Hope in Rwanda; see Breed, 1997). While some of the operations have been relatively low conflict, others have been dangerous (Litz, King, King, Orsillo, & Friedman, 1997). Recent research has begun documenting numerous sources of stress during peacekeeping missions, including boredom, isolation, family separation, environmental stressors, and ambiguities regarding self-defense (Bartone & Adler, 1998; Britt, 1998, 1999; Britt & Adler, 1999; Johansson, 1997). Most prior work on the topic has focused on negative outcomes, such as posttraumatic stress disorder, divorce, and retention problems (Litz et al., 1997; Shay, 1994). Nevertheless, in keeping with the developments in trauma research, peacekeeping research has also begun to investigate the possibility that peacekeeping mission participation may lead to potential benefits. For example, in an examination of both positive and negative outcomes for Norwegian soldiers serving in UNIFIL (United Nations Interim Force in Lebanon), Mehlum (1995) found that a majority of the soldiers reported their experience in the operation had increased their self-confidence, expanded their political understanding, increased their stress tolerance, and improved their military qualifications. These findings are strikingly similar to a study of combat veterans of World War II. In their classic study of the American soldier, Stouffer et al. (1949) found that although many veterans reported being adversely affected by military service, a sizable minority reported being intellectually broadened, more independent, more affectionate, and more capable of enduring difficulties.

The issue of military service, and peacekeeping duty in particular, provides an example of a stressful event being both a potential threat and an opportunity. Certainly, the stressors encountered by peacekeepers may not always qualify as actual trauma, but the extreme and unusual nature of the stressor, as well as the potential for trauma, makes peacekeeping a valuable topic in understanding the dynamics of both positive and negative outcomes associated with stressors. Furthermore, past research indicates differences among soldiers in how they perceive the importance and relevance of peacekeeping missions (Britt, 1998). Therefore, it is important to examine

the relationship between how soldiers view their work on peacekeeping missions and subsequent benefits derived from participating in the operation.

Overview of the Present Research

The peacekeeping event that served as the focus of the present study was the deployment of U.S. soldiers to the former Yugoslavia in support of NATO's peacekeeping force. Their mission was to enforce the agreement of the Dayton Peace Accords signed by the former warring factions. In our longitudinal study of U.S. peacekeepers, we conducted an assessment of soldiers midway through their deployment (at approximately the 6th month of a 12-month deployment) and then 4 to 5 months postdeployment.

The stressful event examined in the present research was participation in the peacekeeping operation. Soldiers experienced many sources of stress during the peacekeeping mission, including boredom, family separation, and uncertainty over when the mission would end. Although the operation was of relatively low conflict, being on a mission for 12 months was certainly a stressor for soldiers and their families (see Bartone & Adler, 1998; Britt, 1997). Furthermore, Lamerson and Kelloway (1996) noted that peacekeeping operations are characterized by both acute stressors, such as potential conflicts with the former warring factions, and chronic stressors, such as family separation and long work hours. As a function of the stressful nature of peacekeeping operations, in the present research we made the inference that the peacekeeping operation was a source of stress for the soldiers participating in the operation. We then examined factors that led soldiers to perceive benefits from experiencing this stressful event. In this context, the present research is similar to other research examining the benefits associated with different types of stressful events. For example, researchers might examine whether individuals who have a particular physical illness end up deriving benefits from experiencing the illness (Affleck & Tennen, 1996). In the present research, we sought to examine the benefits derived from a participation in a stressful military operation.

The main goals of the present research were to examine whether personality hardiness and perceiving meaning in work during the peacekeeping mission would predict deriving benefits from the deployment months after it was over. We defined meaning in two different ways: (a) being engaged in important and relevant work during the operation and (b) experiencing events during the course of the deploy-

ment that put the deployment in a broader contextual framework.

