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An Investigation of Stress and Burnout in Hospital Registered Nurses

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AN INVESTIGATION OF STRESS AND BURNOUT IN HOSPITAL REGISTERED NURSES

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ABSTRACT

AN INVESTIGATION OF STRESS AND BURNOUT

IN HOSPITAL REGISTERED NURSES

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This study investigated job stressors and burnout among hospital registered nurses and was based on a systems theory model in which inputs and throughputs interact to effect outputs. Job stressors were measured using the Job Stress Questionnaire (JSQ). Top-ranked stressors included heavy work load, insufficient resources, and inability to satisfy conflicting demands. Burnout was measured using the three subscales (emotional exhaustion, depersonalization, and personal accomplishment) of the Maslach Burnout Inventory. Based on multiple regression analyses, total JSQ scores accounted for 21% of the variance in emotional exhaustion scores. Together, years of experience and an education level of BSN or BA accounted for 17% of the variance in depersonalization scores. Age accounted for 11% of the variance in personal accomplishment scores. The interaction of stressors (inputs) and demographic and professional variables (throughputs) in producing burnout (output) was supported if burnout is based on the collective profile provided by the three subscales.

Dedicated to the Staff of Critical Care and Telemetry

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I would like to thank my parents, Curtis and Margaret Maynard, for their loving encouragement; my friend, Gail Venner, for opening the door; my friend, James Sugrue, for technical assistance; and my chairperson, Pat Underwood, for her kind and patient help.

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CHAPTER ONE

INTRODUCTION

Both quantity and quality of nursing care may be negatively affected by stress and burnout. In a study by Motowidlo, Packard and Manning (1986), hospital nurses who perceived high levels of occupational stress were rated lower in work performance by supervisors and colleagues. According to Chriboga and Bailey (1989), stressors in the workplace may result in a burnout syndrome and burnout results in low productivity. Norbeck (1985) concluded that job stress may directly and indirectly affect the quality of nursing care provided to patients and patients' families. Gray-Toft and Anderson (1981) investigated causes and effects of job stress in hospital nurses and their findings supported the hypothesis that higher levels of stress experienced by registered nurses leads to significant reductions in job satisfaction and higher turnover rates in this group. Other studies (Albrecht, 1982; Cronin-Stubbs & Velso-Friedrich, 1981; Seuntjens, 1981) have also contended that job stress and burnout are major causes of job turnover and poor job performance among hospital nurses. In view of the recent and historically reoccurring nursing shortages and competitive climate among hospitals, it behooves hospital management to investigate stress and burnout among staff nurses.

Burnout is a dysfunctional response to stress. The initial step in

finding creative solutions to the problem of burnout necessitates an assessment of the contribution of specific stressors to high levels of burnout. The purposes of this study are to describe hospital registered nurses' perceptions regarding frequency and intensity of specified job stressors and to determine the extent to which specific job stressors are associated with higher levels of burnout. This study replicates an investigation by Lobb and Reid (1987) that was conducted at a large tertiary care teaching hospital and used a voluntary sample of registered nurses. Lobb and Reid (1987) measured job stressors using the Job Stress Questionnaire, measured burnout by using the Maslach Burnout Inventory, and correlated data from these tools. Ivancevich and Matteson's model (see Appendix A) for assessing burnout was used as the conceptual framework for Lobb and Reid's (1987) investigation and for the current investigation. Lobb and Reid (1987) recommended the replication of their study in varied institutional settings in order that findings might be generalized.

CHAPTER TWO

REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

In reviewing related literature, several studies identify sources of stress among hospital nurses. Other studies consider consequences of stress such as burnout. Lobb and Reid (1987) based their study on Ivancevich and Matteson's model (1981) which linked stressors to burnout. Ivancevich and Matteson's model is also used as the conceptual framework for the current investigation.

Review of Literature

In a recent review of research on stress in nursing, Chiriboga and Bailey (1989) noted that the stressful nature of nursing practice has captured the attention of investigators since the early 1960s. More than 100 articles on this subject have been published during the past quarter century, although most appeared in the past 5 years. Burnout has been identified as one of the more significant outcomes of the inability to cope with high levels of perceived job stress and has been discussed in the nursing literature since 1978 (Cronin-Stubbs & Rooks, 1985). Lavandero (1981) stated that the detrimental effects of burnout on an already beleaguered nursing staff are evident and called for research to identify factors that might affect the degree of burnout. Lewandowski and Kositsky (1983) included stress and burnout among nurses in a list of the top ten research priorities affecting the welfare of critically ill patients and

thus needing to be addressed by the profession.

Sources of stress. Some of the descriptive studies found in the nursing literature are designed to identify stressors that have an impact on hospital nurses. Ivancevich and Matteson (1980) devised a Stress Diagnostic Survey to assess which job factors create stress for registered nurses and then used this tool to survey a convenience sample of 105 hospital registered nurses attending an inservice seminar. Two classifications of stressors were used: hospital-focused and job-focused. The hospital-focused set of stressors designated those factors that are part of the hospital's procedures, policies, and programs, and included in this category were stressors such as politics, communications and rewards. The job-focused set of stressors specified those factors that are inherent in the job and included such stressors as role conflict, role overload, and responsibility for people. The authors found that the five most stressful hospital-focused categories were human resource development, politics, working conditions, rewards, and communications. At the job level category, the five most stressful areas were responsibility for people, time pressures, role conflict, relationships with other nurses, and relationships with superiors.

In another study aimed at identifying stressors among nurses, Cronin-Stubbs and Velso-Friedrich (1981) devised a semi-structured assessment guide to survey a convenience sample of 65 nurses (65% hospital staff nurses, 19% supervisors and 16% school nurses; did not specify if registered nurses) attending a workshop on stress management. The survey was intended to identify the sources of stress, methods of coping, and responses related to professional and personal stress. Content analysis was performed to determine meaningful trends. The authors

found that interpersonal relationships with co-workers, supervisors, subordinates, physicians, patients and new employees were identified as the most frequently occurring professional stressors.

Oskins (1979) was concerned with the situational stressors identified by intensive care unit nurses and these nurses' ability to cope with or manage such environmental stressors. Oskins developed a questionnaire concerning stress perceptions and coping which asked specific questions relative to 12 potentially stressful situations. This sample consisted of 79 intensive care registered nurses representing 38% of the total population of intensive care nurses employed in the adult intensive care units of five participating hospitals. Stressful situations identified by this sample included poor staffing patterns, working with a high percentage of inexperienced personnel, families threatening to sue, the need to counsel the family of a dying patient by the busy intensive care nurse, presence of a very congested, busy, noisy intensive care environment, and the intensive care nurse working during a personal crisis.

Leatt and Schneck (1980) developed the Job Stress Questionnaire (JSQ) to measure the sources of stress and the frequency of stress as perceived by head nurses working in different types of specialities in hospitals. (The JSQ was later adapted by Lobb and Reid for their study of stress and burnout). A convenience sample of head nurses was surveyed with some attempt made to represent various size hospitals. Results were analyzed in two parts. First, the sources of stress common to all head nurses were analyzed to determine the content validity of the items and there was found to be considerable agreement among the head nurses about which situations were stress provoking and to what degree. Secondly, the frequency of the occurrence of stress situations was

examined to test the hypothesis that there were differences in stress across subunits. Factor analysis was performed to summarize the 21 items into categories. Based on the factor analysis, the most frequently occurring types of stress were patient-based stress, role-based stress, task-ambiguity stress, staff movement stress, and physician-based stress. Findings supported significant ($p < .05$) differences between the nine types of subunits for all types of stress except for role-based stress.

Leatt and Schneck (1985) also used the 21 item questionnaire developed for their 1980 study to analyze the nature of the relationship between a range of organization characteristics and stress. Responses of 1,265 nurses on 157 subunits were aggregated to form subunit scores on stress. On average, this sample comprised 40% of the total complement of nurses employed in each subunit. The percentage of registered and auxilliary nurses in this sample was not specified. It was expected that within nursing subunits, perceptions of stress would be more similar than the perceptions between subunits. The authors found that the highest ranking stress situations concerned work load, unavailable physicians and insufficient resources to complete the required work. Stepwise regression analysis was used to explore the importance of subunit technology, size, environment and context to subunit stress and the possible modifying effects of subunit structure and processes. Indicators identified for measuring environment such as structure were discussed in detail by the authors. Findings suggested some kinds of stress are common to all subunits whereas other stressors are associated with the technology of the subunits. For example, stress stemming from emotions associated with human trauma, suffering and death was significantly ($p < .05$) greater in intensive care units as compared to other types of subunits.

Mohl, Denny, Mote, and Coldwater (1982) were concerned with correlating unit type and stress levels. These investigators compared four units (two comparable general medicine units and two comparable intensive care units) with a total sample of 68 staff nurses. Self-report questionnaires were distributed to the nurses on each unit with response rates on the four units ranging from 65% to 95%. Stress levels were measured by a clinical distress checklist composed of the somatization, interpersonal sensitivity, depression, and anxiety subscales from the Symptom Distress Check List (Derogatis, Lipman, & Covi, 1973). Work attitudes and some social systems factors were measured by the Work Environment Scale (Moos & Ensel, 1974). Based on their research findings, Mohl et al. (1982) concluded that the primary or major patient-care activity of a given unit is unrelated to distress levels among staff nurses.

Spoth and Konewko (1987) surveyed a sample of 241 nursing personnel from three acute and intermediate care hospitals. A Likert-type scale was developed by the investigators which yielded both frequency and intensity scores for various stressors. Holme and Rahe's (1967) social readjustment scale was used to measure stress precipitated by events outside of the intensive care unit. Spoth and Konewko (1987) found that the highest ranked stressors in terms of frequency were too many interruptions, lack of respect or consideration from physicians, and a need for rapid decision-making. The highest ranked stressors in terms of severity were physician not arriving quickly enough in time of crisis, too many interruptions, and lack of respect or consideration from physicians. Findings did not support a relationship between potentially stressful life change events and various dimensions of intensive care unit stress and no significant relationship was found between age or experience level and

cumulative frequency or severity of the identified stressors.

