

## Effects of a Respite From Work on Burnout: Vacation Relief and Fade-Out

Mina Westman and Dov Eden  
Tel Aviv University

In a quasi-experiment designed to examine the relief from job stress and burnout afforded by a vacation respite, 76 clerks completed measures of job stress and burnout twice before a vacation, once during vacation, and twice after vacation. There was a decline in burnout during the vacation and a return to prevacation levels by the time of the second postvacation measure. Comparing the two prevacation measures indicated no anticipation effects. However, the return to work showed gradual fade-out, as burnout returned part way toward its prevacation level by 3 days after the vacation and all the way by 3 weeks after the vacation. Women and those satisfied with their vacations experienced greater relief; however, both subsamples also experienced the quickest fade-out. The respite effect and its complete fade-out were detected among all subgroups analyzed. Burnout, relief, interpersonal stress crossover, and burnout climate at work are discussed.

Respite research offers a way of testing the stressor-strain hypothesis by comparing levels of strain while individuals are alternately on and off their jobs. Being on and off the job serves as an objective proxy for exposure to objective job stressors. In respite research, one can repeatedly measure the same workers' perceptions of stressors and experiences of strain before, during, and after the respite. A respite from work may be a day off, a weekend, a vacation, or some other form of absence from the work setting when the everyday pressures of the job are absent. The aim in respite research is not to study vacation; rather, it is to study the effects of job stressors and their absence. Objectively speaking, workers are exposed to job stressors on their jobs and are not exposed to them while on a respite from their jobs. Detecting a decline in perceived job stressors during the respite validates this objective definition (Eden, 1990). Thus, in respite research one studies the impact of job stressors by using repeated measures designs, when stressors are intermittently on and off. Data gathered this way can be ana-

lyzed as a partially interrupted time series (Eden, 1982, 1990), a statistically powerful design in which repeated measures accrue abundant degrees of freedom even on small samples. It is a natural quasi-experiment that rules out the major threats to internal validity posed by measuring both stressors and strain by using questionnaires completed by the same individuals. Because a time-series design is relatively free of causal ambiguity, Cook and Campbell (1979) stated that "this design is obviously a very powerful one for inferring causal effects" (p. 222) and rated it very high on internal validity. The rival hypotheses that a reduction in stress and strain cause a respite such as vacation or that an increase in job stress and strain cause a return to work are untenable. Short of experimentally subjecting participants to job stressors, respite research may be the closest one can get to internal validity in ethically acceptable stress research.

Following the work of Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964), most scholars define job stress in terms of role demands originating in the work environment. The stress aroused by such stressors as conflict, overload, and responsibility is hypothesized to cause strain. Strains are reactions or outcomes resulting from the experience of stressors (Jex & Beehr, 1991). A major strain produced by job stressors is burnout. According to Lee and Ashforth (1993), burnout has been the most widely studied correlate of job stress. Freudenberger (1974) tailored his original burnout concept for human service professionals. Maslach and Jackson (1981) defined *burnout* as including exhaustion, depersonalization, and a diminished sense of personal accomplishment. Pines, Aronson, and Kafry (1981) defined burnout more narrowly as physical, men-

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Mina Westman and Dov Eden, Faculty of Management, Tel Aviv University, Tel Aviv, Israel.

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Correspondence concerning this article should be addressed to Mina Westman, Faculty of Management, Tel Aviv University, Tel Aviv, 69978, Israel. Electronic mail may be sent via Internet to westman@ccsg.tau.ac.il.

tal, and emotional exhaustion. We adopted Pines et al.'s definition as more appropriate for our white-collar sample.

Eden (1982, 1990) has shown that acute and chronic stress differ in their effects. By definition, acute stress is ephemeral, and its effects are fleeting. Therefore, acute stress is not part of the etiology of burnout. It is the day-in-day-out, seemingly endless and inescapable nature of chronic stress that causes burnout. Because of its ongoing nature, substantial relief from chronic stress rarely occurs on the job, hence the importance of off-the-job respites. A break in the relentless pressure afforded by distancing oneself from the job's sundry stressors, even temporarily, ought to bring relief, at least temporarily, from chronic job stress and, consequently, from its long-term psychological strain, burnout. The general purpose of the present study was to test the hypothesis that stressors cause strain. Specifically, we aimed to replicate and extend past respite findings by increasing the number of measurement occasions and by testing moderation hypotheses.

### Off-the-Job Respites

The oldest and perhaps still the best prescription for stress abatement is the Mosaic proscription of work on the Sabbath. A respite, the weekly day of rest has been universally adopted. By refraining from secular work, the individual replenishes mental, emotional, and spiritual powers. The ancients also enjoyed periodic holidays and festivals that had similar restorative functions. The modern age saw the emergence of the two-day weekend, legal holidays, and the annual paid vacation as institutionalized respites. Although not all such respites were designed to facilitate relief of accumulated workplace pressure, they do serve that function. However, despite their long and hallowed history, vacations and other respites from work have only recently been subjected to psychological research.

Psychologists apparently discovered the value of vacation relief long after workers did. According to Matthes (1992), more American workers are realizing the importance of time off. Matthes suggested that vacation time relieves burnout by allowing employees to "recharge themselves emotionally and psychologically" (p. 1). Pines and Aronson's (1988) advice for alleviating burnout is to take time off work. Given the importance of vacations, it is surprising that organizational psychologists have given them so little attention.

