

Burnout, Self- and Supervisor-Rated Job Performance, and Absenteeism Among Nurses

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Accepted for publication: June 28, 1995

This study examined how job stress and work support predict the experience of burnout and how burnout is related to absenteeism and job performance in a sample of 73 registered nurses. The current study expanded on previous findings by including supervisor ratings of performance and employee records of absenteeism in addition to self-report measures. It also examined the extent to which burnout may mediate the relationships of job stress and social support with these performance indicators. Analyses indicated that levels of work support and job stress were both significant predictors of burnout. Additionally, higher burnout levels were significantly associated with poorer self-rated and supervisor-rated job performance, more sick leave, and more reported absences for mental health reasons. Finally, further analyses suggest that level of burnout served as a mediator of the relationships between social support and self-rated job performance, absences for mental health reasons, and intentions to quit. The findings suggest that burnout not only may negatively impact healthcare providers, but also may influence objective absenteeism and supervisor perceptions of employee performance.

KEY WORDS: burnout; nurses; job performance; stress; absenteeism.

INTRODUCTION

It has been reported that the shortage of registered nurses is between 8.7 and 13.6% and that the annual turnover rate for nursing staff is between

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30 and 70% (Buerhaus, 1994; Fenner, 1988). High turnover rates result in high costs to the hospital administration and added stress to the nursing staff and, ultimately, may negatively impact the quality of care that the patients receive by interfering with the nurses' ability to meet workload demands and provide consistent patient care (Taunton *et al.*, 1994).

One possible reason that has been suggested for this shortage and turnover in nursing is job burnout (Firth and Britton, 1989; Oehler and Davidson, 1992). Burnout has been identified in a variety of job settings, with an increased likelihood in occupations that involve extensive, direct contact with clients. A variety of definitions has been proposed for burnout since it was first described in the literature by Freudenberger (1974). The most widely accepted conceptualization of job burnout identifies it as a multifaceted phenomenon with three primary components, namely, emotional exhaustion, depersonalization, and feelings of low personal accomplishment (Maslach and Jackson, 1986). Emotional exhaustion has been the most extensively studied factor and involves the depletion of one's emotional resources and feelings of being overextended. The second component, depersonalization, adds an interpersonal dimension. Depersonalization is when one develops negative or callous attitudes about the clients or patients with whom one works and views or treats them as objects. Although a certain degree of distance may be necessary and even beneficial when dealing with stressful and highly arousing situations, too much detachment may result in the individual developing negative attitudes toward his or her clients. The final component of burnout involves feelings of reduced personal accomplishment. In other words, the individual experiences a decline in his or her feelings of competence and successful achievement in working with people. Although these three components are related, they are conceptually distinct and have been shown to be differentially related to other variables such as job stress, desire to change jobs, and job satisfaction (Green and Walkey, 1988; Koeske and Koeske, 1989).

One variable that has been identified as a likely contributor to burnout is job stress. In the nursing profession, a number of major stressors have been identified including: excessive workload, conflict with physicians and patients, unpredictability, and constant exposure to death and dying (Gray-Toft and Anderson, 1981a). Work-related stress is considered to have negative effects both for the individual experiencing it and for the organization (Anderson, 1991; Revicki and May, 1989; Russell *et al.*, 1987). It has been suggested that the level of stress in nursing is likely to be related to such negative outcomes as illness, absenteeism, decreased job satisfaction, and decreased job performance, but to date there has been little effort to find empirical support for these relationships (Jones, 1981).

Social support systems have often been suggested as potentially beneficial aids to coping with job pressure and work-related stress. Social support may act to moderate or buffer the impact of stress and strain on well-being (Cobb, 1976; Cohen and Wills, 1985). At work, having supportive supervisors and coworkers has been found to be associated with lower levels of stress (House, 1981; Morano, 1993; Oehler *et al.*, 1991). In addition, social support has been consistently recommended as a way to lessen or prevent the experience of burnout (Boyle *et al.*, 1991; Constable and Russell, 1986; Cronin-Stubbs and Rooks, 1985). Constable and Russell (1986), for example, found that greater perceived support from supervisors was associated with lower levels of one component of burnout, emotional exhaustion. Additionally, Ogus (1990) found in a sample of registered nurses that those who perceived themselves as having more sources of support and who were more satisfied with the amount of support they received also reported fewer symptoms of burnout.