Regarding the former approach, we assessed soldiers' perceptions of the importance of their job during the operation, extent of engagement in their job, and adoption of a "peacekeeper identity" (the belief that peacekeeping missions in general were relevant to a soldier's identity). Both Richardson (1993) and Baumeister (1991) discussed the importance of work in providing individuals with meaning in life. Britt (1998) also discussed how the importance and relevance of a soldier's specific job on a mission reflect the immediate significance of the soldier's work, whereas possessing a peacekeeper identity reflects the extent to which the prescriptions or rules that apply to the larger mission are consonant with the soldier's identity. Soldier engagement in the mission taps how responsible and committed the soldier is to his or her job on the mission, and how much doing well "matters" to the soldier (Britt, 1999; Schlenker et al., 1994). These meaning-related factors were assessed midway through the deployment. A measure of personality hardiness (Bartone, 1995) was also administered to soldiers midway through the deployment. At 4 to 5 months postdeployment, soldiers completed a survey containing items that assessed potential benefits as a result of participating in the peacekeeping mission (e.g., greater confidence in dealing with stress and greater self-knowledge). Our primary prediction was that personality hardiness would predict the meaning soldiers assigned to their work, which would predict whether soldiers derived benefits from participating in the operation.

Regarding the assessment of meaning through contextual experiences, on the postdeployment survey we asked soldiers about their exposure to the war-torn community. Soldiers deployed to Bosnia differed widely in their day-to-day experiences. Many soldiers remained in one base camp for the majority of the deployment or were stationed in a location that afforded little contact with the community they were deployed to help (see Britt, 1997). However, other soldiers had more direct contact with the Bosnian civilians, were able to travel outside their base camp, and had more interactions with other NATO soldiers participating in the operation. We assessed the extent to which soldiers traveled outside their immediate area of operation, witnessed the destruction caused by the warring factions, and had contact with the local population. When soldiers witness the destruction caused by the warring factions, the meaning of the deployment should be more clear to them, as they can see that they are preventing further bloodshed and destruction. We therefore expected that having

greater exposure to these contextual experiences would result in *more* perceived benefits as a result of participating in the operation.

We also tested the hypothesis that soldiers who were stationed in Hungary (a support area that was not affected by the prior war) would derive fewer benefits than soldiers who were stationed in areas closer to the conflict (Bosnia or Croatia, where soldiers were more likely to be exposed to the destruction caused by the war) but that these differences in perceiving benefits would be eliminated when we controlled for differences in contextual experiences during the deployment. This would provide some support for the idea that differences in contextual experiences were responsible for differences in perceived benefits among soldiers deployed to different locations.

Finally, we examined gender differences on the perception of benefits from the deployment. Tedeschi and Calhoun (1996) found that women respond to trauma with more positive growth than men. Therefore, we predicted that female soldiers would report more benefits from the deployment than male soldiers.

Method

Mid-Deployment Assessment

Participants. Soldiers ($N = 161$) were surveyed in Bosnia by a "Human Dimensions Research Team" consisting of research psychologists and behavioral science specialists.¹ Soldiers were 91% male and 9% female, 93% enlisted and 7% officers, and 56% White, 23% African American, 15% Hispanic American, and 6% "other." Soldiers were surveyed at around the 6-month point of the Bosnia peacekeeping operation. We chose the 6th month of the deployment for survey administration because at this point soldiers were completely embedded in both the positive and negative aspects of the mission. The samples and measures used for the present research were part of a larger longitudinal investigation of soldiers participating in Operation Joint Endeavor (OJE). A description of the overall research effort can be found in Bartone, Britt, and Adler (1996).

Instruments. To assess engagement in meaningful work during the deployment, we asked soldiers to complete scales measuring the importance of their job, their extent of engagement in their job, and the extent to which they possessed a peacekeeper identity. Seven items assessed Job Importance (Cronbach's $\alpha = .88$). Examples of these items included "I consider my job on this mission part of who I am" and "I play an important role in this mission." Soldiers responded to these items on a 5-point rating scale indicating their agreement with the statements from 1 (*very low*) to 5 (*very high*). Six items assessed Soldier Engagement in his or her job (Cronbach's $\alpha = .91$). Examples of these items included "I feel responsible for my job performance," "I am committed to my job," and "How I do in my job matters a

great deal to me." Soldiers responded to these items on a 5-point rating scale indicating their agreement with the statements from 1 (*very low*) to (*very high*). Soldiers also completed five items assessing the extent to which they possessed a Peacekeeper Identity (Cronbach's $\alpha = .84$). Examples of the Peacekeeper Identity items included "I feel comfortable in the role of peacekeeper" and "I like the 'human side' associated with peacekeeping missions." Soldiers responded to these items using a 5-point rating scale anchored by 1 (*strongly agree*) and 5 (*strongly disagree*). The construct of Peacekeeper Identity is conceptually distinct from Job Importance. Peacekeeper identity refers to the perceived relevance of peacekeeping missions in general to the soldier's identity, whereas job importance assesses the importance of the soldier's specific job (e.g., infantry gunner, medical specialist) during the Bosnia deployment.