Numerof and Abrams (1984) developed an instrument called the Nursing Stress Inventory based on structured interviews with registered nurses and licensed practical nurses and administered this instrument to a convenience sample of 154 full-time registered and licensed practical nurses in a medium-sized, religious-affiliated hospital. Factor analysis identified six areas of stress: organizational environment, work demand, emotional aspects of patient care, death-related issues, lack of procedural and administrative support, and supervisor's role. Numerof and Abrams (1984) used the model proposed by Matteson and Ivancevich (1979) which considers personality factors as moderating variables, intervening between stressors and perceived stress. Their sample also responded to a questionnaire concerned with the interpersonal needs of inclusion, control, and affection and to a demographic and professional characteristics questionnaire which included age, education and experience. Stress scores were correlated with specific personality and demographic findings.

These studies are examples of investigations which have been helpful in identifying and clarifying the stress and stressors perceived by nurses. Common sources of stress among these studies include patient-based stressors, work demand related stressors , and interpersonal relationships, particularly with physicians. However, the question arises as to whether or not nursing stress and stressors can be linked to negative outcomes. Moreover, if stress and stressors can be linked to negative outcomes such as burnout, what are the particular stress factors most likely to be associated with burnout?

Outcomes of stress. Albrecht (1982) used a modified version of the Maslach Burnout Inventory to explore the way nurses experienced stress. He found burnout to be a serious problem in a sample of 101 registered and licensed practical nurses representing five units at a major metropolitan hospital. Albrecht asked the nurses in the sample how satisfied they were with various aspects of their roles as nurses. He found a significantly negative relationship existed between satisfaction with salary and burnout, between satisfaction with supervisors and burnout, and between satisfaction with coworkers and burnout. Coping strategies also were investigated. Albrecht (1982) found that the increased use of certain coping strategies, e.g., overeating, partying and talking with spouse or roommates, related to increased burnout levels. Other coping strategies were found to be negatively correlated with stress levels, e.g., talking with supervisor, prayer and seeking out coworkers in the same unit, and many commonly advocated strategies, e.g., trying to take time off, did not correlate at all.

Dolan (1987) also used the Maslach Burnout Inventory to test the hypothesis that high job satisfaction would be associated with low burnout. The sample was composed of three groups from nine Dublin city hospitals: 30 psychiatric staff nurses, 30 general staff nurses, and 30 administrative staff acting as a control group. A supplementary questionnaire was constructed in order to ascertain respondent's overall levels of satisfaction as well as satisfaction in relation to clients, colleagues and superiors. The correlations from the three groups when averaged yielded a value of $r = .433$ ($p \leq 0.05$), indicating a highly significant correlation between burnout and job satisfaction.

Norbeck (1985) investigated the correlation of job stress, job

satisfaction and psychological symptoms of distress in a sample of 180 critical care registered nurses from eight hospitals. Norbeck found that factors perceived as stressful frequently are not those factors which have a significant impact on job dissatisfaction or symptom levels. In other words, factors associated with the intrinsic nature of critical care nursing (i.e., number of rapid decisions required, death of a patient, etc.) ranked with high frequency as stressors but were not related significantly to low job satisfaction or psychological symptoms. Work load, in contrast, ranked highly as a stressor and significantly ($p < .003$) related to low job satisfaction. Factors related to the physical environment related significantly ($p < .003$) to psychological symptom levels.

Dewe (1989) conducted an exploratory study in which he examined the concept of stress as excess demand by asking nurses to rate potentially stressful situations in three ways: in terms of frequency, tension and tiredness. Dewe created a tool to measure work stressors based on interviews with nurses. Fifty-three events were identified as stressors. This questionnaire was distributed to a sample of 2,500 nurses drawn from lists of nursing staff working in general and obstetric hospitals throughout the 29 hospital boards in New Zealand with a response rate of 81%. Using principal component analysis of the frequency scores of these 53 stressors, Dewe (1989) identified five major components of work stressors: work overload, difficulties relating to other staff, difficulties involved in nursing the critically ill, concerns over treatment of patients, and dealing with difficult or helplessly ill patients. For each of the five components (work stressors) a mean frequency, tension and tiredness score was generated. One finding was that work overload is commonly experienced by all nurses and that it was the one stressor which ranked

ahead of all others in terms of tension and tiredness.

Packard and Motowidlo (1987) investigated the undesirable effects of stress pertaining to work performance and job satisfaction. Using a sample of 366 staff nurses from five hospitals, they investigated the extent to which work conditions and individual variations among workers seem to coproduce stress reactions in hospital nurses. Based on exploratory path analyses, findings suggested that stress and job satisfaction are not directly related, but that stress, primarily acting through depression, is associated with lower levels of job performance.

In a descriptive correlational study, Cronin-Stubbs and Rook (1985) examined burnout in relationship to such stressors as intensity and frequency of job-setting stressors, life event changes, and social support. Self-report questionnaires were used to collect data from a sample of 296 staff registered nurses working in specialty areas in three large midwestern medical center hospitals. The authors found that occupational stress correlated ($p < .0001$) with burnout and it was the intensity rather than frequency of job stressors that contributed to burnout. Burnout measures also correlated ($p < .0001$) with undesirable personal changes and on-the-job and off-the-job social support.

Duxbury, Armstrong, Drew, and Henley (1984) investigated the relationship between head nurse leadership style and staff nurse burnout and job satisfaction in neonatal intensive care units. This sample consisted of 283 registered nurses employed in staff nurse positions in 14 neonatal intensive care units. The three instruments used in this investigation were self-report questionnaires measuring dimensions of job satisfaction, burnout, and leadership. Findings supported the correlation of higher levels of burnout with a leadership style characterized by high structure

(with emphasis on the achievement of organizational goals) and low consideration (with emphasis on concern for group member needs).

Mediators of stress. Some studies link burnout to qualities in the individual nurse which potentially make that individual more susceptible to burnout. For example, Cheatham and Stein (1982) investigated the correlation of burnout with self-actualization scores. Based on their findings they concluded that staff nurses who possess self-actualizing characteristics, regardless of age, years of experience and education, are less likely to experience burnout syndrome symptoms.

McCranie, Lambert, and Lambert, Jr. (1987) studied the role of hardiness, a specific constellation of personality characteristics, as a moderator of the impact of work stress on the degree of burnout experienced by hospital nurses. The sample consisted of 260 staff registered nurses working on 18 units in a 700-bed community hospital. Instruments used were self-report questionnaires measuring hardiness, burnout, and perceived job stress. In this investigation nurses who experienced more frequent work-related stress reported greater burnout. Nurses who exhibited less personality hardiness reported more burnout, but hardiness did not seem to prevent high levels of job stress from leading to high levels of burnout.

Topf (1989) also investigated personality hardiness, occupational stress and burnout. Topf surveyed a convenience sample of 100 critical care nurses using a stress scale consisting of 34 items and comprising six subscales: death and dying, conflict with physicians, inadequate preparation, lack of support, conflict with other nurses, work load, and uncertainty concerning treatment. Three separate tools were used to measure dimensions of hardiness (commitment, control and challenge)

and a composite score for hardiness was obtained for each subject. Burnout was measured using the Maslach Burnout Inventory and the Staff Burnout Scale for Health Professionals. Topf (1989) concluded that data did not provide convincing evidence of the stress buffering effect of hardiness but that findings did support the contention that less commitment to work is linked with greater burnout.

Summary. In summary, many of the studies concerned with stress and burnout in nursing are descriptive correlational studies using convenience samples and a variety of instruments, most typically self-report questionnaires. Many studies reflect the variety of sources suspected of generating stress reactions or susceptibility to stress. Some studies link specific stressors to undesirable stress responses such as burnout. Lobb and Reid (1987) specifically addressed the question of which particular stressors correlate most with burnout. The results of this study identified one job stress category consisting of heavy work load, insufficient resources, and conflicting demands as having the highest overall association with the three aspects of perceived burnout identified by the Maslach Burnout Inventory. A stepwise multiple regression maximum R square improvement model was used to measure the combined impact of job stress factors and demographic variables on each of the burnout sub-scales. The most significant variable on the emotional exhaustion sub-scale was younger age, followed by the job stress category consisting of heavy work load, insufficient resources and conflicting demands. Together, these variables accounted for 31% of the variance. In this sample the relatively younger nurses (age not specified) reported significantly high levels of burnout and found all measured job stress factors to be significant stressors. This study is a modified replication

of Lobb and Reid's study.

Conceptual Framework

Ivancevich and Matteson's (1981) model for assessing burnout was used as a conceptual framework for this study (see Appendix A). This managerial model follows a systems theory approach in which inputs and throughputs interact to effect outputs. In Ivancevich and Matteson's model, inputs are environmental stressors, e.g., poor equipment, lack of managerial support, lack of participation, lack of career opportunities, and relationships with superiors and co-workers. Throughputs are characteristics of the individual which are potential moderators of stress, e.g., needs, experience, and self-esteem. Outputs are the consequences of dysfunctional stress, e.g., fatigue, increased accidents, poor concentration, coronary disease, and absenteeism. This model is intended to be illustrative and not exhaustive, and to show that dysfunctional stress is not simply a characteristic of either the environment or the individual, but results from an interaction between the two (Ivancevich & Matteson, 1981).

