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The influence of affect intensity, dispositional empathy, and emotional separation on the relationship between perceived stress and burnout in a nursing population

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The Influence of Affect Intensity, Dispositional Empathy, and Emotional Separation on the Relationship between Perceived Stress and Burnout in a Nursing Population

by

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I would like to dedicate this dissertation to

my brother, Ovide J. Vachon Jr.

and to

Sr. Ann Josephine C.S.C.

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LIST OF ABBREVIATIONS

AIM	Affect Intensity Measure
CARSA	Career Satisfaction
CHILD	Number of Children
DEGR	Degree
FULFI	Fulfillment on the Job
GEND	Gender
HOSP	Hospital
HRPTC	Number of Hours of Direct Patient Contact
INTER	Interference from Health Care Delivery System
IRI	Interpersonal Reactivity Index
IRIEC	Empathic Concern Subscale of the IRI
IRIFS	Fantasy Subscale of the IRI
IRIPD	Personal Distress Subscale of the IRI
IRIPT	Perspective-Taking Subscale of the IRI
JBSAT	Job Satisfaction
LEAVE	Desire to Leave Nursing
MARIT	Marital Status
MBI	Maslach Burnout Inventory
MBIDP	Depersonalization Subscale of the MBI
MBIEE	Emotional Exhaustion Subscale of the MBI
MBIPA	Personal Accomplishment Subscale of the MBI
MES	Maintenance of Emotional Separation Scale

NSS	Nursing Stress Scale
NSSALL	Nursing Stress Scale and 17 Additional Nursing Stress Items
NSSCNURS	Nursing Stress Due to Conflict with Nurses (NSS Subscale)
NSSCP	Nursing Stress Due to Conflict with Physicians (NSS Subscale)
NSSDD	Nursing Stress Due to Death and Dying (NSS Subscale)
NSSIPREP	Nursing Stress Due to Inadequate Preparation (NSS Subscale)
NSSLSUP	Nursing Stress Due to Lack of Support (NSS Subscale
NSSUTRT	Nursing Stress Due to Uncertainty Regarding Treatment (NSS subscale)
NSSWORK	Nursing Stress Due to Workload (NSS Subscale)
OSTRE	Rating O Stress Outside the Work Setting
PAB	Tedium Scale
RACE	Racial/Ethnic Background
TYPUN	Type of Hospital Unit
WELLS	Rating of How Well-Suited Nurse Feels to do Her/His Work
WKSTA	Workstatus (Fulltime, Part-time, Per Diem)
YRSHO	Number of Years Employed at the Same Hospital
YRSNU	Number of Years as a Nurse
YRSUN	Number of Years Employed on the Same Unit

CHAPTER I

INTRODUCTION

Helping professionals who work with individuals who are in physical or psychological pain are subject to continual emotional stress in their work settings. But this emotional stress may be experienced differentially by helpers. Some helping professionals may become emotionally exhausted by such continual exposure to other people's pain while others report less exhaustion to equal levels of exposure. The main purpose of this dissertation is to determine whether there are individual differences among helping professionals in how they experience working with people in pain and how this relates to the relationship between perceived stress and burnout. Do helpers who tend to experience emotional events more intensely or who tend to empathize with their clients or patients experience more stress than those who experience emotional events less intensely or who distance themselves from their clients or patients? If there are indeed individual differences in how patients' pain is perceived and experienced by helping professionals, how are these related the level of burnout they experience. Much research has been done on the situational and

environmental sources of stress, but less has been done on analyzing individual differences which influence the appraisal of stressors and the selection of particular coping styles among helping professionals. Because helping professionals work in settings which are potentially emotionally stressful, it is important to investigate how individual differences in emotional reactivity to the stressful events contribute to the burnout such helpers experience in continually working with individuals who are in pain.

The continual emotional stress which can occur in the helping professions is experienced differentially by helping professionals. Lazarus and Folkman (1984), in their transactional model of stress appraisal and coping, argue that this differential experience of stress is due to how the stressor is cognitively appraised. As they explain, in defining stress one must take into account the characteristics of the person as well as the environmental situation because it is the "relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 21). In addition to the situational and environmental factors of coping with stress, Lazarus and Folkman (1984) have discussed individual differences which influence coping and appraisal. These include differences in personal

resources and capacities, psychological vulnerability, commitments and beliefs.

Purpose of the Study

In the helping professions, caregivers typically encounter many individuals in distress. Settings such as psychiatric units, hospitals, and mental health agencies can create a continuously emotionally intense experience for the professionals depending, of course, on the situational variables, environmental variables, and the individual differences of the helpers. In terms of the emotional reactions helping professionals have to the stress of serving patients or clients who are in pain, it would seem important to investigate the role of individual differences in the perception of typically emotion-provoking events and how this contributes to the development of burnout. For example, do individuals who tend to experience emotions more intensely than others, perceive the stress of the situation differently than those who experience emotions less intensely? Or, are people who tend to empathize with their clients or patients more likely to experience greater stress than those who are more emotionally distant. Furthermore, given the particular dispositional reactions to emotion-provoking situations, how is this related to the relationship between stress and burnout?

These questions will be explored in this dissertation

with the helping profession of nursing. Nurses have continual contact with their patients and a number of authors have described the emotional strain of nursing (Benoliel, McCorkle, Georgiadou, Denton, & Spitzer, 1990; Cohen-Mansfield, 1989; Gentry & Parkes, 1982; Gray-Toft & Anderson, 1981; Leatt & Schneck, 1985; McGrath, Reid, & Boore, 1989; Stewart, Meyerowitz, Jackson, Yarkin, & Harvey, 1982). It has been found that nurses who experience higher levels of stress are more likely to leave their profession (Fimian, Fastenau, & Thomas, 1988). On one hand, a tendency to experience emotions intensely in combination with a high degree of empathy can be a liability when one is working with a particular type of hospital patient. On the other hand, a degree of affective involvement and empathy is necessary in nursing because it has been found to help patients recover or cope adaptively with their ailments (Squier, 1990). It may also be necessary in that exercising this emotional involvement and empathy provides some gratification and satisfaction for someone who has chosen the career of nursing. Vachon (1978, 1987) listed six motivations nurses might have to work with critically ill or dying patients each of which might be a source of satisfaction once in the field, but each of which can itself increase the negative appraisal of stressors. Cherniss (1980) suggested that the characteristics which attract people to

the helping professions and make them initially effective may become a source of stress and later burnout. The significance of this study is that the role of individual differences in reactions to potentially emotion-provoking events can be determined so that nurses and other helping professionals might better focus their efforts at preventing burnout and increasing their career satisfaction.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this study is to investigate how much individual differences in affect intensity and dispositional empathy in nurses relate to their perceived levels of stress and burnout. The review will begin by surveying the literature on stress in nursing with particular emphasis on individual differences mediating stress appraisal and coping. Then, the construct of dispositional empathy will be reviewed and the few studies which relate this construct with burnout will be presented. Then, the work done on the construct of affect intensity will be examined noting especially that no studies have been conducted assessing the role of this construct in stress and coping among helping professionals. Finally, the nomological network from which the research hypotheses are formulated will be presented.

Review of Individual Differences and Nursing Stress

In reviewing the nursing stress literature, it is important to note that while general statements about the sources and consequences of nursing stress can be made,

there are differences among nursing units as well. For example, Dewe (1988) conducted a study investigating the frequency of stressors across nursing units in a nation-wide sample of New Zealand nurses. He found that stressors due to "difficulties involved in nursing the critically ill" were experienced more frequently in intensive-critical care nursing units than in other types of units. However, nurses in continuing care, medical, and orthopaedic units experienced more types of stressors more frequently. These included concerns over the treatment of patients (medical), dealing with difficult or helplessly ill patients (medical, continuing care), work overload (medical, orthopaedics), and difficulties relating to other staff (orthopaedics, continuing care, medical). In the operating room, nurses were less likely than in other units to frequently experience the stressors of work overload, concerns over the treatment of patients, dealing with difficult or helplessly ill patients, or difficulties involved in nursing the critically ill. In light of these findings, Dewe stated that the unique combination of stressors of various units will affect nurses differently and tap their coping resources in particular ways.

Hipwell, Tyler, & Wilson (1989) investigated the sources of stress and differences in perceived stress for four hospital units: a medical ward, a geriatric ward, a

coronary care unit, and a renal unit. They found few differences in levels of stress among the different units. Stress due to death and dying and workload were major stressors for all nurses. Among the differences found, medical nurses scored highest on the stresses of work load and conflict with nurses while renal nurses scored the lowest on these. Uncertainty over treatment was more of a stressor for coronary care nurses than for other nurses and not a major stressor for renal nurses. Conflict with doctors was highest for the coronary care nurses. Geriatric and medical nurses experienced more stress from lack of support and workload than the specialized nurses of the renal and coronary care units.

In a review of the literature on psychological stress in intensive care and non-intensive care units, Gentry and Parkes (1982) reported that issues of death and dying are a serious stressor for intensive care nurses and that this can affect nurses' emotions and efficiency over a long period of time. Gentry and Parkes cited Campbell's (1980) finding that the anxiety resulting from continual work with very sick and dying patients can often lead to conflicts among intensive care staff. In terms of the differences in frequency of type of emotions, Nichols, Springford, and Searle (1981) found no differences among intensive care, medical, or surgical nurses in frequency of positive or negative emotions. Stewart, Meyerowitz,

Jackson, Yarkin, and Harvey (1982) found that oncology nurses reported experiencing more mood swings and more difficulty discussing their patients' situations with them than did cardiac, intensive care, or operating room nurses.

Personality characteristics can influence both the appraisal of events as stressful as well how one copes with particular stressful situations. Gray-Toft and Anderson (1981) in their study comparing the causes and effects of stress across five types of nursing units found that personality characteristics were a major factor in accounting for differential stress. They found a significantly higher level of trait anxiety among the medical unit nurses than among nurses on the oncology, hospice, and cardiovascular surgery units. The high trait anxiety was associated with experiencing high levels of stress and the low trait anxiety was associated with experiencing lower levels of stress. A path analysis of the data indicated that trait anxiety and level of training were significant predictors of nursing stress. Gray-Toft and Anderson suggest that this gives support to the theory that nurses with particular personality traits are attracted to certain types of units. In support of this, one can also cite Johnson (1979) who found that state and trait anxiety were lower for intensive care nurses than for non-intensive care nurses, but higher than

that of psychiatric nurses.

The study by Amenta (1984) comparing the traits of hospice nurses to nurses in traditional settings revealed findings which support Gray-Toft and Anderson's results. It was found that hospice nurses consider themselves more deeply religious than other nurses. On the Cattell 16PF, hospice nurses were significantly more assertive, imaginative, forthright, radical or free-thinking, and independent than the other group of nurses. The nurses in traditional settings showed significantly more sensing than hospice nurses on the Myers-Briggs Type Indicator on the sensing/intuition dimension. Finally, the hospice nurses rated their overall physical health higher than traditional nurses and significantly more of the hospice nurses felt good to excellent when completing the test forms. It is regrettable that this study did not compare the hospice nurses to oncology nurses to see if similar differences would be found. But with Gray-Toft and Anderson (1981) finding that hospice nurses reported the lowest levels of stress and oncology nurses reported lower levels than the medical unit nurses, it seems that certain individuals are more suited and attracted to certain types of nursing. But it should be remembered that Gray-Toft and Anderson found that structural characteristics of units which affect the role ambiguity and the conflict the staff experiences also play a role in accounting for

stress differences. More research is required in order to gain more clarity on this issue. Clearly, however, traits play a significant role in dealing with the stressors of cancer nursing.

Levine, Wilson, and Guido (1988) conducted a study to determine the psychological profile of critical care nurses. They found that critical care nurses tended to be more dominant, authoritative, assertive, competitive, headstrong, and aggressive. They tended to be more conscientious, moralistic, rule bound, proper, and persevering. They were task-oriented, efficient, and tended to be leaders and decision-makers. Critical care nurses tended to be self-sufficient and resourceful. They were more controlled, socially precise, had a high regard for social reputation, had a good leadership style, and were successful with mathematical, organizational, and mechanical tasks. Critical care nurses had a higher self-esteem than a general population of college women, and those who enjoyed their work the most tended to be either androgynous or masculine.

Numerof and Abrams (1984) found that several personality variables were related to experienced stress among nurses. The stress due to death-related issues was positively correlated with the need to express affection ($\underline{r}$ = .27, $\underline{p}$ = .042), the need to have other people express affection to the subject ($\underline{r}$ = .29, $\underline{p}$ = .03), and the

desire to assume a submissive role in interpersonal interactions in which others direct what occurs (r = .38, p = .004).

Another personal internal variable mediating the appraisal of stress is the cancer nurse's coping style. Lazarus and Folkman (1984) point out that a coping style refers to a broad and more pervasive way of relating to particular types of situations and people while a trait refers to properties which dispose a person to react in certain narrower ways to a given class of situations. Because of the limited scope of this proposal, the development and dynamics of coping styles as explained by Lazarus and Folkman will not be covered. What is important to emphasize is that a nurse is best prepared to deal with the stressors of cancer nursing to the extent that he or she has developed a wide range of coping skills through being exposed to previous life stressors (Vachon, 1986). Certain coping techniques will be very effective in managing the stress of cancer nursing while less effective ones will result in a higher level of experienced stress.

It is interesting to note the study by McCranie, Lambert, & Lambert (1987) in which they tested nurses with the Nursing Stress Scale, the Tedium scale, and Kobasa's measure of the construct of hardiness (Kobasa, 1979). The hardy personality style was found to lessen the impact of

stressful events by influencing both cognitive appraisal and coping ability. In the study, they found that those who demonstrated less personality hardiness reported more burnout. Topf (1989) found partial support that personality hardiness was associated with lower levels of stress and burnout. Specifically, the commitment subscale of the hardiness construct (i.e. alienation from work) contributed to predicting the level of burnout. Furthermore, greater external locus of control was positively correlated with the level of occupational stress. Pagana (1990) also tested the relationship of stress with nursing students' appraisal of stress in their initial clinical work. She found significant but weak correlations between hardiness and the extent to which threat and challenge emotions were experienced in the clinical situation. Hardiness was positively correlated with challenge and negatively correlated with threat. Rosenthal, Schmid, and Black (1989) found that nurses in a neonatal intensive care unit used a wide variety of coping responses to various stressors. A coping strategy of logical analysis was most commonly reported while a strategy of emotional discharge was least commonly reported.

Several points are clear from this review of the literature. First, the nursing profession is stressful in general for a variety of reasons. Second, there are

differences in what is stressful among the various types of units which opens the possibility that certain nurses with particular individual differences might be suited for some types of units. Third, individual differences have been found to relate to particular levels of perceived stress and coping strategies.

Dispositional Empathy

In a review of the literature examining the role of empathy in practitioner-patient relationships in health care, Squier (1990) reported that good quality, empathic communication by doctors increases the patients' adherence to medical treatment. Squier also reported similar findings for nurse-patient relationships. Empathy in these relationships increases patients' motivation to get better, promotes satisfaction with the care provided, and reduces tension. Squier developed a model of how empathic understanding leads to these results. He hypothesizes that the ability of the practitioner to take the perspective of the patient and to effectively communicate this to the patient results in the cognitive-informational benefit for the patient. In addition, he states that it is "the emotional reactivity of the practitioner to the real underlying concerns of patients which accounts for the affective-motivational consequences in the consultation" (p. 334). Squier notes that empathy in the practitioner-patient relationship may be more critical in

stress-related disorders, psychosomatic illnesses and for chronic patients.