Soldiers also completed a 15-item measure of Hardiness (Bartone, 1995). The measure of Hardiness included subscales (each consisting of 5 items) for the three main dimensions of the construct: *challenge* in dealing with ambiguous events (e.g., "Changes in routine are interesting to me"; $\alpha = .64$), *control* over life's outcomes (e.g., "By working hard you can always achieve your goals"; $\alpha = .64$), and *commitment* to life's tasks (e.g., "Most of my life gets spent doing things that are worthwhile"; $\alpha = .70$). Bartone (1999) reported acceptable internal consistencies for the subscales of the Hardiness measure and also reported a 3-week test-retest correlation of .78 for the total Hardiness score. The scale has also recently been used successfully to examine the stress-buffering effects of hardiness among Army Reserve personnel (Bartone, 1999). Furthermore, in the present research we use an approach recommended by Carver (1989) when testing for the effects of multidimensional personality variables, using the three subscales as indicators of a latent variable.

Postdeployment Assessment

Participants. At 4 to 5 months postdeployment, 1,953 soldiers completed a measure of perceiving benefits from the deployment (described below) and a measure of the extent to which soldiers experienced events that placed the

¹ The entire mid-deployment sample surveyed was 1,038 soldiers. However, we were only interested in soldiers assessed at mid-deployment who also completed the postdeployment assessment ($N = 161$). Although the percentage of the mid-deployment sample used is undoubtedly low (16%), it is important to recognize the difficulties inherent in conducting longitudinal research with soldiers involved in a military operation. In addition to many soldiers not providing identifying information on both surveys, many soldiers also moved to different duty assignments or were from stations that were not administered the postdeployment survey. Importantly, the sample included in the present research was similar to the overall sample in terms of gender (which was 92% male, 8% female), ethnicity (58% White, 25% African American, 9% Hispanic American, 8% other), and rank (8% officers, 92% enlisted). It is unlikely that any systematic attribute exists among those who completed both surveys that could account for the patterns of results that are presented later.

mission in a meaningful context. The sample was 92% male and 8% female, 93% enlisted and 7% officers, and 56% White, 25% African American, 9% Hispanic American, and 10% other. The average length of deployment for soldiers was 8 months. Soldiers completed the surveys either through the personnel section of their unit or in mass administrations conducted by the researchers.

Instruments. To have a clearer idea of the ways in which the peacekeeping mission could impact soldiers, we conducted a pilot study in which soldiers responded in their own words to an open-ended question asking how the deployment had affected them. Responses to this open-ended question revealed many of the same dimensions discovered by earlier researchers examining benefits as a result of stress and trauma (e.g., personal growth and increased resiliency; see Holahan & Moos, 1994; Tedeschi & Calhoun, 1996). On the basis of these open-ended comments and past research, we created a nine-item measure of Perceived Benefits of the deployment. Examples of items from the scale include "OJE made me more aware of problems in the world," "The deployment caused me to not take what I have for granted," "I deal with stress better because of the deployment," and "OJE made me realize how important my family really is to me." The Cronbach alpha for the scale was .84.² All participants responded to the items with the response options *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree*, and where applicable (e.g., "The deployment strengthened my faith/spirituality"), *does not apply*.

Soldiers surveyed at postdeployment also completed a six-item scale assessing the extent to which they had experienced Contextual Experiences during the deployment, experiences that were presumed to place the deployment in a more meaningful context. Specifically, soldiers were asked: "How often did you . . . travel outside your base camp . . . have contact with the local civilians . . . have contact with the local children . . . have contact with locals grateful for the NATO presence . . . have contact with soldiers from other nations?" and "How much did you see the destruction caused by the warring factions?" Participants could respond *not at all*, *a little*, *somewhat*, or *a lot* to these items. The alpha for the Contextual Experiences scale was .84.