### Respite Research

#### *Fleeting Respites Research*

Short breaks for coffee and rest on the job have been part of work life for at least a century. Applied psychology

grew up in industry, studying rest breaks, among other things, in the Hawthorne studies (Roethlisberger & Dickson, 1939). However, studying such short breaks became part of industrial engineering. When psychologists do happen on work breaks in their research, it is serendipitously or tangentially. For example, Kanfer, Ackerman, Murtha, Dugdale, and Nelson (1994) and Doerr, Mitchell, Klastorin, and Brown (1996) showed that even very short breaks are beneficial. Kanfer et al. found that goal assignment facilitated performance to a higher degree when rest intervals were provided. Similarly, Doerr et al. found that short breaks allowed workers to maintain a higher level of effort. These brief on-the-job breaks differ from vacation respites. First, they are so short as to be dubbed *fleeting respites*. Second, they do not remove the worker from the job setting. Third, Kanfer et al. and Doerr et al., as the Hawthorne pioneers, studied effort or performance as the dependent variables affected by these fleeting respites; their ameliorative effects on stress and strain have not been studied. It is unlikely that breaks of a few seconds would suffice to relieve burnout.

#### *Day Off and Weekend Research*

Most respite research has focused on the impact of vacation on well-being. However, there are indications that even a day or two off can have ameliorative effects. Halberg, Engeli, and Hamburger (1965) measured the epinephrine 17-ketosteroid excretion of one worker daily for 4 years. They found a crest at midweek and a decline during weekends. Similarly, Frankenhaeuser et al. (1989) found support for the healthful effects of a single day off. They found that blood pressure, heart rate, and epinephrine excretions were reduced on the day at home compared with days on the job. They also found that tiredness increased during the day at work and peaked after work; during the day at home, workers felt more relaxed and in a good mood. Thus, though meager, the evidence shows that respites of only 1 or 2 days bring relief.

#### *Vacation Research*

Lounsbury and Hoopes (1986) defined vacation as "a cessation of work, a time when a person is not actively participating in his or her job" (p. 393). They compared job and life satisfaction before and after vacation. They interpreted before-after differences in work and non-work variables as evidence that vacation had an impact on these variables. However, they measured nothing during vacation.

Caplan and Jones (1975) pioneered respite research. They found more strain among users experiencing acute stress just prior to a computer shutdown than half a year later after the summer vacation. Reinterpreting this as a

respite study, Eden (1990) replicated the shutdown design by measuring job stress, strain, and vacation relief due to a computer shutdown. Using four repeated measures, he found that the vacation respite was less stressful than work, although some strains were as high during vacation as during work. Furthermore, some strains declined during the vacation and rose to prevacation levels immediately after returning to acutely stressful work. A posttest 1 month later showed that the respite relief had faded. Eden's study was conducted around a vacation that caused anticipatory stress due to expected overload after the vacation. Eden's findings have not been replicated. He did not measure burnout, the strain affected most by chronic stress. Finally, he measured no moderators and could not tease out different levels of respite relief among different kinds of individuals.

### *Other Respites*

Etzion, Eden, and Lapidot (1994) investigated active reserve military service as a respite from civilian job stress. They found the respite effect: Men who did a stint of reserve duty experienced a decline in job stress and burnout compared with a matched sample who had remained on their jobs. Though not a time for leisure, active military service involves a change of venue. That may be the crux of the respite effect.

### **How Respites Create Relief**

Most observers would agree that a respite from work can lessen the aversive consequences of stressors on strain by punctuating the otherwise constant aggravation caused by endless demands. However, most articles on vacation have appeared in popular and practitioner-oriented outlets. The psychological mechanisms through which respites contribute to well-being have yet to be explicated. Most authors simply assume a spontaneous restorative function. For example, Rubenstein (1980), who surveyed retrospective accounts of vacation experiences, reported that the most popular motive for a vacation was relaxation. Note that relaxation means nothing more than the absence of job strain. The *Random House Thesaurus* (Stein & Flexner, 1984) lists as antonyms for relaxation "work, toil, labor, strain" (p. 593). Thus, relaxation as a theoretical construct explains nothing. Quick and Quick (1984) discussed vacation and leisure as methods for managing stress. Noting that the impact of vacations has rarely been studied, they stated that there is evidence that individuals have greater tolerance for adversity after a vacation. They did not present the evidence.

### *Leisure and Psychological Well-Being*

The literature on leisure extols leisure's beneficial consequences for well-being (Caldwell & Smith, 1988; Iso-

Ahola, 1988). Caldwell and Smith reasoned that the essence of leisure is freedom, intrinsic satisfaction, and self-determined experiences that result in psychological gains. Hull (1990) concluded from his review that leisure promotes positive mood, which in turn influences cognition and behavior long after the person has left the leisure setting. This implies respite aftereffects. However, Hull said nothing about the duration of such postleisure effects. Ragheb and McKinney (1993) found that greater satisfaction with leisure was inversely associated with academic stress among students. This converges with Kaufman's (1988) generalization that the lower the leisure satisfaction, the higher the anxiety among retired persons. Given the method used, causality in these studies is indeterminate; perhaps those who experience less academic stress enjoy their leisure time more, and anxious individuals enjoy leisure, and everything else in life, less than persons free of anxiety.

### *Conservation of Resources Theory*

Whereas most stress theories focus on how people react to stressors, Hobfoll's (1989; Hobfoll & Freedy, 1993) conservation of resources (COR) theory makes novel predictions about what happens in the absence of stress. According to COR theory, stress occurs when individuals are threatened with resource loss, actually lose resources, or fail to gain resources following resource investment. Those who possess strong resource pools often experience spirals of resource gain because initial gain begets further gain. The cycle of gain generates its own positive energy, because resource accretion means that more resources can be invested in obtaining still further gains. Consistent with COR theory's primacy-of-resource-loss argument, Lee and Ashforth (1996) found in a meta-analysis of the correlates of burnout that emotional exhaustion was more strongly related to work demands that may have resulted in resource loss than to those that may have resulted in resource gain. This implies that vacation may alleviate burnout by halting the resource loss cycle. During vacation, rest, reflection, and reconnecting with family and friends replenish depleted physical and emotional resources, enabling more gains.