In Lobb and Reid's investigation the scope of inputs, throughputs, and outputs is limited by the instruments used. In analyzing their data, Lobb and Reid (1987) found four discrete job stress factors or inputs emerged: responsibility for patients with complex needs and deficits; heavy work load, insufficient resources, and conflicting demands; poor working relations with physicians, patients and families; and floating off permanently assigned unit. Lobb and Reid (1987) correlated these factors with four of the six environmental stressors in Ivancevich and Matteson's model: role on job, structure and climate, relationships and job-associated stressors. Lobb and Reid (1987) considered variables such as

age, race, marital status, number of children, reiligiosity, specialty area, years of experience as a registered nurse, and educational preparation to be throughputs or mediators of person stressors. The output measured in Lobb and Reid's (1987) study was burnout, using the burnout subscales of emotional exhaustion, depersonalization and personal accomplishment.

In the current investigation, inputs or environmental stressors are the situations identified by the Job Stress Questionnaire (JSQ) used by Lobb and Reid (1987). Factor analysis was not performed in the current investigation. However, the situations described by the JSQ represent several of the categories of environmental stressors identified in Ivancevich and Matteson's model. For example, situations described by the JSQ relate to job overload, role responsibilities and job relationships. In the current investigation throughputs or person stressors are represented by the demographic and professional characteristics of age, years of experience, hours worked per week and educational preparation; and output or consequence of dysfunctional stress is burnout as measured by the subscales (emotional exhaustion, depersonalization and personal accomplishment) of the Maslach Burnout Inventory.

Hypotheses

The purposes of this study were to describe hospital registered nurses' perceptions regarding frequency and intensity of specified job-related stressors and to determine the extent to which these specific stressors were associated with higher levels of burnout. The first question to be answered was: What are the major sources of job stress identified by staff registered nurses? The second question was: What is the relationship between scores on the job stress questionnaire and scores on the three burnout subscales (emotional exhaustion, depersonalization and personal

accomplishment)? It was hypothesized that higher scores on the Job Stress Questionnaire would relate to higher scores on the three burnout subscales. The third question asked was: What proportion of the variance in the three burnout subscales can be explained by the demographic and professional data information? It was hypothesized that only the variable of age would explain a significant proportion of the variance in levels of emotional exhaustion, depersonalization and personal accomplishment.

Definitions

The key terms to be defined for this study are stress, job stressors and burnout. Stress is defined as the response of the body and perceptual systems to a stressor (Ivancevich & Matteson, 1980). A stressor is the possible causative agent. Thus stress is the response of a person's physiological and perceptual systems in an effort to adapt to the stressors (Ivancevich & Matteson, 1980). In and of itself, stress is viewed as neither good nor bad. Job stressors involve those demands encountered within the roles and functions of employment. For this investigation, job stressors were identified as inputs.

Maslach (1979) defined burnout as "the loss of concern for the people with whom one is working ... characterized by an emotional exhaustion in which the professional person no longer has any positive feeling, sympathy or respect for patients or clients" (Maslach, 1979, p. 113). A complex of maladaptive psychological, physiological and organizational behaviors such as those indicated in Ivancevich and Matteson's (1981) model are associated with this loss of concern. Maslach's definition of burnout is used for the current study and burnout is identified as the output or consequence of dysfunctional stress.

CHAPTER THREE

METHODOLOGY

Research Design

This study used a descriptive correlational design. This was a cross-sectional approach using structured, self-report questionnaires. Staff registered nurses at a small community hospital were asked to complete tools concerned with selected stressors, burnout, and demographic and professional variables. The use of such a design was appropriate and practical for the type of questions being asked in this study. A disadvantage of this approach was that participation was unlikely to be 100% because participation was voluntary. It is not known if the reason to participate or not participate was a variable which affected the findings in this study. Approval of human subject review boards was obtained from Grand Valley State University and the hospital involved in this study.

As noted by Lobb and Reid, collecting information from a single institution, and from a volunteer sample, does limit the generalizability of the findings to the target population--all hospital registered nurses. It is assumed that generalizability of findings will be strengthened in proportion to the number of replication studies with congruent findings. It is not known what effect concurrent events might have had on survey responses. For example, if hospital census were unusually high at the time these surveys were distributed, this might have had an impact on

perceptions regarding stress and burnout.

Sample and Setting

The setting for this study was a private, non-profit hospital operating 185 beds in western Michigan. The proposed accessible population for this study was all regularly scheduled staff registered nurses on the medical-surgical, critical care and telemetry units. All 90 nurses in this category were contacted and 54 nurses responded. Participation of staff was voluntary. On the assumption that management and non-management perceptions of stressors might differ and in an effort to control this extraneous variable, the sample for this replication study was limited to non-management subjects.

The sample ranged in age from 22 to 53 years, with a mean age of 40.0 years (SD = 7.30). The average number of hours worked per week ranged from 16 to 48 hours per week, with a mean number of 31.2 hours (SD = 9.17) worked per week. Years of experience ranged from 1 to 33 years of experience, with a mean years of experience of 12.7 years (SD = 9.22). The sample was distributed across the three educational preparations with 39.6% from hospital diploma programs, 35.8% from associate degree programs, and 24.5% from BSN or BA (nursing or non-nursing) programs (see Tables 1 and 2).

Table 1

Demographics and Professional Data: Age, Hours Worked per Week, and Work Experience of Sample (N = 53)

	Range	Mean	SD
Age	22 - 53	40.0	7.30
Hours/week	16 - 48	31.2	9.17
Years of experience	1 - 33	12.8	9.22

Table 2

Description of Sample by Levels of Education (N = 53)

Education	Frequency	Percentages	Age	Years Worked	Hours/week
Diploma	21	39.6%	41.0	18.0	30.0
A.D.	19	35.8%	39.9	7.9	32.0
BSN or BA	13	24.5%	38.7	11.0	31.9

Procedure

The packet of self-report questionnaires was distributed to all 90 registered nurses in the accessible population described previously. A listing of the names of the desired population was obtained from the Department of Human Resources. Questionnaires were distributed by this investigator via routine hospital mail (staff on these units have personal

mail boxes). The cover letter (Appendix C) accompanying the questionnaires explained the study and indicated that all responses would be anonymous. Respondents were instructed to mail the completed questionnaires to this investigator in the provided envelope, which included postage and an address outside the hospital. Clear directions regarding completion of the questionnaires were included. However, it was anticipated that location and timing relative to completion could not be controlled with this method of self-administered questionnaires. Two weeks after distribution of the questionnaires reminder cards were sent and an additional two weeks was allowed for participants to return questionnaires before initiating data analysis.

Respondents were advised that filling out the questionnaires would take approximately 35 minutes of their time and that no particular risks to them were foreseen. Return of the questionnaires was deemed to reflect informed consent (see cover letter, Appendix C). An anticipated benefit to respondents was the sharing of findings of this study at a later date. The cover letter accompanying the survey tools indicated how this would be addressed.

Instruments

The instruments used in this study were the Job Stress Questionnaire (Appendix B), the Maslach Burnout Inventory and a demographic and professional characteristics datasheet (Appendix D). The Job Stress Questionnaire and the Maslach Burnout Inventory are the same instruments used in the study by Lobb and Reid (1987). The demographic and professional characteristics data sheet developed for the current study included some of the characteristics Lobb and Reid (1987) identified in reporting findings from their investigation but the actual form they used

was not obtainable.

Inputs. Job stressors or inputs were measured by the Job Stress Questionnaire (JSQ). The JSQ was initially developed by Leatt and Schneck (1980) to assess head nurses' perceptions of stressors. By rewording slightly, Lobb and Reid (1987) adapted the JSQ to assess perceptions of stressors in a group of staff nurses and head nurses. This instrument consists of 21 items representing job stressors such as "inability to satisfy conflicting demands," and asks respondents to rate each according to the frequency with which it occurs ("never, rarely, sometimes, often, always") and the intensity of the stress it induces ("very little, a little, some, quite a bit, very much"). Content validity was supported by the strong agreement of the respondents concerning stress-producing situations in the original investigation by Leatt and Schneck (1980). Leatt and Schneck (1985) used the stress questionnaire to investigate differences between nursing subunits in hospitals. Within subunits they multiplied the mean of individual intensity scores by the mean of individual frequency scores to derive a composite stress score for each situation. In the present study, a composite stress score was derived for each question answered on an individual basis. Each individual's total stress score was based on the sum of his or her composite scores for all 21 stress questions.

In Lobb and Reid's (1987) study, the construct validity of the JSQ was tested by factor analysis using a varimax rotation. In this analysis four discrete job stress factors emerged that matched four of the six environmental stressors identified as input variables in Ivancevich and Matteson's conceptual model. The four factors that emerged were as follows: job stress factor I--responsibility for patients with complex needs

and deficits, which corresponds with one's role on the job in the conceptual framework; job stress factor II--heavy workload, insufficient resources, and conflicting demands, which corresponds with structure and climate of the job; job stress factor III--poor working relations with physicians, patients, and families, which corresponds with relationships in the work setting; and job stress factor IV--floating off permanently assigned unit, which corresponds to job-associated stressors. In Lobb and Reid's (1987) investigation, the internal consistency and stability of the JSQ items was demonstrated (Chronbach alphas all > .78, test-retest correlations all r's > .64).

Throughputs. A demographic and professional characteristics data sheet which included the variables of age, education, years of experience, and average number of hours worked per week was used as an indicator of the throughputs found in Ivancevich and Matteson's model. These variables fit with what Ivancevich and Matteson labeled as "person stressors" in their model. It is recognized that there is a vast array of demographic and professional characteristics from which to choose and variables were chosen to be illustrative, not exhaustive, with regard to Ivancevich and Matteson's model (Ivancevich & Matteson, 1981). Lobb and Reid (1987) included the variables of age, education and years of experience in their demographic collection sheet. They also included the variable "length of time on present assignment" but it was unclear to this investigator what this question addressed. Instead, the variable of average number of hours worked per week was identified, based on the assumption that hours worked per week is an appropriate example of a "person stressor." The selected demogaphics were also consistent with the demographic and professional characteristic variables identified in the

review of literature.