In terms of this research proposal, Squier's (1990) speculations may mean that different levels of dispositional empathy are optimal for different types of patients and that it will be more important for nurses who work with stress-related or chronic problems to have higher levels of empathy than for nurses who work on a more short-term basis or with patients with stress-unrelated problems. Empathy would be most needed, in other words, by nurses who work with cancer patients, dialysis patients, diabetic patients than by nurses who work in surgery. But working with chronic everyday stress is what Maslach (1982) theorizes is the cause of the burnout syndrome.

Williams (1989) explored the relationship between empathy and burnout in a sample of nurses, social workers, and teachers. Empathy was measured by the Mehrabian Emotional Empathy Scale (Mehrabian & Epstein, 1972) and the Stotland Fantasy-Empathy Scale (F-E Scale) (Stotland, Mathews, Sherman, Hansson, & Richardson, 1978). The Mehrabian Empathy Scale is a measure of trait empathy focusing on the emotional responsiveness to various interpersonal situations. The F-E Scale measures the degree to which individuals emotionally respond to fictional or dramatic characters. Burnout was measured by

the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981). Emotional empathy as measured by the Mehrabian Empathy Scale correlated significantly with the emotional exhaustion subscale (r = .23, p < .23) and the personal accomplishment subscale (r = .25, p < .001) of the MBI. Fantasy empathy as measured by the F-E Scale also correlated significantly with emotional exhaustion (r = .12, p < .01) and with personal accomplishment (r = .18, p < .001). Williams (1989) conclusion was that this study adds support to the position that empathy in helping professionals can make one vulnerable to burnout. Williams (1989) adds that while it may seem that burnout and empathy are actually polar opposites of the same underlying construct and therefore redundant measure, a factor analysis of the data in this study revealed that they are not redundant measures.

Corcoran (1989) also tested the theory that the helping professional is prone to burnout as a result of the emotional empathic experiencing of the client's pain or distress. Corcoran measured empathy using the Fantasy-Empathy scale (Stotland, Mathews, Sherman, Hansson, & Richardson, 1978). Corcoran hypothesized that it is the loss of the "as if" quality of empathy which is the critical factor in leading to burnout and not so much empathy per se. This was measured by the Maintenance of Emotional Separation Scale in which lower scores indicate

a loss of emotional separation while still being empathic. Burnout was assessed by the Emotional Fatigue Scale which Corcoran developed by combining the Maslach Burnout Inventory (Maslach & Jackson, 1981) and the Occupational Tedium Scale (Pines, Aronson, & Kafry, 1981). Using a sample of female social workers, it was found that burnout was significantly correlated with empathy (r = .31, p < .01) and the loss of emotional separation (r = -.37, p < .01). When the Maintenance of Emotional Scale was statistically removed, the relationship between empathy and burnout was no longer significant (r = .14, n.s.). Corcoran's conclusion was that it is the loss of the "as if" quality of empathy and not empathy per se which is related to burnout.

Miller, Stiff, and Ellis (1988) conducted a study examining the relationship of empathic concern (one of the scales on the Davis Interpersonal Reactivity Index), communicative responsiveness, and emotional contagion to the level of burnout in a group of hospital employees. Their basic contention was that employees who do not feel as communicatively responsive to the needs of patients would experience burnout. The lack of communicative responsiveness may be due to deficient interpersonal skills in relating to patients, too heavy a caseload, or institutional constraints limiting the emotional communication a caregiver may be give to a client. They

hypothesized that empathic concern would be a positive predictor of communicative responsiveness because those who are more concerned will respond more to clients. They hypothesized that emotional contagion would be a negative predictor because it would hamper effective communication with the patient.

Miller et al. (1988) found that the results supported these hypotheses. Using a causal model, they found that empathic concern had a strong impact on the level of communicative responsiveness and that the level of emotional contagion was significantly negatively related to communicative responsiveness. However, emotional contagion and empathic concern were not correlated which is contrary to findings using samples of university students (Stiff, Dillard, Somera, Kim, & Sleight, 1988).

Miller et al.'s (1988) resultant path model revealed that communicative responsiveness was a significant negative predictor of both depersonalization and reduced personal accomplishment on the Maslach Burnout Inventory. Thus, the caregiver's ability to communicate was a very important facet of his or her self-worth and a warm and caring approach in dealing with patients. Miller et al. found that depersonalization and reduced personal accomplishment were positive predictors of emotional exhaustion which in turn was a negative predictor of organizational commitment.

Miller et al. (1988) found other notable results in this study. First, support staff and caregivers both show similarly high levels of empathic concern. Second, support staff in the hospital had higher levels of emotional contagion than the caregivers which Miller et al. interpret to mean that caregivers have learned to develop an attitude of detached concern in working with patients. Third, caregivers view themselves as having more communicative responsiveness than support staff. Fourth, caregivers experience the same levels of emotional exhaustion and depersonalization as support staff, but feel more personal accomplishment than the support staff. This may mean that caregivers may experience greater rewards in working with patients than if they had no contact with patients.

While there is evidence that empathy is predictive of burnout level, there are a number of problems with the above studies which warrant further study. First, the studies by Corcoran (1989) and Williams (1989) did not use the best instrument measuring dispositional empathy which may explain the low correlations in the Williams (1989) study. These studies used empathy measures which do not include all that may be meant by the construct of dispositional empathy. Davis (1983) developed the Interpersonal Reactivity Index (IRI) 7-item subscales which each measure a specific aspect of empathy. In the

broad sense, he defines empathy as "the reactions of one individual to the observed experiences of another" (p. 113). But rather than viewing empathy as a single construct focusing on either cognitive or affective dimensions, he proposes that empathy is actually a set of four distinct constructs which all are concerned with reacting to the observed experiences of another. First, there is the Perspective-Taking (PT) dimension which is "the tendency to adopt the point of view of other people in everyday life" (p. 117). Second, empathy has the dimension of Fantasy (FS) which is "the tendency to transpose oneself into the feelings and actions of fictitious characters in books, movies, and plays" (p. 117). The third dimension is Empathic Concern (EC) which is "the tendency to experience feelings of warmth, compassion, and concern for other people" (p. 117). The fourth facet of empathy is Personal Distress (PD) which "taps one's own feelings of personal unease and discomfort in reaction to the emotions of others" (p. 117). Davis developed the Interpersonal Reactivity Index (IRI) to operationalize this multidimensional definition of empathy. In the testing of this measure, Davis found that these four dimensions were indeed separate constructs and yet each related to some existing empathy measures, as well as with measures of self-esteem, sensitivity to others, emotionality, and social competence.

The study by Miller, Stiff, and Ellis (1988) did use the Empathic Concern subscale of the IRI, but for some reason did not use the other three empathy subscales. The Empathic Concern subscale was predictive of burnout, but it is not known how the other three subscales may be related to burnout. Only the effects of one scale are known at this time with the nursing population. Furthermore, Williams (1989), Corcoran (1989), and Miller et al. (1988) did not use a measure of perceived stress as a variable in their models, but rather only a measure of burnout. It would be interesting to find out what situations are appraised to some degree as stressful in relation to one's level of empathy and how the level of empathy and maintenance of emotional separation are related to the relationship between stress and burnout.

Affect Intensity

Affect intensity refers to a stable individual difference in the typical intensity that emotions are experienced by individuals (Larsen & Diener, 1987). It refers to the degree to which an emotion is experienced regardless of whether it is positive or negative. Individuals who are high in affect intensity will experience both positive and negative emotions equally strongly. Individuals who are low in affect intensity will experience such emotions less intensely. The intensity of the experience of positive emotion will equal

the intensity of the experience of negative emotion. Affect intensity is distinguished from emotionality which refers to the tendency to experience negative emotions (Buss & Plomin, 1975; Guilford & Zimmerman, 1957; Thurstone, 1951). It is also different from emotional variability (Wessman & Ricks, 1966). Emotional variability refers to frequent and extreme changes in affect while affect intensity refers to the typical strength of the emotional states (Larsen & Diener, 1987). In short, individuals will have a certain stable level of affective reactions to various situations no matter what type of emotion is provoked. Larsen (1984) developed the Affect Intensity Measure (AIM) to measure the construct of affect intensity. (A detailed description of the instrument and its validity and reliability are presented in the Instrumentation section under Method.)

No study has yet been done investigating the role of affect intensity in stress appraisal and burnout. Such a study would be an important addition to this research in that perhaps this construct does affect the way one appraises a stressful situation as well as how it affects the relationship between stress and burnout.

In a review of the research done on affect intensity, Larsen and Diener (1987) report that individuals with high affect intensity have more complex lives in the sense of interacting with more people who do not know each other

and have more goals that are independent of each other and possibly in conflict with each other. High affect intensity is also related to a high frequency of mood changes over time. Persons high in affect intensity tend to more active, higher in sociability/extraversion, more emotionally reactive and variable, and more physically arousable. Diener, Sandvik, and Larsen (1985) reported a relationship between affect intensity and a subset of the items on the General Behavior Inventory (Depue et al., 1981) which measures the propensity to develop bipolar affective disorders. The Affect Intensity Measure correlates substantially (r = .72, p < .001) in a sample 242 subjects ranging in age from 16 to 68 years old.

Affect intensity does not relate to indicators of psychological well-being, but does correlate with measures of neurotic and somatic symptoms; Larsen and Diener (1987) believe this may be an indication that while individuals high in affect intensity may not be dissatisfied with their lives, their regular experience of strong negative emotions and strong positive emotions exacts a somatic and psychological price. Individuals with high affect intensity also appear to lead more stimulating lives in which this type of life is the result of the temperament of high emotional response intensity.

Individuals with high affect intensity also rate their daily events as being more important than low

intensity individuals do. Furthermore, high affect intensity individuals tend to perceive the average person as having intense emotional reactivity. This finding has important implications for helping professionals because helpers high in affect intensity may tend to exaggerate the emotional states of their clients/patients. (It is, therefore, worthwhile to explore this possibility by relating it to dispositional empathy in order to explicate the intrapsychic processes high affect intensity helpers use compared to low affect intensity helpers.)

Larsen, Diener, and Emmons (1986) conducted two studies to determine whether emotional intensity is due to living a more exciting lifestyle or whether emotionally intense individuals react more strongly to the same stimuli less emotionally intense persons encounter. They found that relative to events judged objectively by a group of raters, high affectively intense individuals gave more extreme subjective ratings to their daily events than individuals low in affect intensity no matter how "objectively" good or bad the events were. Furthermore, highly affectively intense individuals do not seem to be exposed to objectively more emotion-provoking events or to objectively stronger events. When subjects are presented with a list of specific standardized events, the effect still held with highly affectively intense individuals reporting more and stronger subjective responses to both

good and bad life events. It was also found that high affectively intense subjects did not seek out more emotion-producing situations than low affectively intense subjects even though they react more intensely to the same situations.

Diener, Sandvik, and Larsen (1985) found moderate age and sex differences in affect intensity in a sample of 242 subjects from 63 families ranging in age from 16 to 68 years old. The Affect Intensity Measure was negatively correlated with age ($r = -.26$, $p < .001$) such that affect intensity decreases somewhat as one gets older. Also, it was found that females are generally more affectively intense than males. Possible explanations include the following: 1) there are biological reasons younger persons are more affectively intense than older persons; 2) cultural expectations lead to lower affect intensity among males and older persons; 3) there are differences in current life experiences and life events; 4) age differences are due to adaptation or habituation factors such that older persons have been more exposed to emotional events; and 5) age effects could be due to historical cohort factors. Williams (1989) found that Affect Intensity Measure scores decreased as age increased in a sample of 253 undergraduates and professionals.

The construct of affect intensity has been found to help reconcile the inconsistencies which have been found

in the research on affect. In a review of research on affect, Diener, Larsen, Levine, and Emmons (1985) point out that some of the research on emotions suggests a strong inverse correlation between positive and negative affect while other research on subjective well-being indicates that positive and negative affect are independent across persons over time. Diener et al. (1985) proposed that using affect intensity as well as the frequency of positive and negative affect would reconcile past inconsistencies. They found that affect intensity did help to explain the relative independence of positive and negative affect. In three studies using undergraduates (two studies) and adults in the community (one study), they found that mean positive and negative affect were not significantly correlated. But when affect intensity was partialed out, the correlation between positive and negative affect became strongly inverse (*r*'s of -.46, -.75, and -.86). Frequency of affect and affect intensity were not correlated. Thus, affect intensity is an important component of affective experience. Affect intensity and frequency combine in additive ways to constitute mean levels of affect. For example, a person having a high frequency of positive affect and high affect intensity would feel exuberance and joy; a person with a high frequency of positive affect and low intensity would experience contentment and serenity. Furthermore, these

results are not due to measurement artifacts such as social desirability; nor are they due to mathematical necessity. Finally, evidence that frequency and intensity of affect are distinct dimensions comes from the finding that they correlate with different variables. Scales related to global well-being (i.e., inner harmony, high self-esteem, feeling self-confident, and feeling cheerful) correlated with frequency, but not affect intensity; and self-ratings of high levels of physical activity, high productivity, high arousal, and a sense of domination in personal relationships were significantly related to intensity, but not to frequency of affect.

Larsen (1984) argues that affect intensity should be classified as a temperament because it refers to a general style of emotional experience and response rather than a personality construct which emphasizes the content of the emotional behavior. Furthermore, it appears early in childhood and is fairly stable into adulthood. Larsen (1984) also found that affect intensity covaries with other temperament dimensions. But, Larsen (1984) found that when affect intensity was factor analyzed with other temperament dimensions, it did not define a unique temperament dimension. He therefore concluded that affect intensity is a dimension common to all temperament dimensions especially since the temperament measures of activity, sociability and arousability/reactivity have no

items which refer to emotional intensity or to affect in general. Larsen (1984) found that individuals who tended to be more active, sociable, or physically arousable also tended to be more emotionally reactive and variable. Larsen and Diener (1987) argue that because affect intensity increases the level of all types of emotional responses, then it should be related to any trait or temperament which refers to increased levels of either positive or negative affect in the construct definition. They argue that affect intensity may be tapping into a common underlying mechanism or that affect intensity is an energizing force which contributes to or drives these temperament dimensions. Whatever the role, Larsen (1984) concluded that affective responsiveness is a component of temperament that has not been previously identified.

Flett, Blankstein, Bator, and Pliner (1989) found support for Larsen and Diener's (1987) argument that affect intensity is a dimension of temperament rather than personality. That is, Larsen and Diener maintain that affect intensity is related more to the ways positive and negative emotional behavior is manifested than to the specific type of emotion itself. In support of this, Flett et al. (1989) found that high affect intensity was significantly correlated with emotional expressiveness ($r = .45$, $p < .01$). In addition, affect intensity was significantly related to social expressivity ($r = .26$, $p <$

.05), social sensitivity ($r = .46$, $p < .01$), and emotional sensitivity ($r = .28$, $p < .01$). Flett et al. (1989) conclude that because the AIM correlated significantly with all but one of the subscales on the Social Skills Inventory, this "suggests that greater social skills and the attendant ability to accurately decode the emotional expressions of others may be an inherent feature of the affect intensity construct" (p. 4). (For this dissertation, this would lead to the hypothesis that affect intensity would be positively correlated with the Davis IRI measure of dispositional empathy.)

With regard to cognitive operations associated with affect intensity levels, Larsen, Diener, and Cropanzano (1987) found that certain cognitive operations discriminate between high and low affect intensity subjects. Individuals high in affect intensity tend to use the cognitive operations of generalization, personalization, and selective abstraction more frequently than low affect intensity subjects. High affect intensity subjects also made more empathic ratings and added more to a scene in terms of fantasy elaboration than low affect intensity subjects. Furthermore, differences between high and low affect intensity individuals occurred only when the stimuli was emotional, not when the stimuli were nonemotional or neutral. Because the transactional model of stress appraisal and coping emphasizes the role of

cognitive appraisal, and the construct of affect intensity is associated with certain cognitive operations, it becomes important to research exactly how affect intensity relates to stress appraisal and burnout.

