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Burnout In Psychiatric Nursing: Possible Protective Factors

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BURNOUT IN PSYCHIATRIC NURSING: POSSIBLE PROTECTIVE FACTORS

By

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Burnout In Psychiatric Nursing: Possible Protective Factors

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The phenomenon of burnout is composed of feelings of low personal accomplishment, cynical attitudes, and negative self-evaluation and is considered a consequence of experiences at work (Maslach, Jackson, & Leiter, 1996). Although employees in several different occupations are likely to experience burnout, nurses are considered to be a high-risk group (Miller, Reesor, McCarrey, & Leikin, 1995). Considering the amount of direct client contact that nurses have, it is important to consider ways in which we can protect this group from experiencing the effects of burnout. Leadership style of supervisors in the setting, and the way the institution fosters autonomy, appear to be environmental factors that may protect against burnout in nurses (Kanste, Kyngas, & Nikkila 2007; Mrayyan, 2003; Hanrahan, Aiken, McClaine, & Hanlon, 2010). However, more research examining these and other environmental protective factors needs to be conducted.

The current study examined leadership style of supervisors in the participants' work setting and work role autonomy as possible environmental protective factors to burnout in psychiatric nurses. Also, workload (measured two ways) was assessed as a possible moderator of the relationship between protective factors and burnout. Results demonstrated that leadership style and work role autonomy appear to be environmental factors that may protect against burnout in nurses. These data also suggest that workload potentially acts as a buffer between protective factors and the personal accomplishment and depersonalization components of burnout.

Dedication

This work is dedicated to a woman who worked as a nurse on the night shift for 26 years.

She cared for people during the night in order to help care for us during the day.

Thanks, Mom.

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Burnout in Psychiatric Nursing: Possible Protective Factors

The construct of burnout was first described by Freudenberger (1974) referring to the emotional exhaustion of public service workers. However, subsequently, Maslach (1982) identified the effort of client contact as an important antecedent to burnout. Burnout is distinguished by feelings of low personal accomplishment, cynical attitudes, and negative self-evaluation related to one's employment (Maslach, Jackson, & Leiter, 1996). In other words, individuals in the work force who experience burnout may feel fatigue or apathy towards their work due to stress or overwork. These three aspects of burnout are measured by the Maslach Burnout Inventory (MBI) on its subscales of Emotional Exhaustion, Depersonalization, and Lack of Personal Accomplishment (Maslach et al., 1996). The phenomenon has been studied in a wide range of occupations, ranging from social workers to security guards (Stevens & Higgins, 2002; Vanheule & Declercq, 2008).

The literature on stress and burnout in health care professionals has received increasing attention in recent years. In a study examining individuals who worked with maltreated children, workers reported high levels of emotional exhaustion and depersonalization on the Maslach Burnout Inventory (MBI; Maslach et al., 1996; Stevens & Higgins, 2002). Individuals also reported low to moderate levels of personal accomplishment, a component of burnout measured by the MBI. It has also been found that levels of burnout in health care workers often yield negative outcomes in work performance. In a study of 890 physicians, researchers found that high levels of burnout were negative predictors of quality of care (Shirom, Nirel, & Vinokur, 2006).

In recent years, nursing burnout has become an increasingly researched area, as this phenomenon appears to be on the rise (Happell, Martin, & Pinikahana, 2003). Although employees in several different occupations are likely to experience burnout, nurses are considered to be a high-risk group (Miller et al., 1995). It has been suggested that direct contact with clients is a stressful component of a number of jobs, and that it increases the risk of burnout (Maslach, 1982). Considering the amount of direct client contact that nurses have, it is important to consider ways in which we can protect nurses from experiencing the effects of burnout.

At the time this study was being developed, the latest report on nursing shortage predicted a 27% vacancy in positions by the year 2020 (American Hospital Association, 2005). Parry (2008) notes that nurses are leaving the workforce for other occupations entirely, and the skills and education obtained by these nurses are then lost to the nursing workforce. In particular, psychiatric nurses have been found to exhibit higher levels of burnout than nurses in other specialties (Pompili et al., 2006). Research also indicates that younger generations in the nursing workforce have lower job satisfaction than older generations (Wilson, Squires, Widger, Cranley, & Tourangeau, 2008). However, in a 2008 report, there were an estimated 3,063,162 licensed registered nurses living in the United States, as of March 2008. This was an increase of 5.3 percent from March 2004, representing a net growth of 153,806 RNs (U.S. Department of Health and Human Services Health Resources and Services Administration, 2010). This reflects efforts made to manage the nursing shortage. Nevertheless, issues of job satisfaction and retention are likely to remain important. The current study examined the phenomenon of burnout and factors affecting it in a sample of psychiatric nurses.

Research highlighting burnout in the nursing field will be presented in the following sections. First, factors contributing to levels of burnout are examined. Next, possible protective factors based on nursing research as well as research of other fields are considered. Finally, conclusions about the possible protective factors in nursing are discussed.

Environmental Factors Contributing to Burnout in Health Care Staff

It is still unclear whether nursing burnout is dependent on individual characteristics or the characteristics of the environment (Miller et al, 1995). In examining these characteristics, it is important to note what distinguishes one type from the other. Individual characteristics include factors that are innate to the individual (i.e., personality style, defense mechanisms), whereas environmental characteristics are solely related to the work setting (Miller et al., 1995). For the purposes of this review, only literature considering environmental contributors to burnout will be examined.

There is a substantial literature on burnout in health care professions, including physicians, nurses, and other providers and staff. In a study of Israeli physicians, researchers examined the relationship between workload, perceived overload, job autonomy, and global burnout (Shirom et al., 2006). Workload was defined by employees' reports of hours worked as well as number of people served. Researchers hypothesized that the relationship between work hours and burnout would be mediated by overload in work. It was also hypothesized that job autonomy would be a negative predictor of global burnout (Shirom et al., 2006). Job autonomy was described as the degree to which the job provided freedom to employees in how to perform their jobs.