There are several reasons that the burnout phenomenon has been of interest to researchers and practitioners. First, it is generally assumed that burnout results in lowered job performance (Garden, 1991; Jones, 1981; Maslach, 1982). Few studies, however, have actually examined the relationship of burnout with job performance, and those that did have generally relied exclusively on self-reported performance. Self-appraisal is of interest in its own right and can be a useful indicator of performance. However, a person's self-perceptions of performance may not correspond to others' perceptions due to self-presentation biases and/or differences in information available. Supervisor ratings therefore can be a useful adjunct to assess an employee's performance. Lazaro *et al.* (1984) examined the relationship among burnout, self-rated, and supervisor-rated job performance in a sample of child care workers. Job distress (as measured by job alienation, low satisfaction, psychological symptoms, somatic symptoms, and a subjective burnout rating) was found to be significantly related to self-rated performance but not to supervisors' evaluation ratings. These results suggest that job burnout may impact primarily self-perceived performance. However, because nonstandardized burnout measures were used, it is unclear whether these results correspond to job burnout as it is conventionally defined and assessed.

Burnout is also of interest because it may affect job turnover. In a longitudinal study of nurses, Jackson *et al.* (1986) found that burnout scores predicted 1 year later participants' desires to remain at their jobs, thoughts about quitting their jobs, and self-reports of having received training for a new job. However, burnout levels did not predict subsequent self-reported job search behaviors or turnover intentions. Lazaro *et al.* (1984), in contrast, did find evidence that the rated probability of leaving one's job within the next year was associated with the individual's level of burnout. Thus, the

extent to which burnout actually is associated with intentions to quit, desire to find a new job, or actual job turnover is not clear as yet.

A third reason for the interest in burnout centers on its possible impact on absenteeism. Firth and Britton (1989), for example, explored the relationship between burnout and absenteeism by examining employee records retrospectively. Emotional exhaustion was found to be associated with total sick time off over a 12-month period among nurses. In contrast, lack of personal accomplishment and depersonalization toward clients were not significantly associated with sick days.

Although not always consistent, previous research thus suggests that there may be important relationships among job stress, social support, burnout, and job performance. One important general limitation of the work to date, however, has been the almost-exclusive reliance on self-report measures. Although important in their own right, self-reports, particularly those involving negative experiences, are known to be substantially confounded with certain personality styles. Particularly relevant is the personality dimension known as neuroticism or negative affectivity, which has been defined by Costa and McCrae (1985) as "a broad dimension of normal personality that encompasses a variety of specific traits including self-consciousness, vulnerability to stress, tendency to experience anger, hostility, and depression." People who score high in negative affectivity more readily report discomfort, dissatisfaction, and distress regardless of the situation and the source or amount of stress (Costa and McCrae, 1985; Watson and Pennebaker, 1989). They also are likely to report more physical symptoms, lower levels of job satisfaction, and increased burnout (Hills and Norvell, 1991; Kirkcaldy *et al.*, 1989). Such a response bias is important to consider because it may serve to inflate relationships between perceptions of stress and self-reported symptoms of burnout, job dissatisfaction, and poor performance.

A second general limitation of previous research on burnout has been a lack of formal consideration of the extent to which feelings of burnout actually mediate the relationships of job stress and social support with performance. That is, if job stress impairs and social support benefits performance, is it specifically through their respective effects on burnout symptoms or is a separate pathway involved?

Given these limitations, the first goal of the present study was to make two methodological improvements while expanding upon previous findings regarding the predictors and possible consequences of burnout in nurses. First, a measure of negative affectivity was included in the analyses to control for individual differences in self-reporting styles that might otherwise inflate relationships. Second, supervisor evaluation ratings and hospital employee records were used in order to obtain a more complete, objective

picture of how burnout is related to job performance and absenteeism. The third goal of the study was to examine more closely whether there is evidence that burnout directly mediates any of the observed relationships that job stress and social support have with the performance indicators.