There have been no studies yet done examining the role the affect intensity construct has in perceived stress and burnout. One study has alluded to its role in stress, but did not have any construct validity for it. Nevertheless, it should be mentioned because of its similarity to the present study.

Motowidlo, Manning, & Packard (1986) include a variable called stressful event intensity in their study which related occupational stress to antecedent variables (type A behavior, fear of negative evaluation, job experience, and type of unit) and job performance in a sample of nurses. They argued that stressful event intensity reflects "the operation of individual characteristics that dispose people to react more strongly to a broad range of stressors" (p. 619). While implying that stress event intensity is an individual difference, Motowidlo et al. did not gather independent evidence for the validity of this construct. After rating how frequent various stressful events occurred to the subject, the subject then gave an intensity rating to those events. In response to the question, "How stressful is or would this be for you?", subjects answered on a 5-point scale from

"not at all stressful" to "extremely stressful". They found that the more frequently these events occurred and the more intensely stressful they were for the nurse, the greater was the stress experienced. The authors were not able to explain, however, the correlation between intensity and frequency (r = .27, p < .01); they speculated that this might be due to correlated method variance since nurses had to rate the frequency of the events immediately after they rated their respective intensities. They speculated that possibly a group of traits act together to produce stressful event intensity, but did not investigate this.

Numerof and Abrams (1984) had similar problems when they developed their Nursing Stress Inventory (NSI). Subjects had to rate the frequency of each stressor and the degree of stressfulness of that stressor. Like Motowidlo et al. (1986), they found a high degree of correlation between frequency and degree of stressfulness. Citing Maslach (1978) and Maslach and Pines (1978), they pointed out that subjects may have difficulty differentiating between frequency and degree of stressfulness and therefore combined the two ratings to create a stress score.

In summary, the construct of affect intensity has not been examined with regard to its role in the perception of constant emotional stresses in the helping professions or

its role in the development of burnout. But given the literature relating affect intensity to the perception of emotional stimuli, the tendency to exaggerate the emotional states of others, and certain cognitive operations associated with it, it would seem important to investigate its role in the relationship between stress and burnout.

Nomological Network

The theoretical framework for this study is the transactional model of stress appraisal proposed by Lazarus and Folkman (1984). Cognitive appraisal of a situation consists of two interdependent processes: primary and secondary appraisal. In primary appraisal, an individual evaluates whether a situation is irrelevant, benign-positive, or stressful. Stressful appraisals consist of evaluations of the situation as harm/loss, threat, and challenge. Harm/loss evaluations occur when the person has already sustained some damage either physically (e.g., illness, injury) or psychologically (e.g., loss of self-esteem, loss of friendship, loss of social status). Threat evaluations are harm or loss evaluations that are anticipated, but have not yet taken place. Challenge evaluations are anticipations of gain or growth in a particular situation. With regard to emotion, Lazarus' theory is basically cognitive in that the quality and intensity of an emotion is determined by the appraisal

of the situation.

In secondary appraisal, the person evaluates what can and might be done in light of the primary appraisal. Coping resources are assessed and executed in response to stressful situations. Primary and secondary appraisals "interact with each other in shaping the degree of stress and the strength and quality (or content) of the emotional reaction" (Lazarus & Folkman, 1984, p. 35). Emotions are defined as "complex, organized psychophysiological reactions consisting of cognitive appraisals, action impulses, and patterned somatic reactions" (Folkman & Lazarus, 1988a, p. 310). A study by Folkman and Lazarus (1985) demonstrated how emotions change as the appraisal of stress changes. They tracked the changes in emotions of undergraduates taking a midterm exam at three points: the stage of anticipating the exam, the period of waiting for grades after the exam, and the period after grades were posted. They found that the emotions of threat, challenge, harm, and benefit changed over the course of these three periods. Also, they found that students experienced contradictory emotions at each stage. Furthermore, they found individual differences in cognitive appraisal and coping.

Cognitive appraisal of a situation is determined by a combination of environmental factors, situational aspects, and person characteristics. In this study, the focus is

on individual differences in reacting to potentially stressful episodes. Without discounting the role of environmental and situational factors, individual differences help to explain why the same situation is perceived by one individual as a threat and as a challenge or neutral stimulus by another person.

Individual differences influence not only the appraisal of situation, but also the process of coping as well. Coping "consists of cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Folkman & Lazarus, 1988b, p. 310). Lazarus (1966) explains that there are two ways in which traits influence the coping process. First, as explained above, the way a situation is appraised is influenced by various personality characteristics which in turn affect the coping strategy selected. That is, if individual differences on a trait predispose people to make different appraisals of the threat value of an event, then it follows that each person might select different coping strategies. Second, Lazarus (1966) explains that traits can affect the coping process by influencing what coping capacities the individual has or what his or her preferred coping strategy is; in other words, a particular coping response may or may not be in the response repertoire or it may be a preferred strategy no matter how

the situation is appraised. Lazarus offers the example of a lack of impulse control in which a person is unable to inhibit a particular response no matter how he or she appraises the situation.

Emotion is a very important part of the process of stress appraisal and coping. As Folkman and Lazarus (1988a) explain, the appraisal of a stressful encounter generates emotional responses. This appraisal and the emotions initially produced influence the coping mechanisms which in turn lead to some change in the relationship between the person and the environment. Lazarus and Folkman (1984) maintain that two general types of coping processes change this relationship. One is problem-focused coping which is directing at changing the situation which is creating the distress. The second general type is emotion-focused coping which focuses on lessening the emotional distress with such strategies as distancing, selective attention, positive comparison, minimization, looking for the positive in negative events, and avoidance. Folkman and Lazarus (1988a) point out that this changed person-environment relationship as a result of the particular coping strategy used, is then reappraised and thus the emotional reaction can change as a result. In this way, coping can be viewed as a mediator of the emotional reaction. Folkman and Lazarus (1988a) gained preliminary support for this claim in their study

of how two community samples experienced their emotions in stressful encounters.

Parkes (1986) provides a summary of the research done on individual differences which influence the way one appraises and copes with a stressful event. Chan (1977) found that stress responses could be predicted by self-esteem, chronic anxiety, and helplessness. The patterns of coping and defense have been discovered to be related to Type A behavior (Pittner & Houston, 1980; Vickers, Hervig, Rahe, & Rosenman, 1981; Vingerhoets & Flohr, 1984). Anderson (1977) and Parkes (1984) found a relationship between problem-oriented coping and internal control. Parasuraman & Cleek (1984) found that trait anxiety was associated with maladaptive coping. Fleishman (1984) found that nondisclosure (the tendency to avoid revealing problems to others) and self-denial (the tendency to avoid thinking about negative aspects of one's life) were related to certain coping patterns. Neuroticism and extraversion have also been found to influence coping mechanisms (McCrae & Costa, 1986). Others have found that flexibility, internal control, neuroticism, and other individual differences can act as moderator variables in the relationship between stress and strain (Denney & Frisch, 1981; Pearlin & Schooler, 1978; Wheaton, 1983).

With respect to the individual differences of

interest in this dissertation, an important question will be to ascertain exactly how the variables of affect intensity and dispositional empathy influence the relationship between perceived stress and burnout. According to Maslach's (1982) theory of burnout, "the burnout syndrome appears to be a response to chronic, everyday stress (rather than to occasional crises)" (p. 11). In the helping professions, there is a constant emotional pressure in working with people. Burnout results when the helper's tolerance for this continual stress breaks down. Individual differences determine how one manages the external stresses which are part of helping others on a daily basis. Cherniss (1980) defines burnout as a transactional process consisting of three stages. First, the individual experiences prolonged and severe job stress in which there is an imbalance between the demands of the situation and the person's resources. Second, strain results from this stress which involves feelings of tension, exhaustion, fatigue, and anxiety. Third, the person then psychologically accommodates to this stress by coping defensively with it. That is, there are changes in attitude and behavior which lowers the perceived stress. These include emotional detachment, cynicism, rigidity, and apathy. Various personality characteristics influence how susceptible or vulnerable one is to the burnout process.

There have been inconsistent findings about the relation between stress and burnout in nurses. Some studies have reported a positive correlation between stress and burnout (Bartz & Maloney, 1986; Cronin-Stubbs & Rooks, 1985; Jenkins & Ostchega, 1986; McCranie et al., 1987; Norbeck, 1985; Spoth & Konewko, 1987;Stone, Jebsen, Walk, & Belsham, 1984; Topf & Dillon, 1988; Yasko, 1983) while others have found little or no relationship between stress and burnout (Albrecht, 1982; Baldwin, 1983; Hagemaster, 1983; Topf, 1989). In a study of work stress, hardiness, and burnout among hospital nurses, McCranie et al. (1987), hardiness was expected to be a moderator variable interacting with stress to lower burnout by buffering or neutralizing the effects of stress. However, job stress and hardiness were found to be additive predictors of burnout.

There are four possible models of how affect intensity and dispositional empathy may influence the relationship between stress and burnout. The first is a direct effects or additive model in which stress, affect intensity, and dispositional empathy each have main effects on the dependent variable of burnout. The three independent variables will be significant additive predictors of burnout.

The second model is one in which affect intensity and dispositional empathy are moderator variables in the

relationship between stress and burnout. A moderator is "a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and strength of the relation between an independent or predictor variable and a dependent or criterion variable" (Baron & Kenny, 1986, p. 1174). In the causal chain, a moderator variable is on the same level as a predictor variable in that it is antecedent or exogenous to the criterion variable. Statistically, moderators are represented in terms of the interaction of two variables. In this model, the relationship between stress and burnout would be higher at one level of affect intensity and dispositional empathy than at another level of affect intensity and dispositional empathy. That is, the presence of affect intensity and dispositional empathy would increase one's susceptibility to burnout in combination with high perceived stress; or, low levels of affect intensity and dispositional empathy would act to buffer or neutralize the effects of stress.

The third model would have affect intensity and dispositional empathy as mediating the relationship between stress and burnout. A mediating variable "accounts for the relation between the predictor and the criterion" (Baron & Kenny, 1986, p. 1176). That is, it explains how or why certain effects occur whereas a moderator variable, by its presence or absence, changes

the level of the criterion variable. In the causal sequence, a mediating variable follows the predictor variable and precedes the criterion variable. In this model, the constructs of affect intensity and dispositional empathy would constitute at least part of the mechanism by which stress leads to burnout according to the theories of Maslach (1982) and Cherniss (1980).

The moderator and mediator models presume that affect intensity and dispositional empathy are highly correlated or possibly the same construct. The fourth possible model would be some other combination in which affect intensity and dispositional empathy are totally different constructs and influence the stress-burnout relationship in distinct ways. For example, dispositional empathy might be a mediator between stress and burnout and affect intensity would be a moderator of this relationship. Or, affect intensity would be the mediator and dispositional empathy the moderator. Another possibility is that only one of these two constructs mediates or moderates the stress-burnout connection.

Research Questions

1. Regarding the influence of affect intensity and dispositional empathy on the relationship of perceived stress and burnout, which of the four models proposed is correct?

2. How does affect intensity relate to the level of

perceived work stress?

3. Do individuals high in affect intensity have greater levels of burnout on the Maslach Burnout Inventory, especially on the dimension of emotional exhaustion?

4. How is the construct of affect intensity related to the construct of dispositional empathy?

5. How will job satisfaction and career satisfaction affect the role affect intensity and dispositional empathy play in the stress-burnout relationship?

6. Will the finding that dispositional empathy contributes to burnout among helping professionals be replicated? Previous research on this question used only one of the subscales of the Davis Interpersonal Reactivity Index (IRI) in studying its contribution to burnout. How do the other three subscales of the IRI relate to burnout?

7. How do the four dimensions of dispositional empathy as conceptualized and operationalized by Davis relate to the levels of perceived stress.

8. Does the Measure of Emotional Separation (Corcoran, 1982) add any predictability to the model supported?

9. Does dispositional empathy vary according to work specializations/units in nursing?

10. Are there tenure effects such that novice nurses have higher affect intensity and dispositional empathy

than nurses who have been in their occupations longer?

11. Are there differences between levels of affect intensity and dispositional empathy of nurses and the levels of these in the general population?

CHAPTER III

METHOD

Overview

The independent variables of this study are job satisfaction, career satisfaction, perceived stress, affect intensity, emotional separation, and dispositional empathy. The dependent variable is the level of burnout experienced. A demographics sheet (Appendix D) will also be included in the packet coded by hospital.

Hypotheses

In light of the research questions posed in the previous chapter, the following hypotheses are proposed:

1. It is hypothesized that the affect intensity of nurses will be higher compared with the general population.

2. Affect intensity will be positively correlated with the Davis measure of dispositional empathy, especially with the more affective subscales which are the Empathic Concern, Fantasy, and Personal Distress subscales.

3. The Davis Interpersonal Reactivity Index (IRI) as a measure of dispositional empathy will correlate with

burnout which will replicate previous findings, except with an improved measure of dispositional empathy. The subscales of the IRI will relate differentially with the levels of stress and burnout. The more affective subscales of the IRI, Fantasy Empathy, Empathic Concern, and Personal Distress, are hypothesized to be more correlated with the Emotional Exhaustion subscale, the Personal Accomplishment subscale, and the Tedium Scale than the more cognitive empathy measured by the Perspective-Taking subscale. It is also hypothesized that the Perspective-Taking subscale and the Fantasy Empathy subscale will be most correlated with the Depersonalization subscale of the Maslach Burnout Inventory. The ability to maintain emotional separation as measured by the Maintenance of Emotional Separation Scale (MES) is also hypothesized to correlate with the burnout measures with the correlations being negative on the Emotional Exhaustion, Depersonalization, and Tedium scales, and positive with the Personal Accomplishment subscale.

4. Younger, less experienced nurses will tend to have higher levels of affect intensity and dispositional empathy than older, more experienced nurses.

5. Nurses with particular personality characteristics are hypothesized to be attracted to particular types of units. First, affect intensity will

vary among the various units according to the need high affectively intense individuals have for stimulation and arousal. Thus, it is hypothesized that nurses in acute units will have higher levels of affect intensity than those in moderate and chronic units. Second, there are expected to be differences in levels of dispositional empathy across the types of units; it is hypothesized that nurses with higher levels of dispositional empathy will tend to be attracted to the less acute types of hospital units. Third, those nurses who tend to lack emotional separation from others as measure by the Maintenance of Emotional Separation Scale (MES) will also tend to be attracted to less acute types of hospital units.

6. Given that theories of burnout focus on the role of chronic emotional stress, it is hypothesized that the IRI dispositional empathy subscales of Empathic Concern, Fantasy, Personal Distress as well as the affect intensity construct will influence the stress-burnout relationship. The main purpose of the study is to investigate which of the four possible models of how affect intensity and dispositional empathy influence the relationship between stress and burnout will be supported: a mediation model; a moderator model; a direct effects or additive model; or a combination of these three models.

7. Satisfaction with one's job on a particular unit and satisfaction with the career of nursing may influence

how affect intensity and dispositional empathy affect the stress-burnout relationship. The prediction is that satisfaction will interact with empathy and affect intensity in predicting how stress is related to burnout.

