

The Relationship of Emotional Exhaustion to Work Attitudes, Job Performance, and Organizational Citizenship Behaviors

Russell Cropanzano
Colorado State University

Deborah E. Rupp
University of Illinois at Urbana–Champaign

Zinta S. Byrne
Personnel Decisions International

The authors investigated the negative consequences of emotional exhaustion for individual employees and their employers. On the basis of social exchange theory, the authors proposed that emotional exhaustion would predict job performance, 2 classes of organizational citizenship behavior, and turnover intentions. In addition, the authors posited that the relationship between emotional exhaustion and effective work behaviors would be mediated by organizational commitment. With only a few exceptions, the results of 2 field studies supported the authors' expectations. In addition, emotional exhaustion exerted an independent effect on these criterion variables beyond the impact of age, gender, and ethnicity.

Research has linked emotional exhaustion to a plethora of ailments, including physiological problems, depression, family difficulties, and a general breakdown in feelings of community (Kahill, 1988; Maslach & Leiter, 1997). By themselves, these human concerns provide ample reason to study emotional exhaustion, but there are additional justifications. A growing body of research has begun to demonstrate that emotional exhaustion can have deleterious consequences for organizations as well. For example, exhausted workers manifest lower levels of commitment and a greater likelihood of seeking employment elsewhere (Lee & Ashforth, 1996; Wright & Cropanzano, 1998). With these issues in mind, the present studies were undertaken to investigate the relationship of emotional exhaustion to organizationally relevant criteria. We had two principal objectives: First, we sought to ascertain whether there is a relationship between emotional exhaustion and effective work behaviors (job performance and organizational citizenship behavior). Second, on the basis of social exchange theory, we proposed that the impact of emotional exhaustion on work behavior is mediated by organizational commitment. The two field studies reported here provide an initial test of this model.

Russell Cropanzano, Psychology Department, Colorado State University; Deborah E. Rupp, Department of Psychology and the Institute for Labor and Industrial Relations, University of Illinois at Urbana–Champaign; Zinta S. Byrne, Personnel Decisions International, Fort Collins, Colorado.

Correspondence concerning this article should be addressed to Russell Cropanzano, who is now at Department of Management and Policy, Eller College of Business and Public Administration, University of Arizona, McClelland Hall, Room 450U, P.O. Box 210108, Tucson, Arizona 85721-0108. E-mail: russell@eller.arizona.edu

Understanding Emotional Exhaustion

The Components of Burnout

Historically, research on emotional exhaustion emerged from Maslach's (1982) influential model of burnout. In Maslach's original framework, burnout had three parts. The first component and the topic of the present investigation, *emotional exhaustion*, is a chronic state of emotional and physical depletion. As Demerouti, Bakker, Nachreiner, and Schaufeli (2001, p. 499) suggested: "Emotional exhaustion closely resembles traditional stress reactions that are studied in occupational stress research, such as fatigue, job-related depression, psychosomatic complaints, and anxiety." Given these observations, it is reasonable to conceptualize emotional exhaustion as a type of strain that results from workplace stressors. The second component of the model, *depersonalization*, is a type of interpersonal distancing and lack of connectedness with one's coworkers and clients. The third component, *diminished personal accomplishment*, refers to a negative evaluation of the self.

Subsequent to the formulation of the original three-part model, emotional exhaustion has emerged as a central variable for understanding the burnout process (Baba, Jamal, & Tourigny, 1998; Cordes & Dougherty, 1993; Gaines & Jerimer, 1983; Zohar, 1997). The reasons for this are both empirical and conceptual. Empirically, some work has suggested that emotional exhaustion exhibits somewhat stronger relationships than do the other components to important outcome variables (Lee & Ashforth, 1993, 1996; Wright & Bonett, 1997). Conceptually, Shirom (1989) argued that emotional exhaustion best captures the "core meaning" of burnout (cf., Pines & Aronson, 1988). Moreover, emphasizing emotional exhaustion has allowed scholars to more clearly distinguish burnout from related concepts, such as self-efficacy and self-esteem (Shirom, 1989). In keeping with these empirical findings and conceptual frameworks, we explored the relationship of

emotional exhaustion to important work behaviors, attitudes, and intentions.

The Effects of Emotional Exhaustion

A variety of conceptual frameworks have been used to understand the effects of burnout (e.g., Freudenberger, 1983; Lee & Ashforth, 1990, 1993, 1996; Shirom, 1989). These theoretical models have tended to focus on the consequences of emotional exhaustion for individual workers and their families (Kahill, 1988; Lee & Ashforth, 1996) and have paid relatively less attention to emotional exhaustion's effects on organizationally relevant criteria, such as job performance and citizenship behavior (Wright & Bonett, 1997). Because an organizationally focused model of burnout may be quite relevant for a more complete understanding of effective work behaviors and attitudes, as well as for the promotion of more humane work organizations, we considered the implications of social exchange theory for emotional exhaustion.

Understanding Social Exchange Theory

Social exchange theory states that employees form relationships at work. Although there are many variants of social exchange theory (for a review see Cropanzano, Rupp, Mohler, & Schminke, 2001), modern versions of this framework tend to describe two types of interpersonal relationships (cf. Blau, 1964; Organ, 1988, 1990). *Economic exchange relationships* are more short term. They involve the exchange of relatively concrete, often economic benefits that are exchanged in a quid pro quo fashion. These types of relationships are quite different from *social exchange relationships*, which are more important to our present purposes. Social exchange relationships tend to involve the exchange of socioemotional benefits. They are associated with close personal attachments and open-ended obligations. When individuals form social exchange relationships with organizations, they tend to have

higher job performance, more organizational citizenship behaviors (OCB), and weaker turnover intentions (e.g., Hendrix, Robbins, Miller, & Summers, 1998; Wayne, Shore, & Liden, 1997).

Because social exchange relationships emphasize the obligations, attachments, and identification that employees feel toward their employers, past research has proposed using organizational commitment to operationalize an employee's social exchange relationship with his or her employing organization (Bishop & Scott, 2000; Bishop, Scott, & Burroughs, 2000; Cropanzano & Byrne, 2000; Cropanzano, Howes, Grandey, & Toth, 1997; Deckop, Mangel, & Cirka, 1999; Randall, Cropanzano, Bormann, & Birjulin, 1999). The model tested in our studies follows this logic.