Results

This section is divided into three major parts: the longitudinal prediction of benefits from personality hardiness and the meaning assigned to work, the relationship between contextual experiences and the perception of benefits from the deployment, and gender differences in perceived benefits. The longitudinal prediction of benefits from personality hardiness and the meaning of work used the 161 participants who provided information at both mid-deployment and postdeployment. The relationship between contextual experiences and benefits was examined using the entire postdeployment sample and was cross-sectional. Gender differences in perceived benefits were also examined using the entire postdeployment sample.

Longitudinal Prediction of Perceiving Benefits From Personality Hardiness and Meaning of Work

In addressing the relationships among hardiness, meaning of work, and deriving benefits from participating in the peacekeeping operation, we tested a model in which personality hardiness predicted the meaning soldiers assigned to their work, which subsequently predicted the tendency to derive benefits from the deployment. Table 1 gives the means, standard deviations, and correlations among the variables.

To test our main hypothesis, we conducted structural equation modeling using LISREL 8.0 for Windows (Joreskog & Sorbom, 1993). The model for the analysis is presented in Figure 1. The measurement model contained three latent variables. The first latent variable, Meaning of Work, had the effect indicators of Job Importance, Soldier Engagement, and Peacekeeper Identity. The second latent variable, Hardiness, had as effect indicators the three subscales of Commitment, Control, and Challenge (see Carver, 1989). The third latent variable, Benefits, had as effect indicators two randomly formed item "parcels" from the Benefits scale, one with four items and one with five items. The use of item parcels to estimate an underlying latent variable has been endorsed by researchers (e.g., Bagozzi & Heatherton, 1994; Cohen, Cohen, Teresi, Marchi, & Velez, 1990). The first path in the structural model was from Hardiness to Meaning of Work. We reasoned that the dispositional tendency to respond to stressful experiences by experiencing them as a meaningful challenge would be related to the meaning soldiers assigned to their work during the deployment. We also examined whether personality hardiness directly predicted deriving benefits from the deployment, even in the absence of the meaning soldiers assigned to their work. Finally, we

² The results of a principal-components analysis of the items composing the Perceived Benefits Scale revealed that although two factors had eigenvalues greater than 1, the scree plot indicated the presence of a general factor. Furthermore, when two factors were rotated, three items loaded greater than .30 on both factors, and the two factors did not represent conceptually distinct dimensions. These nine items were drawn from a larger scale assessing the impact of the deployment. We chose these nine for inclusion in the present research because they referred to benefits of the deployment that did not mention benefits in the work-related sphere. Including items assessing benefits in perceptions of work might have artificially inflated the prediction of benefits by the variables assessing the meaning of work during the deployment.

Table 1
Means, Standard Deviations, and Correlations Among Indicators of Meaning, Hardiness, and Perceived Benefits of the Deployment

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Perceived benefits	3.30	0.69	—						
2. Job importance	3.02	0.91	.40*	—					
3. Solider engagement	3.93	0.80	.28*	.69*	—				
4. Peacekeeper identity	3.09	0.71	.31*	.48*	.34*	—			
5. Hardiness: Commitment	2.53	0.55	.22*	.55*	.51*	.43*	—		
6. Hardiness: Control	2.91	0.44	.18*	.29*	.29*	.08	.45*	—	
7. Hardiness: Challenge	2.63	0.58	.04	.17*	.17*	.20*	.30*	.08	—

Note. For correlations involving perceived benefits, $N = 153$. For all other correlations, $N = 154$ (N s differ as a function of missing values).

* $p < .05$.

examined whether the path was significant between Meaning of Work and Benefits, even after controlling for the relationship between Hardiness and Benefits. By specifying our model in this manner, we were able to assess the viability of four potential outcomes: Meaning of Work alone could predict Benefits, Hardiness alone could predict Benefits, Meaning of Work and Hardiness could both predict Benefits, or neither Meaning of Work nor Hardiness could predict Benefits.