8. There will be different types of nurses with distinct profiles in terms of the four dimensions of dispositional empathy measured by the Interpersonal Reactivity Index (IRI) and the ability to maintain emotional separation. This is based on the finding by Gifford (1988) that there were five distinct profiles on the IRI found in psychologists in private practice. It is hypothesized that these profiles will correlate with specific levels of burnout and nursing stress such that nurses with higher levels of dispositional empathy and a low level of emotional separation from others will tend to have higher levels of burnout while nurses with lower levels of dispositional empathy and a higher level of emotional separation will tend to have lower levels of burnout. Furthermore, it is hypothesized that nurses with higher levels of empathy will tend to be working in the moderate and chronic hospital units than in the acute units.

Subjects

The subjects for this study were registered nurses from selected units from three midwestern hospitals. Hospital A was approximately a 100 bed hospital, hospital

B was approximately a 500 bed hospital, and hospital C was approximately a 300 bed hospital. At hospital A, the smallest of the three hospitals, the following types of units participated: emergency, intensive care, medical-surgical, obstetrics, and surgery. At hospital B, the largest of the hospitals, the types of units were as follows: emergency, intensive care, newborn intensive care (NICU), medical-surgical, obstetrics, oncology, and surgery. At hospital C, a medium-sized hospital, the following types of units agreed to participate: critical care, medical-surgical, oncology, surgery. Although hospital C initially agreed to have the obstetrics and emergency units participate, administration later felt that a stress survey was not timely because of certain difficult situations occurring in these two units.

Of the 682 surveys distributed to the three participating hospitals, 257 nurses responded, resulting in a return rate of 37.7%. The return rate by hospital was as follows. At hospital A, 50 of 107 surveys (46.7%) were returned. At hospital B, 143 of 395 surveys (36.2%) were completed and at hospital C, 65 of 180 surveys (36.1%) were returned.

The sample consisted of 247 (96.1%) women and 10 (3.9%) men (descriptive statistics are found in Table 1.) The average age was 37.3 years with a range from 21 to 64 years (SD = 8.8). There were 247 (96.1%) Caucasian

subjects and only 9 (3.5%) subjects from several minorities in this sample. In terms of marital status, 191 (74.3%) were married, 31 (12.1%) were single, 27 (10.5%) divorced, 4 (1.6%) widowed, and 2 (.8%) separated. With regard to work status, 174 (67.7%) were fulltime, 76 (29.6%) part-time, and 7 (2.7%) per diem nurses. By shift, 130 (50.6%) were on the day shift, 51 (19.9%) on the evening shift, 56 (21.8%) on the night shift, and 19 (7.4%) on a rotating shift. The average number of years respondents have been nurses was 13.5 years (SD = 8.7) ranging from 7 months to 44 years. In terms of nursing degree, 98 (38.1%) had Diplomas in Nursing, 78 (30.4%) had Associate's degrees, 75 (29.2%) had Bachelor's degrees, and 5 (1.9%) had Master's degrees. The average number of years a nurse had been at their present hospital was 8.3 years (SD = 6.9) ranging from 1 month to 41 years. The average number of years they had been on their present unit was 6.7 years (SD = 6.0) ranging from 1 month to 44 years.

Procedure

The author contacted the vice-presidents of nursing in these hospitals and submitted the research proposal to each hospital's Institutional Review Board for approval. Contingent on this approval, the survey was given to selected nursing units so that comparisons might be made among units differing in severity and type of medical

condition treated. A purposive sampling method was employed in which units were chosen representing the spectrum of patient care ranging from acute and intensive to chronic. The following types of units were selected based on research which has previously compared these units to each other in terms of stress and individual differences: emergency, critical care, newborn intensive care, medical-surgical (selected by the vice-president of nursing from the general medical-surgical units of their hospital), maternal child, oncology, and surgery.

The method of subject recruitment was through unit supervisors who passed out the survey packets which could be mailed back directly to the author. Meetings were held with the principal investigator and the supervisors of all the units participating in the study. At these meetings, the purpose of the study was explained and any questions were answered. They were informed that because of the sensitivity of doing research on burnout, the confidentiality of the individuals as well as the participating hospitals would be strictly protected during the study as well as in any presentations and publications which may result from this study. The principal investigator agreed to provide results of the study as well as possible in-service presentations for the participating nurses, unit supervisors, and nursing administration.

Unit supervisors then distributed the Nursing Experience Survey to the nurses on the respective units. Distributing the surveys at regular meetings for the nurses was attempted, but because attendance was small, it was decided to distribute the surveys solely through the unit supervisor's delivery to them. The names of the nurses on the units were on the outside of the sealed envelope but not on the survey itself so that the confidentiality of the participating nurses would be protected; an identification number was placed on the survey enclosed in the envelope only for the purpose of follow-up reminders. Only the principal investigator had the list of names associated with the identification numbers in order that the nurses' individual responses to the survey not be available to the hospital employing them. Unit supervisors informed unit nurses of this confidentiality and that their hospital would not have access to this list. Participation of the nurses was completely voluntary and completion of the survey constituted consent to participate in this research study. The survey was completed during off-work time and took approximately 40 to 50 minutes to complete. There was no deception used in this research design and there was minimal risk to the participants. A cover letter outlining the purpose of the study and the confidentiality of their responses was included in the packet (see

Appendix A) along with the survey booklet and a stamped return envelope addressed to the principal investigator. A follow-up reminder letter (Appendix B) was sent to the nurses several weeks later. All nurses received letters in order that the confidentiality of those who decided not to participate would be protected.

At hospitals A and B, surveys were distributed by the head nurses of the units and were coded as originally specified above. However, hospital C felt that code numbers on the surveys were a threat to confidentiality and so surveys were distributed with no code numbers, a revised cover letter (Appendix C) and a general follow-up reminder letter was used to increase response to the survey (Appendix B).

Instrumentation

Nursing Stress Scale

The Nursing Stress Scale (NSS) (Appendix E) developed by Gray-Toft and Anderson (1981) is used to measure the level of stress experienced by nurses. It consists of 34 potentially stressful situations for nurses as identified in the literature and from interviews with nurses, physicians, and chaplains. Nursing subjects are asked to indicate how frequently they experience these situations as stressful on their units using a 4-point scale from never to very frequently. The ratings are summed and the

higher scores indicate higher occupational stress. There are 7 subscales as identified by factor analysis: death and dying, conflict with physicians, inadequate preparation, lack of support, conflict with other nurses, workload, and uncertainty concerning treatment. Test-retest reliability for the total scale was .81. In terms of internal consistency, the scale has a Spearman-Brown coefficient of .79, a Guttman split-half coefficient of .79, a coefficient alpha of .89, and a standardized item alpha of .89. Test-retest reliability for the four of the scales was above .70 (i.e., death and dying, .83; conflict with physicians, .72; conflict with other nurses, .86; and work load, .74). The uncertainty concerning treatment subscale had a test-retest reliability of .68 and the inadequate preparation subscale had a test-retest reliability of .42. Internal consistency of the subscales as measured by the standardized item alpha exceeded .70 for five subscales, but was .68 for the conflict with physicians subscale and .65 for the lack of support subscale.

There is good empirical evidence of the validity of the Nursing Stress Scale (NSS). Gray-Toft and Anderson (1981) found that the NSS was significantly positively correlated with state anxiety and trait anxiety. It was also found that higher NSS scores on various units was associated with higher rates of turnover. Furthermore, it

was found that registered nurses scored significantly higher than licensed practical nurses and nursing assistants on the NSS which paralleled the fact that the turnover percentages are higher with registered nurses than with licensed practical nurses and nursing assistants. Cronin-Stubbs and Rooks (1985) found that the NSS was a good predictor of burnout in critical care nurses.

Cronin-Stubbs (1984) included eight additional items which had been offered by the original authors to cover ICU stressors. However, no factor analysis of the NSS with these items had been done. Furthermore, items which Cronin-Stubbs (1984) used differ in minor ways with the scale published by Gray-Toft and Anderson (1981). J. G. Anderson (personal communication, September 18 & 26, 1991) stated that the original 34-item scale be used exactly as published to maximize comparability with other nursing stress studies. However, he stated that there is less consistency on additional items and to feel free to test various items. D. Green (personal communication, September 18, 1991) has done further work on the NSS and in a yet unpublished study, found in her factor analyses that the NSS has basically one factor which can be categorized as a general stress factor. In fact, she found in her study of New Zealand and American nurses that the NSS can be narrowed to 24 items. Given the

inconsistency of the supplementary items, 16 of the 17 items which Cronin-Stubbs (1984) used in addition to the original NSS will be used because of their relevance to emergency room and intensive care units. One new item (i.e. stress due to working with a patient who has a contagious disease) will be added to the supplementary list of items.

Affect Intensity Measure

Larsen (1984) developed the Affect Intensity Measure (AIM) (Appendix F) which is a 40-item questionnaire which measures the typical intensity with which individuals experience their emotional reactions to life events. The AIM was developed from an initial pool of items written by a psychology professor, a graduate student, and two undergraduates based on the construct definition of affect intensity. The central components of the definition were that the items focused on intensity rather than the frequency of particular emotions; that the items refer to the strength or magnitude of all emotions whether they are positive or negative; and that the items should reflect the behavioral, cognitive, and interpersonal consequences of a person having strong affective responsivity. The initial 343 items were rank ordered by a group of raters in terms of the fitness of the items with the definition and the lowest 200 items were dropped. The remaining 143 items were given to 567 undergraduates and 45 items were

dropped if they had insufficient variance, were highly skewed, or had high correlations with the Crowne and Marlow (1964) measure of social desirability. The remaining 98 items were factor analyzed and after four iterations, 50 items were left. These 50 were then given to 400 undergraduates and after another factor analysis, 10 items were deleted leaving the present 40-item measure.

Several factor analyses of the AIM revealed that it had 5 factors. These were intra-personal positive affect, preference for arousal, general intensity, intra-personal negative affect, and reactivity to positive events. These factors were moderately intercorrelated and thus were refactored revealing a single second-order factor. Larsen (1984) therefore argued for a summative scoring strategy in which the total score reflects the amount of general affective reactivity.

Larsen (1984) reported test-retest reliabilities of .80, .81 and .81 for 1, 2, and 3 month intervals, respectively. Internal consistency coefficients have ranged from .90 to .94 in four samples reflecting a highly homogenous item set. Split-half correlations ranged from .73 to .82 in those four samples, and the mean corrected item-total correlations ranged from .41 to .51. Larsen (1984) also found that the AIM was not significantly associated with measures of response bias such as measures of social approval (Crowne & Marlow, 1964), measures of

faking good or faking bad (Cattel, Eber, & Tatsuoka, 1970), a measure of lying (Eysenck & Eysenck, 1964), and measures of infrequency and defensiveness (Jackson & Messick, 1970). The AIM is also not related to a measure of extreme response style.

The construct validity of the AIM appears to be well established. Larsen (1984) conducted a multitrait-multimethod study of affect intensity and found that various methods of measuring affect intensity correlate significantly among themselves and that measures of affect intensity did not correlate with measures of the frequency of affect. Evidence of convergent validity include the finding that the average of daily reported levels of arousal significantly correlate with the averaged daily intensity scores and the AIM. Also, people who are high in affect intensity tend to seek out more stimulating things to do each day. They also rated the events of their daily lives as more important than low affect intensity individuals did. High AIM scores are associated with the tendency to engage in activities which are more emotion-provoking than low AIM scores. High AIM subjects show more variability in global hedonic level and tend to vacillate more strongly between emotions (Larsen, 1984; Larsen, Diener, & Emmons, 1986). Larsen (1984) also found that affect intensity is related to a measure which assesses risk for bipolar affective disorder (Depue,

Slater, Wolfstetter-Kausch, Klein, Goplerud, & Farr, 1981). But in contrast to bipolar risk measure, the AIM is normally distributed in undergraduate populations (in a sample of 356 undergraduates, a skew of -.05 was found). Affect intensity consistently covaries with measures of activity, emotionality, impulsivity, sociability, and cortertia (i.e., the speed at the neurological level and high sensory reactivity). Affect intensity differs from emotionality scales, however, because emotionality scales refer to negative emotions and the tendency to respond with negative affect while affect intensity relates to general mood variability and to the magnitude of both positive and negative emotions. Emotionality scales also positively correlate with depression measures and negatively correlate with measures of psychological well-being. Larsen, Diener, and Emmons (1986) also found that the AIM correlated with Mehrabian's (1979) Arousability scale suggesting that affective response intensity is associated with sensory response intensity.

Goldsmith and Walters (1989) conducted a validity study of the AIM. They found that the AIM was correlated with Eysenck's (1958) measure of extraversion (r = .26, p < .01). This finding supports the nomological network of affect intensity in that people who are more emotionally reactive are more emotional, more physically arousable, more active, and more sociable. The AIM was also

correlated with neuroticism (r = .34, p < .01). This also supports the validity of the AIM because the fast and frequent mood changes in daily mood over a period of time is similar to Eysenck's (1958) construct of neuroticism in which a person tends to be more moody or touchy. The AIM was not found to correlate with two measures of social desirability, the Marlow-Crowne and the Lie scale of the Eysenck Personality Inventory (Eysenck, 1958). However, it did correlate with yeasaying (r = .45, p < .01) which means that the AIM is affected by an agreeing response style. Yeasaying was measured by the YN-2 scale (Wells, 1961, 1963) which is a refinement of Couch and Keniston's (1960) initial work on this construct. Yeasayers are more likely to agree, to be uncritical and enthusiastic, and to rate things highly which impress them. Naysayers tend to say no, are more cautious, conservative, critical, and controlled in their responses. They are moderate in enthusiasm and will avoid commitment to something unless they are sure of their actions. Couch and Keniston (1960) found that those who tend to say "yes" tend to be impulsively overexpressive, extroverted, impulsive, in search of novelty and external stimulation, active, and excitable. Naysayers had the opposite of these characteristics. Goldsmith and Walters (1989) still found that the AIM correlated with extraversion and neuroticism when the effects of yeasaying were held

constant; they also point out that the characteristics of people of high affect intensity are similar to yeasayers; that is, they are more excitable, impulsive, and extraverted. Nevertheless, they warn that a tendency toward acquiescence may confound the AIM.

Additional support for the validity of the AIM came from a study by Flett, Blankstein, Bator and Pliner (1989) in which they investigated the relationship between affect intensity with beliefs about self-control over emotion-related behaviors as assessed by various subscales on the Social Skills Inventory (SSI; Riggio, 1986), the Self-Control Scale (SCS; Rosenbaum, 1980), and the Physiological Self-Control Scale (PSC; Boase and Blankstein, 1983). They found that the AIM correlated significantly with the emotional control subscale of the SSI (r = -.55, p < .001) indicating that high affect intensity is associated with low self-perceived control over emotions. The AIM was not correlated with any other type of self-control measure (i.e., physiological self-control, social self-control, or global self-control).

Williams (1989) compared the AIM with the Eysenck Personality Questionnaire (EPQ) and also performed a factor analysis of the AIM with 253 undergraduates and professionals. In this study, the AIM total score correlated significantly with Neuroticism (r = .375, p < .001) and also with Extraversion to a lesser degree (r =

.27, $p < .001$). In the factor analysis, it was found that the coefficient alpha reliability of the AIM was .882, but the average inter-item correlation was .16 which does not support the AIM as representing a general factor. Williams found that a 4-factor varimax rotation was the best solution. Factor 1 included 17 items about positive emotions of bursting with joy, bubbling over with energy, elation, and ecstasy. Factor 2 consisted of seven of the eleven reversed items which describe the experience of happiness as being one of contentment rather than exhilaration, joy, or excitement. Factor 3 contained seven items about feeling strong reactions of guilt or shame, empathic negative emotions (e.g., "picture of some violent car accident...makes me feel sick..."), and one item on strong feelings of anxiety. Factor 4 consisted of eight items. Four of these items were the reversed items regarding keeping or being calm, not overreacting when angry, and having mildly intense negative moods. The other four items were about having more intense emotions than others, being judged as emotional or 'high-strung', and getting shaky when one is nervous. When Williams correlated these factors with the EPQ, it was found that Extraversion was more related to the positive affect factors and Neuroticism was more related to the negative affect factors.