Questionnaires were completed by 890 physicians representing six specialties: ophthalmology, dermatology, otolaryngology, gynecology, general surgery, and cardiology. It was found that overload was a positive predictor of global burnout, while autonomy was a negative predictor of global burnout, functioning as a helpful or protective factor. It was also found that number of work hours (the first component of workload) positively predicted perceived overload, although it did not predict burnout (Shirom et al., 2006). Similar results indicating that autonomy influenced job satisfaction were found in a review of US literature examining stress amongst mental health social workers (Coyle, Edwards, Hannigan, Fothergill, & Philip, 2005).

Although the amount of literature in nursing burnout continues to grow, there remain limitations in defining and studying burnout according to area of practice. In a study of 180 nurses working in five public hospitals in Iran, levels of burnout were compared in internal, surgery, psychiatry, and burns wards (Sahraian, Fazelzadeh, Mehdizadeh, & Toobaee, 2008). Using translated versions of questions on the Maslach Burnout Inventory (MBI) and General Health Questionnaire (GHQ), researchers examined both burnout and non-psychotic psychiatric symptoms. Overall, 25% of participants met criteria for burnout (Sahraian et al., 2008). Specifically, nurses working in psychiatry wards reported a statistically higher degree of burnout compared to nurses working in other wards.

In another study of 120 Italian nurses, burnout and hopelessness were assessed in relation to psychological defense mechanisms (Pompili et al., 2006). Participants in this study were employed in psychiatry, general medicine/rehabilitation, and critical care/surgery. Results from this research indicated that nurses in psychiatric wards and

general medicine/rehab wards had higher levels of burnout than those in critical care medicine/surgery wards (Pompili et al., 2006). Psychiatric nurses were also found to be at greater risk for suicide when compared with the other two groups. One limitation of this study, as well as other studies summarized above, is that it is a correlational study, and therefore, no causal statements can be made linking burnout and risk factors (Pompili et al., 2006).

Shift working, including both working nights and increases in length of time worked during the day, has been shown to be a risk factor for burnout in the nursing population (Malliarou, Moustaka, & Konstantinidis, 2008). Researchers collected data from 64 registered nurses (RNs) and nurses assistants (NAs) using a general information questionnaire as well as the MBI. The general information questionnaire included questions regarding demographic information, professional status, work hours, and participation in weekly work activities. Results of this study indicated that high levels of emotional exhaustion were correlated significantly with working a rotation shift (Malliarou et al., 2008).

In a similar study, nurses from thirteen New York City hospitals working either eight hour or twelve hour shifts were examined (Stone et al., 2006). Somewhat surprisingly, the results indicated that individuals working twelve hour shifts were on average more satisfied with their jobs, reported lower levels of emotional exhaustion, and had lower vacancy rates. It has been shown that job satisfaction is related to both emotional exhaustion, as well as to reduced sense of personal accomplishment in teachers, both components of the burnout construct and measured by the MBI (Skaalvik, 2009). It was determined that those nurses working twelve hour shifts were more satisfied

with their job in part because they were scheduled to work fewer shifts and chose to work this amount (Stone et al., 2006). Researchers concluded from this study that flexibility and choice in shift length are both important elements in a positive work environment. It appears that a lower number of shifts, as opposed to shorter shifts, are related to job satisfaction.

Nathan, Brown, Redhead, Holt, and Hill (2007) examined the role of patient gender in levels of burnout in nurses at a medium secure forensic psychiatric hospital in England. Two groups of nurses served as participants in this study, with one group working on an all female ward, and the other group working on an all male ward. Levels of burnout in each group were assessed using the MBI at baseline and 18 months later. (Nathan et al., 2007). Results indicated that the average emotional exhaustion score on the female ward increased between baseline and follow-up 19.86 points ($p < .001$), whereas nurses working on the male ward score for workers increased by only 6.14 points ($p = .050$; Nathan et al., 2007). It may be that gender of the patients affected levels of burnout. This study illustrates the possible role of environmental factors—in this case operationalized by type of ward—on burnout.

Some limitations of this study included the fact that women primarily staffed the female ward, and men primarily staffed the male ward. It may have been the gender differences in the staff (not an environmental factor) that affected burnout scores. Also, since the study was conducted in a secure setting, it is not generalizable to other non-secure settings (Nathan et al., 2007).

Other researchers assessed levels of burnout, nursing functioning, and ward atmosphere in a state psychiatric facility (Caldwell, Gill, Fitzgerald, Sclafani, &

Grandison, 2006). A sample of 79 staff consisted of nurses, physicians, psychologists, social workers, and paraprofessionals (rehabilitation practitioners). Individual staff members from five hospital complexes (A, B, C, D, and E) were examined. Complexes A and C were composed of primarily Axis I patients, complex B serviced primarily developmentally disabled patients, complex D contained mainly forensic patients, and complex E was comprised of geriatric patients. Axis II patients were not included in this study. Each complex served approximately 160 patients. Each staff member completed a number of surveys, including: the MBI, the Nursing Work Index (NWI; Kramer & Hafner, 1989) and the Ward Atmosphere Scale (WAS; Moos & Houts, 1968).

Results indicated that nurses in complexes A, B, and C (serving Axis I and developmentally disabled patients) had higher levels of emotional exhaustion than complexes D and E (forensic and geriatric patients; Caldwell et al., 2006). Overall, nurses had higher emotional exhaustion and depersonalization burnout scores than psychologists/medical doctors and social work/rehab, respectively. Physicians and psychologists reported less burnout overall. This study demonstrates that nurses are at more risk for burnout than other hospital staff, particularly when working with Axis I and developmentally disabled patients. Although type of population cannot be changed or controlled, it is still considered an environmental characteristic.

Happell, Martin, and Pinikahana (2003) assessed the role of forensic versus mainstream mental health settings on levels of burnout in nurses. A total of 95 forensic psychiatric nurses and 96 mainstream psychiatric nurses were given three measures to complete; these assessed burnout, job satisfaction, and stress level (Happell et al., 2003). The researchers found that forensic psychiatric nurses demonstrated lower levels of

burnout compared to mainstream psychiatric nurses. It was also found that forensic nurses were more satisfied with their jobs than mainstream nurses. Specifically, the authors discovered forensic nurses had more satisfaction with their levels of involvement in decision-making and degree of support. However, somewhat surprisingly, forensic nurses were more likely to consider a job outside of nursing than mainstream nurses (Happell et al., 2003).