METHOD

Participants/Sample Characteristics

Participation was limited to registered nurses who worked full-time at the San Diego Veterans Affairs Medical Center (SDVAMC). Registered nurses were studied because of their extensive contact with patients and their potential to greatly impact the quality of patient care. The sample consisted of 73 registered nurses. The nurses who participated in the study closely resembled the total population of registered nurses who work at the SDVAMC. The demographic statistics for the entire SDVAMC registered nurse population ($n = 417$), when available, appear in brackets following the sample statistics. Participants in this study ranged in age from 23 to 65 years ($M = 43.30$ years, $SD = 10.05$ years) [23 to 65; $M = 44.50$]. The respondents were 90% female [92%]. The majority of participants were Caucasian (80%), with 4% African American, 12% Asian, 2% Hispanic, and 2% other. Fifty-five percent were married and 45% were single. The length of time working at the SDVAMC ranged from 3 months to 33 years ($M = 7.58$ years, $SD = 7.41$ years) [0 to 27 years; $M = 9.8$ years]. For 45% of the sample, the bachelor's degree was the highest degree obtained [38%]. Forty-three percent had earned a nursing diploma or an associate's degree [48%]. The remaining 12% had a graduate degree [14%]. The nurses represented various types of units throughout the hospital including intensive care units (23.3%), operating room (26%), medicine/surgical (31.5%), psychiatric (13.7%), and spinal cord injury (5.5%). In this sample, the nurses reported spending almost all of their working hours in direct patient care ($M = 37.25$ hr, $SD = 5.58$ hr).

Procedure/Overview of Study Design

The first author contacted the Clinical Service Directors of the individual units after obtaining approval from the hospital administration. In-service meetings were then held in which the study was explained to the registered nurses on each unit. Participants were told that the goal of the study was to obtain a general description of the nursing environment. Each

person was assured confidentiality. Those who participated received research credit toward their performance evaluations, but participation was voluntary. All respondents gave permission for their supervisors to evaluate their performance. The nurses were given questionnaire packets to be completed and returned by mail in preaddressed return envelopes. Of 89 questionnaires distributed, 73 were returned, for a participation rate of 82%.

The supervisor of each registered nurse who had completed and returned the questionnaire was asked to complete a brief performance rating of the nurse. Of the 73 performance ratings requested, 71 were completed and returned, for a participation rate of 97%.

Predictors of Burnout

Job Stress. Job stress was measured by the 34-item Nursing Stress Scale (NSS) developed by Gray-Toft and Anderson (1981a). The NSS describes situations that have been identified as stressful for nurses who work in hospital settings. Respondents are asked to rate on 4-point scales how often they find each situation to be stressful on their present unit (0 = never to 3 = very frequently). Gray-Toft and Anderson (1981b) report test-retest reliability for the NSS after 2 weeks of .81. They provide internal consistency measures in the form of Spearman Brown = .79, Guttman split-half = .79, and α coefficient = .89. In the present study, the items demonstrated good internal consistency (α = .92).

Social Support. The participants' social support for work-related issues and experiences was assessed with a measure based on the social support scale developed by House and Wells (1978). The items assessed perceived support from supervisors, coworkers, and hospital administration. House (1981) reports internal consistency estimates for the measure that range from .75 to .92, and Constable and Russell (1986) report α coefficients between .75 and .98 in a sample of 310 nurses. In the present study, the items had a comparable internal consistency of α = .90.

Burnout Assessment

Current level of job burnout was assessed with the Maslach Burnout Inventory (MBI; Maslach and Jackson, 1986). The MBI is the most extensively used and validated measure of burnout. It is a 22-item inventory which asks participants to rate on 7-point scales how frequently they have had a variety of feelings and experiences in their jobs (0 = never to 6 = every day). The MBI assesses the level of emotional exhaustion (nine

items), depersonalization (five items), and feelings of reduced personal accomplishment (eight items), respectively. In the current study, all three subscales demonstrated reliabilities that were adequate and comparable to those reported by Maslach and Jackson (1986) (Emotional exhaustion, $\alpha = .90$; Depersonalization, $\alpha = .78$; Personal Accomplishment, $\alpha = .78$).