Williams (1989) did state that there may have been

some problems in this particular study. First, the subjects may have been unusual in some way because of the diverse sample. Second, the two questionnaires had different scoring formats and a lot of repetition of similar items which reportedly irritated or bored subjects. But Williams argued that the total AIM score does not appear to represent a general factor or to be equally weighted by positive and negative affect items. Furthermore, Williams argued that only one dimension of the positive factor and one dimension of the negative factor should emerge instead of two for each.

Interpersonal Reactivity Index

Davis (1983) developed the Interpersonal Reactivity Index (IRI) (Appendix G) which is a 28-item self-report questionnaire containing four 7-item subscales which each measure a specific aspect of empathy. In the broad sense, he defines empathy as "the reactions of one individual to the observed experiences of another" (p. 113). But rather than viewing empathy as a single construct focusing on either cognitive or affective dimensions, he proposes the view that empathy is actually a set of four distinct constructs which all are concerned with reacting to the observed experiences of another. First, there is the Perspective-Taking (PT) dimension which is "the tendency to adopt the point of view of other people in everyday life" (p. 117). Second, empathy has the dimension of

Fantasy (FS) which is "the tendency to transpose oneself into the feelings and actions of fictitious characters in books, movies, and plays" (p. 117). The third dimension is Empathic Concern (EC) which is "the tendency to experience feelings of warmth, compassion, and concern for other people" (p. 117). Finally, the fourth facet of empathy is Personal Distress (PD) which "taps one's own feelings of personal unease and discomfort in reaction to the emotions of others" (p. 117). In the testing of this measure, Davis found that these four dimensions were indeed separate constructs and yet each related to some existing empathy measures, as well as with measures of self-esteem, sensitivity to others, emotionality, and social competence.

The method of selection of items for the IRI is not available in the published literature. Davis (1983a) does explain, however, that each of the four subscales of the IRI has been referred to in one form or another in the literature. But others have usually concentrated on only one dimension in the development of empathy measures. Davis combined these dimensions and the items are linked to previous studies in empathy. The internal reliabilities of the subscales range from .71 to .77 and test-retest reliability of the entire measure ranges from .62 to .71 (intervals were not reported). Davis (1983b) examined the convergent and discriminant validity of the

IRI with over 770 undergraduates. Each of the four subscales were compared to measures of social competence/interpersonal functioning, self-esteem, emotionality, sensitivity to others, and intelligence.

It was found that the Perspective Taking subscale was consistently related to measures of interpersonal functioning. It is negatively related to measures of social dysfunction, especially boastfulness and arrogance. Perspective-Taking is positively related to extraversion and has a modest positive correlation with self-esteem. There was also found a positive relationship to other-oriented sensitivity and a weak negative relationship with self-oriented sensitivity measures. As far as the relationship with emotionality, the Perspective-Taking subscale is unrelated to emotional invulnerability and the lack of responsivity to emotional situations. However, high scores on the Perspective-Taking subscale are related to less self-reported nervousness, anxiety, and insecurity. No relationship was found with intelligence.

The Fantasy subscale scores were unrelated to measures of social functioning and social competence. It was also generally unrelated to self-esteem. The Fantasy Empathy subscale was related to positive emotionality in that high fantasizers report a lack of emotional invulnerability and tend to be slightly more fearful. High Fantasy Empathy scores, then, are more susceptible to

emotional responses. They also report higher sensitivity scores in both other-oriented and self-oriented measures. In terms of intelligence, the Fantasy Empathy subscale was positively correlated with measures of intelligence and especially verbal intelligence.

The Empathic Concern scores were not related to measures of interpersonal functioning. However, Empathic Concern scores were positively related to measures of shyness, social anxiety, audience anxiety and yet negatively related to loneliness and an undesirable interpersonal style. The relationship to measures of emotionality were almost the same as the Fantasy Empathy correlations with emotional vulnerability, fearfulness, and insecurity. As expected, Empathic Concern scores were strongly correlated with measures of selflessness and concern for others. Finally, Empathic Concern scores were consistently negatively related at levels of marginal significance with measures of intelligence.

The Personal Distress scores were positively related to measures of interpersonal functioning. High Personal Distress scores were positively related with social dysfunction and negatively related to social competence. Strong positive relationships were found with shyness, social anxiety, and extraversion. Personal Distress was negatively related to self-esteem. In terms of emotional reactivity, high Personal Distress scores were associated

with a great deal of emotional vulnerability and a strong tendency toward chronic fearfulness. Personal Distress was positively correlated with self-oriented measures and unrelated to measures of other-oriented concern and sensitivity.

Various intercorrelations among the subscales were detected beyond the .05 level in two samples of subjects (N = 770 and N = 460). Perspective Taking was positively correlated with Empathic Concern (r = .33). Perspective Taking was negatively correlated with Personal Distress (r = -.25). Finally, The Fantasy Empathy and Empathic Concern subscales were positively related (r = .33).

Further evidence for the validity and multidimensional approach of the IRI was gained by correlating the IRI subscales with various other measures of empathy. It was predicted that Perspective-Taking would correlate most with cognitive measures and the other three subscales would correlate with emotional empathy measures. As predicted, the Perspective-Taking subscale correlated most with the Hogan Empathy Scale (mean r = .40). The Hogan Empathy Scale was negatively related to the Personal Distress subscale (mean r = -.33). Johnson et al. (1983) found that the Hogan Empathy Scale was correlated with the Perspective-Taking subscale (r = .35), with the Empathic Concern subscale (r = .26), with the Fantasy Empathy subscale (r = .25), and negatively related

to the Personal Distress subscale (r = -.34). When Davis (1983b) compared the IRI with the Mehrabian and Epstein Emotional Empathy Scale (an affective measure), Perspective-Taking had the least correlation (mean r = .20). The Mehrabian and Epstein measure correlated most with the Empathic subscale (mean r = .60) and Fantasy Empathy subscale (r = .52). The only anomaly was a lower than expected correlation with Personal Distress (r = .24).

Further evidence for the validity of the IRI was a study by Davis (1983a) on the effects of dispositional empathy on emotional reactions and helping. In this study, subjects were asked to listen to a tape recorded appeal for help from a young woman. The subjects were instructed to either adopt the perspective of the woman on the tape (imagine how she felt) or merely listen carefully. The dependent variables were the responses on a mood questionnaire to assess their emotional reactions (feelings of concern; personal discomfort and anxiety), and whether they would help the woman. The results indicated that when the Perspective-Taking and Empathic Concern subscales were added to the regression equation, the explained variance in predicting the emotional reactions was significantly increased (from R = .17 to .23, $p < .01$). Second, individual differences on emotional reactions were due more to variations in

Empathic Concern (mean $\underline{r}$ = .26) than to the Perspective-Taking cognitive component ($\underline{r}$ = .04). Again, this is further evidence for the multidimensional approach to studying empathy.

Davis, Hull, Young, and Warren (1987) investigated how two of the scales representing the cognitive and affective predispositions of individuals would be related to the effect of dramatic film stimuli on the positive and negative affective states 144 male undergraduates. The cognitive disposition was the Perspective-Taking dispositional tendency as measured by the Perspective-Taking subscale. Subjects were placed in three instructional set conditions: one group was asked to imagine how the character in the film felt (the imagine-him condition); the second group was asked to make careful observations of everything the character did (the objective-set condition); and the third group was asked just to watch the film (the neutral-set condition). The dependent measure was the Mood Adjective Check List (MAACL). It was found that those who scored high on the Perspective-Taking subscale and in the imagine-him condition were most affected on the positive mood scales by the filmclips. There were no differences among those who scored low on the Perspective-Taking subscale across instructional sets and no differences among those who scored high on the Perspective-Taking subscale, but there

were in the objective- or neutral-set conditions.

The affective disposition was the Empathic Concern dispositional tendency as measured by the Empathic Concern subscale. Again, after watching the films, high and low Empathic Concern scorers completed the MAACL. High Empathic Concern scorers were most affected on the negative mood scales than low Empathic Concern scorers. Davis et al. concluded that only by defining empathy as a multiple dimensional construct could these independent effects be explained. The affective disposition in the EC scale and the cognitive disposition in the PT scale were related to different affective responses to the films.

Davis et al. cannot completely explain why the positive moods were affected on the cognitive scale and why the negative moods were affected on the affective scale. They argued that because of the depressing and hostile nature of the films, it may have taken more cognitive effort to find and react to the few positive emotional cues while the negative emotional reactions were more basic reactions less subject to cognitive manipulations. Nevertheless, Davis et al. have found differential effects of the perspective-taking and empathic concern dimensions of empathy, and this adds to the validity of two of the scales of the multidimensional measurement of empathy in the IRI.

The Davis Interpersonal Reactivity Index is distinct

from the other measures of dispositional empathy because it includes both the affective and cognitive approaches to the measurement of empathy. The construct validity of this measure is strongly supported by the many examples of its convergent and discriminant validity.

Maintenance of Emotional Separation Scale

Corcoran (1982) developed the Maintenance of Emotional Separation Scale (MES) (Appendix H) to measure the degree of emotional separation the subject has in relation to another person. The MES consists of 7 items on Likert scales which range from one (completely false for me) to six (completely true for me). Higher scores indicate a greater degree of emotional separation.

The MES was developed first by having 131 social work students respond to 16 items which were thought to reflect emotional separation. There were equal numbers of items written in terms of positively directed items of maintaining emotional separation and negatively directed items of loss of separation (which are reverse-scored). A principal components factor analysis was performed and only items which had factor loadings greater than .40 and corrected item total coefficients greater than .25. The resulting 7-item scale had an internal consistency coefficient of .71. Corcoran (1982) reported that further evidence for the reliability of the instrument came from comparing MES alpha coefficients to individuals high in

empathy and individuals low in empathy as assessed by the Empathic Tendency scale (Mehrabian & Epstein, 1972). It was reasoned that the magnitude of internal consistency would be higher for individuals with higher levels of empathy and this was confirmed. Evidence for the construct validity came from correlating the MES with 10 items selected from the Empathic Tendency scale based on the face validity of the items reflecting loss of emotional separation. The hypothesized negative correlation was found ($r = -.369$, $p < .001$). The MES did not correlate with the Marlow-Crowne Social Desirability scale.

Corcoran (1982) found that a curvilinear relationship existed between the MES scale and the complete Empathic Tendency scale such that empathy is inversely related to the maintenance of emotional separation. For individuals low in empathy, there is no change in the maintenance of emotional separation as empathy scores increased. But for those with high empathy, there is a decrease in emotional separation as empathy scores increase. Corcoran (1982) pointed out that this suggests there is a critical point in level of empathy such that "as one empathizes with greater intensity, the emotional self-other differentiation is lost" (p. 67).

Corcoran (1983) further tested the MES by measuring the emotional responses of social work students to three

standardized audiotaped simulated clients to assess the degree of empathic resonation in which subjects would report the degree they feel the affect presented in the simulated clients. It was found that the subjects' emotions did reflect the clients' affect more after the simulated presentation. Corcoran (1983) also compared the MES with these responses and found that these were negatively correlated with MES scores (r = -.47, p < .05). Thus, high levels of empathic resonation were associated with lower levels of maintaining emotional separation. However, in this sample, there was no complete loss of emotional separation.

Finally, Corcoran (1989) compared the MES with the empathy measure developed by Stotland, Mathews, Sherman, Hansson, and Richardson (1978) in a sample of female social workers. Again, it was found that the empathy is negatively correlated with the MES (r = -.54, p < .01). Furthermore, it was found that the MES was positively correlated with burnout (r = -.37, p < .01) and when MES scores were partialed out of the correlation between empathy and burnout, the correlation between burnout and empathy was not significant. In short, it is the loss of emotional separation which is the key factor related to burnout. Based on the above findings, the MES appears to have adequate construct validity for experimental purposes.

Burnout Measures

The burnout measure as a dependent variable in this particular study is very critical because the main focus of the study is to examine the stress-burnout relationship. Therefore, it would seem important to use burnout measures which have been found to be related to stress. The burnout measures which have a good record of being related to perceived stress are the Tedium scale (Pines & Aronson, 1981) and the Staff Burnout Scale for Health Professionals (SBS-HP) (Jones, 1980). With regard to the Tedium scale, McCranie et al. (1987) found a significantly positive correlation between perceived stress as measured by the Nursing Stress Scale (NSS) and the Tedium scale (r = .41). Etzion (1984) found moderate correlations (r = .42 and .40) between the Tedium scale and a measure of perceived stress among a sample of managers and social service professionals. With regard to the SBS-HP, Yasko (1983) found a significant correlation with level of stress (r = .43). Cronin-Stubbs (1984) found that the NSS was one of the significant predictors of burnout as measured by the SBS-HP. In the only study found so far using the Maslach Burnout Inventory (MBI), the results were not as positive: Topf (1989) did not find any significant correlations between the subscales of the Maslach Burnout Inventory and the Nursing Stress Scale, nor did the SBS-HP correlate with the Nursing Stress

Scale. Martin (1987) reported that no study to that date had compared the SBS-HP with the MBI.

Based on the above findings, it would seem best to use both the SBS-HP and the Tedium scale especially since they each would provide unique burnout subscales. However, Martin (1987) points out serious deficiencies in the SBS-HP in terms of well-controlled studies of the instrument's reliability and validity. In contrast, Offermann (1985) in reviewing the research on the MBI finds strong evidence of the MBI's reliability and validity. In this study, the Tedium scale and the MBI will be used as dependent measures in light of their qualities as measures of burnout.

Tedium Scale

The Tedium scale (Pines & Aronson, 1981) (Appendix I) consists of 21 items in which respondents rate how frequently they have the listed feelings at work on a seven-point rating scale from 'never' to 'always'. The items correspond to the three components of the burnout syndrome: physical exhaustion (e.g., feeling tired, weak, physically exhausted, rundown); emotional exhaustion (e.g., feeling hopeless, depressed, trapped, emotionally exhausted); and mental exhaustion (e.g., feeling disillusioned, burned out, worthless, and rejected). Four of the items are positive (e.g., feeling optimistic, happy) and are reversed scored. The composite burnout

score is the mean of the 21 items. There is strong evidence for validity and reliability (Pines, 1982; Pines & Aronson, 1981; Stout & Williams, 1983).

Much of the research on the Tedium Scale has been reviewed by Kafry (1981). The Tedium Scale's internal consistency reliability ranges from alpha coefficients of .91 to .93. With regard to test-retest reliability, for a one-month interval it was .89; for two months it was .76; and for a four-month interval it was .66.

In a review of 30 studies, Kafry (1981) has reported the following results as evidence for the Tedium Scale's validity. It has been found to be negatively correlated with measures of satisfaction with work, life, and oneself. The Tedium Scale has been found to negatively correlated with the perception of physical health, positive life events, the number and intensity of joys in life, and the tendency to leave the job. It has been found to be positively correlated with sleep problems, conflict between life and work, hopelessness, tardiness, the intensity of pressures, and negative life events. Subjects with higher Tedium scores reported more work burnout than those with lower Tedium scores. In two studies, positive correlations were reported between self-assessment of tedium and their colleagues assessment of their tedium. With regard to coping strategies, the frequency of using active strategies and the success of

using those strategies was negatively correlated to Tedium scores and the frequency of using inactive strategies was positively correlated with Tedium Scale scores.