According to COR theory, interrupting loss spirals and creating gain spirals is the best course for stress resistance, because it is preventive. Hobfoll and Shirom (1993) suggested that a relaxation period between stress episodes allows regrouping of resources such as social support and sense of mastery, replenishing resource reservoirs. A vacation of a couple weeks or so may be the best way to facilitate such regrouping.

### *Life-Events Theory*

According to Holmes and Rahe (1967), both positive and negative life events require readjustment and are

therefore stressful. Their Social Readjustment Rating Scale includes vacation as a stressful event. However, evidence shows that positive events can have positive impact on well-being. S. Cohen and Hoberman (1983) found that positive changes buffered the effects of negative ones; positive events had what they called a *stress-sheltering effect*. Moreover, Vinokur and Caplan (1986) found that pleasant events promote health. To the extent that vacation is pleasant, it should reduce burnout. Past respite research has shown that there is evidently some relief from strain during off-the-job respites of various types and durations. However, relevant research has been sparse. Moreover, research on neither vacation nor leisure has clarified how quickly the relief fades.

### The Present Quasi-Experiment

We tested the stressor-strain hypothesis by timing measures before, during, and after a vacation respite. This was a constructive replication (Lykken, 1968) of Caplan and Jones's (1975) and Eden's (1982, 1990) research. We studied a different sample under different circumstances, measured strain differently, and included moderators.

We found no research on prerespice anticipation effects. We reasoned that, prior to vacation, workers may experience anticipatory relief from stressors. We also hypothesized that ameliorative respite effects may fade gradually once the vacationer is back at work. We went beyond previous research by timing measures to detect a gradient of change in perceived stressors and burnout as vacation approached and as it receded. Thus, we added two more occasions, for a total of five: two pretests, one respite measure, and two posttests.

### Moderators

The salutogenic impact of vacation on well-being is likely to be neither universal nor uniform. Personal traits can determine how an individual interprets demands, opportunities, and the meaning of a vacation. Few vacation studies have included moderators. We studied gender and vacation satisfaction as potential moderators of respite effects.

*Gender.* Greenglass (1982) and LaCroix and Haynes (1987) found that men and women often differ in work experiences. Women are more predisposed than men to experience overload and burnout (Baum & Grunberg, 1991; Pines et al., 1981). Also, most women are subject to additional stress due to household chores, greater work-family conflict, and overload (Frankenhaeuser et al., 1989). Finally, because of unequal division of labor during workdays and respites, there may be gender differences in the meaning of a vacation.

The few studies that have examined gender differences

in susceptibility to burnout have yielded inconsistent results (Etzion, 1984; Greenglass, 1982; Maslach & Jackson, 1985; Pretty, McCarthy, & Catano, 1992). Research on the differential impact of vacation on men and women has been rare. Whereas Rubenstein (1980) found that women enjoyed their vacations more than men, Lounsbury and Hoopes (1985) found no difference. Such inconsistent findings invite replication. We hypothesized that women experience greater burnout than men on the job and enjoy greater relief off the job.

*Vacation satisfaction.* The only moderator of respite effects found to date is satisfaction with vacation or leisure. Wheeler and Frank (1988) found that satisfaction with leisure was a buffer between stress and well-being; those who were satisfied with their leisure were less vulnerable to the adverse effects of job stress than were those who were dissatisfied. Lounsbury and Hoopes (1986) found that job and life satisfaction rose sharply among respondents who enjoyed their vacation, but decreased for those who did not. Etzion et al. (1994) found a similar interaction; the more positive the respite experience, the greater was the relief from stress and burnout. We hypothesized that vacation satisfaction moderates the impact of respite on strain and predicted that workers reporting greater vacation satisfaction would experience more relief from burnout while on vacation than would those who enjoyed the vacations less.

### Method

*Sample.* We collected data in an administrative department numbering 90 clerical employees at the headquarters of an electronics firm in central Israel. Of the 90, 2 refused to participate because they thought the questions were too personal, and 12 did not complete the questionnaires on all five occasions due to illness, travel, or reserve duty. The final sample of 76 included 31 women (41%) and 45 men (59%). Their work duties involved billing and accounts receivable.

*Design and procedure.* We conducted repeated observations by using Cook and Campbell's (1979) interrupted time-series design with multiple replications. The threat to internal validity was minimized, without a control group, by the repeated measurement of burnout in the presence and absence of the putative causal variable, job stressors. Table 1 shows the order of the events and the weights used to form four orthogonal prior comparisons and four posterior comparisons. We scheduled data collection around a 2-week summer vacation shutdown. Finding no precedent for ideal timing, we decided to measure perceived stressors and burnout on five occasions: 6 weeks before vacation, 3 days before vacation, at the beginning of the second week of vacation, and 3 days and 3 weeks after vacation. We timed the two measurements before vacation and the two after vacation to reveal whether proximity to vacation makes a difference.