Outputs. Burnout or outputs were measured by the Maslach Burnout Inventory (Human Services Survey) which measures emotional exhaustion, depersonalization, and personal accomplishment on a frequency scale ranging from never (0) to everyday (6) (Maslach & Jackson, 1986). A high degree of burnout is reflected in high scores on the emotional exhaustion and depersonalization subscales and in low scores on the personal accomplishment subscale. An average degree of burnout is reflected in average scores on the three subscales. A low degree of burnout is reflected in low scores on the emotional exhaustion and depersonalization subscales and in high scores on the personal accomplishment subscale. There are nine items in the emotional exhaustion subscale which describe feelings of being emotionally overextended and exhausted by one's work. The five items in the depersonalization subscale describe an unfeeling and impersonal response towards recipients of one's care or service. The subscale of personal accomplishment contains eight items that describe feelings of competence and successful achievement in one's work with people.

The scores for each subscale are considered separately and not combined into a single, total score, due to limited knowledge about the relationship between the three aspects of burnout (Maslach & Jackson, 1986). Scores are considered high if they are in the upper third of the normative distribution, average if they are in the middle third, and low if they are in the lower third. Means and standard deviations for each subscale can be computed for groups and compared to this normative data. Internal consistency was estimated by Cronbach's coefficient alpha (n = 1,316). The reliability coefficients for the subscales were as

follows: .90 for emotional exhaustion; .79 for depersonalization; and .71 for personal accomplishment. The standard error of measurement for each subscale was as follows: 3.80 for emotional exhaustion; 3.16 for depersonalization; and 3.73 for personal accomplishment.

Test-retest reliability of the MBI has been reported on a sample of graduate students in social welfare and administrators in a health agency (N = 53) (Maslach & Jackson, 1986). Test sessions were separated by an interval of two to four weeks. The test-retest reliability coefficients for the subscales were the following: .82 for Emotional Exhaustion; .60 for Depersonalization; and .80 for Personal Accomplishment. All these coefficients were significant beyond the .001 level.

Convergent validity was demonstrated by correlating MBI scores with behavioral ratings made independently by a person who knew the individual well, the presence of certain job characteristics that were expected to contribute to burnout, and measures of various outcomes that had been hypothesized to be related to burnout (Maslach & Jackson, 1986). All three sets of correlations provided substantial evidence supporting the MBI's validity. For example, findings supported the prediction that the greater the number of clients one must deal with, the higher the burnout scores on the MBI (Maslach & Jackson, 1986). In a study of 180 nurses, the prediction that people experiencing burnout would be dissatisfied with opportunities for personal growth and development on the job was supported (Maslach, 1986). Other studies have supported discriminant validity of the MBI. For example, a comparison of scores on the MBI and scores measuring general job satisfaction evidenced a degree of correlation but this correlation was

not so high as to suggest job satisfaction and burnout are the same thing (Maslach, 1986).

CHAPTER FOUR

DATA ANALYSIS

The purpose of this study was to investigate job stressors and burnout among hospital registered nurses. Questionnaires were distributed to all 90 regularly scheduled staff registered nurses on two medical-surgical units and one combined telemetry and critical care unit at a small community hospital. Fifty-four nurses responded (60% of those contacted). Forty-eight responses were complete (53% of those contacted). One respondent did not include the demographic and professional data questionnaire; 2 respondents did not include pages 2 and 4 (9 of 21 questions) of the JSQ; and 3 respondents did not include the MBI. Voluntary participation occurred over a 4 week period. Shift and unit were not identified for respondents.

Major Sources of Job Stress

The first question under consideration was what are the major sources of job stress identified by hospital registered nurses? The JSQ was used to identify stressors. For each question, the respondent indicated perceptions regarding both intensity and frequency of that stressor. A composite score for each question was generated by multiplying the intensity score times the frequency score. In this investigation, the top six stressors ranked on the basis of composite scores were: heavy work load, insufficient resources, inability to satisfy conflicting demands, patient's

family upset or anxious, inadequate physician communication, and caring for mostly elderly patients (see Appendix E). On the basis of ranking stressors according to mean intensity scores for each question, the stressors identified as being most intense were heavy work load, physician unavailability and insufficient resources (see Appendix F). Based on ranking stressors according to mean frequency scores for each question, the stressors identified as occuring most frequently were caring for mostly elderly patients, patient very ill and prognosis poor, and patient's family upset or anxious (see Appendix G). The lowest ranked stressors based on composite scores were patient's family not informed, scope or responsibility of a job unclear, and relief work on another unit of the same speciality (see Appendix E).

Relationship Between JSQ and Burnout Subscale Scores

The second question investigated was what is the relationship between scores on the JSQ and scores on each of the three burnout subscales (emotional exhaustion, depersonalization, and personal accomplishment)? It was hypothesized that higher scores on the JSQ would relate to higher scores on all three burnout subscales (see Table 3). The hypothesis was only supported for the relationship between JSQ scores and one of the burnout subscales--emotional exhaustion ($r = .40$, $df = 49$, $p = .004$).

Table 3

Correlations between JSQ Composite Scores and Burnout Subscale Scores (N = 49)

Emotional exhaustion	r = .40	df = 49	p = .004
Depersonalization	r = .20	df = 49	p = .161
Personal accomplishment	r = -.01	df = 49	p = .923

Relationship of Burnout Scores to Demographic and Professional Variables

The third question addressed the proportion of the variance in each of the three burnout subscales (emotional exhaustion, depersonalization, and personal accomplishment) that could be explained by the demographic and professional variables (age, educational preparation, hours worked per week, and years of experience). Initially, the Pearson r was used to examine the relationship between the variables of age, years of experience, and hours worked per week and each of the three burnout subscales (Table 4). It was hypothesized that only the variable of age would relate to burnout subscale scores. The relationship between age and burnout was supported in that younger age was found to significantly correlate with higher burnout (lower scores) in the personal accomplishment subscale ($r = .32$, $p < .05$), but the relationship of age to emotional exhaustion and to depersonalization was not supported. Moreover, it was found that fewer years of experience significantly correlated with higher burnout (higher scores) in the depersonalization subscale ($r = -.31$, $p < .05$) and with higher burnout (lower scores) in the personal accomplishment subscale ($r = .29$, $p < .05$).

Table 4

Correlation between Burnout Subscale Scores and Demographic and Professional Variables: Age, Hours Worked per Week and Years of Experience (N = 50)

Burnout Subscales	Age	Hours/week	Years of Experience
Emotional exhaustion	-.13	.18	-.11
Depersonalization	-.20	.13	-.31*
Personal Accomplishment	.32*	.06	.29*

*p < .05

A one way analysis of variance was used to examine the effect of the demographic and professional data on the burnout subscales. The sample was divided into approximate thirds using the variable of age. No significant differences were found in mean burnout subscale scores among the three age groups (Table 5).

Based on the the variable hours worked per week, the sample was again divided into approximate thirds. No significant differences were found in mean burnout subscale scores among the three groups (Table 6).

Table 5

Mean Burnout Scores by Age Groups (N = 50)

		Mean burnout scores		
Age	Frequency	EE	DP	PA
22 - 36 years	18	18.67	6.22	35.94
37 - 43 years	17	17.06	4.63	38.06
44 - 53 years	18	16.88	4.13	39.94

EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment

Table 6

Mean Burnout Scores by Groups Based on Hours Worked per Week (N = 50)

		Mean burnout scores		
Hours/week	Frequency	EE	DP	PA
16 - 24 hours	18	16.39	4.50	36.78
25 - 38 hours	17	16.79	5.07	38.21
39 - 48 hours	18	19.39	5.46	38.78

EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment

The sample also was divided into approximate thirds based on the variable years of experience. No significant differences were found in mean emotional exhaustion scores and mean personal accomplishment

scores among the three groups (Table 7). However, the findings suggest that those in the group with greater years of experience had significantly ($p < .05$) lower depersonalization scores (lower burnout) when compared to the two groups with fewer years of experience (Table 7).

Table 7

Mean Burnout Scores by Groups Based on Years of Experience (N = 50)

		Mean burnout scores		
Years of experience	Frequency	EE	DP	PA
1 - 6 years	17	18.40	5.93	37.07
7 - 16 years	17	17.82	6.06	35.88
18 - 33 years	19	16.67	3.33	40.50

Analysis of Variance: Depersonalization Burnout by Years of Experience

	D.F.	F Ratio	F Prob.
Between groups	2	3.2792	.0464
Within groups	49		

EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment

The three different groups based on levels of educational preparation were compared in terms of mean burnout subscale scores using analysis of variance (Table 8). No significant differences were found in mean emotional exhaustion scores and mean personal

accomplishment scores among the three groups. However, post-hoc comparisons indicated a significant ($p < .05$) difference between the associate degree group and the BSN or BA group. Mean depersonalization scores were significantly ($p < .05$) lower (indicating lower burnout) in the BSN or BA group when compared with the associate degree group.

Table 8

Mean Burnout Scores by Levels of Educational Preparation (N = 50)

		Mean burnout scores		
Education	Frequency	EE	DP	PA
Hospital program	21	18.70	5.25	38.40
Associate degree	19	18.11	6.00	36.11
BSN or BA	13	14.92	3.25	39.75

EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment

Multiple Regression Analyses: Variance in Burnout Scores

The proportion of variance in each of the burnout subscales accounted for by demographic and professional characteristics and the composite JSQ scores was examined through a series of stepwise multiple regression analyses (Tables 9 - 11). In performing these multiple regression analyses, educational levels were entered using indicator ("dummy") variables. As seen in Table 9, only the total JSQ score accounted for a significant portion of variance in emotional exhaustion. The total JSQ

score was the only variable to enter the equation. None of the demographic and professional characteristics accounted for a significant portion of the variance in emotional exhaustion scores.