Possible Protective Factors in Nursing Burnout

The definition of protective factors has varied within the literature. Protective factors have often been described in relation to risk factors, acting as potential "buffers" to the effect of risk by acting as a mediator or moderator (Luthar & Zigler, 1991); the latter represents an interaction effect. Masten and Wright (1998) have defined protective factors as a correlates of resilience that may indicate preventive or ameliorative influences. In this case, protective factors are viewed as having a direct or main effect on positive outcomes. The current study utilizes both these views of protective factors, using correlation to analyze leadership style and work role autonomy as possible protective factors having a direct effect on outcome, and moderation analyses (which include an interaction term) to observe the possible "buffering" effect of workload.

Although there is a dearth of literature specifically examining protective factors that may counteract nursing burnout, common factors that have been assessed relative to burnout in other fields, such as social work, include amount of clinical supervision and amount of social support (Lloyd, King, & Chenoweth, 2002; McIntosh, 1991). Studies that have examined these factors in nursing are discussed below.

The role of amount of clinical supervision and its influence on levels of burnout

was studied in Welsh community mental health nurses (Edwards, Burnard, Hannigan, Cooper, Adams et al., 2006). A sample of 817 community mental health nurses was given surveys along with demographic questionnaires, with 260 nurses responding. There were two surveys given: the MBI and the Manchester Clinical Supervision Scale (MCSS; Winstanley, 2000).

Results of this study indicated that higher scores on the MCSS were associated with lower levels of burnout, suggesting that if clinical supervision is perceived as effective, then the community mental health nurses in this sample were more likely to report lower levels of emotional exhaustion and depersonalization (Edwards et al., 2006). Further analyses indicated that being able to discuss sensitive and confidential issues with supervisors was associated with lower levels of burnout (Edwards et al., 2006).

Employees' perceptions of their supervisors' leadership style in the work setting has also been shown to protect nurses from burnout (Kanste, Kyngas, & Nikkila, 2007). Although this is assessed via individual perceptions, it is a characteristic of the environment. In a study of 601 Finnish nurses and nurse managers, researchers examined multiple dimensions of nursing leadership using a self-report measure that included descriptions of several transformational, transactional, and laissez-faire leadership styles of others, not of themselves. Thus, "leadership style" is also considered a characteristic of the workplace environment. Transformational leaders have been defined as proactive, encouraging their associates to strive for higher levels of potential rather than expected performance (Bass & Avolio, 2004). Nurse managers who were perceived as exhibiting a transformational type of leadership style were rewarding, optimistic, and forward-looking (Kanste et al., 2007).

Transactional models of leadership are associated with constructive and corrective interactions between leaders and subordinates (Bass & Avolio, 2004). Managers who employed active management-by-exception pointed out errors and provided guidance (Kanste et al., 2007). Results indicated that rewarding transformational leadership protected particularly from depersonalization, and transactional active management-by-exception style protected from depersonalization and increased personal accomplishment. Passive laissez-faire leadership, however, appeared to function as a risk factor, in that it was associated with higher levels of burnout in nurses working under this form of leadership (Kanste et al., 2007).

In a similar study the impact of leadership styles in emergency department nurse managers on staff nurse turnover was examined (Raup, 2008). Nurse managers were asked to complete the Multifactor Leadership Questionnaire (Bass & Avolio, 1996). This questionnaire included scales of both Transformational and non-Transformational leadership behaviors. Transformational leadership, mentioned above, is characterized by charismatic, educational, encouraging, communicative, and mentoring behaviors (Bass, Avolio, Jung, & Berson, 2003). The non-Transformational leadership styles include nonparticipatory or contingent reward behaviors, similar to the management-by-exception style mentioned in the previous study. Results indicated a trend for lower staff nurse turnover for settings with Transformational leadership style compared to non-Transformational (Raup, 2008).

Constable and Russell (1986) examined the impact of job related stress and social support on burnout in nurses employed at a military hospital. It was hypothesized by the authors that nurses with adequate social support would report lower levels of burnout. It

was also hypothesized that negative aspects of the work environment would have little effect on levels of burnout in nurses with adequate social support. Out of 420 nursing staff, 310 responded to the survey questionnaires provided by the researchers.

Measures used were the MBI and the Work Environment Scale (WES; Moos & Insel, 1974). Results indicated that nurses who reported working in low job enhancement settings (autonomy, task orientation, clarity, innovation, and physical comfort), greater work pressure, and lack of supervisor support experienced higher levels of emotional exhaustion (Constable & Russell, 1986). Those who identified their supervisor as being supportive were less emotionally exhausted. Researchers also found an interaction between supervisor and job enhancement in relation to the dependent variable of emotional exhaustion, indicating that these two variables combine multiplicatively to affect the emotional exhaustion of nurses significantly in this sample. Results also suggested that the major predictors of MBI components were job enhancement (negative correlation with burnout), work pressure, and supervisor support (negative correlation with burnout; Constable & Russell, 1986). Of particular interest is the correlation of job enhancement to all three aspects of burnout. This finding indicated that nurses in this study who worked in areas where there was a lack of new approaches, lack of encouragement to be autonomous, tasks were not clearly understood, rules were not explicitly communicated, and work environment was not comfortable were more susceptible to burnout (Constable & Russell, 1986).

In a review of studies aimed at interventions to improve the morale of staff working psychiatric units, educational interventions designed to enhance the skill and competency of staff significantly improved job satisfaction (Gilbody et al., 2006).

Interventions using work-based support and social support networks were also found to have positive effects on psychological wellbeing (Gilbody et al., 2006).

In the study of Italian nurses discussed previously in this review (Pompili et al., 2006), authors concluded that certain defensive styles, such as principalization (which involves rationalization) and reversal, (which involves denial) appear to act as protective factors for burnout because they were negatively correlated with depersonalization and emotional exhaustion subscales of the MBI (Pompili et al., 2006). These are all individual variables with a possible role in burnout.