Generally speaking, research suggests that individuals form social exchange relationships to the extent that they receive worthwhile benefits and that these benefits are assigned in a fair manner (Cropanzano et al., 2001). Jobs that produce emotional exhaustion are likely to violate both of these conditions. First, emotional exhaustion can be seen as a cost that qualifies the value of any benefits received through employment. Second, employees are apt to resent an organization that overworks them to the point of emotional exhaustion, causing them to perceive the organization's actions as unfair. Emotional exhaustion, because it is personally costly and often seen as unjustified, should impede the development of high quality, social exchange relationships (which would be manifested through lowered organizational commitment). Evidence presented by social exchange theorists suggests that the absence of a social exchange relationship should engender higher turnover intentions, lower job performance, less OCB beneficial to organizations (OCBO), and less OCB beneficial to one's supervisor (OCBS; for evidence, see Konovsky & Pugh, 1994; Moorman, Blakely, & Niehoff, 1998; Rupp & Cropanzano, 2002; Settoon, Bennett, & Liden, 1996). This possibility is illustrated in Figure 1. Although the empirical literature is not complete, as we discuss in the next section, it is generally consistent with the model displayed in Figure 1.

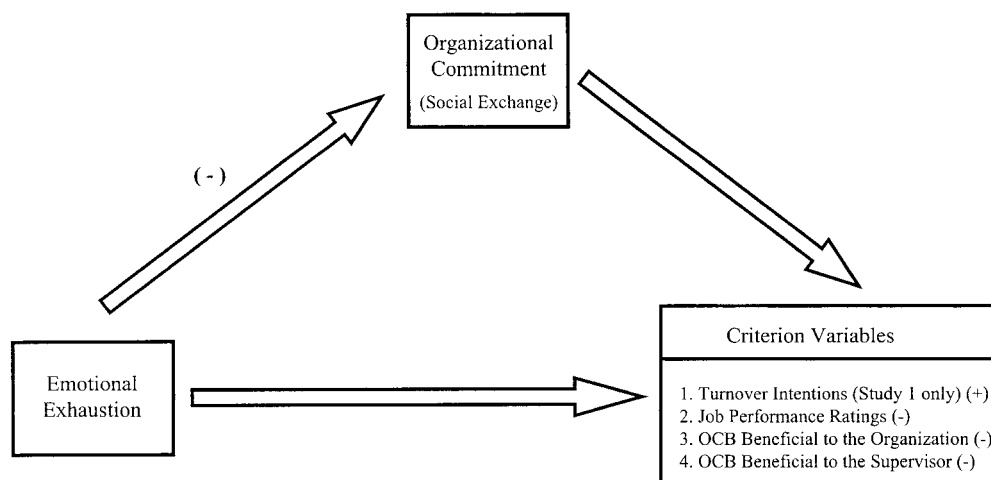


Figure 1. Theoretical model linking emotional exhaustion to effective work behaviors by means of organizational commitment. OCB = organizational citizenship behavior.

Emotional Exhaustion and Organizational Commitment

Several studies have found that commitment is (negatively) associated with emotional exhaustion (e.g., Jackson, Turner, & Brief, 1987; Leiter & Maslach, 1988). Indeed, a meta-analytic examination of seven studies by Lee and Ashforth (1996) obtained a corrected $r = -.43$ between organizational commitment and burnout. These findings are consistent with predictions of social exchange theorists who propose commitment as a useful measure of social exchange. Thus, we proposed the following hypothesis:

Hypothesis 1: Emotional exhaustion will be negatively related to organizational commitment.

Emotional Exhaustion and Turnover

Other researchers have found that emotionally exhausted workers are likely to withdraw from the work environment (Westman & Eden, 1997). In work settings, this withdrawal can manifest itself by turnover. This effect has been amply demonstrated, and the present study seeks only to replicate it. For example, in a meta-analytic review, Lee and Ashforth (1996) found that emotional exhaustion and turnover intentions were correlated at .44. Other researchers have found that emotional exhaustion is related to actual turnover as well (Wright & Cropanzano, 1998). Practical considerations prevented us from collecting actual turnover data; thus, we limited ourselves to turnover intentions as follows:

Hypothesis 2: Emotional exhaustion will be positively related to turnover intentions.

Emotional Exhaustion and Job Performance

Although there is some evidence linking emotional exhaustion to performance, it is limited. For example, in a 2 year longitudinal study, Wright and Bonett (1997) found that emotional exhaustion at Time 1 predicted job performance at Time 2. Moreover, this effect remained significant even after Time 1 job performance was taken into account. Jones and Best (1995); Leiter, Harvie, and Frizzell (1998); Nowack and Hanson (1983); Quattrochi-Turbin, Jones, and Breedlove (1983); and Wright and Cropanzano (1998) also presented data attesting to a negative relationship between emotional exhaustion and job performance. From this we hypothesized the following:

Hypothesis 3: Emotional exhaustion will be negatively related to job performance.

Emotional Exhaustion and Organizational Citizenship Behavior

We were unable to locate any studies that examined the relationship between OCB and emotional exhaustion. Nevertheless, social exchange theory specifies that disrupted working relationships should engender less OCB directed toward the organization and the supervisor (e.g., Cropanzano et al., 2001; Organ, 1990). Given these theoretical considerations, we advanced the following hypothesis:

Hypothesis 4: Emotional exhaustion will be (a) negatively related to OCBO and (b) negatively related to OCBS.

Organizational Commitment as a Mediator

As articulated in previous work (e.g., Organ, 1988, 1990), social exchange theory suggests that one's relationship with an employer provides a proximal cause for work behaviors and turnover intentions. As shown in Figure 1, emotional exhaustion tends to diminish the quality of these relationships. Hence, it follows that organizational commitment should mediate the association between emotional exhaustion and our criterion variables. Unfortunately, we could locate no evidence bearing on this possibility. However, keeping in mind the considerable work that supports social exchange theory in other contexts (e.g., Cropanzano et al., 2001), we thought it appropriate to test this model in the two studies reported herein by hypothesizing the following:

Hypothesis 5: Organizational commitment will at least partially mediate the relationship between emotional exhaustion and (a) turnover intentions, (b) job performance ratings, (c) OCBO, and (d) OCBS.