Table 9

Results of Stepwise Multiple Regression Analysis Assessing the Effects of JSQ Scores and Demographic and Professional Variables on Emotional Exhaustion (N = 48)

Variable entered on step 1: JSQ scores

Multiple R	.48015
R Square	.23055
Adjusted R Square	.21382
Standard Error	6.6175

Variable	B	SE B	Beta	T	Sig T
JSQ scores	.095563	.025741	.480153	3.713	.0006
(Constant)	-5.161296	6.172768		-.836	.4074

Note: Variables that did not significantly contribute to the explanation of emotional exhaustion were age, years of experience, educational preparation, and hours worked per week.

As seen in Table 10, the only significant predictors of depersonalization were years of experience and an education level of BSN or BA. In this model, 10% of the variance in depersonalization was accounted for by the variable years of experience. The combination of the variables, years of experience and education level of BSN or BA, accounted for 17% of the variance in depersonalization. JSQ scores, age, hours worked per week, hospital preparation and associate degree preparation did not account for a significant portion of the variance in

depersonalization scores.

Table 10

Results of Stepwise Multiple Regression Analysis Assessing the Effects of JSQ Scores and Demographic and Professional Variables on Depersonalization (N = 48)

Variable entered on step 1: years of experience

Multiple R	.33975
R Square	.11543
Adjusted R Square	.09620
Standard Error	3.56163

Variable	B	SE B	Beta	T	Sig T
Years of experience	-.140104	.057184	-.339753	-2.450	.0181
(Constant)	6.957230	.921548		7.550	.0000

Variable entered on step 2: BSN or BA education level

Multiple R	.45591
R Square	.20785
Adjusted R Square	.17265
Standard Error	3.40768

Variable	B	SE B	Beta	T	Sig T
Years experience	-.179299	.057324	-.434801	-3.128	.0031
Education	-1.511028	.659453	-.318520	-2.291	.0267
(Constant)	10.220201	1.674913		6.102	.0000

Note. Variables that did not significantly contribute to the explanation of depersonalization were JSQ scores, age, hospital or associate degree educational preparation, or hours worked per week.

As seen in Table 11, the only significant predictor of personal accomplishment was the variable of age. Thus, in this model, 11% of the variance in personal accomplishment scores was accounted for by the variable of age. Age was the only variable to enter the equation. JSQ scores, years of experience, hours worked per week and educational preparation did not account for a significant portion of the variance in personal accomplishment scores.

Table 11

Results of Stepwise Multiple Regression Analysis Assessing the Effects of JSQ Scores and Demographic and Professional Variables on Personal Accomplishment (N = 48)

Variable entered on step 1: age

Multiple R	.35578
R Square	.12658
Adjusted R Square	.10759
Standard Error	5.73792

Variable	B	SE B	Beta	T	Sig T
Age	.315151	.122058	.355783	2.5822	.0131
(Constant)	25.182454	4.977138		5.060	.0000

Note. Variables that did not significantly contribute to the explanation of personal accomplishment were JSQ scores, years of experience, educational preparation, and hours worked per week.

Additional Findings

In the present investigation, emotional exhaustion scores correlated significantly ($p < .05$) with the following individual stress items: insufficient

resources, conflicting demands, insecure in nursing knowledge or skills, patient's family upset or anxious, unpredictable staffing or scheduling, heavy work load, and crisis situations. Depersonalization scores correlated significantly ($p < .05$) with the following stress items: insufficient resources, physicians unavailable, and unpredictable staffing or scheduling. Personal accomplishment scores did not correlate significantly with any JSQ items.

Differences in ranking of JSQ items were considered for the low, moderate, and high burnout groups of each of the three subscales (see Appendix H). The stressor, conflicting demands, was ranked in the top six stressors, for all groups in all subscales. The stressor, insufficient resources ranked among the top six in all categories except low burnout per depersonalization subscale. The stressor, patient's family upset or anxious ranked among the top six in all categories except high burnout in the depersonalization subscale. Heavy work load ranked among the top six in all categories except low burnout per personal accomplishment subscale. A stressor related to physician relationships appeared in the top six ranked stressors for all categories.

All three high burnout categories included the stressors insufficient resources, heavy work load, and conflicting demands among the top six ranked items. Other items in the top six ranked stressors of one or more of the three high burnout categories were unpredictable staffing and scheduling, caring for mostly elderly, patient's family upset or anxious, physicians who do not communicate well, and hypercritical or impatient physicians.

When compared with the normative sample used for scoring the MBI, the sample in the current investigation had considerably lower

burnout levels. The MBI scoring was based on dividing a sample of 1,104 physicians and nurses into thirds, with scores in the upper third considered high, average if in the middle third, and low if in the lower third. In fact, if the current sample's mean burnout scores for each of the subscales are placed into the low, medium and high burnout categories, the sample mean of 17.39 on the emotional exhaustion subscale falls into the low burnout catagory, the sample mean of 5.00 on the depersonalization subscale falls into the low burnout range, and the sample mean of 37.92 on the personal accomplishment subscale falls into the moderate burnout range (Table 12).

Table 12

Instrument Scoring and Sample Means and Ranges of MBI (N = 51)

Instrument scoring of burnout:	Sample scores:
Possible Emotional Exhaustion Scores: 0 - 54	Sample range: 3 - 37
0 - 18: low burnout	Sample mean: 17.39
19 - 26: moderate burnout	Std. Dev. 7.51
27 - 54: high burnout	
Possible Depersonalization Scores: 0 - 30	Sample range: 0 - 19
0 - 5: low burnout	Sample mean: 5.00
6 - 9: moderate burnout	Std. Dev. 3.67
10 - 30: high burnout	
Possible Personal Accomplishment Scores: 0 - 54	Sample range: 26 - 47
0 - 33: high burnout	Sample mean: 37.92
34 - 39: moderate burnout	Std. Dev. 5.90
40 - 54: high burnout	

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

In the conceptual model for this study (Appendix A), inputs ("environmental stressors") and throughputs ("person stressors") interact to create outputs ("consequences of dysfunctional stress"). Findings in this investigation suggest that environmental stressors as identified by the JSQ and person stressors as identified by the demographic and professional variables contribute to burnout, a consequence of dysfunctional stress. Specifically, the stressors identified by the JSQ correlated with burnout levels on the emotional exhaustion subscale; years of experience and BSN or BA educational preparation correlated with burnout levels on the depersonalization subscale; and age and years of experience correlated with burnout on the personal accomplishment subscale. Because the demographic and professional characteristic variables did not significantly correlate with JSQ scores nor did they have a significant effect on JSQ scores, it appears that these selected demographic and professional variables did not influence perceptions regarding stressors.

If burnout is based on the collective profile provided by the three subscales, then the combined effect of inputs and throughputs in producing burnout is supported. However, the combined effect of environmental stressors and person stressors in creating burnout according to any one burnout subscale is not supported. Multiple regression

analyses using the burnout subscales as dependent variables did not result in total JSQ composite scores and demographic or professional variables in combination significantly accounting for variance for any one subscale.

Another purpose of the current investigation was to provide a descriptive profile of a sample of registered nurses in terms of perceptions regarding stressors as identified by the JSQ. The ranking of stress items included in the JSQ provided a "stressor profile." Table 13 highlights the top ranked stressors found in Appendices E, F and G. It is of interest to note that the top three ranked stressors according to frequency do not overlap with the top three ranked stressors according to intensity. It appears that in this sample of nurses the stressors related to job role and responsibility for people are not the stressors perceived as most intense. Rather, stress arises from job overload and communication factors which frustrates these nurses in performing their job roles and meeting responsibilities for people. It should also be noted that there is an innate difference in the various situtations described by the JSQ items. The questions identifying work overload and insufficient resources are clearly describing situtations in which there is an implied mismatch between demands made on an individual and ability to meet those demands, whereas questions describing caring for mostly elderly patients or very ill patients are not necessarily situtations in which there is an implied mismatch between demands and ability to meet those demands.

Table 13

Comparison of Top Stressors Ranked According to Intensity, Frequency and Composite (Intensity X Frequency) Scores (N = 52)

Intensity	Frequency	Composite
Heavy workload	Caring for mostly elderly patients	Heavy workload
Physician unavailability	Patient very ill and prognosis poor	Insufficient resources
Insufficient resources	Patient's family upset or anxious	Inability to satisfy conflicting demands
		Patient's family upset or anxious
		Inadequate physician communication
		Caring for mostly elderly patients

During the 4 week period allowed for the return of the questionnaires, there were no extremes in hospital census or other observed concurrent events thought likely to influence responses of participants. However, it is of note that the entire hospital staff was trained in "Total Quality Management" during the 6 month period preceding data collection. Total Quality Management emphasizes assessing, meeting and exceeding customer needs--concepts in direct opposition to the manifestation of burnout, particularly as described by the depersonalization subscale. This factor might possibly account for the

relatively lower percentages of burnout found in the current sample when compared with the normative sample. Total Quality Management also emphasizes empowering staff to meet customer expectations and systems improvement relative to work design, which could lead to improvements relative to work load, resources and job demands.

Comparison to Other Studies

Lobb and Reid (1987) also used Ivancevich and Matteson's conceptual framework to investigate the effect of environmental stressors as measured by the JSQ and person stressors as measured by demographic and professional characteristics in producing the output of burnout as measured by the MBI. Using factor analysis of the JSQ responses, Lobb and Reid identified four job stress factors. Correlational coefficients were significant for the relationship between all four job stress factors with the emotional exhaustion subscale. This finding is consistent with findings in the current investigation in which total JSQ scores correlated significantly with emotional exhaustion scores. Factor analysis was not performed in the current investigation because of the small sample size. However, it is of interest to note that the three top ranked stressors in the current study are the same stressors (heavy work load, insufficient resources, and conflicting demands) included in the stress factor identified by Lobb and Reid that together with age accounted for 31% of the variance in the emotional exhaustion subscale in their study. The current investigation also supports Lobb and Reid's findings that age and experience account for some of the variability in the burnout subscales. Whereas age contributed to the variance in emotional exhaustion and depersonalization in Lobb and Reid's investigation, in the

current study age contributed to the variance in personal accomplishment. In Lobb and Reid's investigation, experience contributed to the variance in depersonalization scores; in the current investigation, experience contributed to the variance in both depersonalization and personal accomplishment scores. Findings from the two studies support the premise of the conceptual theory that person characteristics contribute to the output of burnout, particularly person characteristics related to age and experience.