In recent years increased attention has been given to the models of hospital organization that strive to minimize the amount of nurse turnover and increase job satisfaction. "Magnet hospitals" that employ those models are thought to attract nurses because of their attempts to provide support and facilitate open communication amongst staff and nurse leaders (Upenieks, 2002). In a study examining magnet and nonmagnet hospitals, 305 clinical nurses were surveyed to determine differences in job satisfaction as related to organizational characteristics (Upenieks, 2002). "Nurse leaders" were also asked to give their perceptions of the value of their roles in today's setting.

Overall, results indicated that participants working at nonmagnet hospitals reported lower levels of job satisfaction. When asked about leadership traits, most participants in this study discussed the importance of leadership visibility and accessibility in the context of open communication and sharing information with staff nurses. However, results indicated that nurse leaders were less visible in nonmagnet hospitals compared to magnet organizations.

Authors of a recent study hypothesized that hospital that were rated higher on

organizational factors of the nurse practice environment (NPE) would be associated with lower levels of psychiatric nurse burnout (Hanrahan, Aiken, McClaine, & Hanlon, 2010). Archival data from a 1999 survey dataset from 353 psychiatric registered nurses located in the Commonwealth of Pennsylvania were used. These nurses reported that they provided direct patient care as staff nurses working on a psychiatric inpatient unit of a general hospital (Hanrahan, Aiken, McClaine, & Hanlon, 2010). Organizational factors of the NPE were measured using the Practice Environment Scale-Nurse Work Index (PES-NWI; Lake 2002). Burnout was measured using the MBI (Maslach & Jackson, 1996). Results of this study indicated that better work environments were associated with lower psychiatric nurse burnout (Hanrahan, Aiken, McClaine, & Hanlon, 2010). More specifically, a report of better work environment resulted in lower scores on emotional exhaustion and depersonalization. Findings of this study also suggested that the skill level of nurse managers, quality of nurse-physician relationships, and adequate patient to nurse staffing were among the strongest predictors of psychiatric nurse burnout (Hanrahan, Aiken, McClaine, & Hanlon, 2010).

The current study focuses exclusively on possible protective factors within the work environment of psychiatric nurses. It does not include individual variables. It also examines the possible moderating effect of workload. The analyses of this study allows for two views of the function of protective factors within the same study (as a correlate or as a main effect).

Hypotheses

1. It was expected that staff nurses who reported the presence of Transformational leadership qualities in the work environment would have low scores on Emotional

Exhaustion and Depersonalization (indicating low levels of Emotional Exhaustion and Depersonalization), and high scores on Personal Accomplishment (indicating high levels of Personal Accomplishment). Nurses who reported higher levels of Work Role Autonomy were also expected to report low levels of Emotional Exhaustion and Depersonalization, as well as high levels of Personal Accomplishment.

2. Workload was expected to moderate the relationship between burnout and protective factors, defined as work role autonomy and leadership style.

Methods

Participants

A power analysis based on a medium effect size was conducted in order to estimate necessary sample size. For analyses with correlation coefficients (2-tailed test, *alpha*=.05) to have a power of .85, 92 subjects were needed. For a regression analysis with two independent variables with medium effect sizes for the main effects and a medium effect size for the interaction term (*alpha*=.05), 80 subjects were expected to provide a power of .86 for the main effect, and to detect the interaction. Participants were licensed staff nurses employed by the New York State Office of Mental Health (OMH) and Montana State Hospital in Warm Springs, Montana. Ninety-two participants completed the survey. Three participants' data were excluded from the study due to job descriptions that were other than staff nursing. Approximately one-third of participants were employed at Montana State Hospital (n = 29). Sixty participants were employed at New York state hospitals. The majority of the sample was female (88%) and were licensed as RNs (61%).

Table 1

Demographic Variable	New York n= 53-60		Montana n = 28-29		t	df (corrected)	p
	Mean	SD	Mean	SD			
Age	49.4	10.3	44.5	10.5	-3.6	87	<.001
Length of time employed as a nurse (years)	21.4	11.1	12.7	9.5	-3.6	87	<.001
Length of time employed as psychiatric nurse (years)	14.0	10.1	8.7	8.5	-2.4	87	.017
Length of time at current hospital (years)	11.5	11.1	7.2	7.0	-2.2	80.4	.03
Size of current hospital (number of beds)	147	77.8	190	17.5	4.1	70.4	<.001
Hourly salary (dollars)	27.55	8.7	23.10	3.9	-3.2	77.4	.002

Categorical variables

Demographic Variable	New York *n*= 53-60	Montana *n* = 28-29
	n	*n*
Gender		
Male	9	2
Female	51	27
Other	0	0
Nursing degree/licensure		
RN	38	16
LPN	5	7
BSN	15	5
CNS	1	0
Other	1	1
Type of Unit		
Adult Acute	9	4
Adult Chronic	11	7
Child/Adolescent	11	0
Geriatric	0	2
Forensic	7	5
Psych. Rehab.	4	7
Other	18	4

Note:

Chi Square analyses did not reveal any significant differences between Montana and New York with regard gender, degree/licensure, or type of unit.

Instruments

Burnout. The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) is 22-item self-report measure of burnout (Maslach & Jackson, 1996). The Human Services Survey of MBI is used for workers that spend considerable time working with other people. The items are grouped into three subscales: Emotional exhaustion, Depersonalization, and Personal accomplishment. Emotional exhaustion is characterized

by items such as, “I am emotionally drained from my work.” Depersonalization captures negative and cynical attitudes towards patients with items such as, “I feel I treat some recipients as if they were impersonal objects.” The final scale, personal accomplishment, assesses how the individual evaluates him or herself, particularly in relation to working with clients. Items assessing personal accomplishment include, “I have accomplished many worthwhile things in this job.” Items are rated on 0 (*never*) to 6 (*everyday*) Likert-type scales. Higher scores of emotional exhaustion and depersonalization subscales reflect higher levels of burnout, whereas low scores on Personal accomplishment indicate high levels of burnout. In the current sample, internal consistency reliability coefficients (Cronbach’s *alpha*) for the subscales were .922 for Emotional Exhaustion, .616 for Depersonalization, and .742 for Personal Accomplishment, with Depersonalization falling below the conventional .70 adequacy range. Test-retest reliability assessed by other researchers has ranged from low to moderately high, and all coefficients were significant beyond the .001 level. The MBI-HSS has also been found to have moderate convergent and discriminant validity.