We informed respondents that they would fill out questionnaires on five occasions, including once during vacation. They

Table 1  
Description of Events and Comparisons Among the Five Occasions

Comparison	Occasion				
	1 Prevacation 1	2 Prevacation 2	3 Vacation	4 Postvacation 1	5 Postvacation 2
Prior					
C <sub>1</sub> vacation effect	1/4	1/4	-1	1/4	1/4
C <sub>2</sub> recuperation effect	1/2	1/2	0	-1/2	-1/2
C <sub>3</sub> anticipation effect	1	-1	0	0	0
C <sub>4</sub> fade-out effect	0	0	0	-1	1
Posterior					
C <sub>5</sub> immediate respite	0	1	-1	0	0
C <sub>6</sub> immediate fade-out	0	0	-1	1	0
C <sub>7</sub> proximal	0	1	0	-1	0
C <sub>8</sub> distal	1	0	0	0	-1

Note. Prevacation 1 was 6 weeks before vacation, Postvacation 2 was 3 weeks after vacation, and Prevacation 2 and Postvacation 1 were 3 days before and after vacation, respectively.

completed stressor and burnout items on all five occasions and the satisfaction-with-vacation item on the first postvacation occasion. Promising confidentiality, we had them write the first four digits of their identification number on the forms so we could concatenate each person's data on all occasions. On the first two and last two occasions, questionnaires were distributed at work and collected the same day or the next day. During the vacation, the questionnaire was mailed to participants' homes. We telephoned to verify that they had completed the questionnaires, which were collected on the first day back at work. Most (87%) stayed home or took day trips, 10% vacationed at holiday hotels, and 3% traveled abroad. The latter got the vacation questionnaire before they left and completed it on their return.

**Measures.** Our planning five repeated measures in just over two months, including an intrusive occasion in the privacy of respondents' homes, dictated that we limit ourselves to measuring the few major constructs in our hypotheses. We chose measures to operationalize the constructs of interest with as few items as possible while still maintaining adequate reliability.

Perception of job stressors was measured by eight items from Etzion's (1984) Job Characteristics Questionnaire. Respondents noted on a 7-point scale that ranged from 1 (*low prevalence*) to 7 (*high prevalence*) the prevalence in their jobs of such stressors as difficult decisions, taxing duties and responsibilities, deadlines, and conflicting demands; alphas on the five occasions ranged between .76 and .79.

Burnout was measured with the 21-item Burnout Index (BI) devised by Pines, Aronson, and Kafry (1981). Schaufeli and Dierendonck (1993) reported that the BI is "the second most widely employed burnout self-report questionnaire" (p. 633). It measures on a 7-point scale that ranges from 1 (*low frequency of occurrence*) to 7 (*high frequency of occurrence*) how often respondents experience physical (e.g., weak, tired), emotional (e.g., depressed, entrapped), and mental (e.g., worthless, rejected) exhaustion. We omitted 2 items (rundown and disillusioned) because of a high proportion of missing data. For the 19 items, alphas ranged between .93 and .95 on the five occasions. As in previous studies (Corcoran, 1986; Justice, Gold, & Klein, 1981), factor analysis of the BI revealed only one dimen-

sion. The BI focuses on exhaustion, whereas the Maslach Burnout Inventory (MBI) measures depersonalization and diminished sense of personal accomplishment as well as exhaustion. The MBI was designed for use among human service professionals who do "people work" (Maslach & Jackson, 1981, p. 99). Koeske and Koeske (1989), Shirom (1989), and Maslach and Schaufeli (1993) have shown that exhaustion is the core of the burnout syndrome, and many investigators have used the BI to measure burnout (Etzion, 1984; Geller & Hobfoll, 1994). Given these precedents, and because it was befitting to our non-professional sample, we chose the BI over the MBI.

Vacation satisfaction was gauged with 18 items, based on Lounsbury and Hoopes's (1985) Vacation Satisfaction Scale, that deal with satisfaction with various facets of the vacation (e.g., engaging in preferred activities, experiencing pleasure;  $\alpha = .95$ ).

**Analyses.** We used repeated measures analysis of variance (ANOVA) to test changes in burnout across occasions. The prior and posterior comparisons are shown in Table 1. The *vacation effect* (C<sub>1</sub>) contrasted burnout during vacation, Occasion 3, with the mean of all the working Occasions (1, 2, 4, and 5). The *recuperation effect* (C<sub>2</sub>) compared Occasions 1 and 2 with Occasions 4 and 5 to compare burnout before and after vacation. The *anticipation effect* (C<sub>3</sub>) compared Occasions 1 and 2, both before the vacation, to detect any change just prior to the vacation. The *fade-out effect* (C<sub>4</sub>) compared Occasions 4 and 5, both postvacation occasions, to see how long vacation relief lasted. To assess the respite's most immediate effects most directly, *immediate respite* (C<sub>5</sub>) and *immediate fade-out* (C<sub>6</sub>) compared the vacation to the closest working occasions just before and just after the vacation, respectively. *Proximal* (C<sub>7</sub>) compared the means of burnout at work between Occasions 2 and 4, which most closely sandwiched the vacation respite. Finally, *distal* (C<sub>8</sub>) compared Occasions 1 and 5 to gauge respite effects using the occasions most removed from the vacation.

## Results

Table 2 presents the correlations between all variables on all occasions. The 10 correlations in the upper, left

Table 2  
Means, Standard Deviations, and Intercorrelations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Stress 1	3.34	.60	—											
2. Stress 2	3.35	.55	.95**	—										
3. Stress 3	3.15	.58	.64**	.67**	—									
4. Stress 4	3.37	.63	.67**	.73**	.83**	—								
5. Stress 5	3.40	.56	.95**	.94**	.67**	.70**	—							
6. Burnout 1	3.34	.61	<b>.63**</b>	<b>.68**</b>	.37**	.52**	.57**	—						
7. Burnout 2	3.30	.60	.63**	<b>.69**</b>	.41**	.57**	.58**	.98**	—					
8. Burnout 3	2.78	.63	.22*	.30**	<b>.59**</b>	.56**	.23*	.56**	.57**	—				
9. Burnout 4	3.03	.62	.35**	.44**	.54**	<b>.69**</b>	.36**	.75**	.77**	.86**	—			
10. Burnout 5	3.35	.62	.61**	.69**	.39**	.53**	<b>.61**</b>	.96**	.95**	.57**	.77**	—		
11. Vacation satisfaction	4.56	.87	.35**	.34**	-.17	-.06	.32**	.32**	.32**	-.37**	-.07	.32**	—	
12. Gender	0.40	.49	.14	.16	-.15	-.13	.09	.19	.19	-.11	-.09	.17	.30**	—