Table 14 compares the ranking of stress items in the present investigation, Lobb and Reid's investigation and Leatt and Schneck's (1985) investigation. Differences among the three samples with regard to top ranked stressors might relate to differences in sample characteristics. Leatt and Schneck's sample (N = 1,265) consisted of one-third registered nurses and two-thirds ancillary personnel. The percentage (if any) in administrative roles was not identified. Sampling included 24 Canadian hospitals, reportedly with a range of sizes, types, and rural/urban locations. Specialty areas represented included 26 medical units, 34 surgical units, 13 intensive care units, 14 rehabilitation units, 10 "auxiliary" units, 20 pediatric units, 15 psychiatric units, 14 obstetrical units, and 11 "rural subunits." The exact number of participants from each area was not specified. Leatt and Schneck reported that participants included all (presumably non-voluntary) nurses and ancillary personnel working on data collection days, including day, evening and night shifts, and that this sample comprised on average 40% of the total complement of nurses permanently allocated to each subunit.

Table 14

Comparison of Stressors Ranked According to JSQ Composite Scores from Present Investigation (N = 52), Lobb and Reid's Investigation (N = 107) and Leatt and Schneck's Investigation (N = 1,265)

Rank	Leatt & Schneck	Lobb & Reid	Present investigation
1	Heavy work load	Heavy work load	Heavy work load
2	Physician unavailability	Insufficient resources	Insufficient resources
3	Insufficient resources	Unpredictable staffing & scheduling	Inability to satisfy conflicting demands
4	Problematic patient	Repeated exposure to death & suffering	Patient's family upset or anxious
5	Personality conflicts among nursing staff	Frequent crisis situations	Inadequate physician communication
6	Inability to satisfy conflicting demands	Inability to satisfy conflicting demands	Caring for mostly elderly patients
19	Frequent crisis situations	Inadequate physician communication	Patient's family not informed
20	Relief work on same speciality unit	Relief work on same speciality unit	Scope or responsibility of job unclear
21	Relief work on different speciality unit	Performance of painful treatments	Relief work on same speciality unit

Lobb and Reid's sample (N = 107) consisted of 87% staff registered nurses, 10% head nurses, and 3% assistant head nurses, from one tertiary care teaching hospital. Specialty areas represented included 38% medicine; 17% surgery, 13% psychiatry; 8% dialysis; 10% ambulatory care;

and 14% other. Lobb and Reid reported that participants were volunteers, that the study was conducted over a 24 hour period to ensure participation of all three shifts, but they did not identify what percentage of those contacted elected to participate, nor what percentage of the total complement of staff was represented by their sample.

As described previously, in the current investigation, the sample (N = 54) consisted of scheduled staff registered nurses from one community hospital. Speciality areas represented included two medical-surgical units and one combined telemetry and critical care unit. All 90 regularly scheduled nurses from these units were contacted. Participation was voluntary, with 60% of those contacted responding over a 4 week period. Shift and unit were not identified for respondents.

In the present investigation, the stressors ranked fourth (patient's family upset or anxious), fifth (inadequate physician communication), and sixth (caring for mostly elderly patients) did not rank among the top six in either of the previous studies. This may reflect the relatively homogeneous patient care areas represented in the present investigation as compared to the greater variety of specialty areas represented in the earlier studies. Leatt and Schneck found that some of the stressors identified by the JSQ reflected differences inherent to a sub-speciality whereas other stressors tended to be common to all types of subunits.

It is also interesting to compare the present investigation with Lobb and Reid's sample in regard to distribution of low, moderate and high burnout groups (Table 15). In comparison with Lobb and Reid's sample, the sample in the current investigation had lower levels of burnout.

Table 15

Distribution of Sample (N = 51) According to Burnout Scores (Percentages in Lobb and Reid's study in parentheses)

MBI Subscales	Low Burnout	Medium Burnout	High Burnout
Emotional Exhaustion	66.7% (37%)	19.6% (30%)	13.7% (33%)
Depersonalization	62.7% (49%)	25.5% (31%)	11.8% (20%)
Personal Accomplishment	47.1% (31%)	31.4% (43%)	21.6% (26%)

In the present investigation, ranking of individual questions found within each burnout subscale was performed (see Appendix I). In general, questions were ranked in similar order to the rankings found in Lobb and Reid's investigation. In both investigations, items related to physical exhaustion ranked highest and items related to the demands of working with patients ranked lowest on the emotional exhaustion subscale. Lobb and Reid interpreted the ranking of questions related to emotional exhaustion to mean that items related to physical exhaustion contributed most to emotional exhaustion, whereas items related to the demands of working with patients ranked lowest, which was also consistent with the ranking of personal accomplishment questions, in which the most satisfying aspects of nurses' jobs were the interpersonal interactions with patients. In the current sample, feelings of energy and exhilaration ranked low on the personal accomplishment subscale. These

items were also ranked low in Lobb and Reid's study, and they concluded that the heavy work load of staff nurses is physically draining and detracts from the personal satisfaction they derive from their work.

Limitations

The conceptual framework used in this study appears to presume a one-way effect of stressors in contributing to burnout. However, the question should be raised as to which comes first: elevated JSQ scores or elevated burnout scores. It is quite possible that burnout leads to individuals perceiving stressors as having greater intensity and/or frequency. It is also possible that the association of higher age and greater experience with lower levels of burnout results when "burned out" nurses drop out of nursing over time.

Both the current study and Lobb and Reid's investigation indicate that variables not included in these studies contribute to burnout. Ideally the current study would have included more stressors and mediators identified in the literature review, for example supervisory relationships and coping abilities. Also, it is a limitation of this study that reliabilities for the JSQ and MBI were not determined on the data provided by this investigation.

Generalizations regarding all registered nurses based on the current study are limited by the small size of the population surveyed. Moreover, as with any study based on a voluntary sample, it is acknowledged that those responding may or may not represent the entire population surveyed. It is possible that those who did not respond to the survey were too "burned out" or "stressed out."

It is a limitation of the MBI and the current study that the relationship

of the three burnout subscales has not been identified. According to the authors of the MBI (Maslach & Jackson, 1986), there is not yet sufficient data to know if subscales can be added together, if there should be differential weighting of subscales, or if a pattern of subscale scores is the most meaningful index of burnout. Another problem with the MBI concerns the rating of low, moderate and high burnout based on the normative sample. The normative sample is described as consisting of 1,104 physicians and nurses, however the percentage of physicians and percentage of nurses is unspecified. Considering the differences in roles, it is possible that nurses differ significantly from physicians on the personal accomplishment subscale which assesses feelings of competence and successful achievement in one's work with people. If so, then considering the current sample of all nurses is scored based on the normative data that included physicians, then this might account for the relatively higher burnout in the personal accomplishment subscale for the present sample when compared with the other two subscales. In general, though, the sample in the current investigation appeared to experience relatively low burnout, and this may also be considered a limitation of the current investigation.

It was hypothesized that there would not be a significant relationship between burnout and hours worked per week and data supported this hypothesis. However, subsequent thought has been given to the wording of the MBI response scale, which includes the phrases "once a week," "a few times a week," and "every day." Considering that approximately one-third of the sample worked between 16 to 24 hours per week, one might suspect that this would influence how they responded to questions phrased in terms of frequency when compared

to the approximately one-third of the sample that worked 39 to 48 hours per week. In the manual accompanying the MBI there is no discussion regarding the variable of hours worked per week relative to the wording of response choices nor is there information regarding the normative sample relative to hours worked per week.

Recommendations

Findings from this investigation might serve as a basis for both preventing and counteracting burnout in the sample surveyed. Interventions should be designed which take into consideration the most highly ranked stressors and relative risk factors such as younger age and less experience. Consideration should be given to factors which relate to a sense of personal accomplishment since the current sample evidenced greater burnout in this subscale relative to the subscales of emotional exhaustion and depersonalization. The lowest ranked items on the personal accomplishment subscale were feeling exhilarated and feeling very energetic. This observation in conjunction with the top ranked stressors suggests that the strain of a physically heavy work load may be one area to consider in designing interventions specific to the current sample.

Another area which could be considered for further research and intervention concerns the educational preparation of nurses. In the current sample, nurses might benefit from education concerned with the management aspects of their roles. If one assumes that a BSN or BA program better prepares registered nurses in terms of the management aspects of their roles, then this might account for the variance in the depersonalization subscale associated with this level of educational preparation. Moreover, a focus on the management aspects of the

registered nurse role might also address the highly ranked stressors of heavy work load, insufficient resources and conflicting demands. In addition, the stressors related to physicians and the patient's family might be considered as important to address since these stressors were ranked highly by low and moderate burnout groups, as well as by high burnout groups in the current sample.

Lobb and Reid speculated that stressors for individual hospitals are unique. However, it would be important to control for variances in patient care areas before assuming that differences are attributable to individual hospitals. Presumably, further research comparing findings from a large number of institutions and patient care areas might identify "generic" stressors common to nurses, whereas stressors that vary from setting to setting would identify stressors unique to an institution or speciality area. Interventions aimed at addressing nursing stressors could be designed for both generic and unique stressors.