Negative Affectivity Assessment

The Taylor Manifest Anxiety Scale (TMAS; Taylor, 1953) has been shown to be a reliable and valid measure of neuroticism/negative affectivity (Watson and Clark, 1984). Taylor reported test-retest reliability estimates between .81 and .89 over 3 weeks to 5 months. Watson and Clark (1984) report an internal consistency reliability of .82 for the full 50-item TMAS. In the present study, a 28-item shortened version of the TMAS was used. The scale had a comparable, acceptable internal consistency ($\alpha = .83$).

Performance Measures

Job Performance. There were two measures of job performance. First, the registered nurses were asked to evaluate their own current levels of job performance in each of the following areas: knowledge of procedures, interaction with coworkers, dedication to work, quality of care provided to patients, and overall rating of job performance. Nurses rated each dimension of job performance on a 5-point scale that ranged from 1 (poor) to 5 (outstanding). The five items were shown to be reliably related to each other ($\alpha = .73$) and therefore were combined into a single index of *self-reported performance* that could range from 5 to 25. The second measure of performance was obtained by asking each participant's Clinical Services Director to complete a brief rating of job performance. This supervisor-rated performance measure was identical to that which the participants completed for their own performance, except that the wording was changed to reflect the nurse to be rated. Because the five individual items showed a high interitem reliability ($\alpha = .93$), they were combined into a single measure of *supervisor-rated performance* for analyses.

Absenteeism. There were likewise two measures of absenteeism. *Self-reported absenteeism* was assessed by asking the nurses to report the number of days they had been absent from their jobs in the past month and in the past 6 months, respectively. The absences were differentiated as due to physical health reasons, mental health reasons, or other reasons. Physical health reasons included illness, colds, flus, injury, etc., whereas mental or emotional health reasons included feeling depressed, emotionally run down,

or stressed. In addition, a subset ($n = 46$) of the nurses gave permission to obtain their *sick leave* information for the previous 6 months from employee hospital records. Leave information on all nurses is stored in the hospital computer and can be accessed by administrative personnel. The computer printout lists the total number of hours per pay period that the nurse took for sick leave. The nurses who allowed access to their sick leave records did not significantly differ from those that did not give permission in terms of demographic or work experience variables including age, education level, amount of direct contact with patients, years in the nursing profession or type of unit on which they worked (all p 's $> .10$).

Intentions to Quit. Finally, to assess intentions to leave their current job, the nurse participants completed a series of questions related to their preferred job status and their recent thoughts and behaviors related to changing jobs or professions. The respondents' thoughts and behaviors relevant to leaving their jobs were assessed by a series of eight statements regarding (a) thoughts about leaving in the past 6 months (e.g., considered finding a new job in nursing, considered leaving the field of nursing), (b) desire to leave their current job, and (c) job satisfaction (e.g., overall satisfaction with current job). These items were rated on 1 (strongly disagree) to 5 (strongly agree) scales. In addition, the participants' intentions to leave their current jobs were assessed with two items (e.g., likelihood they will have this same job next year). Responses to these items were on 5-point scales ranging from 1 (no chance of staying) to 5 (definitely will stay). Because all 10 of the foregoing items were found to be highly interrelated ($\alpha = .83$), we combined them into a single index of *intentions to quit* for analyses. Items for the intentions to quit index were coded so that higher numbers indicate higher intentions to quit or less desirability of their current job. Values for this index could range from 10 to 50.

RESULTS

Preliminary Analyses

The means and standard deviations for the three MBI subscale scores and for the performance indicators are presented in Table I. The nurses reported moderate levels of emotional exhaustion and reduced sense of personal accomplishment and low levels of depersonalization according to the cutoffs provided in the MBI manual (Maslach and Jackson, 1986). The level of burnout in the present sample closely resembles the norms provided by Maslach and Jackson (1986) for medical service workers.

Table I. Means and Standard Deviations of the MBI Subscales and Performance Measures

Scale	Mean	SD
Emotional Exhaustion	19.79	11.15
Depersonalization	5.65	4.95
Personal Accomplishment	37.77	7.11
Self-Rated Performance	20.95	2.47
Supervisor-Rated Performance	18.83	3.65
Hours of Sick Leave (from Records) ^a	36.44	40.18
Self-Reported Days Absent (Mental) ^a	.30	.65
Self-Reported Days Absent (Physical) ^a	3.60	8.02
Intentions to Quit	19.86	8.55

Note. Higher scores on Personal Accomplishment scale indicate less burnout.