Risk factors. A self-report measure of workload developed for this study was utilized in which participants reported total number of weekly work hours, as well as the total number of patients served. This is included as Appendix A. When all items of the workload measure were combined, internal consistency was low (Cronbach’s *alpha* = .123). Therefore, two other indices were created. The first consisted of the product of two items used in previous literature (Shirom, Nirel, & Vinokur, 2006; Spector, Dwyer, & Jex, 1988), number of patients and patient difficulty. The second index was created using the first factor extracted from a Principal Components Analysis three factor solution.

Protective Factors. The protective factors that were examined in the proposed study are leadership style and work role autonomy. Specifically, leadership style was assessed using the Multifactor Leadership Questionnaire (MLQ) 5X-Short (Bass & Avolio, 2004). This survey consists of 45 items that measure a number of leadership styles. The dimensions of the MLQ are Transformational leadership, Transactional leadership, Passive style, and Avoidant style. Extra Effort, Effectiveness, and Satisfaction are also measured. For the purposes of this study, items of the MLQ associated with Transformational leadership were examined. These items tap into five categories: Idealized Influence (Attributed), Idealized Influence (Behavioral), Inspirational Motivation, Intellectual Stimulation, and Individual Consideration from the individual's perspective on their nurse leader.

Level of work role autonomy was measured using the Nursing Work Index—Revised (NWI-R; Aiken & Patrician, 2000). The NWI-R is a 57-item self-report measure of hospital organizational characteristics such as Autonomy, Control over the work environment, Relationships with physicians, and Organizational support for caregivers. For the purposes of this study, the Autonomy subscale was examined.

Design and Procedures

Questionnaires were posted online through The University of Montana's server using Survey Systems software. Nurses accessed the questionnaire via their institution's browser. Individuals who completed the questionnaire remained anonymous. Incentives for participation involved an opportunity to enter a raffle for one of ten, ten dollar gift cards.

Analyses

1. Pearson product-moment correlations were used to evaluate Hypothesis 1. It was expected that transformational leadership scores would be negatively correlated with scores on emotional exhaustion and depersonalization, and positively correlated with scores on personal accomplishment. It was also expected that work role autonomy scores would be negatively correlated with emotional exhaustion and depersonalization scores, as well positively correlated with scores on personal accomplishment.
2. The possible moderating effects of workload on the relationship between protective factors and burnout were evaluated as recommended by Baron and Kenny (1986) using linear regression. Scores on the NWI-R and MLQ 5X Short were converted to z scores. The independent variables (workload, protective factors) were then centered on their means. Under the assumption that the moderation effect was linear, the product of the moderator (workload) and the independent variable (protective factors) was entered into the regression equation, as described by Cohen and Cohen (1983) and Cleary and Kessler (1982). This was done for two separate workload measures. One was defined as the product of number of hours worked per week and the rated difficulty of patient population and the second was defined as factors scores on six of the workload items (see Appendix F).

Results

Statistical Analyses

The summary statistics presented in Table 2 include sample means for the three components of burnout. When compared to a normative mental health employee population, the means for the current sample are reflective of high levels of emotional exhaustion and depersonalization. Personal Accomplishment was high in the current sample, indicating a low level of burnout.

Table 2

Mean Burnout Scores

Burnout Component	Mean	Standard Deviation	Normative sample mean	Normative Sample *SD*
Emotional Exhaustion	31.02	1.03	16.89	8.90
Depersonalization	12.16	5.58	5.72	4.62
Personal Accomplishment (Higher scores reflect low burnout)	43.44	8.65	30.87	6.37

Pearson product moment correlations with two-tailed tests of significance were used to test hypothesis one. Correlations of study variables for the first hypothesis are located in Table 2. Transformational leadership style was correlated negatively with emotional exhaustion and was positively correlated with personal accomplishment. Autonomy was negatively correlated with emotional exhaustion and depersonalization and positively correlated with personal accomplishment. There was a negative but non-significant correlation between Depersonalization and Transformational leadership. Thus, the first hypothesis that transformational leadership and autonomy scores would be negatively

correlated with scores on emotional exhaustion and depersonalization and positively correlated with scores on personal accomplishment was partially supported by five of the six correlations tested.

Table 2

Correlations of Protective Factors with the three Burnout factors

Protective Factor	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Transformational Leadership	-.307**	-.146	.400**
Autonomy	-.332**	-.242*	.441**

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

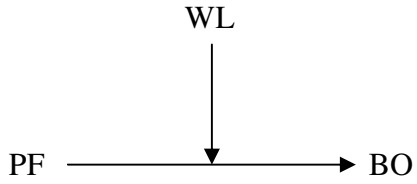
Workload as a Moderator

Three sets of separate hierarchical multiple regressions were performed to assess the possible moderating effects of workload on the three components of burnout. Workload was initially defined as the product of number of hours worked per week and the rated difficulty of patient population, as modeled by previous studies (Shirom, Nirel, & Vinokur, 2006; Spector, Dwyer, & Jex, 1988). Variables of workload, transformational leadership, and autonomy were centered on their means and then converted to *z*-scores. Interactions between workload and protective factors were created by taking the product of workload with each of the two protective factor variables.

In all three regression models, standardized workload was entered at step one, followed by standardized scores of transformational leadership and autonomy (entered together). Finally, the two interactions (multiplicative terms) of workload with transformational leadership and autonomy, respectively, were entered into step three. The following diagram represents the regression model used for this study.