Various indexes indicated that the model provided a good fit to the data. Although the chi-square for the model reached significance, $\chi^2(17, N = 156) = 28.14, p = .043$, the LISREL 8.0 goodness-of-fit index (Joreskog & Sorbom, 1993) was .96, and the adjusted goodness-of fit index was .91. The normed fit index (Bentler & Bonnett, 1990) was .93, and the adjusted normed fit index was .91. The chi-square value of 28.14 complies with Newcomb's (1994) suggestion that the ratio of the chi-square statistic to

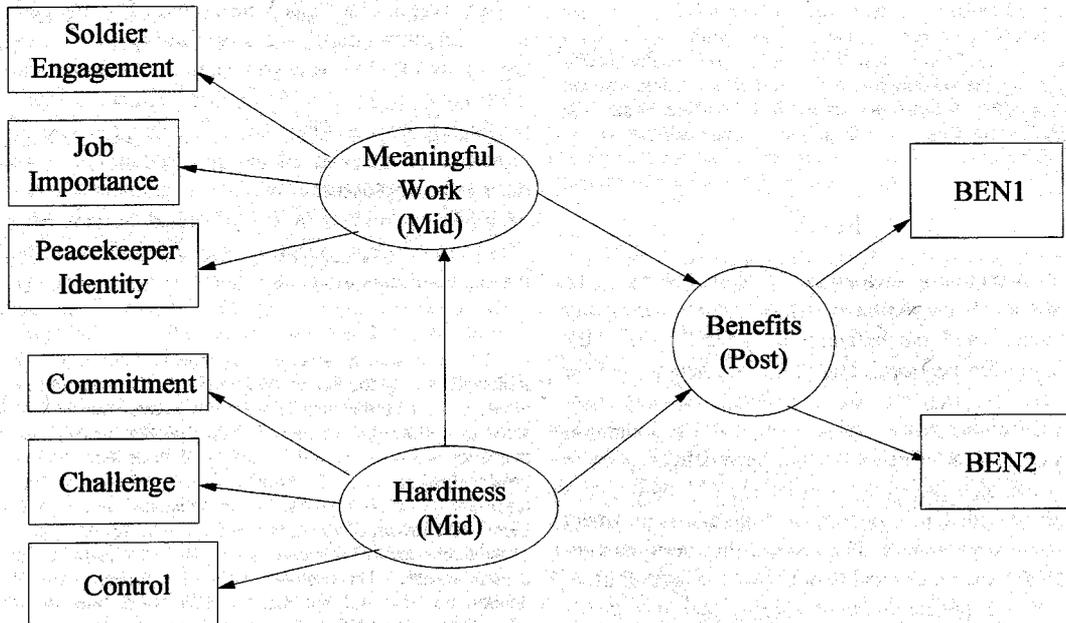


Figure 1. Hypothesized model linking meaning of work, hardiness, and perceived benefits of the deployment. BEN1 and BEN2 = benefits.

the degrees of freedom be 2:1 or less. In addition, the root mean square error of approximation was .065, and the root mean square residual was .021.

In terms of the main hypotheses, Figure 2 presents the complete model along with the LISREL completely standardized coefficients for all paths. As can be seen in the model, there was a strong link between personality hardiness and the tendency to perceive meaning in the deployment. Furthermore, there was a significant and strong coefficient of .57 between Meaning of Work and Perceived Benefits, indicating that the meaning soldiers assigned to their work was prospectively related to deriving benefits from the deployment, with 32% of the variance in the benefits soldiers derived from their deployment 4 to 5 months after it was over being predicted by the meaning they assigned to their work during their deployment almost a year earlier. The path from Hardiness to Perceived Benefits was not significant. Therefore, although personality hardiness was predictably related to the meaning soldiers assigned to their work, it was the meaning of work per se that was predictive of deriving future benefits from the deployment.

Contextual Experiences and Benefits of the Deployment

The relationship between exposure to experiences that placed the deployment in a meaningful context and perceived benefits of the deployment was examined using the postdeployment sample. The mean score of exposure to Contextual Experiences was 2.76 (*SD* = 0.74) on a scale from 1 to 4. Most importantly, the correlation between Contextual Experiences and Perceived Benefits of the deployment was significant ($r = .22, p < .01$). The greater the contextual experiences reported, the more perceived benefits of the deployment. Although the linear relationship between Contextual Experiences and Perceived Benefits was significant, an inspection of the scatterplot of the relationship also revealed a potential quadratic function. A trend analysis supported the existence of a quadratic relationship ($r = .24, p < .01$). To illustrate this relationship, we divided the sample into thirds on Contextual Experiences. The results revealed that soldiers who reported little contextual experience reported fewer benefits of the deployment ($M = 2.99$) than soldiers who reported