^aDuring the previous 6 months.

In an attempt to detect potential confounding factors, we first examined the relationships of background variables (demographic and work experiences) with each of the study variables of interest. No significant relationships were found between burnout levels and marital status, gender, education level, or amount of time spent in direct contact with patients. We did find that higher levels of emotional exhaustion were negatively associated with years in the nursing profession ($r = -.29, p < .05$) and with age ($r = -.35, p < .01$). Therefore, analyses that follow were first performed with age and years in the profession entered in the equations. Generally, neither age nor years in the profession was an independent predictor of burnout or the performance indicators. The sole exception was an independent, negative relationship between age and intentions to quit such that younger nurses had greater intentions to quit. However, the relationship to be reported between emotional exhaustion and intentions to quit is virtually identical whether age is included or not. Thus, the demographic and work experience variables collected do not appear to confound the effects of the predictor variables of interest, and therefore they are excluded from the primary analyses to follow.

Primary Analyses

In an effort to control for the potential confounding effects of general negative affectivity, all primary analyses were conducted both with and without negative affectivity in the model as a control variable. Negative

affectivity is included in the results that follow only when it was found to be a significant predictor of the variable examined.

Relationships of Stress and Work Support with Burnout. Multiple regression analyses were performed to examine the relationships of work support and stress with burnout symptoms. This was accomplished by entering the work support and stress main effects simultaneously, followed in the next step by their interaction. Such a hierarchical procedure enables evaluation of the effect of each factor controlling for all other factors in the equation (Cohen and Cohen, 1975). In all analyses, the interaction effect proved nonsignificant and therefore is not discussed further.

The results indicated first of all that neuroticism was, as anticipated, positively and significantly related to total burnout scores (β coefficient = 0.267, $p = .013$). Independent of this effect, however, social support from others at work was a negative predictor and amount of job stress was a positive predictor of total burnout scores (see Table II). In an effort, then, to examine more closely whether all or only certain components of burnout were related to stress and social support, we next performed parallel regression analyses on the individual burnout subscales. As shown in Table II, the results indicate that controlling for neuroticism ($\beta = 0.231$, $p = .048$) and stress, higher perceived support from others at work predicted significantly lower levels of emotional exhaustion. Higher levels of social support and lower levels of job stress each also independently predicted higher feelings of personal accomplishment. Neither social support nor stress level predicted depersonalization levels.

Relationship of Burnout Performance Indicators. We next wanted to examine how burnout was related to the indicators of performance. Because the burnout subscales were moderately interrelated (r 's = .37 to .51, p 's < .01), and because we were interested in determining which specific aspect(s) of burnout was (were) important, all three burnout scales were entered simultaneously as predictors in multiple regression analyses of each per-

Table II. Standardized Regression Coefficients from Multiple Regressions of Burnout Scales on Stress and Social Support

Predictor variable	Burnout index			
	Emotional Exhaustion	Depersonalization	Personal Accomplishment	Total Burnout
Work Support	-.263*	-.156	.300**	-.266*
Stress	.202	.231	-.311**	.282**

Note. Personal Accomplishment is scaled so that higher values indicate less burnout.

* $p < .05$.

** $p < .01$.

formance variable. The results revealed that higher levels of emotional exhaustion significantly and uniquely predicted lower self-rated job performance ($p = .003$), lower supervisor-rated job performance ($p = .039$), more days off for mental health reasons ($p = .032$), and higher intentions to leave their current job ($p < .001$) (see Table III). Analyses were also performed separately with the individual subscales as well as the total burnout score. The same general patterns were found.

In terms of time taken off based on the employees' official hospital records, greater feelings of personal accomplishment predicted fewer sick leave days taken ($p = .037$), but no aspects of burnout were related to reported days off for physical health reasons. It should be noted that operating room (OR) nurses were excluded from this analysis because their sick leave time is computed differently than other staff nurses. The OR nurses take sick leave time after being called in for emergencies.