Maslach Burnout Inventory

The Maslach Burnout Inventory (Maslach & Jackson, 1986) is a 22-item instrument which measures burnout for individuals in human service professions in terms of how emotionally exhausted one is, the level of depersonalized attitudes one has toward the recipients of one's service, and the sense of personal accomplishment one has in doing the job. Subjects rate how frequently they have the feeling described in the statement on a scale of 0 to 6. It consists of three subscales: the Emotional Exhaustion subscale, the Depersonalization subscale, and the Personal Accomplishment subscale. The Emotional Exhaustion subscale measures how emotionally exhausted one is by the work. The Depersonalization subscale assesses impersonal responses the subject has toward those served. The Personal Accomplishment subscale measures the feelings of competence and achievement one has in doing his or her work. Maslach and Jackson (1986) have developed occupational norms for each of the subscales. Maslach and Jackson (1986) and Offermann (1985) provide reviews of this test instrument.

Maslach and Jackson (1986) reported that the internal consistency reliability using Cronbach's for a sample of

1,1316 subjects was .90 for the Emotional Exhaustion subscale, .79 for the Depersonalization subscale, and .71 for the Personal Accomplishment subscale. They found that for a sample of 53 subjects consisting of graduate students in social welfare and administrators in a health agency, the test-retest reliability coefficients for a period of two to four weeks were .82 or the Emotional Exhaustion subscale, .60 for the Depersonalization subscale, and .80 for the Personal Accomplishment subscale. With a sample of 248 teachers, Jackson, Schwab, and Schuler (1986) found test-retest reliabilities for an interval of one year to be .60 for the Emotional Exhaustion subscale, .54 for the Depersonalization subscale, and .57 for the Personal Accomplishment subscale.

Maslach and Jackson (1986) reported a number of ways evidence was gathered for the convergent validity of the Maslach Burnout Inventory. One method included using behavioral ratings by outside observers and correlating these with the subscales of the Maslach Burnout Inventory. These included a sample of 40 mental health workers who rated their co-workers and a sample of 142 policemen's wives who rated their husbands.

A second method was correlating the subscales with various job characteristics. As predicted, it was found in a sample of 845 public contact employees that when they

had large caseloads, they had high scores on Emotional Exhaustion and Depersonalization, and low scores on Personal Accomplishment. In a study of 43 HMO physicians, those who spent most of their time in direct contact with patients were more emotionally exhausted than those who spent less time or those who did some administration. In a sample of 91 mental health and social service workers, it was found to have relationships with the Job Diagnostic Survey (Hackman & Oldham, 1974, 1975) which also added evidence for the convergent validity of the subscales (Maslach & Jackson, 1986).

The third method was by correlating the Maslach Burnout Inventory with various reactions or personal outcomes. In a sample of 180 nurses, and mental health and social service workers, satisfaction with the opportunities for development and personal growth on the job were negatively correlated with the Emotional Exhaustion and Depersonalization subscales, but positively correlated with the Personal Accomplishment subscale. High burnout scores on the Maslach Burnout Inventory have been found in a variety of studies to correlate in predicted directions with one's desire to leave a job, satisfaction with peers and co-workers, impairment in the subject's relationships to others, difficulties in relationships with family and friends, the use of alcohol or drugs, and insomnia (Maslach & Jackson, 1986).

Lee and Ashforth (1990) using a sample of 219 managers and supervisors confirmed the three-factor solution to the Maslach Burnout Inventory. They also found that the Emotional Exhaustion and Depersonalization subscales were highly correlated (r = .58, $p < .001$). Emotional Exhaustion and Depersonalization were strongly related to physiological and psychological strain and Personal Accomplishment was correlated with control of stressful job situations and a positive self-appraisal of work performance. Contrary to what they expected, work-related helplessness was more strongly correlated with the Emotional Exhaustion and Depersonalization subscales than with the Personal Accomplishment subscale.

Maslach and Jackson (1986) reported evidence for the discriminant validity of the Maslach Burnout Inventory. As predicted, in a sample of 91 mental health and social service workers, job satisfaction had low negative correlations with Emotional Exhaustion and Depersonalization, and a low positive correlation with Personal Accomplishment. It was also found that the subscales were not correlated with social desirability.

Satisfaction Measures

The following satisfaction items will be included in the study using a 5-point Likert scale ranging from 'not at all' to 'very much': 1) "How satisfied are you with your present job?" 2) "How satisfied are you with your

career in nursing?" 3) "How well-suited do you feel you are to work on your present unit (i.e. in terms of you personality, abilities, etc.)?" 4) "How fulfilled do you feel in your present work on this unit?" 5) How much does the present health care delivery system in your unit interfere with the kind of patient care you would like to give?" 6) "How much stress do you feel outside the work setting?" 7) "How often have you considered leaving the field of nursing?" These were included on the demographics sheet (Appendix D).

Summary

The purpose of this research study is to investigate the way in which affect intensity and dispositional empathy influence the way stress is perceived in a nursing unit and how this stress is related to burnout. In other words, do individual differences in empathy and how intensely nurses experience their emotions explain the way stress is managed? Secondly, are individual differences in affect intensity and empathy associated with working on particular units?

CHAPTER IV

RESULTS

The means, standard deviations, ranges, and reliabilities of the instruments are found in Table 1.

The mean Nursing Stress Scale (NSS) score for this sample was 41.5 (SD =13.5). However, this is lower than what Gray-Toft and Anderson (1981) found in the sample they used to develop the Nursing Stress Scale (M = 92.46). This difference may be attributable to the fact that the sample in this study came from smaller hospitals than the large 1160-bed hospital used by Gray-Toft and Anderson. McCranie et al. (1987) reported a mean score of 80.69 (SD = 13.78) for a 700-bed hospital. However, Topf and Dillon (1988) and Topf (1989) reported a mean Nursing Stress Scale score of 43.03 (SD = 12.96) for two large university-affiliated hospitals (the number of beds was not reported) and Anderson (1991) recently reported a mean of 49.82 (SD = 15.76) for a 1120-bed hospital. The mean of this sample is therefore comparable to several previous studies. However, the lower stress scores found in this study may result in lower correlations among variables which would normally be higher in heterogenous nursing populations.

Table 1

Descriptive Statistics for
Demographic and Psychological Variables

Variable	Mean	SD	Range	Alpha
Age	37.3	8.8	21 - 64	
Years as a Nurse	13.5	8.7	0 - 44	
Years on the Unit	6.7	6.0	0 - 44	
Years at Hospital	8.3	6.9	0 - 41	
Hrs of Direct Patient Contact	29.0	12.6	0 - 76	
Nursing Stress Scale	41.5	13.5	8 - 92	.90
Nursing Stress Subscales:				
Workload	9.1	3.4	1 - 17	.73
Uncertainty Regarding Treatment	5.8	2.6	0 - 15	.68
Inadequate Preparation	3.2	1.6	0 - 9	.70
Death and Dying	8.6	4.2	0 - 21	.82
Lack of Support	2.9	1.8	0 - 9	.69
Conflict with Other Nurses	5.2	3.0	0 - 15	.72
Conflict with Physicians	6.7	2.5	0 - 15	.65
Affect Intensity Measure	144.5	18.5	94 - 205	.89
Interpersonal Reactivity Index Subscales:				
Perspective-Taking	17.7	4.2	5 - 28	.83
Fantasy Scale	15.0	5.2	0 - 28	.80
Empathic Concern	20.2	3.8	7 - 28	.77
Personal Distress	8.8	4.1	0 - 25	.80
Maintenance of Emotional Separation Scale	30.6	5.3	13 - 42	.79
Maslach Burnout Inventory Subscales:				
Emotional Exhaustion	20.4	10.5	3 - 54	.91
Depersonalization	6.4	5.2	0 - 21	.72
Personal Accomplishment	36.8	6.5	15 - 48	.75
Tedium Scale	3.56	.64	2.10 - 5.62	.93
Job Satisfaction	3.77	.84	1 - 5	
Career Satisfaction	3.83	.89	2 - 5	
Fulfillment	3.66	.86	1 - 5	
Desire to Leave Nursing	2.48	1.27	1 - 5	
How Well-Suited for Job	4.44	.69	2 - 5	
Delivery Interference	2.86	1.11	1 - 5	
Outside Stress	2.94	1.07	1 - 5	

Maslach and Jackson (1986) have established norms for the three subscales of the Maslach Burnout Inventory. For this sample, the means of the Emotional Exhaustion,Depersonalization, and Personal Accomplishment subscales fell within the average range of experienced burnout when compared to the medical worker normative sample. The mean Tedium Scale score of 3.56 (SD = .64) was comparable to samples reported by McCranie et al. (1987) and Kafry (1981).

On the Affect Intensity Measure (AIM), the average score was 144.5 ranging from 94 to 205 (SD = 18.5). This is a somewhat restricted range in that the potential range of scores is 40 to 240 and in this sample the upper range of affect intensity is represented more heavily which may lead to correlations with other variables being underestimates of their actual relationships.

In order to ascertain if the three hospitals differed from each other on any of the variables, a multivariate analysis of variance (MANOVA) procedure was implemented for all interval scale measures in the study. The likelihood of finding statistically significant differences which are not true differences among groups increases the more comparisons are done within a data set. The MANOVA procedure applies more stringent criteria for statistical significance when there are multiple dependent variables (Norusis, 1988). The MANOVA was significant

beyond the .05 probability indicating that a number of variables were significantly different among the hospitals. The results are listed in Tables 2 and 3. First, the three hospitals differed in terms of scores on the Nursing Stress Scale (p = .004). Post-hoc Scheffe tests revealed that Hospital C with a mean Nursing Stress Scale score of 46.6, was significantly higher than Hospital B (p = .001) with a mean of 40.1 and Hospital A (p = .001) which had a mean Nursing Stress score of 39.0.

With regard to the subscales of the Nursing Stress scale (Table 3), there was a significant difference among the hospitals with regard to nursing stress due to workload (p = .001). Again, Hospital C had significantly higher stress due to workload scores than Hospitals A and B (p = .001). They differed as well with regard to nursing stress due to uncertainty regarding treatment (p < .001) with Hospital C nurses reporting significantly more than the other two hospitals (p < .001). On the Nursing Stress subscale measuring nursing stress due to conflict with physicians the hospitals also differed (p =.005). In this case, nurses at Hospital A reported significantly less stress due to conflict with physicians than Hospital B (p = .02) and Hospital C (p = .005).

With regard to other variables, the average number of years nurses had been employed at the same hospital differed among the hospitals (p = .05). Hospital B nurses

Table 2

Results of the Multivariate Analyses of Variance on All Variables for Differences among Hospitals A, B, and C

MANOVA Tests of Significance:	Approximate F	Significance of F
Hotelling's Trace:	1.46	.030*
Wilks' Lambda:	1.47	.029*
Pillai's Trace:	1.47	.028*

Univariate Analyses of Variance with 2, 200 Degrees of Freedom:

Variable	F	Significance of F
Nursing Stress Scale	5.72	.004**
Affect Intensity Measure	3.99	.020*
Interpersonal Reactivity Index Subscales		
Perspective-Taking	.21	.810
Fantasy Empathy	.31	.730
Empathic Concern	1.23	.295
Personal Distress	2.07	.129
Maintenance of Emotional Separation	.56	.569
Maslach Burnout Inventory Subscales		
Emotional Exhaustion	2.80	.063
Depersonalization	.59	.553
Personal Accomplishment	1.32	.270
Tedium Scale	1.14	.322
Age	.88	.415
Hours of Direct Patient Contact	1.75	.177
Years Employed at Same Hospital	3.01	.051*
Years Employed at Same Unit	1.77	.173
Years as a Nurse	.49	.615
Job Satisfaction	.75	.474
Career Satisfaction	.11	.899
Desire to Leave Nursing	.49	.612
How Well-Suited for Job	.47	.623
Fulfillment on Job	.98	.378
Interference from Healthcare Delivery System	2.32	.101
Number of Children	.36	.695
Level of Outside Stress	.48	.617

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

Table 3

Results of the Multivariate Analyses of Variance on the Nursing Stress Scale Subscales for Hospitals A, B, and C

MANOVA Tests of Significance:

	Approximate F	Significance of F
Hotelling's Trace:	1.59	.005**
Wilks' Lambda:	1.60	.005**
Pillai's Trace:	1.61	.004**

Univariate Analyses of Variance with 2, 200 Degrees of Freedom:

	F	Significance of F
Death and Dying	1.81	.166
Conflict with Physicians	5.51	.005**
Inadequate Preparation	2.08	.128
Lack of Support	1.23	.295
Conflict with Other Nurses	.95	.387
Workload	7.08	.001***
Uncertainty Regarding Treatment	8.83	.000***

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

had been employed there for an average of 9.2 years which was significantly greater than Hospital C (p = .002) which had an average of 6.6 years. Hospital A had a mean of 7.8, but this did not differ significantly from the other hospitals.

Finally, the hospitals differed on the Affect Intensity Measure (p = .02). Hospital A had a mean of 137.9 which was significantly less than Hospital B (p = .028) which had a mean of 144.9, and Hospital C (p = .002) which had a mean of 148.8.

Hypothesis #1

It is hypothesized that the affect intensity of nurses will be higher compared with the general population.

The mean AIM score for this sample was 144.5 (or 3.61 if the total score is divided by the number of items) with a standard deviation of 18.5. In this sample, 96.1% were women. The mean affect intensity score for the 238 women in this sample was 144.9 (SD = 18.5) and the mean for the nine men in the sample was 136.3 (SD = 17.3). Goldsmith and Walters (1989) found a mean score of 155.8 for undergraduate women and 143.3 for undergraduate men. In a sample of university students and non-students, Williams (1989) obtained means of 155.60 (SD = 17.91) for women, 143.26 (SD = 19.83) for men, and a total average of 149.89 (SD = 19.77). Diener, Sandvik, and Larsen (1985), using

the scoring method of dividing the total score by the number of items and a sample representing ages from 16 to 68, found a mean AIM score of 4.34 for women, 3.88 for men, and 4.14 for the total sample. Employing a z-test for comparing the means from two large independent samples using Williams (1989) data (because only that data reported the standard deviations), the mean affect intensity score found among these nurses was significantly lower than mean Williams found for women ($z = 5.70$, $p < .01$) but there was no significant difference from the mean Williams found for the men. The mean affect intensity score for the total sample was significantly lower than the mean Williams reported for a total sample of men and women ($z = 3.16$, $p < .01$). Thus, contrary to what was hypothesized, this sample of nurses had lower affect intensity scores than the general population.

The results relating to Hypotheses #2, #3, and #4 can be found in a portion of the correlation matrix found in Table 4. (A complete correlation matrix may be found in Appendix A.)

Hypothesis #2

Affect intensity will be positively correlated with the Davis measure of dispositional empathy, especially with the more affective subscales which are the Empathic Concern, Fantasy, and Personal Distress subscales.

As predicted, Affect Intensity (AIM) was positively

correlated with the affective subscales of the Interpersonal Reactivity Index (IRI) but, in contrast to what was hypothesized, the more cognitive Perspective-Taking (IRIPT) subscale of the Interpersonal Reactivity Index was negatively correlated with Affect Intensity. Affect Intensity was significantly positively correlated with the Fantasy Empathy (IRIFS) subscale (r = .32, p < .001), the Empathic Concern (IRIEC) subscale (r = .33, p < .001), and the Personal Distress (IRIPD) subscale (r = .39, p < .001). There were no significant differences between these correlations. The Affect Intensity Measure was significantly negatively correlated with the Perspective-Taking subscale (r = -.19, p = .001). This correlation was significantly different from each of the three correlations with the affective subscales of the Interpersonal Reactivity Index (p < .001). In summary, affect intensity was correlated with all of the four subscales of the Interpersonal Reactivity Index and there was a significant difference between the correlations with the affective subscales and the cognitive subscale of the Interpersonal Reactivity Index. What was not predicted, however, was that affect intensity would be negatively correlated with Perspective-Taking.