Model 1

Model for Regression Analysis



In the first model, the product workload measure was examined as a moderator of the relationship between protective factors and emotional exhaustion. As depicted in Table 4, workload was entered at step one and explained only .3.6% of the variance in emotional exhaustion. After entry of the protective factors at step two, the amount of variance explained was 20.9%, with protective factors accounting for an additional 17.2% of the variance. The interaction terms entered in step three only accounted for an additional 3.2% of the variance in the dependent variable, indicating that workload did not moderate the relationship between protective factors and emotional exhaustion, *F Change* (2, 74) = .1.578, $p > .05$. The overall model which included workload, protective factors, and the interaction between workload and protective factors were statistically significance, F (5,74) = 4.699, $p < .05$.

In the second model, workload was examined as a moderator of the relationship between protective factors and depersonalization. At step one, workload explained 4.5% of the variance in depersonalization. After entry of the protective factors at step two, the amount of variance explained was 3% above and beyond workload alone. The interaction terms entered at step three only explained 2.4% of the variance of the model over and above workload and protective factors, *F Change* (2, 75) = .994 $p > .05$. Thus, workload was not found to moderate the relationship between protective factors and

depersonalization. The overall model which included workload, protective factors, and the interaction between workload and protective factors was not statistically significance, F (5,75) = 1.649, $p > .05$.

A third hierarchical regression analysis was used to examine the possible moderating effects of workload on the relationship between protective factors and personal accomplishment. At step one, workload explained 0% of the variance in personal accomplishment. After entry of the protective factors at step two, the amount of variance explained over and above workload was 12.6%. The interaction terms entered at step three explained only 2.1% of the variance above and beyond that which was explained by protective factors and workload alone, indicating that workload was not a significant moderator in the relationship between personal accomplishment and protective factors, F *Change* (2, 75) = .907, $p > .05$. The model as a whole was significant, F (5, 75) = 2.591 $p < .05$. Overall, hypothesis two was not supported in this first set of analyses, indicating that the product of Workload 1 and protective factors did not significantly buffer the relationship between protective factors and burnout.

Table 4

Regression with dependent variables of Emotional Exhaustion, Depersonalization, and Personal Accomplishment using Workload1 (computed as number of hours worked per week x patient difficulty), Transformational Leadership, and Autonomy, and their interactions as predictors

Burnout Component (DV)	Independent Variable	R^2	R^2 *Change*	Final *Beta*	Significance of Change
Emotional Exhaustion	Workload (WL1)	.036	.036	.211	.090
	Autonomy (A)	.209	.172	-.083	.001*
	Transformational Leadership (TL)			-.303	
	WL1 x A	.241	.032	-.231	.213
	WL1 x TL			.056	
Depersonalization	WL1	.045	.045	.218	.057
	A	.075	.030	-.093	.292
	TL			-.083	
	WL1 x A	.099	.024	-.191	.375
	WL1 x TL			.225	
Personal Accomplishment	WL1	.000	.000	.001	.858
	A	.127	.126	.075	.006*
	TL			.274	
	WL1 x A	.147	.021	.220	.408
	WL 1x TL			-.164	

* $p < .05$

During the initial data analyses questions came up about the hours *x* difficulty workload measure, and a Principle Components Analysis was conducted of the workload items. In general the workload items seemed to tap different components, and the items “number of hours worked per week” and "patient difficulty" loaded separately on two of the extracted components. For this reason, a second workload measure (WL2) was created and entered into the regression equations described above in place of WL. This

measure was computed as a score on the first factor from a three factor solution (see Appendix F). This factor primarily loaded on hours worked, length of shift worked, frequency of floating, and floating as a negative experience. This component was named "Shift Length and Floating" and accounted for 20.92% of the variance in the workload items. Three similar models were constructed using this new workload measure.

In the first model, Workload 2 was examined as a moderator of the relationship between protective factors and emotional exhaustion. As depicted in Table 5, Workload 2 was entered at step one and explained 7.6% of the variance in emotional exhaustion. After entry of the protective factors at step two, the amount of variance explained was 21%, with protective factors accounting for an additional 13.4% of the variance. The interaction terms entered in step three only accounted for an additional 1.1% of the variance in the dependent variable, indicating that workload did not moderate the relationship between protective factors and emotional exhaustion, *F Change* (2, 75) = 505, $p > .05$. The overall model which included Workload 2, protective factors, and the interaction between workload2 and protective factors was statistically significant, $F(5,75) = 4.249$, $p < .05$.

In the second model using Workload 2, Workload 2 was examined as a moderator of the relationship between protective factors and depersonalization. At step one, Workload 2 explained 2.8% of the variance in depersonalization. After entry of the protective factors at step two, the amount of variance explained was 8.1% above and beyond workload alone. The interaction terms entered at step three explained 2.5% of the variance of the model over and above Workload 2 and protective factors, *F Change* (2, 77) = 1.104 $p > .05$. Thus, Workload2 was not found to moderate the relationship

between protective factors and depersonalization. The overall model which included workload, protective factors, and the interaction between Workload2 and protective factors was statistically significant, F (5,77) = 2.382, $p < .05$.

A third hierarchical regression analysis was used to examine the possible moderating effects of Workload 2 on the relationship between protective factors and personal accomplishment. At step one, Workload2 explained 0% of the variance in depersonalization. After entry of the protective factors at step two, the amount of variance explained over and above Workload2 was 15.4%. The interaction terms entered at step three only explained 1.1% of the variance above and beyond that which was explained by protective factors and Workload 2 alone, indicating that Workload 2 was not a significant moderator in the relationship between protective factors and personal accomplishment, F *Change* (2, 77) = .510, $p > .05$. The model as a whole was significant, F (5, 77) = 3.047, $p < .05$. Overall, hypothesis two was not supported in this second set of analyses, indicating that the product of Workload 2 and protective factors did not significantly buffer the relationship between protective factors and burnout.