Note. The five simultaneous stressor–burnout correlations appear in boldface type.  
\*  $p < .05$ . \*\*  $p < .01$ .

portion are test–retest reliability coefficients of the perceived job stressors measure ( $mdn = .72$ ). The 10 correlations in the lower, right portion are test–retest reliability coefficients of the BI ( $mdn = .77$ ). Perceived job stressors and experienced burnout were strongly correlated on all five occasions (for the five simultaneous stressor–burnout correlations, which appear in boldface type, median  $r = .63$ ). The 10 correlations of vacation satisfaction with perceived stressors and experienced burnout reveal a pattern of relationships that is consistent with our hypotheses. Both prevacation measures of both stressors and burnout predicted vacation satisfaction; those who had been perceiving the most stressors and experiencing the most burnout before vacation enjoyed their vacations most. In turn, vacation satisfaction predicted perceived stressors and experienced burnout on the last occasion; those who enjoyed their vacations most returned to the highest levels of perceived stressors and experienced burnout 3 weeks later. The inverse simultaneous correlation ( $-.37$ ) between vacation satisfaction and burnout on the third occasion indicates that, after 1 week of vacation, those who were enjoying their vacations most were experiencing the least burnout. The lack of relationship of vacation satisfaction with stressors and burnout on the first postvacation occasion may reflect that these variables were in a state of flux on this occasion.

*(Quasi)-manipulation check.* The first five rows of column 1 in Table 2 show mean perceived job stressors on the five occasions. Comparing across occasions shows highly similar levels on all four on-the-job occasions. The only variation is the decline during vacation and the return to the prevacation level after vacation,  $F(4, 300) = 35.19$ ,  $p < .01$ . This pattern of falling and rising means validates the definition of a respite as a time of diminished percep-

tion of stressful job demands and justifies use of respite as a proxy for reduced job stress.

*Respite effects.* An ANOVA of burnout across the five occasions yielded an overall occasions effect that indicated that mean burnout changed across the five occasions,  $F(4, 300) = 51.57$ ,  $p < .01$ . The effect size for these changes over time was .38, a medium-to-large effect according to J. Cohen's (1988) guidelines. The effect of burnout did not change when we reanalyzed the data controlling for gender and job satisfaction. Figure 1 shows mean burnout on the five occasions for the total sample. The pattern of falling and rising levels of burnout clearly shows the hypothesized ameliorative impact of vacation on burnout.

As overall  $F$  test was statistically significant, we proceeded with the comparisons. Prevacation burnout was relatively high and stable. This may be regarded as the chronic level.  $C_3$ , which compared burnout on the two prevacation measures, detected no anticipatory effect,  $F(1, 74) = 2.48$ ,  $p > .05$ . All other hypothesized effects were statistically significant. The pattern of changes across occasions shows that the vacation had a sharp and ameliorating effect on burnout, followed by a gradual return to the prevacation level as predicted.  $C_1$  detected a respite effect,  $F(1, 74) = 67.77$ ,  $p < .01$ . Burnout was at its nadir during the vacation, when it was lower than during the four work occasions combined. This is evidence for vacation relief.  $C_5$ , which compared burnout just before vacation to burnout during vacation, detected an immediate respite effect; burnout was lower during vacation than a few days before vacation,  $F(1, 74) = 62.45$ ,  $p < .01$ .  $C_2$ , which compared both prevacation occasions to both postvacation occasions, revealed recuperation effects; mean burnout was lower after the vaca-

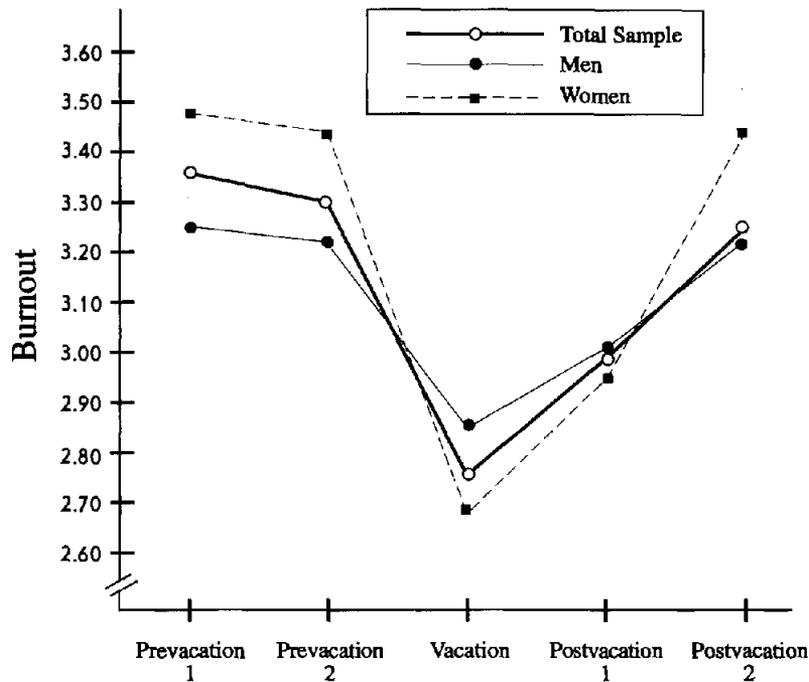


Figure 1. Mean burnout across occasions in the total sample and among men and women.