Considering the economic pressures facing hospitals today, it is probable that heavy work load, insufficient resources, and conflicting demands are common stressors for all nurses in acute care settings. The strain of a physically heavy work load is likely to become even greater in the future, as in-patient acuities rise and the nursing population ages along with the rest of the population. Interventions designed to improve the ergonomics related to the nursing work environment or the physical health and fitness of nurses should be researched in relationship to the stress of a physically heavy work load and burnout.

In the present study, demographic and professional characteristics were identified as mediators of burnout. However, it is acknowledged that characteristics such as age or experience in and of themselves do

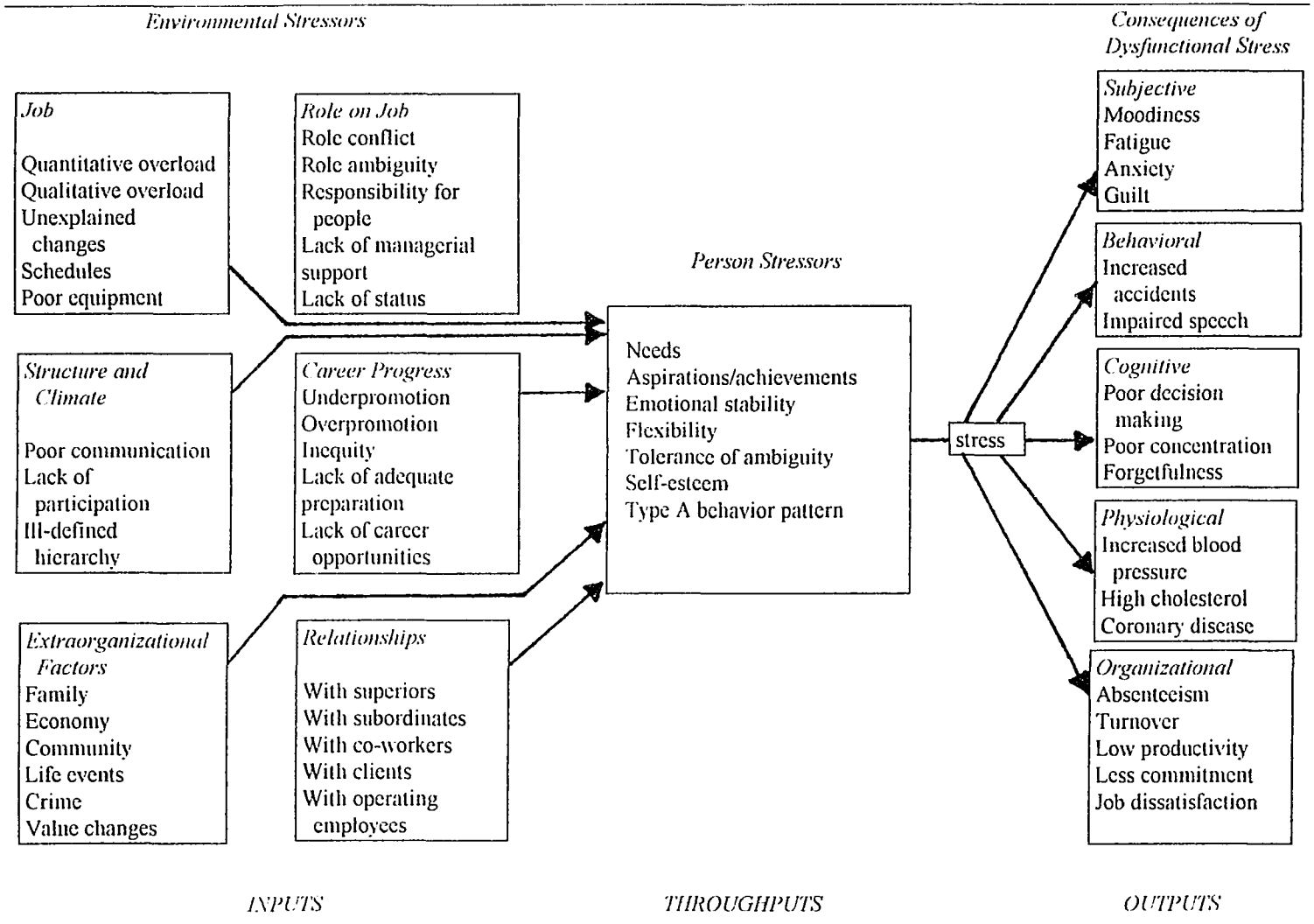
not mediate burnout, but rather it is likely that coping characteristics associated with age or experience mediate burnout. What may be of particular interest are the coping characteristics specifically associated with the stressors most clearly associated with burnout, as this would suggest interventions that are more specifically targeted at the sources of burnout. In other words, further research into how older and more experienced nurses manage the stressors of heavy work load, insufficient resources, and conflicting demands might prove more effective in countering burnout than a "shotgun" approach, particularly if "shortcuts" can be developed so that younger and less experienced nurses learn earlier in their careers how to better manage these stressors. Past studies linking coping skills with burnout have had equivocal results. This could be because these studies were concerned with all coping skills and not specifically with the coping skills needed for key stressors.

Considering the role stress is believed to play in health, how employers, including hospitals, deal with stress among their own employees is important. In the current and anticipated environment of managed care, hospitals would do well to model the preventative health management they will be marketing to the communities they serve. Research is needed to further examine organizational level stress management interventions. Ivancevich and Matteson (1987) reviewed several studies concerned with stress management interventions by organizations. Interventions designed to increase participation in decision making in one study actually seemed to have a negative effect relative to stress and stress outcomes. In other studies, stress coping techniques such as meditation and muscle relaxation techniques showed only slight effect. This again raises the suspicion that interventions need to be

related to the identified sources of stress. For example, in the present investigation, one would indeed expect that if participation in decision making was added on to other responsibilities, then this would initially only exacerbate the stressor of work load. However, if participation subsequently enabled nurses to constructively address stressors such as work load, insufficient resources, and conflicting demands, then one would anticipate the amelioration of these stressors. Likewise, techniques such as meditation and muscle relaxing procedures would not necessarily alleviate stressors such as insufficient resources and conflicting demands. The present investigation is deemed a necessary precursor to designing future research which could explore the effectiveness of interventions more specifically related to stressors and to burnout.

APPENDICES

MANAGERIAL MODEL FOR EXAMINING JOB STRESS
(Ivancevich and Matteson, 1981)



APPENDIX B

JOB STRESS QUESTIONNAIRE

The first part of each question is concerned with the intensity of a stressor(s). The second part is concerned with the frequency of the stressor(s). Please circle the answer that most closely approximates your perception regarding your typical work experience over the past year.

1. How stressful is it if nursing staff have insufficient resources to do all the things that should be done?

   very little / a little / some / quite a bit / very much

   How often does this situation occur?

   never / rarely / sometimes / often / always

2. How stressful is it if nursing staff are unable to satisfy the conflicting demands of various people (e.g. patients, physicians, other paramedical staff, etc.)?

   very little / a little / some / quite a bit / very much

   How often does this situation occur?

   never / rarely / sometimes / often / always

3. How stressful is it if the scope or responsibilities of a job are unclear?

   very little / a little / some / quite a bit / very much

   How often does this situation occur?

   never / rarely / sometimes / often / always

4. How stressful is it if there are personality conflicts among nursing staff members?

   very little / a little / some / quite a bit / very much

   How often does this situation occur?

   never / rarely / sometimes / often / always

5. How stressful is it if nursing staff are insecure in their nursing knowledge or skills?

   very little / a little / some / quite a bit / very much

   How often does this situation occur?

   never / rarely / sometimes / often / always

6. How stressful is it if physicians appear impatient or hypercritical of nursing staff?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

7. How stressful is it if physicians are not available when they are wanted?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

8. How stressful is it if physicians do not communicate well with nursing staff?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

9. How stressful is it if a patient's behavior or personality is troublesome?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

10. How stressful is it if a patient is very ill and his/her prognosis is poor?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

11. How stressful is it if nursing staff are caring for mostly elderly patients?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

12. How stressful is it if nursing staff must perform painful but life-preserving treatments for patients?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

13. How stressful is it if a patient's family is not informed of the condition of one of their members?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

14. How stressful is it if a patient's family is upset or anxious about one of their members?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

15. How stressful is it if scheduling and staffing are unpredictable or there are irregularities in the way time-off is scheduled?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

16. How stressful is it if the workload is so consistently heavy that the nursing staff lack energy for leisure activities?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

17. How stressful is it if the nursing staff are exposed repetitively to suffering, death, and dying?

very little / a little / some / quite a bit / very much

How often does this situation occur?

never / rarely / sometimes / often / always

18. How stressful is it if the previous shift often leaves unfinished work that should have been handled during their shift?

    very little / a little / some / quite a bit / very much

    How often does this situation occur?

    never / rarely / sometimes / often / always

19. How stressful is it if the nursing staff are frequently faced with crisis situations which are not considered normal work?

    very little / a little / some / quite a bit / very much

    How often does this situation occur?

    never / rarely / sometimes / often / always

20. How stressful is it if nursing staff are asked to relieve on other units of the same specialty?

    very little / a little / some / quite a bit / very much

    How often does this situation occur?

    never / rarely / sometimes / often / always

21. How stressful is it if nursing staff are asked to relieve on other units of a different specialty?

    very little / a little / some / quite a bit / very much

    How often does this situation occur?

    never / rarely / sometimes / often / always

Appendix C

Feb. 15, 1993

Dear Colleague:

Do you complain of work related stress? Work related stressors are considered major sources of job dissatisfaction, turnover and poor performance. Many nurses consider work stress an important issue affecting the delivery of quality patient care. Before steps can be taken to reduce job stress, specific sources must be identified. I am investigating sources of work stress among hospital staff nurses and would appreciate your help. This study is for my masters thesis and is being undertaken as part of my graduate work at Grand Valley State University, Kirkhof School of Nursing in Allendale, Michigan.