Mediation Analyses

We have seen that emotional exhaustion is the element of burnout most consistently related to the performance variables collected. We therefore performed a final set of analyses to test whether work support and stress were related to the same aspects of performance and, if so, whether such relationships might be mediated directly by emotional exhaustion.

A variable is considered to function as a mediator to the extent that it accounts for the relationship between a given predictor and outcome of interest. Following the methods suggested by Baron and Kenny (1986), a series of three regression analyses was used to examine the mediational role of emotional exhaustion on the relationships among stress, social support, and job performance measures. In this method, the first equation

Table III. Standardized Regression Coefficients from Multiple Regressions of Performance Outcome Measures on Burnout Scales

Dependence variable	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Self-Rated Performance	-.413**	-.036	.174
Supervisor-Rated Performance	-.323*	-.013	-.156
Reported Absenteeism (Mental)	.315*	-.120	-.216
Reported Absenteeism (Physical)	-.033	-.062	-.120
Sick Leave (Records)	.158	-.247	-.407*
Intentions to Quit	.478**	.102	-.127

Note. Personal Accomplishment is scaled so that higher values indicate less burnout.

* $p < .05$.

** $p < .01$.

involves regressing the proposed mediator on the predictor variable; the second equation involves regressing the dependent variable on the predictor variable; and the key, third equation involves regressing the dependent variable simultaneously on both the predictor variable and mediator variable. Mediation is suggested when all of the following occur: the predictor variable is shown significantly to affect the mediator in the first equation, the predictor significantly predicts the dependent variable in the second equation, and, in the last equation, the mediator significantly predicts the dependent variable while reducing the previously significant relationship between the predictor and dependent variable.

We already know from previous analyses that higher work support does significantly predict lower emotional exhaustion (Table II). We also have already noted that emotional exhaustion is significantly related to self-rated job performance, supervisor-rated job performance, absenteeism for mental health reasons, and intentions to quit. Therefore the mediational analyses that follow focus on whether these performance indicators are also predicted by stress or work support and, if so, whether emotional exhaustion mediates these relationships. As shown in Table IV, social support does independently predict self-rated performance, supervisor-rated performance, and absences for mental health reasons, whereas job stress does not. Therefore, the stress effect was omitted in the mediation analyses for these outcome measures. With respect to self-reported performance, the key question then involves regressing self-rated performance on both emotional exhaustion and work support simultaneously. The results of these analyses clearly show that higher emotional exhaustion does significantly predict reduced job performance ($\beta = -.408, p = .001$) and that the effect of social support is thereby reduced to nonsignificance ($\beta = .168, p = .157$). This pattern is thus consistent with the notion that higher perceived work support leads to higher self-rated performance in part because of beneficial effects of social support on emotional exhaustion.

Table IV. Standardized Regression Coefficients from Multiple Regressions of Performance Indicators on Stress and Social Support

Performance variable	Predictor variable	
	Work Support	Stress
Self-Rated Performance	.303*	-.155
Supervisor-Rated Performance	.281*	.071
Absences for Mental Health Reasons	-.261*	.197
Intentions to Quit	-.387**	.240*

* $p < .05$.

** $p < .01$.

As shown in Table IV, we also found that work support was positively related to supervisor-rated performance ($p = .033$) and negatively related to reported absences for mental health reasons ($p = .039$). There was no evidence that the relationship of support with supervisor-rated performance was mediated directly by emotional exhaustion, however; that is, when supervisor-rated performance was regressed simultaneously on both support and emotional exhaustion, the emotional exhaustion effect was nonsignificant ($\beta = -.134, p > .31$). In contrast, the parallel analysis of absences during the previous 6 months for mental health reasons indicated that higher emotional exhaustion was significantly associated with more absences ($\beta = .276, p = .03$) while reducing the effect of work support on absences to nonsignificance ($\beta = -.219, p = .084$). This pattern thus suggests that the negative relationship of work support with absences for mental health reasons may be due in part to beneficial effects of work support on emotional exhaustion.