tion than before it,  $F(1, 74) = 29.09, p < .01$ . However, inspection of Figure 1 and the remaining comparisons shows that  $C_2$  was statistically significant entirely because of the intermediate level of burnout on Occasion 4. The relief experienced during vacation was substantial but temporary.  $C_6$  detected a rise in burnout immediately after the vacation, evidencing some fade-out of the relief that had been experienced during the vacation,  $F(1, 74) = 42.21, p < .01$ . However,  $C_7$  shows that burnout was still lower immediately after vacation (Occasion 4) than immediately before vacation (Occasion 2), evidencing lingering, albeit diminished, respite relief,  $F(1, 74) = 33.43, p < .01$ .  $C_4$  detected a rise in burnout from Occasions 4 to 5, as relief faded entirely,  $F(1, 74) = 35.32, p < .01$ .  $C_8$ , which compared Occasions 1 and 5, revealed that by 3 weeks after the vacation burnout had returned to the relatively high, chronic level found on both prevacation occasions,  $F(1, 74) = 1.41, p > .05$ . Analyzing orthogonal prior comparisons maintains overall Type I error. As for the posterior comparisons, the Scheffe test protecting Type I error at .01 requires an  $F$  value of 33.31. The  $F$  values of  $C_5, C_6,$  and  $C_7$  exceeded this level.

In sum, burnout dropped to its lowest level during the vacation and increased after the vacation in stages, as predicted. Vacation relief set in fast and faded gradually. Although burnout was still low immediately after vacation, it returned to its chronic, prevacation level by 3 weeks after the vacation, its beneficial effects having vanished.

*Analysis of the effects of perceived stressors on experienced burnout.* The curve depicting mean job stressors across the five occasions was similar to the burnout curve presented in Figure 1. The interrupted time-series design is predicated on the on-again-off-again assumption that perceived job stressors are lower during vacation. We interpret vacation-time responses to the perceived job-stressors items as indicating lingering job pressures that have not yet subsided as well as a premonition of stressful demands anticipated on returning to work. Because the respondent was away from the job, we expected and found a report of appreciably lower level of perceived job stressors, but not nil.

To strengthen causal interpretation, we analyzed burnout as the dependent variable in a repeated measures analysis of covariance (ANCOVA) holding perceived job stressors constant as the covariate. If rising and falling levels of burnout were due to job stressors, then holding stressors constant should reduce the changes in burnout across occasions to statistically nonsignificant levels. An ANCOVA of burnout across the five occasions holding constant job stressors did reduce the occasion effect to nonsignificance,  $F(4, 300) = 0.20, p > .05$ . This confirms the hypothesis that stressors cause burnout and the prediction that waning and waxing levels of stressors across the occasions would lead to commensurate falling and rising levels of burnout. Were it not for the variation in perceived job stressors across occasions, the changes in burnout would not have occurred. There can be little doubt that

Table 3  
Moderated Regression of Burnout on Gender,  
Vacation Satisfaction, and Interactions

Source	df	SS change	MS change	R <sup>2</sup> change	F change
Gender (A)	1	0.643	0.643	.00	0.412
Vacation satisfaction (B)	1	2.492	2.492	.02	1.598
A × B	1	0.985	0.985	.01	0.632
Error	72	112.268	1.559		
Occasion (C)	4	17.611	4.403	.11	89.86**
A × C	4	2.606	0.652	.02	13.31**
B × C	4	7.723	1.931	.05	99.41**
A × B × C	4	1.249	0.321	.01	6.33**
Error	288	14.044	0.049		
Total	379	159.620			

Note. SS = sum of the squares; MS = mean square.

the reduction in perceived stressors caused the relief from burnout during vacation, as hypothesized.

**Moderator effects.** Table 3 displays the moderated regression of burnout, entering first the main effects of gender and vacation satisfaction and then their interactions. We had no hypotheses concerning the main effects of the moderators, and there were none. However, both Moderator × Occasion interactions were statistically significant, as predicted. Because this analysis partitioned the total variance in burnout among all the main and interaction effects simultaneously, these 2 two-way interactions indicate that each moderator explained a unique portion of the variance in burnout over time, a portion beyond that explained by the other moderator. Thus, the two moderated effects are not the same effect shown repeatedly, that is, they do not merely reflect correlated moderators.

The Gender × Occasion interaction indicates that men and women differed in the amount of change in burnout across occasions. Inspection of Figure 1 reveals respite effects among both genders, as both gender curves dipped during vacation and then returned to their previous levels. However, these changes were larger among women. Among women, the slope of the curve between Occasions 2 and 3 and between Occasions 4 and 5 is much sharper than among men. At both these times, the curves cross each other, as women experienced both greater relief from burnout during vacation and greater fade-out after vacation.

The Vacation Satisfaction × Occasion interaction indicates that those who were more satisfied with their vacations differed from those who were less satisfied in the amount of change in burnout across occasions. Figure 2 plots mean burnout among respondents who were above and below median on vacation satisfaction. These curves show that the respite effect was prominent among those who were satisfied with their vacations and negligible among those who were not satisfied. Those who enjoyed

their vacations were more burned out on both prevacation occasions and on the last occasion,  $F(1, 74) = 9.82, 10.33, \text{ and } 8.86$ , respectively (all  $p$ s < .01). The curves in Figure 2 cross twice, as the burnout of the above-median respondents dips below that of those less satisfied during vacation and again as it rises back to its prevacation level by the time of the final measure.