Hypothesis #3

The Davis Interpersonal Reactivity Index (IRI) as a measure of dispositional empathy will correlate with

burnout which will replicate previous findings, except with an improved measure of dispositional empathy. The subscales of the IRI will relate differentially with the levels of stress and burnout. The more affective subscales of the IRI, Fantasy (IRIFS), Empathic Concern (IRIEC), and Personal Distress (IRIPD), are hypothesized to be more correlated with the Maslach Burnout Inventory Emotional Exhaustion subscale (MBIEE), the Personal Accomplishment subscale (MBIPA), and the Tedium Scale (PAB) than the more cognitive empathy measured by the Perspective-Taking (IRIPT) subscale. It is also hypothesized that the Perspective-Taking subscale and the Fantasy Empathy subscale would be most correlated with the Depersonalization subscale (MBIDP) of the Maslach Burnout Inventory. Fantasy Empathy, Perspective-Taking, and Empathic concern are expected to be positively correlated with the Personal Accomplishment and Personal Distress is hypothesized to be negatively correlated. The ability to maintain emotional separation as measured by the Maintenance of Emotional Separation Scale (MES) is also hypothesized to correlate with the burnout measures with the correlations being negative on the Emotional Exhaustion, Depersonalization subscales and the Tedium Scale, and positive with the Personal Accomplishment subscale.

The IRI Fantasy Empathy subscale was correlated with

the Maslach Burnout Inventory Emotional Exhaustion (MBIEE) subscale (r = .18, p = .002), the MBI Depersonalization (MBIDP) subscale (r = .20, p= .001), and the Pines and Aronson Tedium Scale (r = .17, p = .005). The Fantasy Empathy subscale was negatively correlated with the Personal Accomplishment subscale (r = -.10, p = .052).

The IRI Perspective-Taking subscale was negatively correlated with the Emotional Exhaustion subscale (r = -.11, p = .041), the Depersonalization subscale (r = -.17, p = .003), and the Tedium Scale (r = - .22, p < .001). It was positively correlated with the Personal Accomplishment subscale (r = .21, p = .001). Higher perspective-taking empathy is associated with lower exhaustion and depersonalization but with a greater sense of personal accomplishment.

The IRI Empathic Concern subscale was positively correlated with the MBI Personal Accomplishment subscale (r = .12, p =.038) and negatively correlated with the Depersonalization subscale (r = -.20, p < .001). The Empathic Concern subscale was not correlated with the Emotional Exhaustion subscale or the Tedium Scale. Thus, higher empathic concern is not associated with increased exhaustion, but it is related to less depersonalization of patients and a greater sense of personal accomplishment than nurses who have a lower level of empathic concern.

The IRI Personal Distress subscale was positively

correlated with the MBI Emotional Exhaustion subscale (r = .19, p = .001) and the Tedium Scale (r = .33, p < .001), but negatively correlated with the MBI Personal Accomplishment subscale (r = -.27, p < .001). The tendency to have personal distress empathy is associated with higher levels of exhaustion and lower levels of personal accomplishment than those who have less of a tendency to have personal distress empathy.

The Maintenance of Emotional Separation Scale was negatively correlated with the Emotional Exhaustion subscale (r = -.35, p < .001), the Depersonalization subscale (r = -.25, p < .001), and the Tedium Scale (r = -.38, p < .001). It was positively correlated with the Personal Accomplishment subscale (r = .12, p = .032). The greater the ability to maintain emotional separation from others, the greater the likelihood that nurses were less emotionally exhausted, had less depersonalized attitudes toward patients, and had a greater sense of personal accomplishment in their work than nurses who have less of an ability to maintain emotional separation.

Multiple regression was used to examine how much the IRI with its four subscales relates to burnout. Forced entry of the four subscales of the IRI produced the following results. On the MBI Emotional Exhaustion subscale, the IRI accounted for 9.2% of the variance (R = .30, p = .0004). The IRI predicted 14.0% of the

variance on the MBI Depersonalization subscale (R = .37, p < .0001). On the MBI Personal Accomplishment subscale, the IRI explained 12.1% of the variance (R = .35, p < .0001). The IRI accounted for 16.5% of the variance on the Tedium scale (R = .41, p < .0001).

While the IRI as a unit is predictive of burnout, it was hypothesized that the four dimensions of empathy would relate differentially with burnout depending on what aspect of burnout was to be measured. In general, this was found to be the case. As predicted for the Emotional Exhaustion subscale of the Maslach Burnout Inventory, two of the three affective subscales of the Interpersonal Reactivity Index, Fantasy Empathy and Personal Distress, positively correlated with Emotional Exhaustion while the more cognitive component of empathy as measured by the Perspective-Taking subscale correlated negatively with Emotional Exhaustion. While it was predicted that Perspective-Taking would differ from the affective subscale in the correlation with Emotional Exhaustion, it was not expected that a negative correlation would be found with Emotional Exhaustion. Furthermore, contrary to what was expected, the Empathic Concern subscale was not correlated with Emotional Exhaustion.

For the Depersonalization subscale of the Maslach Burnout Inventory, it was found, as hypothesized, that the Fantasy Empathy subscale was positively correlated with it

(r = .20, p = .001) and the Perspective-Taking subscale was negatively correlated (r = -.17, p = .003). But contrary to what was predicted, the Empathic Concern subscale was negatively correlated with Depersonalization (r = -.20, p = .001). The Personal Distress subscale is not correlated with Depersonalization. In short, higher levels of depersonalization are associated with high fantasy empathy, low perspective-taking empathy, and low empathic concern.

For the Personal Accomplishment subscale of the Maslach Burnout Inventory, the Perspective-Taking subscale was positively correlated (r = .21, p = .001) and the Empathic Concern was also positively correlated (r = .12, p = .038) which partially supports the hypothesis. It was expected that Empathic Concern would be more highly correlated with Personal Accomplishment than Perspective-Taking, but the opposite trend occurred; however, they are not significantly different than each other. As predicted, Personal Distress was negatively correlated with the Personal Accomplishment subscale (r = -.27, $p < .001$). But contrary to what was expected, the Fantasy Empathy subscale was negatively correlated with Personal Accomplishment (r = -.10, p = .052). In summary, an increased sense of personal accomplishment is associated with high perspective-taking, high empathic concern, low personal distress, and low fantasy empathy whereas a

decreased sense of personal accomplishment is related to low perspective-taking, low empathic concern, high personal distress, and high fantasy empathy.

The correlations between the Tedium Scale and the Interpersonal Reactivity Index subscales tended to reflect a similar pattern to the Emotional Exhaustion subscale. The Tedium Scale correlated positively with the Personal Distress subscale (r =.33, p < .001) and with the Fantasy Empathy subscale (r = .17, p = .005). It was negatively correlated with the Perspective-Taking subscale (r = -.22, p < .001). But like the Emotional Exhaustion subscale, the Tedium Scale did not correlate with the Empathic Concern subscale. As predicted, the more cognitive Perspective-Taking subscale functioned differently than the more affective subscales of the Interpersonal Reactivity Index. Burnout as measured by the Tedium Scale is associated with low perspective-taking, high personal distress, and high fantasy empathy. Surprisingly, however, empathic concern is not correlated with the emotional, mental, and physical exhaustion tapped by the Tedium Scale.

In terms of the relation between perceived stress as measured by the Nursing Stress Scale and the empathy subscales, only the Personal Distress subscale was correlated with the Nursing Stress Scale (r = .16, p = .007). Higher stress is associated with a tendency to

become personally distressed in emergency situations.

In summary, the four subscales of the Interpersonal Reactivity are correlated with various measures of burnout. Furthermore, the four subscales relate differentially with the levels of stress and burnout especially in terms of the affective versus cognitive emphases among the four subscales. In addition, the affective subscales correlate differentially with the burnout measures. Personal Distress and Fantasy Empathy correlate with the MBI Emotional Exhaustion subscale and the Tedium Scale while the Empathic Concern subscale does not correlate at all. Empathic concern is negatively correlated with the Depersonalization subscale while Fantasy Empathy is positively correlated and the Personal Distress subscale is not at all correlated. The Personal Distress and Fantasy Empathy subscales are negatively related to the Personal Accomplishment subscale while the Empathic Concern subscale is positively correlated. Finally, the ability to maintain emotional separation from others as measured by the Maintenance of Emotional Separation Scale is positively correlated with Emotional Exhaustion, Depersonalization, and the Tedium Scale, but negatively correlated with Personal Accomplishment.

Hypothesis #4

Younger, less experienced nurses will tend to have higher levels of Affect Intensity (AIM) and dispositional

empathy (IRI) than older, more experienced nurses.

Affect intensity negatively correlated with age (r = -.14, p = .012), years as a nurse (r = -.22, p < .001), years on the same unit (r = -.17, p = .004), and years employed at that same hospital (r = -.14, p = .017). (See correlation matrix in Table 4.) The correlation between affect intensity and the number of years as a nurse was significantly greater than the correlation between affect intensity and age (t = -2.02, p < .05). Such a significant difference implies that not only does affect intensity decrease somewhat with age, but also that experience as a nurse might have some added role in the decrease in affect intensity over time.

On the empathy scales, the IRI Fantasy subscale did have low negative correlations with age (r = -.19, p = .001), years as a nurse (r = -.19, p = .001), and years on the unit (r = -.18, p = .002). Thus, with increasing age and experience the Fantasy dimension of empathy decreases somewhat. The Empathic Concern subscale was negatively correlated with years as a nurse (r = -.19, p = .002), years on the same unit (r = -.15, p = .008), and years employed at the same hospital (r = -.14, p = .015), but had no significant correlation with age. This suggests that empathic concern decreases over a career as a nurse not so much related to age as much as to the role of being a nurse.

Hypothesis #5

Nurses with particular personality characteristics are hypothesized to be attracted to particular types of units. First, affect intensity (AIM) will vary among the various units according to the need high affectively intense individuals have for stimulation and arousal. Thus, it is hypothesized that nurses in acute units will have higher levels of affect intensity than those in moderate and chronic units. Second, there are expected to be differences in levels of dispositional empathy across the types of units; it is hypothesized that nurses with higher levels of dispositional empathy will tend to be attracted to the less acute types of hospital units. Third, those nurses who tend to lack emotional separation from others as measured by the Maintenance of Emotional Separation Scale (MES) will also tend to be attracted to less acute types of hospital units.

The twenty-two units from the three different hospitals were grouped into the following types of units: emergency, critical care, newborn intensive care (NICU), medical-surgical, oncology, obstetrics, and surgery. The means and standard deviations by type of unit and work status for the Nursing Stress Scale, the Nursing Stress Scale subscales, and all other interval measures in the study can be found in Appendices M, N, and O. In order to determine if the grouping of the various units from the

three hospitals into seven types of units do indeed have differences among them, multivariate analyses of variance (MANOVA) were executed for all interval scale measures in the study. When the MANOVA was used for all the measures used, the multivariate results were highly significant beyond an alpha of .001 for Hotelling's Trace, Wilks' Lambda, and Pillai's Trace. It was therefore warranted to examine the univariate results. The MANOVA tests of significance and the one-way analyses of variance can be found in Table 5.

It was found that the nursing stress level as measured by the Nursing Stress Scale (NSS) did vary significantly across types of units. Post-hoc Scheffe tests were done to specify the differences. (These results are listed in Appendix P.) The highest NSS scores were found in the Medical-Surgical type of units followed next by the Critical Care, Oncology, and Surgery Units. Interestingly, the lowest NSS scores were found among the Emergency and NICU units.

Table 5

Results of the Multivariate Analysis of Variance on All Variables for Differences among Types of Units

MANOVA Tests of Significance:	Approximate F	Significance of F
Hotelling's Trace:	1.74	.000***
Wilks' Lambda:	1.72	.000***
Pillai's Trace:	1.70	.000***

Univariate Analyses of Variance: (F-Tests with 6,196 degrees of freedom)	F	Significance of F
Nursing Stress Scale:	3.15	.006**
Affect Intensity Measure:	.59	.736
Interpersonal Reactivity Index Subscales		
Perspective-Taking Subscale:	2.15	.050*
Fantasy Subscale:	.49	.813
Empathic Concern Subscale:	.77	.596
Personal Distress Subscale:	2.32	.035*
Maintenance of Emotional Separation:	.80	.567
Maslach Burnout Inventory Subscales		
Emotional Exhaustion Subscale:	3.76	.001***
Depersonalization Subscale:	2.89	.010**
Personal Accomplishment Subscale:	1.18	.320
Tedium Scale:	1.20	.307
Age:	1.39	.220
Hours of Direct Patient Contact:	3.65	.002**
Years at Same Hospital:	3.00	.008**
Years on Same Unit:	2.37	.031*
Years as a Nurse:	2.06	.059
Job Satisfaction:	.80	.571
Career Satisfaction:	.94	.469
Desire to Leave Nursing:	.94	.464
How Well suited for Job:	1.70	.122
Fulfillment by Job:	2.00	.067
Interference Due to Health Care Delivery System:	2.22	.043*
Outside Stress Level:	.83	.551

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

When oneway analyses of variance were done for other measures by the seven types of units, significant differences were found for the following measures: the MBI Emotional Exhaustion subscale, the MBI Depersonalization subscale, age, hours of direct patient contact, years employed at the present hospital, years employed on the same unit, and degree the health care delivery system interferes with the kind of patient care that a nurse would like to give (Table 5). Post hoc Scheffe tests were executed to detect the significant differences among the types of units and these results can be found in Appendices P through W.