Table 5

Regression equations with dependent variables Emotional Exhaustion, Depersonalization, and Personal Accomplishment using Workload 2 ("Shift length and floating" component score), Transformational Leadership, Autonomy and interaction as predictors

Burnout Component	Variable	R^2	R^2 *Change*	Final *Beta*	Significance of change
Emotional Exhaustion	Workload 2 (WL2)	.076	.076	-.200	.013*
	Autonomy (A)	.210	.134	-.091	.002*
	Transformational Leadership (TL)			-.285	
	WL2 x A	.221	.011	.130	.605
	WL2 x TL			.008	
Depersonalization	WL2	.028	.028	.260	.133
	A	.109	.081	-.236	.032*
	TL			-.027	
	WL2 x A	.134	.025	.151	.337
	WL2 x TL			.023	
Personal Accomplishment	WL2			-.070	.872
	A			.156	.001*
	TL			.273	
	WL2 x A			.022	.602
	WL2 x TL			-.117	

* $p < .05$

Upon examination of previous research, it became evident that other factors may need to be considered in the regression analyses. Specifically, the number of patients as well as difficulty of patient population were combined to create the interaction term patients *x* difficulty that was then entered into the first step of each model. This interaction term will now be referred to as "Workload3." In the first model, Workload3 was examined as a moderator of the relationship between protective factors and emotional exhaustion. As depicted in Table 6, Workload3 was entered at step one and

explained .3% of the variance in emotional exhaustion. After entry of the protective factors at step two, the amount of variance explained was 17.7%, with protective factors accounting for an additional 17.4% of the variance. The interaction terms entered in step three only accounted for an additional 1.9% of the variance in the dependent variable, indicating that workload did not moderate the relationship between protective factors and emotional exhaustion, *F Change* (2, 75) = .867, $p > .05$. The overall model which included Workload3, protective factors, and the interaction between workload and protective factors was statistically significant, F (5,75) = 3.652, $p < .05$.

In the second model using Workload3, Workload3 was examined as a moderator of the relationship between protective factors and depersonalization. At step one, Workload3 explained .7% of the variance in depersonalization. After entry of the protective factors at step two, the amount of variance explained was 5.4% above and beyond workload alone. The interaction terms entered at step three explained .6% of the variance of the model over and above Workload3 and protective factors, *F Change* (2, 77) = .232 $p > .05$. Thus, Workload3 was not found to moderate the relationship between protective factors and depersonalization. The overall model which included workload, protective factors, and the interaction between Workload3 and protective factors was not statistically significant, F (5,77) = 1.094, $p > .05$.

A third hierarchical regression analysis was used to examine the possible moderating effects of Workload3 on the relationship between protective factors and personal accomplishment. At step one, Workload3 explained .2% of the variance in depersonalization. After entry of the protective factors at step two, the amount of variance explained over and above Workload3 was 15.1%. The interaction terms entered

at step three only explained .7% of the variance above and beyond that which was explained by protective factors and Workload3 alone, indicating that Workload3 was not a significant moderator in the relationship between protective factors and personal accomplishment, F *Change* (2, 77) = .338, $p > .05$. The model as a whole was significant, F (5, 77) = 2.922, $p < .05$. Overall, hypothesis two was not supported in this third set of three analyses either, indicating that the product of Workload3 and protective factors did not significantly buffer the relationship between protective factors and burnout.

Table 6
Regression equations with dependent variables Emotional Exhaustion, Depersonalization, and Personal Accomplishment using Workload 3 (number of patients x patient difficulty), Transformational Leadership, Autonomy and interaction as predictors

Burnout Component	Variable	R^2	R^2 *Change*	Final *Beta*	Significance of change
Emotional Exhaustion	WL3	.003	.003	-.124	.606
	Autonomy (A) Transformational Leadership (TL)	.177	.174	-.146 -.246	.001*
	WL3 x A WL3 x TL	.196	.019	.157 .142	.424
Depersonalization	WL3	.007	.007	.116	.457
	A TL	.061	.054	-.220 -.035	.110
	WL3 x A WL23x TL	.066	.006	-.074 .045	.793
Personal Accomplishment	WL3	.002	.002	-.067	.726
	A TL	.152	.151	.171 .295	.002*
	WL3 x A WL3 x TL	.159	.007	.057 .118	.714

* $p < .05$

Discussion

The purpose of this study was to determine what protective factors, if any, might serve to protect against the construct of burnout. Overall, results of this study indicated that the sample was experiencing high levels of emotional exhaustion and depersonalization when compared to the normative sample of mental health workers. This is consistent with previous literature indicating that nurses are at a higher risk for experiencing burnout when compared to other medical staff (Miller, Reesor, McCarrey, & Leikin, 1995). More importantly, this study is one of the first to our knowledge that examines environmental factors that may protect nurses in a psychiatric setting. Previous research examining nurse burnout has focused largely on other areas, such as medical-surgical nursing (Hanrahan, Aiken, McClaine, & Hanlon, 2010). Empirical research in this field of nursing has led the Institute of Medicine (2003) to emphasize the role of organizational support in nursing practice and its effect on patient care.

Overall, the correlation and moderation analyses revealed that the components of burnout appear to function in different ways. Transformational leadership style correlated negatively with emotional exhaustion and was positively correlated with personal accomplishment. Autonomy was negatively correlated with emotional exhaustion and depersonalization and positively correlated with personal accomplishment. The first hypothesis, that transformational leadership and autonomy scores will be negatively correlated with scores on emotional exhaustion and depersonalization and positively correlated with scores on personal accomplishment, was partially supported. Somewhat surprisingly, transformational leadership was not strongly correlated with depersonalization (although this non-significant correlation was in the negative direction,

as predicted). It is possible that this correlation (r = -.146) would be significant given a larger sample size. Alternatively, depersonalization may be a construct that is less related to transformational leadership than emotional exhaustion and personal accomplishment. This may be because the construct of depersonalization is more closely tied to trait characteristics of an individual rather than the environment.

The second hypothesis was not supported. No significant workload *x* protective factor moderation terms were found in the regression analyses. Future analyses of workload as a moderator may benefit from using more of the factors extracted from the principal components analysis. The scores used for the second regression analyses (WL2) were based on the first component, which accounted for only 20.92% the variance in the items.