## Discussion

**Respite effect.** The results confirm the hypothesis that perceived job stressors cause strain. Perceived job stressors and experienced burnout covaried, both declining during vacation and rising after vacation. In previous respite research, the respite was defined objectively as a low job-stress occasion, and a measure of subjective stress was used to validate the objective designation (Eden, 1990). The present analysis went beyond this by testing perceived job stressors as the independent variable rather than merely assuming it to be such. Holding these perceptions constant statistically nullified the variation in burnout across occasions, strengthening our interpretation that burnout diminished and rose because of variation in stressors across occasions. The timing of the measurement occasions around the vacation respite strengthens the causal interpretation of these relationships and patterns of change when compared to the one-time correlations most often invoked to test the stressor-strain hypothesis. Short of experimentally manipulating stress, the only way we can think of to test the stressor-strain hypothesis with greater internal validity would be to find an organization willing to cooperate with randomization of who takes vacation leave when and timing pretest and posttest measures accordingly.

Respite effects have been found among university computer users (Caplan & Jones, 1975; Eden, 1990), a mix of professional, technical, and service workers (Lounsbury & Hoopes, 1986), engineers and technicians (Etzion, 1984), and production workers (Etzion & Sapir, 1997). The present replication among clerical workers increases the variety of types of employees among whom respite effects have been found, augmenting external validity. It is likely that respite effects occur among organizational members at large.

Vacation alleviated burnout as predicted, replicating findings that a respite from work evokes reports of levels of strain that are lower than chronic, on-the-job levels (Eden, 1990; Etzion et al., 1994; Frankenhaeuser et al., 1989), as well as Lounsbury and Hoopes's (1986) report that vacation had a beneficial effect on work and life satisfaction. We replicated the respite effect among all subsamples examined. The moderator analysis revealed differences in the amount of relief experienced by men and women and by those more or less satisfied with their

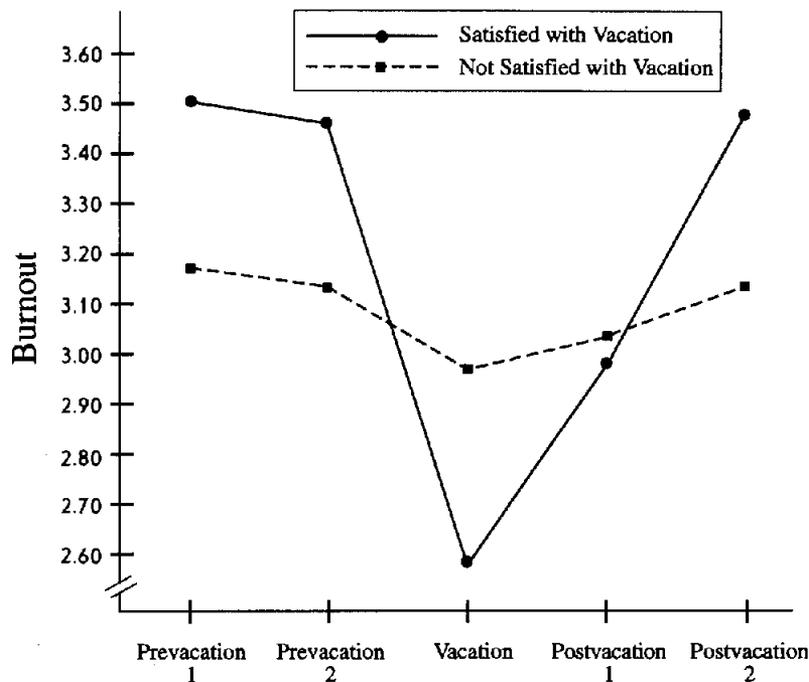


Figure 2. Mean burnout among participants with above- and below-median vacation satisfaction.

vacation but found no group that experienced no relief during the vacation.

In contrast to the present finding that burnout subsided during vacation and returned to its prevacation level 3 weeks after the vacation, Eden (1990) found that strain remained at its chronic level during vacation. The reasons for this difference may stem from the different nature of the work situation and vacation in the two studies. Eden's respondents began their compulsory vacation after preparing feverishly for a computer shutdown, and during their vacation they anticipated the acute stress of returning from vacation to a backlog of work while debugging and mastering a new computer system. Thus their vacation was a brief interlude during an acutely stressful computer crisis. Participants in the present study left for vacation after a period of routine, chronic stress and, as far as we know, anticipated no acute stress upon their return. Thus, Eden's respondents had reason to experience sustained strain that mitigated respite effects during their vacation, whereas ours had no such anticipation to constrain their relief.

*Anticipation and fade-out effects.* We detected no anticipatory relief before vacation. A possible reason is that, although employees were anticipating vacation relief, many simultaneously experienced overload as they had to complete work before leaving for vacation and had to make personal decisions and preparations for their vacation. The result of these two countervailing processes is a null effect on prevacation burnout. Conversely, there

was a change in burnout between the two postvacation occasions, evidencing gradual fade-out of respite effects as hypothesized.

This is the first study of vacation effects to measure job stressors and anticipated burnout five times. Doing so enabled us to discover that vacation has an abrupt, positive impact that fades gradually. Had we measured postvacation burnout only once, immediately after vacation, we would have concluded that vacations attenuate burnout. Had we measured postvacation burnout only once, a month after vacation, we would have concluded that vacation had no impact. Having two postvacation measurements enabled us to detect a process whereby the beneficial impact of vacation abates a few days after vacation and fades entirely within 3 weeks. Thus we found ephemeral respite relief. This finding is unique because the psychological effects of respite over any time period have not been investigated.

Future researchers should try to establish the rate of fade-out. We chose 3 weeks after vacation arbitrarily. Perhaps relief had dissipated after 1 or 2 weeks. Repeated measurement is tedious. Our participants' patience was stretched with five repeated measures. One way to gauge fade-out with greater resolution would be to divide the sample into, say, three random subsamples and have them fill out the last postvacation measure 1, 2, and 3 weeks after returning from vacation. Similarly, a random half could fill out a questionnaire during the first week of

vacation, and the rest could complete it during the second week.