A final set of mediation analyses was conducted for the intentions to quit scale. Because we found here that higher levels of job stress ($p = .036$) and less perceived social support ($p = .001$) both independently predicted higher reported intentions to quit (Table IV), both were simultaneously regressed with emotion exhaustion on intentions to quit. We found that emotional exhaustion was a significant predictor ($\beta = .390, p = .001$), that the previously significant effect of work support was reduced but remained significant ($\beta = -.274, p = .014$), and that the stress effect was reduced to nonsignificance ($\beta = .159, p = .141$). These results suggest, then, that emotional exhaustion also serves to mediate partially the observed relationships of stress and social support with intentions to quit (Baron and Kenny, 1986).

DISCUSSION

Methodological Considerations

Before discussing the results, several methodological issues that bear on their interpretations and implications should be considered. First, our sample of nurses consisted of volunteers drawn from a single hospital and therefore cannot be considered a random sample of all nurses. It is worth noting, however, that the burnout levels we found were quite comparable to the nurse norms provided by Maslach and Jackson (1986). In addition, explicit comparisons indicated that the demographic and work experience characteristics of study participants were extremely similar to those of non-participants from the study hospital. Thus, although caution is warranted,

there is reason to believe that our results have an acceptable external validity.

Second, another methodological issue concerns our use of self-report measures. The absolute accuracy of self-report measures is always a concern in research. The concern with self-report measures arguably should be heightened when results involve *relationships* among such measures, because two or more variables that are assessed with similar methods, even if conceptually unrelated, can be empirically associated simply because of shared method variance (Campbell and Fiske, 1959). This of course would tend to inflate relationships and thereby lead to misleading conclusions. This consideration seems especially important in the present context, because it also has been shown that in objectively similar circumstances, people differ systematically in their willingness or propensity to report negative events or characteristics involving themselves (Costa and McCrae, 1985; Watson and Pennebaker, 1989). We took several steps in an effort to minimize these concerns. First, the self-report measures used to assess stress, support, and burnout all have been shown generally to have adequate reliabilities and validities. Second, a measure of negative affectivity was used as a statistical control in an effort to minimize relationships due to response bias artifacts. Finally, we also employed several performance measures that did not involve self-report, e.g., supervisor ratings, hospital sick leave records. Because these performance measures were not self-report and therefore shared relatively little method variance with the predictors, we can be more confident that these relationships, in particular, do not reflect such measurement artifacts.

Finally, we should note explicitly that our design, like those of other naturalistic studies of burnout to date, does not enable causal inferences to be drawn. The cross-sectional nature of the design leaves open the possibility that some underlying third variable is causing the observed relationships or that the direction of causality is in the opposite direction, e.g., feelings of emotional exhaustion lead to perceptions of more stress and less support. We did take considerable care to examine extraneous variables as possible third-variable confounds, with the result that we can be reasonably confident that the relationships observed are not the result of covariations with a broad range of demographic and experience variables. However, the caveat regarding the inability to make causal inferences remains.

Stress, Support, Burnout, and Performance Relationships

The main results replicate and extend previous results in several important respects. Consistent with previous research, we found significant

relationships among work support, stress, and burnout symptomology (Constable and Russell, 1986; Cronin-Stubbs and Rooks, 1985; Oehler *et al.*, 1991; Ogus, 1990). Less perceived social support from others at work and higher levels of job stress were predictive of higher levels of experienced burnout (emotional exhaustion and reduced personal accomplishment) in our sample of registered nurses. The fact that we found these relationships even when controlling statistically for negative affectivity suggests they are unlikely to be due simply to response bias, a possibility that had been left open by prior work.

Our results also extend and provide insight into the relationship of burnout with various aspects of job performance. A frequently made but rarely tested assumption is that feelings of burnout lead to decrements in job performance. We found, however, that such an undifferentiated view of possible burnout effects on performance is probably unwarranted. Rather, our results suggest that it is the feeling of emotional exhaustion specifically, as opposed to depersonalization or lowered personal accomplishment, that is most likely to affect how nurses performed and felt about their jobs. Thus we found, for example, that the performance of nurses who were higher in feelings of emotional exhaustion was rated lower both by the nurses themselves and independently by their supervisors. As noted previously, Lazaro *et al.* (1984) reported findings suggesting that burnout feelings were related to self-perceived performance but not supervisor-related performance in a sample of child care workers. Although the difference in study populations may account for the divergent results, we believe the explanation more likely centers on their use of a relatively omnibus, unstandardized measure of burnout. Bearing in mind the previously noted caveats, our results may thus provide the strongest evidence to date that an element of burnout, namely, emotional exhaustion, is actually associated with objective job performance.