Demographic Control Variables

Finally, Wright and Bonett (1997) underscored the fact that different demographic groups may be differentially impacted by variables such as emotional exhaustion. For this reason, we controlled for age, gender, and ethnicity in all of our hypotheses tests.

Study 1: An Initial Test of the Model

Study 1 provides the first examination of the model diagrammed in Figure 1. To our knowledge, the overall model has never been tested. Fortunately, there is evidence for some of the proposed paths. As described above, the link between emotional exhaustion and commitment seems well established. There is only limited evidence supporting the emotional exhaustion–job performance path, although the available work does seem to favor our model. Finally, we could locate no tests of the emotional exhaustion–OCB path, so we assessed two forms of OCB in both studies.

Method

Participants and procedures. Participants were subordinates and supervisors working in a large hospital in the western United States. Nine hundred fifteen surveys were distributed to hospital employees during the administration of another hospital-wide survey. Two hundred four surveys were returned by using this method (obtaining an overall response rate of 22%). Of the 204 employee surveys returned, supervisors supplied OCB and performance ratings for 150 subordinates.

One hundred sixty-seven participants were female. The average age of respondents was about 42 years. About 89.7% ($n = 183$) of respondents reported their ethnicity as non-Hispanic White, 4.5% ($n = 9$) reported Asian American, 1% ($n = 2$) reported African American, 1% ($n = 2$) reported Latino(a), and 2.5% ($n = 5$) reported Other. Approximately 1.5% ($n = 3$) did not complete this item on the questionnaire. Given the small number of individuals endorsing most of the ethnic groups, we followed the strategy used by Cropanzano, Prehar, and Chen (2002) and coded

ethnicity into two categories: (a) Individuals other than non-Hispanic Whites and (b) non-Hispanic Whites.

To ensure the employees' confidentiality, surveys were returned directly to the researchers, who established collection times in the hospital's cafeteria. In addition, a coding scheme was developed by which the researchers would know who completed a survey so that (a) the employee's supervisor could be given a questionnaire on that employee, and (b) the employee-reported and supervisor-reported data could be linked in the database. Once the supervisors were given their questionnaires, the coding sheet of names was destroyed.

Measures. Employees completed scales measuring emotional exhaustion, organizational commitment, and turnover intentions. Emotional exhaustion was assessed with nine items of Maslach and Jackson's (1981) Emotional Exhaustion Scale. Responses were measured on the same 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Organizational commitment was measured by using the eight items that compose Allen and Meyer's (1990) Affective Commitment Scale. These items were measured by using the same 1–7 response scale as the emotional exhaustion measure. Turnover intentions were examined by using the 3-item scale developed by Konovsky and Cropanzano (1991). Further validation evidence for this scale can be found in Grandey and Cropanzano (1999) and Randall et al. (1999).

Supervisors rated their subordinates on OCBS, OCBO, and job performance. Ratings of OCBO were assessed by using Williams and Anderson's (1991) OCBO scale. OCBS was assessed by use of a 5-item scale devised and validated by Malatesta (1995). These items were derived from those presented in Williams and Anderson's measures and were modified to reflect behaviors that are specifically beneficial to the supervisor by inserting "you" as the item focus. For example, one question asked "Helps you when you have a heavy work load" instead of "Helps others who have heavy work loads." Finally, to assess job performance each supervisor completed Williams and Anderson's measure of in-role behaviors. Williams and Anderson have shown that their In-Role Behavior scale measures a construct distinct from OCB.

Results

Descriptive statistics and correlations. The descriptive statistics and a correlation matrix are displayed in Table 1. As the reader will observe, all of the measures have acceptable levels of reliability. Additionally, the zero-order correlations are generally consistent with our hypotheses. However, the relationship between emotional exhaustion and OCBS is quite small.

Mediation analyses. We predicted that organizational commitment would mediate the relationship between emotional exhaustion and the criterion variables. As Figure 1 illustrates, this implies a significant indirect relationship between emotional exhaustion and the outcome measures (James & Brett, 1984). Baron and Kenny (1986) maintained that mediation can be demonstrated by three regression tests. We will describe these three tests by using the language of our particular studies. First, emotional exhaustion (our predictor) must be related to organizational commitment (our mediator). Second, emotional exhaustion must be related to each outcome measure. Third, when both emotional exhaustion and commitment are simultaneously included in a regression equation, then the relationship between emotional exhaustion and the criterion variables must be appreciably smaller than it is when emotional exhaustion is the sole predictor. Findings from these tests are reported below.

Although these three tests are essential, Holmbeck (2002) argued that they are insufficient. What is needed is a method of ascertaining whether the indirect path between the predictor (i.e., emotional exhaustion by means of commitment) and the criterion is significant. Because the total variance accounted for by emotional exhaustion is the sum of the direct and indirect relationships, a significant indirect path necessitates a drop in the total predictor–criterion relationship when the mediator is included. Consequently, Holmbeck recommended a direct test of the indirect path (i.e., the impact of emotional exhaustion by means of commitment), removing the variance as a result of the direct effect. Formulas for conducting this significance test have been presented by Holmbeck (2002), Baron and Kenny (1986), and Sobel (1982, 1988). These formulas yield a z score, which can then be compared with the a priori critical value ($z = 1.645$ for a one-tailed test when $p < .05$, and $z = 2.326$ when $p < .01$).

Emotional exhaustion and organizational commitment. Given these considerations, the first step in testing the model depicted in Figure 1 is to demonstrate that emotional exhaustion is a useful predictor of organizational commitment. Hypothesis 1 was tested by first entering the control variables into the equation in Step 1. Emotional exhaustion followed in Step 2. As displayed in Table 2, emotional exhaustion significantly predicted organizational com-

Table 1
Study 1: Means, Standard Deviations, Internal Consistency Reliabilities, and Intercorrelations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Emotional exhaustion	2.97	1.43	.92								
2. Age	41.67	11.51	-.02	—							
3. Gender			-.02	.04	—						
4. Ethnicity			-.09	.06	.18**	—					
5. Commitment	4.58	1.12	-.46**	.12	.19**	.14*	.79				
6. Turnover intentions	2.81	1.69	.57**	-.15*	-.02	-.07	-.58**	.82			
7. Job performance	4.40	0.56	-.26**	.08	.14*	.26**	.35**	-.25**	.88		
8. OCBO	3.81	0.62	-.25**	.09	.03	.20**	.32**	-.28**	.59**	.79	
9. OCBS	2.87	1.12	-.14*	.13	-.03	.03	.23**	-.18*	.24**	.59**	.89

Note. Gender was coded 1 = male, 2 = female. Ethnicity was coded 1 = non-White, 2 = White. Internal consistency reliabilities appear along the diagonal. OCBO = organizational citizenship behaviors beneficial to organizations; OCBS = organizational citizenship behaviors beneficial to one's supervisor.

* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

Table 2
Study 1: Regression Results for Hypotheses 1–5

Variable	Organizational commitment			Turnover intentions			Job performance ratings			OCBO			OCBS		
	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β
Step 1															
Age	0.01	0.01	0.13*	-0.03	0.01	-0.19**	0.00	0.01	0.05	0.01	0.01	0.07	0.02	0.01	0.14*
Gender	0.53	0.21	0.18**	0.01	0.32	0.00	0.09	0.13	0.06	-0.07	0.14	-0.04	-0.13	0.26	-0.04
Ethnicity	0.41	0.27	0.11	-0.38	0.42	-0.67	0.46	0.16	0.24**	0.46	0.18	0.22**	0.12	0.33	0.03
Emotional exhaustion															
	$R^2 = .07$			$R^2 = .04$			$R^2 = .08$			$R^2 = .05$			$R^2 = .02$		
Step 2															
Age	.01	0.01	0.10	0.02	0.01	-0.16**	0.00	0.01	0.01	0.00	0.01	0.03	0.01	0.01	0.12
Gender	0.54	0.19	0.18**	-.01	0.26	-0.00	0.12	0.13	0.08	-0.04	0.14	-0.02	-0.10	0.26	-0.03
Ethnicity	0.26	0.24	0.07	-0.09	0.34	-0.02	0.41	0.16	0.22**	0.41	0.18	0.20**	0.08	0.33	0.02
Emotional exhaustion	-0.35	0.05	-0.45**	0.67	0.07	0.57**	-0.07	0.03	-0.19**	-0.08	0.04	-0.19**	-0.07	0.07	-0.09
	$R^2 = .27$			$R^2 = .36$			$R^2 = .11$			$R^2 = .09$			$R^2 = .03$		
	$\Delta R^2 = .20$			$\Delta R^2 = .32$			$\Delta R^2 = .03$			$\Delta R^2 = .03$			$\Delta R^2 = .01$		

Note. OCBO = organizational citizenship behaviors beneficial to organizations; OCBS = organizational citizenship behaviors beneficial to one's supervisor.
* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

mitment even beyond the effect of the demographic variables, $\Delta R^2 = .20, p < .01$. The overall model was significant as well, $F(4, 197) = 17.43, p < .01$. Consequently, we achieved the first criteria outlined by Baron and Kenny (1986).

Emotional exhaustion and turnover intentions. Hypothesis 2 predicted that emotional exhaustion would be related to turnover intentions, beyond the effect of the demographic controls. As for commitment, we analyzed the data in two steps—first entering the control variables and then entering emotional exhaustion. In Table 2 we present these findings. Emotional exhaustion accounted for 31.7% of the variance beyond the effects of age, gender, and

ethnicity. This was, of course, significant. The full model was significant as well, $R^2 = .36, F(4, 197) = 26.94, p < .01$.

Table 3 displays the mediation tests. This test of Hypothesis 5a was conducted in three steps. We excluded Step 1 from this table because it duplicates Step 1 in Table 2. The demographic controls were entered first, commitment was entered second, and emotional exhaustion was entered in Step 3. The regression coefficient for emotional exhaustion was significant, although smaller in size than it was when commitment was excluded. Following from Holmbeck (2002), we computed the significance of the indirect path (i.e., the impact emotional exhaustion by means of commitment).

Table 3
Study 1: Mediation Tests

Variable	Turnover intentions			Job performance ratings			OCBO			OCBS		
	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β
Step 2												
Age	-0.02	0.01	-0.12*	0.00	0.01	0.00	0.00	0.01	0.03	0.01	0.01	0.11
Gender	0.48	0.26	0.11*	0.04	0.12	0.03	-0.12	0.14	-0.07	-0.20	0.26	-0.07
Ethnicity	0.02	0.34	-0.00	0.37	0.16	0.19**	0.36	0.17	0.18*	0.00	0.33	0.00
Organizational commitment	-0.88	0.09	-0.59**	0.15	0.14	0.29**	0.15	0.05	0.28**	0.20	0.09	0.20**
Emotional exhaustion												
	$R^2 = .36$			$R^2 = .15$			$R^2 = .13$			$R^2 = .06$		
	$\Delta R^2 = .32$			$\Delta R^2 = .08$			$\Delta R^2 = .07$			$\Delta R^2 = .04$		
Step 3												
Age	-0.02	0.01	-0.12*	-0.00	0.01	-0.00	0.00	0.01	0.02	0.01	0.01	0.11
Gender	0.48	0.26	0.11*	0.05	0.16	0.35	-0.11	0.14	-0.06	-0.21	0.26	-0.07
Ethnicity	0.67	0.31	0.01	0.36	0.16	0.19**	0.36	0.17	0.17*	0.00	0.33	0.00
Organizational commitment	-0.61	0.09	-0.41**	0.13	0.05	0.26**	0.14	0.05	0.24**	0.21	0.10	0.21*
Emotional exhaustion	0.46	0.07	0.39**	-0.02	0.04	-0.06	-0.03	0.04	-0.06	0.01	0.08	0.01
	$R^2 = .48$			$R^2 = .16$			$R^2 = .13$			$R^2 = .06$		
	$\Delta R^2 = .12$			$\Delta R^2 = .00$			$\Delta R^2 = .00$			$\Delta R^2 = .00$		

Note. The first step is not shown, as it is identical to Step 1 in Table 2. OCBO = organizational citizenship behaviors beneficial to the organization; OCBS = organizational citizenship behaviors beneficial to one's supervisor.
* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

The obtained z score was 4.89, $p < .01$. Hence, despite the fact that emotional exhaustion shows a significant regression coefficient, our findings are consistent with the possibility that commitment is an important mediator.