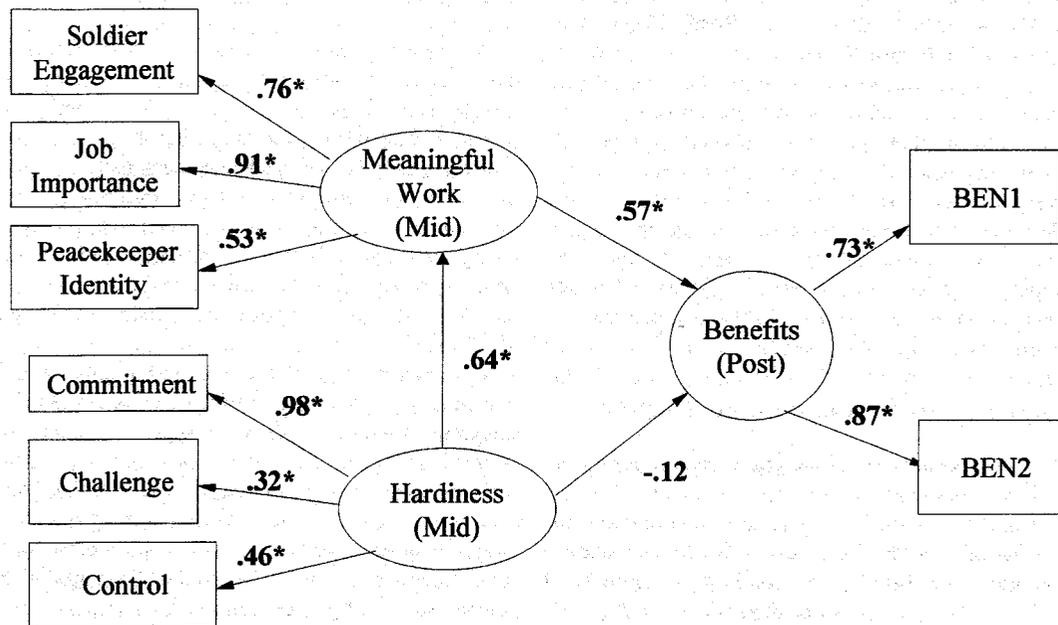


Figure 2. Structural model with completely standardized coefficients linking meaning of work, hardiness, and perceived benefits of the deployment. BEN1 and BEN2 = benefits.

moderate ($M = 3.29$) or high ($M = 3.32$) contextual experience.

We also wanted to link contextual experience to an objective aspect of the deployment environment. Therefore, we tested the hypothesis that soldiers deployed to Hungary (which was a support area far removed from the conflict) would report less contextual experience than soldiers deployed to other areas (Bosnia and Croatia). We further predicted that soldiers deployed to Bosnia and Croatia would report more benefits from the deployment than soldiers deployed to Hungary. Finally, we predicted that the differences in perceived benefits from the deployment between those deployed to Hungary and those deployed to Bosnia and Croatia would be eliminated when we controlled for differences in contextual experiences.

We conducted a series of analyses of variance (ANOVAs) to test these hypotheses. The results of an ANOVA with location of deployment as the between-subjects variable and contextual experiences as the dependent variable revealed a significant effect of location, $F(1, 1691) = 28.00, p < .001, \eta^2 = .02$, with those soldiers deployed to Hungary reporting fewer experiences ($M = 2.09$) than soldiers deployed to Bosnia and Croatia ($M = 2.78$). The results of an ANOVA also revealed a significant effect of location on perceived benefits of the deployment, $F(1, 1687) = 5.96, p < .02, \eta^2 = .004$, with soldiers deployed to Hungary reporting fewer benefits ($M = 2.92$) than soldiers deployed to Bosnia and Croatia ($M = 3.21$). Finally, in support of our main hypothesis, when contextual experience was entered as a covariate in an analysis of covariance with location as a between-subjects variable and perceived benefits as the dependent variable, the effect of location was no longer significant, $F(1, 1677) = 2.30, p > .12$. This suggests that the differences in perceived benefits between those soldiers deployed to Hungary and those deployed to Bosnia and Croatia are a function of the differences between the two locations in reports of contextual experiences.