*Escaping burnout climate.* Vacation removes workers from what we call the workplace *burnout climate*. Organization-wide stress leads to diffuse experiences of burnout. Getting away from this burnout climate might allow burnout to subside. Bolger, DeLongis, Kessler, and Wethington (1989) found that widely shared experiences of stress may be contagious. Moreover, several studies have found a between-spouse crossover effect of burnout and depression (Jones & Fletcher, 1993; Westman & Etzion, 1995; Westman & Vinokur, in press). Furthermore, investigating the work domain, Westman (1997) found burnout crossover from principals to teachers and vice versa. Thus merely being away from burned out colleagues may help reduce one's burnout. Future vacation research should measure burnout among coworkers to investigate burnout climate and crossover. Future research could merge these two lines of investigation, vacation respite and interpersonal crossover effects, to yield greater understanding of the work and nonwork sources of burnout and its relief.

*Moderators.* Women started out and ended up (i.e., on Occasions 1 and 5) with higher burnout than men, replicating past findings of higher burnout among women (Etzion, 1984; Geller & Hobfoll, 1994). The women also benefited more from vacation, perhaps because women have greater need of respite because they are exposed to additional stressors of home-work conflict. During vacation, home-work conflict vanishes and burnout wanes. This may reflect a simple truism that any stress-management technique is most helpful for those who need it most.

As hypothesized, those satisfied with vacation benefited from it most in terms of reduced burnout during vacation. These participants had more burnout before vacation and they returned to this level gradually after vacation. This is consistent with the gender finding inasmuch as those most in need benefited most from the vacation.

The moderation analysis in Figure 2 revealed an unpredicted phenomenon worthy of more research, to wit, that the half of our sample who were below median in vacation satisfaction reported a slight change in burnout across all five occasions. This highlights the intensity of the respite effect among the above-median half of the sample. It also points to a subsample who were less burned out to begin with and who benefited little from vacation in terms of burnout relief. The men and those below median on vacation satisfaction shared low initial burnout, low respite relief, and low fade-out. These individuals appear to have been resistant to fluctuations in burnout. It would be interesting to explore what might influence their burnout.

*Improving the method.* Measuring perceived job stressors and experienced burnout on five occasions enabled us to reveal a positive respite effect that faded after a short time. Our finding phased fade-out exemplifies the

advantage of measuring twice after vacation. However, our design could not reveal whether fade-out was gradual until burnout stabilized at its chronic level or whether there was a point of a sharp increase that punctuated two discrete levels. Measuring burnout daily for a few weeks after vacation would shed light on the pace of fade-out. Although daily measurement is bothersome, Meichenbaum and Cameron (1983) showed that when proper reward is offered participants do cooperate. If computer literate E-mail users got questionnaires that could be answered by tapping a few keys and returning to sender, they could respond in a few minutes. Such a design would pinpoint when the respite effect fades.

Though the BI surely measures exhaustion, it does not capture Freudenberg's (1974) richer original construct. Replication by using the MBI on a sample of vacationing human service professionals would enhance the external validity of respite research still further. Since we collected our data, Schaufeli, Maslach, Jackson, and Leiter (1996) have devised a new, multidimensional burnout scale suitable for all occupations. The use of this scale promises to augment validity in future replications.

*Enriching knowledge of respite effects.* The optimal length of vacation needs clarification. Pines and Aronson (1988) suggested that time off can be a long weekend, a week, a couple weeks, or even longer. Eliot (1982) recommended frequent short vacations as a form of stress management. Quick and Quick (1984) opined that five well-planned 3-day weekends may be better than a one-week vacation. Lounsbury and Hoopes (1986) found that length of vacation was unrelated to any postvacation variables. However, with median participant's vacation being 7 days and only 6% taking more than 14 days and 4% taking fewer than 5 days, Lounsbury and Hoopes may have had too little variation in participants' vacation length to detect a relationship. Research must pinpoint the ideal length and frequency of vacations for maximal relief to guide optimization of vacation timing.

As Lounsbury and Hoopes (1986) pointed out, vacations are not uniformly positive experiences. To shed light on the processes of respite relief, vacation research should include measures of acute and chronic family stress, such as economic difficulties and quarrels. Measures should be devised for vacation content and vacation stressors. Vacation may expose workers to stressors not encountered on the job, such as rows over how and where to vacation and conflict with spouse and children. For couples experiencing marital discord, vacation makes spouse evasion and conflict avoidance harder and may exacerbate the strife. Measuring off-work stressors should lead to greater understanding of respite relief.

The variance in vacation satisfaction may mean that some workers have learned how to enjoy their time off much more than others. This could be explored with in-

depth interviews among individuals in the upper decile of vacation satisfaction. Nondispositional keys to respite enjoyment could serve as a basis for prevacation training or counseling designed to augment beneficial respite effects and retard fade-out.

*Application.* Quick and Quick (1984) suggested that vacation planning be considered part of stress management. Although our findings generally support this, we think such a suggestion is premature. Applied psychologists lack adequate knowledge of optimal respite length and timing, as well as individual differences in respite effects, that are necessary for us to help employees derive more relief from vacation.

As vacation time is limited, researchers should seek additional ways to facilitate resource replenishment. These might include brief respites at work such as time off for physical exercise, meditation, "power naps," and reflective thinking. The impact of short, daily respites should be studied, as they might be efficient on-the-job tools for combating burnout.

Burnout is usually discussed in the context of chronic stress. As such, there has been little thinking about its potentially transitory nature. The good news contained in our results is that burnout is not a constant; removing the stressors that cause burnout will reduce the burnout. Hopefully this will trigger thinking among scholars and practitioners to devise additional practical ways to diminish burnout. The bad news is that the relief is also transitory. Respite effects fade. Researchers need to find practical ways to prolong respite relief.

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