Emotional exhaustion and job performance ratings. Hypothesis 3 posited that emotional exhaustion would predict job performance ratings. As shown in Table 2, this anticipated relationship was observed, $\Delta R^2 = .03$, $p < .01$; the overall model was significant as well, $F(4, 145) = 4.31$, $R^2 = .11$, $p < .01$. We next explored Hypothesis 5b by examining the impact of emotional exhaustion when organizational commitment was entered into the model. As shown in Table 3, commitment became a strong predictor of performance ratings, $\Delta R^2 = .08$, $p < .01$. Emotional exhaustion, on the other hand, showed only a nonsignificant (direct) relationship. Although these results support our mediated model, we conducted a test of the indirect path. This relationship was significant, $z = 2.61$, $p < .01$.

Emotional exhaustion and organizational citizenship behaviors. As proposed by Hypothesis 4a, emotional exhaustion predicted OCBO even beyond the effect of the three demographic control variables, $\Delta R^2 = .03$, $p < .01$. The overall model was also significant, $F(4, 145) = 3.33$, $R^2 = .09$, $p < .01$ (see Table 2). Unfortunately, OCBS proved to be more difficult to predict. Emotional exhaustion explained only 0.8% of the variance beyond the controls, and this was nonsignificant. The overall model was nonsignificant as well, $F(4, 145) = 1.09$, $R^2 = .03$. Given these findings, we concluded that Hypothesis 4b was not supported. As shown in Table 3, when organizational commitment was added to the equation the impact of emotional exhaustion on OCBO was reduced, $\Delta R^2 = .00$, and nonsignificant. Likewise, the indirect path did exert a significant effect, $t = 2.46$, $p < .01$, thereby providing support for Hypothesis 5a. For completeness, Table 3 also reports the mediation analyses for OCBS. As can readily be seen, only commitment was a significant predictor in the final step of the equation. Likewise, the indirect effect of emotional exhaustion was not significant. Thus, there is no support for Hypothesis 5b.

Study 2: Replication on a Larger Sample

The goal of the second study was to follow the advice of Murphy (1983). Murphy recommended that field studies be cross-validated on independent groups of employees rather than on hold-out samples. It was especially important to heed this advice in the present study because we were testing a new theoretical model of emotional exhaustion and because our findings for Hypothesis 4 in Study 1 were somewhat disappointing. Replication allowed us to better separate substantive effects from chance occurrences.

Method

Participants. Respondents worked at various organizations along the Colorado front range. Our sample included both public and private sector organizations in a diverse number of industries, including human services, manufacturing, and fitness. Although the initial sample included 296 supervisor-subordinate dyads, only 232 provided complete and usable data. Hence, the final response rate was 78%. Seventy-six percent of these participants were women. In addition, 84.9% were White and non-Hispanic. The remainder were Latino(a) (7.3%), African American (1.7%),

Asian American (2.2%), and Native American (0.9%). The remainder of the respondents elected not to answer this item. The mean age of the sample was 30 years.

Procedures. The majority of the data were collected on-site by the researchers during the organizations' monthly staff meetings. In these meetings, subordinates and supervisors completed the survey instruments in separate rooms so that employees would not be uncomfortable rating their perceptions of the organization, their level of emotional exhaustion, and their intentions to leave. This also allowed employees and supervisors to complete correspondingly coded surveys, eliminating the need to have a master list of names by which to match employees and supervisors, further ensuring employee confidentiality.

At the beginning of each data collection session, the researchers gave a brief introduction explaining the purpose of the survey, confidentiality procedures, the process for obtaining supervisory ratings, and the benefits to employees for participating in the study. It was explained that participating in the study allowed a confidential method for providing their perceptions of their organization that would be aggregated with other employees' perceptions in a general report to the organization. Employees volunteering to participate were then given an informed consent form to complete along with the questionnaire packet. After the general introduction, all supervisors went into a separate room and completed a rating form on each of their consenting employees. Employees remained in the same room. Participants then completed identical instruments to those in Study 1, except that in Study 2, we omitted the turnover intention measure. This was done to keep the survey as short as possible.

Absent employees were sent surveys with a confidential return envelope that was mailed directly to the researchers. This packet included a memo explaining the purpose of the study, assuring them their confidentiality, and explaining the informed consent process. These employees were tracked by name so that their supervisor's could subsequently be sent a questionnaire; however, the name list was destroyed prior to sending out the supervisor surveys (further ensuring employee confidentiality). This procedure was also explained in the employee memo.

Results

Descriptive statistics and correlations. Means, standard deviations, and variable intercorrelations are presented in Table 4. All of the variables show acceptable levels of reliability except for OCBO ($\alpha = .67$), which is somewhat below the .70 convention recommended by Nunnally and Bernstein (1994). Regardless, emotional exhaustion is associated with all of the criterion measures and organizational commitment, although the correlations are of modest magnitude.

Emotional exhaustion and organizational commitment. Results for organizational commitment are shown in Table 5. Emotional exhaustion proved to be a solid predictor of organizational commitment, even beyond the effects of the demographic control variables ($\Delta R^2 = .12$). Furthermore, the overall model was also significant, $F(4, 231) = 11.44$, $p < .01$.

Emotional exhaustion and job performance ratings. For job performance, emotional exhaustion was significant beyond the effect of the controls (see Table 5). However, the overall regression model was not, $F(4, 231) = 1.76$. The null results for the overall model are due to the demographic variables, none of which explained an appreciable amount of variance in job performance ratings. Steps 2 and 3 of the mediation tests are reported in Table 6. We excluded Step 1 from this table because it duplicates Step 1 in Table 5. Contrary to our expectations, the addition of organizational commitment did little to impact the effect of emotional

Table 4
Study 2: Means, Standard Deviations, Internal Consistency Reliabilities, and Intercorrelations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Emotional exhaustion	2.60	1.36	.90							
2. Age	30.34	11.05	-.13*	—						
3. Gender			-.08	.16**	—					
4. Ethnicity			.02	.01	-.08	—				
5. Commitment	4.17	1.26	-.37**	.22**	.04	-.01	.82			
6. Job performance	4.33	0.65	-.17**	.08	.06	.00	.12*	.89		
8. OCBO	4.11	0.68	-.15**	-.02	.11*	-.02	.17*	.60**	.67	
9. OCBS	3.61	1.05	-.11*	-.07	-.08	-.08	.14*	.59**	.43**	.88

Note. Gender was coded 1 = male, 2 = female. Ethnicity was coded 1 = non-White, 2 = White. Internal consistency reliabilities appear along the diagonal. OCBO = organizational citizenship behaviors beneficial to organizations; OCBS = organizational citizenship behaviors beneficial to one’s supervisor.

* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

exhaustion because the relationship remained significant and of comparable magnitude. As one might expect given these findings, the t value for the indirect effect was low ($t = .96$) and nonsignificant.

Emotional exhaustion and organizational citizenship behaviors. Replicating the results of Study 1, Table 5 illustrates that emotional exhaustion was a significant predictor of OCBO, $\Delta R^2 = .02$, $p < .05$. Here again, the generally weak effects for the control variables (gender being something of an exception) drove the overall equation to nonsignificance, $F(4, 231) = 2.17$. The results suggest that organizational commitment did mediate the relationship between emotional exhaustion and OCBO (see Table 6). After including commitment, the effect of exhaustion was no longer significant. More important, the z test suggested by Holmbeck (2002) was consistent with the possibility of an indirect relationship ($z = 1.99$, $p < .05$). Table 6 also shows supportive results for OCBS. Although the overall equation was not significant, $F(4, 231) = 1.81$, emotional exhaustion did emerge as a significant predictor; however, the effect size was small. Finally, there does

seem to be an indirect (i.e., mediated) relationship between emotional exhaustion and OCBS. Inclusion of organizational commitment causes the direct effect of exhaustion to drop to below conventional levels of significance. Likewise, the indirect effect of emotional exhaustion was significant, $z = 1.89$, $p < .05$.

General Discussion

The results of these two studies need to be examined with respect to our two objectives. First, we examined whether emotional exhaustion predicted effective work attitudes, behaviors, and intentions. In this regard, our results are supportive. Emotional exhaustion was found to predict organizational commitment, turnover intentions (Study 1), job performance, OCBO, and OCBS (Study 2). Moreover, most of these relationships remained significant even after taking into account the effects of age, gender, and ethnicity. Interestingly, when only the simple correlations were considered, emotional exhaustion was related to most all criterion variables in both studies. When taken together, the present studies

Table 5
Study 2: Regression Results

Variable	Organizational commitment			Job performance ratings			OCBO			OCBS		
	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β
Step 1												
Age	0.03	0.01	0.22**	0.00	0.00	0.03	-0.00	0.00	-0.04	-0.00	0.01	-0.06
Gender	0.00	0.19	0.00	0.09	0.10	0.06	0.20	0.11	0.12*	-0.16	0.16	-0.07
Ethnicity	-0.03	0.23	-0.01	0.00	0.12	0.00	-0.03	0.13	-0.02	0.24	0.19	0.08
Emotional exhaustion												
		$R^2 = .05$			$R^2 = .01$			$R^2 = .02$			$R^2 = .02$	
Step 2												
Age	0.02	0.01	0.18**	0.00	0.00	0.01	-0.00	0.00	-0.06	-0.01	0.01	-0.07
Gender	-0.06	0.18	-0.02	0.07	0.10	0.05	0.18	0.11	0.11*	-0.18	0.16	-0.07
Ethnicity	0.00	0.21	0.00	0.01	0.12	0.01	-0.03	0.12	-0.02	0.25	0.19	0.09
Emotional exhaustion	-0.32	0.06	-0.35**	0.08	0.03	-0.16**	-0.07	0.03	-0.15*	-0.09	0.15	-0.12*
		$R^2 = .17$			$R^2 = .03$			$R^2 = .04$			$R^2 = .03$	
		$\Delta R^2 = .12$			$\Delta R^2 = .03$			$\Delta R^2 = .02$			$\Delta R^2 = .02$	

Note. OCBO = organizational citizenship behaviors beneficial to organizations; OCBS = organizational citizenship behaviors beneficial to one’s supervisor.

* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

Table 6
 Study 2: Mediation Tests

Variable	Job performance ratings			OCBO			OCBS		
	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β	<i>b</i>	<i>SE_b</i>	β
Step 2									
Age	0.00	0.00	0.00	-0.00	0.00	-0.08	-0.00	0.01	-0.09
Gender	0.09	0.10	0.06	0.20	0.11	0.12*	-0.17	0.16	-0.07
Ethnicity	0.01	0.12	0.00	-0.03	0.12	-0.02	0.25	0.19	0.09
Organizational commitment	0.06	0.04	0.12*	0.10	0.04	0.19**	0.14	0.06	0.17**
Emotional exhaustion									
	$R^2 = .02$			$R^2 = .05$			$R^2 = .04$		
	$\Delta R^2 = .01$			$\Delta R^2 = .03$			$\Delta R^2 = .03$		
Step 3									
Age	0.00	0.00	0.00	-0.01	0.00	-0.08	-0.01	0.01	-0.10
Gender	0.07	0.10	0.05	0.19	0.11	0.12*	-0.18	0.16	-0.07
Ethnicity	0.01	0.12	0.01	-0.03	0.12	-0.01	0.25	0.19	0.09
Organizational commitment	0.04	0.04	0.07	0.08	0.04	0.15*	0.12	0.06	0.14*
Emotional exhaustion	-0.07	0.03	-0.14*	-0.05	0.04	-0.10	-0.06	0.05	-0.07
	$R^2 = .03$			$R^2 = .06$			$R^2 = .05$		
	$\Delta R^2 = .02$			$\Delta R^2 = .01$			$\Delta R^2 = .01$		

Note. The first step is not shown, as it is identical to Step 1 in Table 5. OCBO = organizational citizenship behaviors beneficial to organizations; OCBS = organizational citizenship behaviors beneficial to one's supervisor.

* $p < .05$, one-tailed. ** $p < .01$, one-tailed.

replicate earlier work on three criteria (organizational commitment, turnover intentions, and job performance) and provide new evidence for two others (OCBO and OCBS).

Our second objective was to examine the implications of social exchange theory for emotional exhaustion. Thus, we explored whether organizational commitment mediated the relationships between emotional exhaustion and work outcomes. Using the analytic techniques suggested by Baron and Kenny (1986) and Holmbeck (2002), we found that emotional exhaustion exerted a significant indirect path in the prediction of turnover intentions (Study 1), job performance (Study 1), OCBO (Studies 1 and 2), and OCBS (Study 2) by means of organizational commitment. One unresponsive result concerned performance in Study 2. Although emotional exhaustion predicted performance, commitment did not mediate this association.