Gender Differences in Deriving Benefits

Prior research has found that women report more benefits following life stressors than men (Tedeschi & Calhoun, 1996). In the postdeployment sample, the results of an ANOVA revealed that female soldiers reported more benefits as a result of the deployment ($M = 3.34$) than male soldiers ($M = 3.20$), $F(1, 1870) = 6.78, p < .01$. However, the effect size for the effect of gender ($\eta^2 = .004$) was rather small. Still, the fact that gender differences in perceived

benefits replicated across a novel measure of benefits and a highly unique stressor (participating in a peacekeeping mission) speaks to the generality of the finding.

Discussion

In the present research, we examined whether personality hardiness and meaningful work were related to perceiving long-term benefits as a result of a stressful experience. In the context of the stressor of participating in a military peacekeeping operation, we hypothesized that personality hardiness would be related to being personally engaged in important and relevant work during the deployment, which would be associated with greater benefits as a result of the deployment months after it was over. In addition, we hypothesized that soldiers who reported experiences that helped to place the deployment in a meaningful context (e.g., seeing the damage caused by the prior war or meeting with the civilians they were sent to help) would be more likely to report benefits as a result of participating in the operation. In discussing the results, we turn our attention to each of these ways of assessing the meaningfulness of the deployment.

Longitudinal Prediction of Benefits From Hardiness and the Meaning of Work

As predicted, personality hardiness was related to the tendency to find meaning in work during the deployment, as evidenced by the soldiers identifying with the peacekeeper role, believing their job on the mission was important, and being personally engaged in the mission. Furthermore, the tendency to find meaning in work during the mission was prospectively related to reporting benefits from the deployment (e.g., increased personal experience and increased ability to deal with stress) months after the deployment was over.

Given the strength of the relationship between the meaning soldiers assigned to their work on the deployment and the perceived benefits of the deployment, it is worth discussing each of the individual predictors that assessed meaning of work. Prior authors have discussed how viewing one's job as important can be a source of both job and life satisfaction (Baumeister, 1991; Hackman & Oldham, 1980; Richardson, 1993). Regarding soldier engagement, Britt (1999) discussed the motivational properties of self-engagement in terms of magnifying emotional responses to success and failure, and Brown (1996)

reviewed the predictors and motivating effects of job involvement. In understanding the effects for the measure assessing peacekeeper identity, past research has clearly indicated that the self-relevance of an event has important implications for how that event is processed and the immediate significance that is accorded to the event, with greater significance being associated with greater self-relevance (Schlenker, Britt, & Pennington, 1996; Swann & Ely, 1984; Tesser, 1988).

The present results contribute to the growing body of research on the determinants of whether individuals will perceive benefits in dealing with stressful events. Furthermore, the results provide an example of how a personality variable, hardiness, can be related to a situational construal, finding meaning in work, which is subsequently related to deriving benefits from a stressful experience. The present results provide support for the utility of examining the meaning individuals assign to the stressful experience as a predictor of whether individuals will perceive benefits associated with the experience. The results also contribute to the growing body of research on the role of meaning in the stress and coping process (see Park & Folkman, 1997). A good example of this type of research is a study by Alexander and Higgins (1993), who found that new mothers were better able to deal with the stresses of parenthood when they felt that being a parent was an important part of their self and therefore an important goal.

Contextual Experiences and Perceived Benefits

In addition to the meaningfulness of work, it was also apparent that soldiers deployed in support of Operation Joint Endeavor differed in their exposure to experiences that would help place the deployment in a meaningful context. We assessed the extent to which soldiers reported experiences such as witnessing the destruction caused by the former warring factions and contact with the local population. As predicted, soldiers who had more experiences that placed the operation in a meaningful context were more likely to report benefits from the operation. In the postdeployment assessment, we found both a linear and quadratic relationship between the extent of these types of experiences and the perceived benefits of the deployment. For the quadratic component, the results indicated that after a certain amount of contextual experience, soldiers did not report accruing additional benefits.