If you are willing to participate, please fill out the enclosed questionnaires, place in envelope provided, and mail by March 7. These questionnaires have been distributed to scheduled registered nurses in inpatient settings at Holland Community Hospital. Do not put your name on your questionnaires. Your participation is voluntary and your responses are anonymous. All data provided will be kept confidential and it will only be shared in the aggregate.

It is estimated that filling out the questionnaires will take approximately 35 minutes. Please complete the questionnaires without input from others. Your overall perceptions based on your current work experiences at Holland Community Hospital are desired and there are no right or wrong answers. Specific instructions are included with each questionnaire.

If you would like a report of the findings of this study, please fill out the enclosed post card and place in mail bin #28 on 1-South. If you have questions, please feel free to call me at the numbers listed below. Your help in this research project is greatly appreciated.

Sincerely,

Ellen Hale, RN, BSN
work phone: 394-3199
home phone: 399-3181

APPENDIX D

DEMOGRAPHICS AND PROFESSIONAL CHARACTERISTICS

1. What is your age? _____

2. Educational preparation (check highest completed level only):
   ___ Hospital program
   ___ Associate degree
   ___ BSN or BA, nursing or non-nursing
   ___ Masters, nursing or non-nursing

3. Average number of hours worked PER WEEK (during the past year)? _____

4. Years of experience as a registered nurse? _____

APPENDIX E

Job Stress Questionnaire - Ranking per Composite Scores

	Mean	Std Dev	Min.	Max.	Valid N
1 Heavy workload (#16)	13.17	4.27	4	20	54
2 Insufficient resources (#1)	13.00	4.27	4	20	54
3 Inability to satisfy conflicting demands (#2)	12.78	3.48	6	20	54
4 Patient's family upset or anxious (#14)	12.63	2.97	8	20	54
5 Inadequate physician communication (#8)	12.23	3.72	6	20	52
6 Caring for mostly elderly patients (#11)	12.13	4.89	3	20	52
7 Impatient or hypercritical physicians (#6)	12.02	4.30	4	25	54
8 Patient very ill and prognosis poor (#10)	11.98	4.10	3	20	52
9 Physician unavailability (#7)	11.92	3.14	6	20	52
10 Unpredictable staffing or scheduling (#15)	11.91	4.77	3	20	54
11 Troublesome patient behavior/personality (#9)	11.21	3.59	6	20	52
12 Exposure to suffering, death, and dying (#17)	11.20	3.90	4	20	54
13 Insecure in knowledge or skills (#5)	11.17	3.95	4	20	54
14 Personality conflicts among nursng staff (#4)	10.85	4.41	3	20	54
15 Performance of painful procedures (#12)	10.62	4.00	4	25	52
16 Previous shift leaves unfinished work (#18)	10.35	2.60	3	16	54
17 Relief work on different speciality (#21)	10.31	4.21	2	20	51
18 Crisis situations (#19)	10.19	3.01	2	15	54
19 Patient's family not informed (#13)	10.04	2.98	6	20	52
20 Scope or responsibility of job unclear (#3)	9.80	3.07	4	20	54
21 Relief work on same speciality (#20)	8.42	4.50	2	20	52

APPENDIX F

Job Stress Questionnaire - Ranking per Intensity Scores

		Mean	Std Dev	Min.	Max.	Valid N
1	Heavy workload (#16)	4.39	.74	2	5	54
2	Physician unavailability (#7)	4.33	.73	3	5	52
3	Insufficient resources (#1)	4.30	.79	2	5	54
4	Frequent crisis situations (#19	4.22	.84	1	5	54
5	Impatient or hypercritical physicians (#6)	4.19	.89	2	5	54
6	Inability to satisfy conflicting demands (#2)	4.19	.68	3	5	54
7	Relief work on unit of different speciality (#21)	4.16	1.03	1	5	51
8	Inadequate physician communication (#8)	4.08	.74	2	5	52
9	Insecure in nursing knowledge or skills (#5)	4.04	.85	2	5	54
10	Patient's family not informed (#13)	4.02	.75	3	5	52
11	Scope or responsibilities of job unclear (#3)	4.02	.76	2	5	54
12	Unpredictable staffing or scheduling (#15)	3.91	.94	1	5	54
13	Personality conflicts among nursing staff (#4)	3.85	.96	1	5	54
14	Exposure to suffering, death, and dying (#17)	3.78	.98	1	5	54
15	Patient's family upset or anxious (#14)	3.76	.64	2	5	54
16	Troublesome patient behavior/personality (#9)	3.71	.82	2	5	52
17	Previous shift leaves unfinished work (#18)	3.69	.84	1	5	54
18	Performance of painful procedures (#12)	3.46	.83	2	5	52
19	Patient very ill and prognosis poor (#10)	3.42	1.02	1	5	52
20	Caring for mostly elderly patients (#11)	3.02	1.08	1	5	52
21	Relief work on unit of same specialty (#20)	2.92	1.10	1	5	52

APPENDIX G

Job Stress Questionnaire - Ranking per Frequency Scores

		Mean	Std Dev	Min.	Max.	Valid N
1	Caring for mostly elderly patients (#11)	3.96	.52	2	5	52
2	Patient very ill and prognosis poor (#10)	3.50	.54	2	4	52
3	Patient's family upset or anxious (#14)	3.37	.56	2	4	54
4	Inability to satisfy conflicting demands (#2)	3.04	.58	2	4	54
5	Performance of painful treatments (#12)	3.02	.64	2	5	52
6	Unpredictable staffing and scheduling (#15)	3.00	.75	2	5	54
7	Exposure to suffering, death, and dying (#17)	3.00	.80	2	5	54
8	Troublesome patient behavior/personality (#9)	3.00	.52	2	4	52
9	Insufficient resources (#1)	3.00	.73	2	4	54
10	Heavy workload (#16)	2.98	.79	1	4	54
11	Inadequate physician communication (#8)	2.98	.67	2	4	52
12	Previous shift leaves unfinished work (#18)	2.85	.53	2	4	54
13	Impatient or hypercritical physicians (#6)	2.83	.67	2	5	54
14	Relief work on unit of same specialty (#20)	2.81	.72	1	4	52
15	Personality conflicts among nursing staff (#4)	2.78	.66	2	4	54
16	Physician unavailability (#7)	2.77	.61	2	4	52
17	Insecure in nursing knowledge or skills (#5)	2.72	.60	2	4	54
18	Patient's family not informed (#13)	2.50	.58	2	4	52
19	Relief work on different speciality (#21)	2.47	.70	1	4	51
20	Scope or responsibilities of job unclear (#3)	2.44	.60	1	4	54
21	Frequent crisis situations (#19)	2.41	.53	1	3	54

APPENDIX H

Differences in Ranking of JSQ Items between Low, Moderate and High Burnout Groups

Emotional Exhaustion

Low	1. Physicians do not communicate well
	2. Insufficient resources
	3. Conflicting demands
	4. Patient's family upset or anxious
	5. Physician unavailable
	6. Heavy workload
Moderate	1. Heavy workload
	2. Insecure in nursing knowledge or skills
	3a. Patient's family upset or anxious
	3b. Patient very ill and prognosis poor
	5a. Insufficient resources
	5b. Physicians impatient or hypercritical
High	1. Unpredictable staffing & scheduling
	2. Conflicting demands
	3. Heavy workload
	4. Insufficient resources
	5. Caring for the mostly elderly
	6. Patient's family upset or anxious

Depersonalization

Low	1. Physicians do not communicate well
	2. Conflicting demands
	3. Heavy workload
	4. Patient's family upset or anxious
	5. Patient very ill with poor prognosis
	6. Physician not available
Moderate	1. Insufficient resources
	2. Heavy workload
	3. Caring for mostly elderly patients
	4. Patient's family is upset or anxious
	5. Conflicting demands
	6. Physician hypercritical or impatient

High	1. Unpredictable staffing & scheduling
	2. Conflicting demands
	3. Physician hypercritical or impatient
	4a. Insufficient resources
	4b. Heavy workload
	6. Physicians do not communicate well

Personal Accomplishment

Low	1. Patient's family upset or anxious
	2. Insufficient resources
	3. Conflicting demands
	4. Patient very ill & prognosis poor
	5a. Physicians unavailable
	5b. Caring for the mostly elderly
Moderate	1. Heavy workload
	2. Conflicting demands
	3. Insufficient resources
	4. Patient's family is upset or anxious
	5. Physicians do not communicate well
	6. Unpredictable staffing & scheduling
High	1. Heavy workload
	2. Insufficient resources
	3. Conflicting demands
	4. Impatient or hypercritical physicians
	5. Physicians do not communicate well
	6. Patient's family is upset or anxious

APPENDIX I

Ranking of Questions within MBI Subscales

	Ranking	
Emotional Exhaustion	Present Investigation	Lobb & Reid
Feel used up at the end of the workday	1	1
Feel I'm working too hard on job	2	2
Feel emotionally drained from work	3	4
Feel frustrated by my job	4	3
Feel fatigued in morning having to face job	5	5
Feel burned out from work	6	6
Feel working with people is a strain	7	7
Feel I am at the end of my rope	8	8
Feel working with people directly is too stressful	9	9
Depersonalization		
Feel recipients blame me for some of their problems	1	5
Treat some patients like impersonal objects	2	1
Act more callously toward people since this job	3	2
Worry job is hardening me emotionally	4	3
Do not care what happens to the patients	5	4
Personal Accomplishment		
Deal effectively with patients problems	1	1
Easily understand how patients feel	2	2
Can easily create a relaxed atmosphere with patients	3	3
Am positively influencing others through my work	4	4
Have accomplished many worthwhile things on my job	5	5
Deal calmly with emotional problems at work	6	8
Feel very energetic	7	6
Feel exhilarated after close work with patients	8	7

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