Our results also provide a more differentiated view of the relationship between burnout and absenteeism than has been reported previously. That is, consistent with previous research, we found higher burnout levels associated with increased absenteeism (Firth and Britton, 1989; Jones, 1981). However, when we examined the reasons for the absences, we found that it was specifically absences for mental health reasons that were related to emotional exhaustion levels rather than absences for physical health reasons. We believe that this is a potentially important theoretical refinement and that future studies of burnout would profit from greater efforts to distinguish between mental and physical bases for absenteeism.

Finally, the results of this study are consistent with the notion that emotional exhaustion may serve as a mediator between social support and self-reported job performance, absences for mental health reasons, and in-

tentions to quit. That is, although we cannot establish with certainty the causal sequence, the results are at least consistent with a model in which the amount of perceived work support influences the level of emotional exhaustion that is experienced, which in turn may influence the various negative outcomes. It is interesting that evidence suggesting emotional exhaustion as a mediator was found only for the relationships involving work support and self-reported aspects of performance. Although higher work support also predicted higher performance ratings by the supervisor, there was no direct evidence that emotional exhaustion mediated this relationship. Emotional exhaustion is a subjective experience and therefore apparently is more apt to influence directly one's subjective feelings of job performance and satisfaction rather than objective performance.

Clinical Implications

The finding that burnout symptoms are associated with absences for mental health reasons but not for physical health reasons may have potentially useful clinical implications. If future studies find a similarly differentiated pattern, this may help guide intervention efforts by specifically targeting absences for mental health reasons. Also of clinical relevance, our results suggest that social support is more strongly related to the performance indicators than is the amount of stress experienced. Differences in the adequacy with which concepts are measured of course can account for differentially strong relationships. However, the comparable reliabilities of our support and stress measures suggest that the stronger relationships involving support are not likely the result of measurement artifacts. This may be fortunate given the fact that many of the stressors in the nursing profession are intrinsically related to the nature of the profession and therefore are less amenable to change. Improving work support may thus be both easier and more effective for improving performance levels.

Overall, our results suggest that burnout levels are associated with diverse areas of performance, including quality of job performance, absenteeism, and intention to quit current jobs. Collectively, these variables likely contribute to a lowered quality of service for patients and perhaps also lower morale among colleagues. Thus, given the evidence that burnout is associated with both subjective and objective indicators of performance, a priority in efforts to improve quality of care should now be the development of interventions to minimize burnout.

Extensions and Conclusions

We believe that there are several useful extensions to the present research. Most obvious, a longitudinal design, although still not able definitively to establish causal relationships, would enable us to rule out reverse causality and to understand better how burnout symptomatology changes over time. Perhaps more interesting and difficult logistically, it would also be useful to try to identify more precisely how provision of care differs between nurses with high and low levels of emotional exhaustion. Related to this issue, another useful extension would be to determine whether emotional exhaustion or the other elements of burnout are related to nurse performance as perceived by their patients. Interestingly, it has been shown that patients generally do not have the requisite background to evaluate the technical expertise or knowledge of physicians and therefore judge quality of care largely by interpersonal features of the interaction (Ben-Sira, 1976). To the extent that this pattern holds true also for judgments about nursing performance, which seems likely, we might expect that nurses' feelings of emotional exhaustion and perhaps of depersonalization would be particularly likely to predict patient perceptions of care. That is, it is plausible that nurses suffering emotional exhaustion or feelings of depersonalization would have a relatively difficult time expressing warmth and concern to their patients. If so, and if these are the features of the nurse's behavior that drive patient evaluations of care, we would expect patients of such nurses to be particularly dissatisfied, even if the technical competence of the nurses is objectively adequate. Although logistically difficult to collect, such data would likely be fascinating.

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