With nursing burnout on the rise, more research in protective factors is needed. Not only is the level of burnout increasing, but turnover rates in the nursing profession are also increasing (Fawzy, Wellisch, Pasnau, & Leibowitz, 1983; Miller et al., 1995). Factors contributing to nursing burnout appear to vary widely; however, the current study has aided in identifying possible protective factors that are characteristic to the workplace. These findings may assist in the attempt to reduce turnover rates. Interventions geared towards educating staff about the deleterious effects of burnout as well as ways to help protect against it may prove to be cost effective by reducing turnover. In a review of interventions to improve staff morale, Gilbody and colleagues (2006) examined a study that showed $62,000 in net cost savings due to reduced staff sickness and turnover.

The results of this study are expected to provide further insight into possible environmental protective factors for nurse burnout. The current study has expanded upon

the findings of Hanrahan and colleagues (2010) and demonstrated that leadership style and work role autonomy appear to be environmental factors that may protect against burnout in nurses, as suggested in previous research (Kanste, Kyngas, & Nikkila 2007; Mrayyan, 2003). In particular, leadership style has the ability to be integrated into staff training and orientation. An interesting and recent finding by Hanrahan and colleagues (2010) suggests that not only are relationships between staff nurses and nurses leaders likely to be associated with burnout, but relationships between nurses and physicians are also directly linked. This raises questions about the ways in which collaborations with other treatment providers may affect levels of burnout in psychiatric nurses.

These data also suggest that workload has some implication for acting as a potential buffer between protective factors and components of burnout. However, the workload measure we created may not have been as successful in measuring workload. Using a principle components analysis, we were able to identify items from our measure that loaded on to three extracted components. Further investigation of items that load into these constructs may help improve our ability to identify the role of workload in moderating the relationship between protective factors and burnout. More research needs to be conducted examining these and other environmental protective factors, as well as the impact of workload. Future research should also examine ways in which these protective factors can be implemented in the hospital and training settings.

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Appendix A

Demographic Questionnaire

1. What is your gender?

Male ____ Female _____ Other: _____

2. What is your age?

3. What is your nursing degree? (circle one)

   RN LPN BSN CNS APRN

4. How many years have you been working as a nurse?

5. How many years have you been working as a psychiatric nurse?

6. How long have you been working at your current hospital of employment?

7. What is the size of your current hospital of employment?

8. What type of unit do you primarily work on? (circle one)

   Adult Acute Adult Chronic Child/Adolescent Developmentally Disabled

   Geriatric Forensic Psychiatric Rehabilitation Traumatic Brain

   Injury

9. What diagnoses are most common on this ward?

10. How many hours overtime, on average, do you work in one week?

11. What is your hourly salary?

12. Compared to other people I know, I feel I have reasonably good job security.

1	2	3	4	5	6	7	8	9
Not at all true for me				Moderately true for me				Very true for me

Appendix B

Measurement of Workload

1. How many hours per week, on average, do you work?

2. How many patients do you serve, on average, per shift?

3. Please rate the overall difficulty of the patient population you work with.

1	2	3	4	5	6	7	8	9
Not at all Difficult				Moderately difficult				Extremely difficult

4. What is the length of the shift you usually work?

5. How many shifts do you work per week?

6. Which shift do you typically work? (circle one)

   12 hour day 12 hour night 8 hour day 8 hour evening 8 hour night

7. To what extent do you choose the shifts you work?

1	2	3	4	5	6	7	8	9
Not at all				Sometimes				Always

8. How many hours overtime, on average, do you work in one week?

9. Do you float to other units? (circle one)

   Yes No

10. If you answered *yes* to Question 7, do you float to different types of psychiatric populations? If so, which ones?

11. If you answered *yes* to Question 7, how frequently do you float?

1	2	3	4	5	6	7	8	9
Not at all				Sometimes				Very often

12. If you answered *yes* to Question 7, do you find floating to be a positive experience?

1	2	3	4	5	6	7	8	9
Not at all				Sometimes				Always

Appendix C

Intercorrelations of Burnout and Protective Factor Scales

Intercorrelations of Burnout Scales

	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Emotional Exhaustion	1	.533**	-.434**
Depersonalization	.533**	1	-.476**
Personal Accomplishment	-.434**	-.476**	1

**$p < .01$

Intercorrelations of Protective Factor Scales

	Autonomy	Transformational Leadership
Autonomy	1	.665**
Transformational Leadership	.665**	1

**$p < .01$

Appendix E

Reliability of Burnout Measure

Reliability Statistics for the Maslach Burnout Inventory in current sample

Burnout Component	Cronbach's *alpha*	Cronbach's *alpha* Based on Standardized Items	*N* of Items
Emotional Exhaustion	.922	.921	9
Depersonalization	.616	.617	5
Personal Accomplishment	.742	.761	8

Appendix F

Principal Components Analysis of Workload Measure

Component Matrix

Workload Items	Component 1 "Shift length and floating"
How many hours do you work?	.302
Difficulty of patient population	-.094
What is the length of the shift you usually work?	.700
Hours overtime	.273
How frequently do you float?	.706
Is floating a positive experience?	-.667

Note:

Loadings > .400 are underlined. Component 1 accounted for 20.92% of the variance in the workload items. Three factors had eigenvalues >1 and accounted for 53.05% of the overall variance. The second workload measure (WL2) is computed as the factor score on this first component.

Appendix G

Correlation of Burnout and Workload Scales

Intercorrelations of Burnout and Workload Scales

	Workload 1	Workload 2	Workload 3
Emotional Exhaustion	.066	-.265*	.060
Depersonalization	.252*	.143	.148
Personal Accomplishment	.027	.015	.-090

*$p < .05$

Note:

Workload 1 was defined as the product of number of hours worked per week and the rated difficulty of patient population. These terms were standardized before creating the interaction term. Workload 2 was computed as a score on the first factor from a three factor solution (see Appendix F). This factor primarily loaded on hours worked, length of shift worked, frequency of floating, and floating as a negative experience. Finally, Workload3 defined using the product of patients *x* difficulty. These terms were standardized before creating the interaction term.