In the case of peacekeepers, having contact with the very community they are assigned to protect may help the soldiers to process the full import of the operation. Such contact may help them to place their

experiences in a larger context, giving them a deeper reason for their own sacrifice or distress, and may create a meaningful climate in which to work. In the present research, soldiers were more likely to report benefits as a result of the deployment when they had at least some exposure to the damage caused by the war by traveling outside of their base camp, coming into contact with the local civilians and soldiers from other nations, and witnessing the destruction caused by the warring factions. The fact that such factors as witnessing the destruction caused by the warring factions were associated with greater benefits might appear at first glance counterintuitive. For example, one might expect that being exposed to destruction would be rather depressing, leading to withdrawal and feelings of hopelessness. Mitchell and Dyregrov (1993) noted that destruction is a source of stress for many emergency workers. However, the present research showed that such exposure was in fact positively related to construing benefits from the deployment. In the context of the peacekeeping mission, destruction was likely seen as reinforcing the justification for U.S. intervention, adding meaning to the soldier's work on the mission.

The results also revealed important differences between soldiers who were deployed to areas where these contextual experiences were likely (Bosnia and Croatia) and an area where such experiences were unlikely (Hungary). Soldiers deployed to Hungary reported fewer contextual experiences than soldiers deployed to Bosnia and Croatia. Furthermore, soldiers deployed to Hungary reported fewer benefits as a result of participating in the peacekeeping operation in comparison with soldiers deployed to Bosnia and Croatia. Finally, the results revealed that the differences in perceived benefits as a function of deployment location were eliminated when controlling for differences in exposure to contextual experiences. This suggests that differences in contextual experiences in the location where soldiers were deployed accounted for the differences in perceived benefits as a result of location, further linking perceived benefits of the deployment with the report of meaningful experiences.

Limitations and Future Directions

The extent to which the present results can be generalized from the military sample in this study is important to discuss. Clearly, the stressor examined in the present research involved a unique circumstance (participation in a peacekeeping mission) with a circumscribed sample of individuals (soldiers in the U.S. Army). Of course, it is only through the exam-

ination of multiple samples in diverse stressful conditions that the pervasiveness and determinants of positive outcomes following stressful events can be understood. In our case, there was a similarity between the categories of perceived benefits reported by the soldiers to the benefits reported by diverse samples in past research, lending credence to the potential generalizability of the results.

A second issue, not necessarily a limitation, is that the present research was interested in *perceptions* of the benefits from the deployment. The present research did not examine outcome measures independent of such perceptions, such as psychological or physical health, or other indexes of adjustment. However, this orientation is compatible with recent research examining the study of benefit-finding as an end in itself (e.g., Aldwin et al., 1996; Tedeschi & Calhoun, 1996). Furthermore, substantial research exists to support the hypothesis that finding benefits in a stressful event is associated with subsequent psychological and physical adjustment (Moskowitz, Folkman, Collette, & Vittinghoff, 1996; Tennen et al., 1992; Upton & Thompson, 1992). Therefore, examining the predictors of benefit-finding as an end in itself is an important endeavor.

Prior researchers have examined how traumatic events affect an individual's basic assumptions about the world, assumptions addressing principles of justice, predictability, and self-worth (see Epstein, 1991; Gluhoski & Wortman, 1996; Janoff-Bulman, 1989). Janoff-Bulman (1989) argued that sometimes stressors are so traumatic that they shatter an individual's basic assumptions regarding the meaning of events and that the individual must then start a process of recovery to rebuild these assumptions. The extent to which finding benefits in stressful events is a necessary precursor to rebuilding these assumptions is still unclear. It appears, however, that relating the outcomes of specific stressful events to more global perceptions of life's meaning is an important issue for future research (see Park & Folkman, 1997).

Another important area for future research is to integrate research on finding meaning in stressful experiences with finding meaning in experiences in general, whether perceived as stressful or not (see Janoff-Bulman, 1991). Obviously, events can range along continuums of both affective valence and intensity. Researchers are beginning to uncover factors (e.g., attributions, self-engagement, and controllability) that are relevant to both the effects of traumatic and more mundane life events. For example, Britt (1999) found that high job engagement magnified emotional responses to perceived success or failure. It would be a worthwhile goal to integrate the liter-

atures on the effects of events varying in valence and intensity into a coherent model of event impact.

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Received October 26, 1999

Revision received May 16, 2000

Accepted May 16, 2000 ■