Another disappointing finding involved the relationship of emotional exhaustion to OCBS. We did not find a significant relationship in our first study. One possibility is that there was something peculiar to our Study 1 sample. A close look at the size of the relationships allows us to rule this possibility out. In fact, the size of the emotional exhaustion-OCBS relationship was higher in Study 1 ($r = -.14$) and slightly lower in Study 2 ($r = -.11$). The smaller relationship was significant only because of the larger sample size in Study 2. The more obvious finding is that the relationship was small in both studies. In fact, emotional exhaustion simply was not a strong predictor of OCB directed toward the supervisor.

Given these considerations, we will venture a tentative interpretation of the (weak) relationship between emotional exhaustion and OCBS. Our interpretation centers on a key distinction between these two types of citizenship behaviors. OCBO refers to behaviors beneficial to a larger, and perhaps more impersonal, organization.

OCBS refers to behaviors beneficial to one's supervisor. Individuals often form close interpersonal relationships with their supervisors (Rupp & Cropanzano, 2002) and supervisors can, of course, directly control many of the rewards that employees seek. Given this, it may be easier for emotionally exhausted individuals to withhold citizenship behaviors beneficial to the organization as a whole rather than to a single person with whom they are likely to frequently interact.

One ubiquitous concern in research of this kind involves the inference of causality. As Bobko and Stone-Romero (1998) warned, it is difficult to infer causality from cross-sectional data. Given the cross-sectional nature of our study, the possibility of alternative causal paths clearly exists. Likewise, even if the causal paths shown in Figure 1 are in part correct, the possibility of feedback loops could further complicate our model. For instance, emotional exhaustion might lower commitment, but this low commitment could further elevate emotional exhaustion. Clearly, our present data cannot test a recursive model of this kind. Although not gainsaying these possibilities, it is noteworthy that available longitudinal research tends to support our model. For example, Wright and Bonett (1997) found that emotional exhaustion predicted job performance ratings taken 2 years later. Moreover, the effect of emotional exhaustion remained significant even after Time 1 performance was taken into account. Given these findings, the Wright and Bonett study suggested that emotional exhaustion acts as a cause of at least some work outcomes. Nevertheless, it is clear that more research is necessary to address this issue.

Another possibility is that of common method variance (Spector, 1987). When data are taken from a single source, one often expects to find somewhat inflated relationships among the variables. To address this concern, we took the advice of Podsakoff and Organ (1986) and included two sources of data—the employee

and his or her supervisor. Generally speaking, our predictions held for the nonself-report measures (e.g., performance and OCB). However, it is noteworthy that the effect sizes for the self-report criterion (turnover intentions) was substantially stronger than any obtained through nonself-report measurement (see Table 1). Thus, method variance could have inflated the association between emotional exhaustion and turnover intentions.

References

- Allen, M. W., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance, and normative commitment to the organization. *Journal of Occupational Psychology, 63*, 1–18.
- Baba, W., Jamal, M., & Tourigny, L. (1998). Work and mental health: A decade of Canadian research. *Canadian Psychology, 39*, 94–107.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Bishop, J. W., & Scott, K. D. (2000). An examination of organizational and team commitment in a self-directed team environment. *Journal of Applied Psychology, 85*, 439–450.
- Bishop, J. W., Scott, K. D., & Burroughs, S. M. (2000). Support, commitment, and employee outcomes in a team environment. *Journal of Management, 26*, 1113–1132.
- Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.
- Bobko, P., & Stone-Romero, E. F. (1998). Meta-analysis may be another useful research tool, but it is not a panacea. In G. R. Ferris (Ed.), *Research in personnel and human resources management* (Vol. 16, pp. 359–397). Stamford, CT: JAI Press.
- Cordes, C. L., & Dougherty, T. W. (1993). A review and integration of research on job burnout. *Academy of Management Review, 18*, 621–656.
- Cropanzano, R., & Byrne, Z. S. (2000). Workplace justice and the dilemma of organizational citizenship. In M. VanVugt, T. Tyler, & A. Biel (Eds.), *Collective problems in modern society: Dilemmas and solutions* (pp. 142–161). London: Routledge.
- Cropanzano, R., Howes, J. C., Grandey, A. A., & Toth, P. (1997). The relationship of organizational politics and support to work behaviors, attitudes, and stress. *Journal of Organizational Behavior, 18*, 159–180.
- Cropanzano, R., Prehar, C., & Chen, P. Y. (2002). Using social exchange theory to distinguish procedural from interactional justice. *Group and Organizational Management, 27*, 324–351.
- Cropanzano, R., Rupp, D. E., Mohler, C. J., & Schminke, M. (2001). Three roads to organizational justice. In J. Ferris (Ed.), *Research in personnel and human resources management* (Vol. 20, pp. 1–113). Greenwich, CT: JAI Press.
- Deckop, J. R., Mangel, R., & Cirka, C. C. (1999). Getting more than you pay for: Organizational citizenship behavior and pay-for-performance plans. *Academy of Management Journal, 42*, 420–428.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands–resources model of burnout. *Journal of Applied Psychology, 86*, 499–512.
- Freudenberger, H. J. (1983). Burnout: Contemporary issues, trends, and concerns. In B. A. Farber (Ed.), *Stress and burnout* (pp. 23–28). New York: Pergamon Press.
- Gaines, J., & Jermier, J. M. (1983). Emotional exhaustion in a high stress organization. *Academy of Management Journal, 26*, 567–586.
- Grandey, A. A., & Cropanzano, R. (1999). The conservation of resources model applied to work–family conflict and strain. *Journal of Vocational Behavior, 54*, 350–370.
- Hendrix, W. H., Robbins, T., Miller, J., & Summers, T. P. (1998). Effects of procedural and distributive justice on factors predictive of turnover. *Journal of Social Behavior and Personality, 13*, 1–21.
- Holmbeck, G. N. (2002). Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology, 27*, 87–96.
- Jackson, S. E., Turner, J. A., & Brief, A. P. (1987). Correlates of burnout among public service lawyers. *Journal of Occupational Behavior, 8*, 339–349.
- James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology, 69*, 307–321.
- Jones, R. G., & Best, R. G. (1995, August). *Further examination of the nature and impact of emotional work requirements*. Paper presented at the annual meeting of the Academy of Management, Vancouver, British Columbia, Canada.
- Kahill, S. (1988). Symptoms of professional burnout: A review of the empirical evidence. *Canadian Psychology, 26*, 284–297.
- Konovsky, M. A., & Cropanzano, R. (1991). The perceived fairness of employee drug testing as a predictor of employee attitudes and job performance. *Journal of Applied Psychology, 76*, 698–707.
- Konovsky, M. A., & Pugh, S. D. (1994). Citizenship behavior and social exchange. *Academy of Management Journal, 37*, 656–669.
- Lee, R. T., & Ashforth, B. E. (1990). On the meaning of Maslach's three dimensions of burnout. *Journal of Applied Psychology, 75*, 743–747.
- Lee, R. T., & Ashforth, B. E. (1993). A further examination of managerial burnout: Toward an integrated model. *Journal of Organizational Behavior, 14*, 3–20.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of burnout. *Journal of Applied Psychology, 81*, 123–133.
- Leiter, M. P., Harvie, P., & Frizzell, C. (1998). The correspondence of patient satisfaction and nurse burnout. *Social Science and Medicine, 47*, 1611–1617.
- Leiter, M. P., & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior, 9*, 297–308.
- Malatesta, R. M. (1995). *Understanding the dynamics of organizational and supervisory commitment using a social exchange framework*. Unpublished doctoral dissertation, Wayne State University, Detroit, Michigan.
- Maslach, C. A. (1982). *Burnout: The cost of caring*. Englewood Cliffs, NJ: Prentice Hall.
- Maslach, C. A., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior, 2*, 99–113.
- Maslach, C. A., & Leiter, M. P. (1997). *The truth about burnout: How organizations cause personal stress and what to do about it*. San Francisco: Jossey-Bass.
- Moorman, R. H., Blakely, G. L., & Niehoff, B. P. (1998). Does perceived organizational support mediate the relationship between procedural justice and organizational citizenship behavior? *Academy of Management Journal, 41*, 351–357.
- Murphy, K. R. (1983). Fooling yourself with cross-validation: Single sample designs. *Personnel Psychology, 36*, 111–118.
- Nowack, K. M., & Hanson, A. L. (1983). The relationship between stress, job performance, and burnout in college student resident assistants. *Journal of College Student Personnel, 24*, 545–550.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. New York: McGraw-Hill.
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
- Organ, D. W. (1990). The motivational basis of organizational citizenship behavior. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 12, pp. 43–72). Greenwich, CT: JAI Press.
- Pines, T. L., & Aronson, E. (1988). *Career burnout: Causes and cures*. New York: Free Press.

- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12, 531-544.
- Quattrochi-Turbin, S., Jones, J. W., & Breedlove, V. (1983). The burnout syndrome in geriatric counselors and service workers. *Activities, Adaptation, and Aging*, 3, 65-76.
- Randall, M. L., Cropanzano, R., Bormann, C. A., & Birjulin, A. (1999). Organizational politics and organizational support as predictors of work attitudes, job performance, and organizational citizenship behaviors. *Journal of Organizational Behavior*, 20, 159-174.
- Rupp, D. E., & Cropanzano, R. (2002). The mediating effects of social exchange relationships in predicting workplace outcomes from multifoci organizational justice. *Organizational Behavior and Human Decision Processes*, 89, 925-946.
- Settoon, R. P., Bennett, N., & Liden, R. C. (1996). Social exchange in organizations: Perceived organizational support, leader-member exchange, and employee reciprocity. *Journal of Applied Psychology*, 81, 219-227.
- Shirom, A. (1989). Burnout in work organizations. In C. L. Cooper & I. Robertson (Eds.), *International review of industrial-organizational psychology* (pp. 25-48). New York: Wiley.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed), *Sociological methodology 1982* (pp. 290-312). San Francisco, CA: Jossey-Bass.
- Sobel, M. E. (1988). Direct and indirect effect in linear structural equation models. In J. S. Long (Ed.), *Common problems/proper solutions: Avoiding error in quantitative research* (pp. 46-64). Beverly Hills, CA: Sage.
- Spector, P. E. (1987). Method variance as an artifact in self-reported affect and perceptions at work: Myth or significant problem? *Journal of Applied Psychology*, 72, 438-553.
- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, 40, 82-111.
- Westman, M., & Eden, D. (1997). Effects of a respite from work on burnout: Vacation relief and fade-out. *Journal of Applied Psychology*, 82, 516-527.
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17, 601-618.
- Wright, T. A., & Bonett, D. G. (1997). The contribution of burnout to work performance. *Journal of Organizational Behavior*, 18, 491-499.
- Wright, T. A., & Cropanzano, R. (1998). Emotional exhaustion as a predictor of job performance and voluntary turnover. *Journal of Applied Psychology*, 83, 486-493.
- Zohar, D. (1997). Predicting burnout with a hassle-based measure of role demands. *Journal of Organizational Behavior*, 18, 101-115.

Received July 29, 1999

Revision received March 15, 2002

Accepted March 17, 2002 ■

ORDER FORM

Start my 2003 subscription to the *Journal of Applied Psychology*! ISSN: 0021-9010

___ \$80.00, APA MEMBER/AFFILIATE _____
 ___ \$164.00, INDIVIDUAL NONMEMBER _____
 ___ \$431.00, INSTITUTION _____
In DC add 5.75% / In MD add 5% sales tax _____
TOTAL AMOUNT ENCLOSED \$ _____

Subscription orders must be prepaid. (Subscriptions are on a calendar year basis only.) Allow 4-6 weeks for delivery of the first issue. Call for international subscription rates.



AMERICAN
PSYCHOLOGICAL
ASSOCIATION

SEND THIS ORDER FORM TO:

American Psychological Association
Subscriptions
750 First Street, NE
Washington, DC 20002-4242

Or call (800) 374-2721, fax (202) 336-5568.
TDD/TTY (202) 336-6123.

For subscription information, e-mail:
subscriptions@apa.org

Send me a FREE Sample Issue

Check enclosed (make payable to APA)

Charge my: VISA MasterCard American Express

Cardholder Name _____

Card No. _____ Exp. Date _____

Signature (Required for Charge)

BILLING ADDRESS: _____

City _____ State _____ Zip _____

Daytime Phone _____

SHIP TO:

Name _____

Address _____

City _____ State _____ Zip _____

APA Member # _____ APLA13