When the Nursing Stress Scale was broken down into its seven component subscales and the MANOVA was applied to them to determine if there were significant differences among the seven types of units along the Nursing Stress Scale subscales. The MANOVA was statistically significant ($p < .001$) thus indicating the presence of significant differences. The results of the MANOVA significance tests and the univariate tests are listed in Table 6. When one-way analyses of variances were done across types of units, significant differences were found for the following subscales: nursing stress due to death and dying, inadequate preparation, lack of support, workload, and uncertainty regarding treatment. The means and standard deviations for each of the subscales across the seven

Table 6

Results of MANOVA for the Nursing Stress Scale Subscales by Type of Unit

MANOVA Tests of Significance:

	Approximate F	Significance of F
Hotelling's Trace:	5.01	.000***
Wilks' Lambda:	4.79	.000***
Pillai's Trace:	4.44	.000***

Univariate Analyses of Variance:
(F-Tests with 6,247 degrees of freedom)

	F	Significance of F
Workload:	8.78	.000***
Death and Dying:	8.60	.000***
Inadequate Preparation:	4.37	.000***
Uncertainty Regarding Treatment:	6.38	.000***
Lack of Support:	3.11	.006**
Conflict with Physicians:	1.10	.361
Conflict with Nurses:	1.61	.144

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

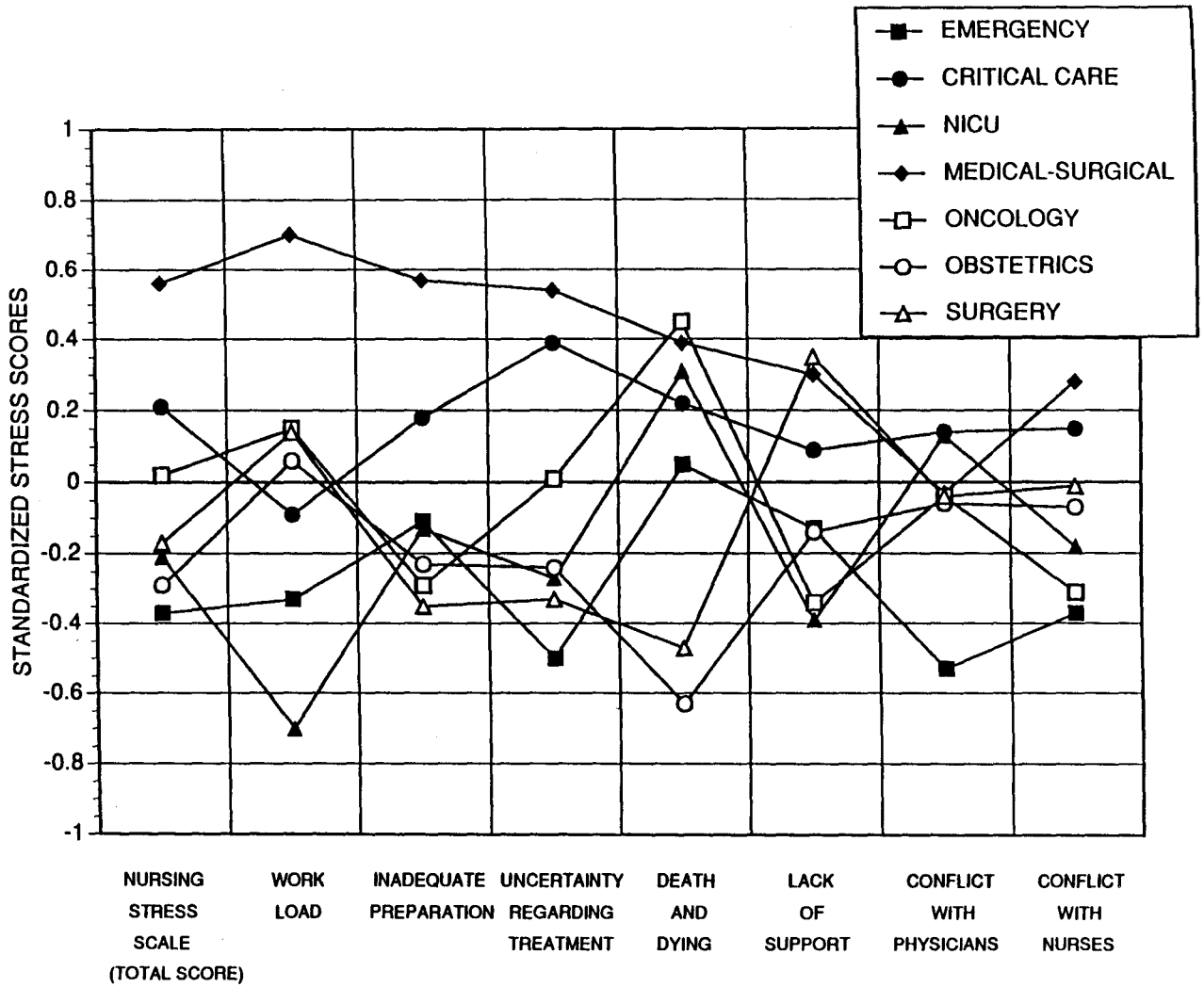

FIGURE 1. STANDARDIZED MEAN STRESS SCORES ON THE NURSING STRESS SCALE AND ON THE NURSING STRESS SCALE SUBSCALES BY TYPE OF UNIT

types of units are listed in Appendix N. The results of the Scheffe comparisons for these subscales by type of unit are listed in Appendices X, Y, Z, AA, and BB. A graph depicting the relative levels of stress comparing the types of units is presented in Figure 1.

As hypothesized, there were some differences in dispositional empathy across types of units with regard to the Perspective-Taking and Personal Distress subscales of the Interpersonal Reactivity Index (Table 5). Post-hoc comparisons among types of unit using Scheffe tests (Appendix CC) revealed that nurses on the emergency, critical care, and oncology units had the highest levels on the Perspective-Taking subscale and nurses in the obstetrics, NICU, medical-surgical, and surgery units had significantly lower levels on the Perspective-Taking subscale.

On the Personal Distress subscale, post-hoc comparisons (Appendix DD) showed that emergency room nurses had the lowest scores on the Personal Distress subscale. Obstetrics, NICU, oncology, and surgery nurses had the highest scores on the Personal Distress subscale. The medical-surgical and critical care nurses had scores more in the middle range for Personal Distress. Critical care nurses had significantly more Personal Distress Empathy than emergency nurses, but significantly less than obstetrics nurses. Medical-surgical nurses had

significantly more Personal Distress empathy than emergency nurses, but significantly less than NICU and obstetrics nurses. As hypothesized, nurses with higher amounts of Personal Distress empathy tended to work in less acute units with the exception of NICU nurses who work in a an acute unit but have high levels of Personal Distress empathy relative to the other acute units.

To summarize these findings, nurses who had higher scores on Perspective-Taking tended to work in acute units and low scorers worked more in obstetrics, medical-surgical, and surgery units which are more moderate in degree of acuity. However, oncology and NICU did not fit into this trend. Instead, NICU, a more acute type of unit, had nurses with lower scores on Perspective-Taking; and oncology, a more chronic unit in terms of acuity, had nurses with higher Perspective-Taking scores.

Contrary to what was predicted, the Affect Intensity Measure, the Maintenance of Emotional Separation Scale, the Empathic Concern subscale, and the Fantasy Empathy subscale did not differ across units.

Hypothesis #6

Given that theories of burnout focus on the role of chronic emotional stress, it is hypothesized that the IRI dispositional empathy subscales of empathic concern, fantasy, personal distress as well as the affect intensity construct will influence the stress-burnout relationships.

There are four possible models of how affect intensity, the four dimensions of empathy, and the maintenance of emotional separation influence the way stress is related to burnout. First, they might mediate the stress-burnout relationship; second, they might moderate the stress-burnout relationship; third, an additive or direct effects model may be operating; or fourth, it is possible that one or more of these variables may mediate the stress-burnout relationship while one or more operate as moderators and the others in direct or additive fashion.

Testing for the Mediation Model

In order to test if the empathy and affect intensity variables function as mediator variables, such variables must meet the following three conditions (Baron & Kenny, 1986). First, the independent variable must significantly predict the dependent variable and the hypothesized mediator variable. Second, the hypothesized mediator variable must significantly predict the dependent variable. Third, when the influence of the hypothesized mediator variable is controlled, the relation between the independent and dependent variables is significantly decreased or eliminated altogether.

In order to test the first condition for mediation, it is necessary that the nursing stress as measured by the Nursing Stress Scale (NSS) be predictive of burnout as

measured by the Maslach Burnout Inventory (MBI) and the Tedium Scale. This relationship was found in this sample. The NSS accounted for 13.0% of the variance on the MBI Emotional Exhaustion subscale (r = .36, p < .001). On the MBI Depersonalization subscale, the Nursing Stress Scale explained 8.1% of the variance (r = .28, p < .001). On the Personal Accomplishment subscale of the MBI, the Nursing Stress Scale accounted for a statistically significant but small 1.9% of the variance (r = -.14, p = .045). Finally, the Nursing Stress Scale accounted for 11.2% of the variance on the Tedium Scale (r = .37, p < .0001).

In order to fulfill the second part of the first condition, the Nursing Stress Scale had to have a significant relationship with the hypothesized mediator variable. This condition was found with the following variables: the Personal Distress (PD) subscale of the IRI, the Maintenance of Emotional Separation (MES) scale, and the Affect Intensity Measure. Using multiple regression, the Nursing Stress Scale predicted 3.5% (r = .19, p = .003) of the variance on the IRI Personal Distress subscale, 7.3% (r = -.27, p < .001) of the variance on the Maintenance of Emotional Separation scale, and 1.9% (r = .14, p = .022) on the Affect Intensity Measure.

The second condition was tested in terms of the

degree to which the Personal Distress, Maintenance of Emotional Separation, and Affect Intensity measures influenced the four burnout dependent variables. The Personal Distress subscale predicted 5.8% (r = .24, p < .001) of the variance on the MBI Emotional Exhaustion subscale, 6.8% (r = -.26, p < .001) on the MBI Personal Accomplishment subscale, and 11.6% (r = .34, p < .001) on the Tedium scale. The Maintenance of Emotional Separation Scale accounted for 13.7% (r = -.37, p < .001) of the variance on the MBI Emotional Exhaustion subscale, 6.8% (r = -.26, p < .001) on the MBI Depersonalization subscale, 1.4% (r = .12, p < .04) on the Personal Accomplishment subscale, and 14.4% (r = -.38, p < .001) on the Tedium scale. The Affect Intensity Measure explained 1.4% (r = .12, p = .043) of the variance on the Emotional Exhaustion subscale, 1.7% (r = .13, p = .033) of the variance on the Personal Accomplishment subscale, and 2.9% (r = .17, p = .007) of the variance on the Tedium Scale.

To test the third condition in assessing mediation, the standardized beta weight for the Nursing Stress Scale in predicting the various subscales of burnout was compared to the standardized beta weight of the Nursing Stress Scale when the influence of the hypothesized mediator was controlled in order to find out if the relation between the Nursing Stress Scale and the burnout scales was significantly decreased or eliminated.

The results of these regression equations are listed in tables 7, 8, and 9 for the hypothesized mediation of the IRI Personal Distress subscale, the Affect Intensity Measure, and the Maintenance of Emotional Separation Scale. The results of significance tests for the beta weights of the Nursing Stress Scale before and after controlling for the influence of the hypothesized mediator variables revealed no significantly different decreases in the influence of the Nursing Stress Scale for each of the possible mediators. In summary, the IRI Personal Distress subscale, the Affect Intensity Measure, and the Maintenance of Emotional Separation Scale do not appear to function as mediators in how stress is related to burnout.

Table 7

Hierarchical Multiple Regressions Testing the Affect Intensity Measure as a Mediator Variable

Dependent variable = MBI Personal Accomplishment Subscale			
		RsqCh	B
Step 1:	Nursing Stress Scale	.02*	-.14*
	Affect Intensity	.02*	.15*
Step 2:	Affect Intensity	.02	.12
	Nursing Stress Scale	.02*	-.16*
Dependent variable = Tedium Scale			
		RsqCh	B
Step 1:	Nursing Stress Scale	.13***	.37***
	Affect Intensity	.01	.12
Step 2:	Affect Intensity	.03*	.17*
	Nursing Stress Scale	.12***	.35***

(n = 216)

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

RsqCh = R square change
B = Standardized beta weight

Table 8

Hierarchical Multiple Regressions Testing the Personal Distress Subscale as a Mediator Variable

Dependent variable = MBI Emotional Exhaustion Subscale

		RsqCh	B
Step 1:	Nursing Stress Scale	.13***	.36***
	Personal Distress	.03**	.18**
Step 2:	Personal Distress	.06***	.24***
	Nursing Stress Scale	.10***	.33***

Dependent variable = MBI Personal Accomplishment Subscale

		RsqCh	B
Step 1:	Nursing Stress Scale	.02*	-.14*
	Personal Distress	.06***	-.24***
Step 2:	Personal Distress	.07***	-.26***
	Nursing Stress Scale	.01 n.s.	-.09 ns

Dependent variable = Tedium Scale

		RsqCh	B
Step 1:	Nursing Stress Scale	.13***	.37***
	Personal Distress	.07***	.28***
Step 2:	Personal Distress	.11***	.33***
	Nursing Stress Scale	.09***	.32***

(n = 216)

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

RsqCh = R square change
B = Standardized beta weight

Table 9

Hierarchical Multiple Regressions Testing the Maintenance of Emotional Separation Scale as a Mediator Variable

		RsqCh	B
Dependent variable = MBI Emotional Exhaustion Subscale			
Step 1:	Nursing Stress Scale	.13***	.36***
	Maintenance of Emotional Separation	.08***	-.30***
Step 2:	Maintenance of Emotional Separation	.14***	-.37***
	Nursing Stress Scale	.07***	.28***
Dependent variable = MBI Depersonalization Subscale			
		RsqCh	B
Step 1:	Nursing Stress Scale	.08***	.28***
	Maintenance of Emotional Separation	.04**	-.20**
Step 2:	Maintenance of Emotional Separation	.07***	-.26***
	Nursing Stress Scale	.05***	.23***
Dependent variable = MBI Personal Accomplishment Subscale			
		RsqCh	B
Step 1:	Nursing Stress Scale	.02*	-.14*
	Maintenance of Emotional Separation	.01 ns	.09
Step 2:	Maintenance of Emotional Separation	.01 ns	.12 ns
	Nursing Stress Scale	.01 ns	-.11 ns
Dependent variable = Tedium Scale			
		RsqCh	B
Step 1:	Nursing Stress Scale	.13***	.37***
	Maintenance of Emotional Separation	.09***	-.31
Step 2:	Maintenance of Emotional Separation	.15***	-.38***
	Nursing Stress Scale	.07***	.28***

(n = 216)

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

RsqCh = R square change
B = Standardized beta weight

Testing for the Moderator Model

In order to test a moderator model in which the varying levels of one variable affect the strength or direction of how stress is predictive of burnout, an interaction term is incorporated into a hierarchical multiple regression equation. For example, in order to ascertain if the IRI Empathic Concern subscale is a moderator variable, first the Nursing Stress Scale is enter into a regression equation predicting burnout; then the hypothesized moderator variable is entered (i.e. affect intensity, the IRI empathy constructs, or the maintenance of emotional separation variable); and finally, an interaction or multiplicative term between perceived nursing stress and the hypothesized moderator variable is entered last. If this interaction term is significant, then this provides evidence for the operation of a moderator variable.

Each of the hypothesized moderator variables were tested in the above manner on each of the four burnout scales. The results are found in Table 10. It was found that four of the interaction terms added significantly in predicting a burnout variable.

First, the interaction between the Nursing Stress Scale and the Fantasy Empathy subscale accounted for an additional 2.4% (p = .01) of the variance in the MBI Emotional Exhaustion subscale. In order to visualize the

nature of this interaction, it was plotted by using the means of the upper and lower 30% of the scores on the Fantasy Empathy subscale and the Nursing Stress Scale. As seen in Figure 2, an ordinal interaction is evident in which nurses who have higher levels of Fantasy Empathy tend to report higher levels of Emotional Exhaustion for both low and high Nursing Stress Scale scores than those who have low levels of Fantasy Empathy. However, the difference between the levels of Emotional Exhaustion of the low and high Fantasy Empathy nurses is greater at high levels of nursing stress than at low levels of nursing stress. At high levels of nursing stress, nurses with high levels of Fantasy Empathy tend to have more Emotional Exhaustion than nurses with lower levels of Fantasy Empathy.

Second, the interaction between the Nursing Stress Scale and the Maintenance of Emotional Separation Scale was significant ($p = .02$) and explained an additional 1.9% of the variance in Emotional Exhaustion after controlling for these two variables when entered alone into the hierarchical regression analysis. As shown in the ordinal interaction plotted in Figure 3, nurses with a low Maintenance of Emotional Scale score tend to have higher levels of Emotional Exhaustion at high levels of Nursing Stress than at lower levels of Nursing Stress than nurses with a higher levels on the Maintenance of Emotional

Table 10

Hierarchical Multiple Regressions Testing for Moderator Variables and Direct Effects for the Interpersonal Reactivity Index Subscales, the Affect Intensity Measure, and the Maintenance of Emotional Separation Scale

Variable	Burnout Scales: Maslach Burnout Inventory Subscales MBIEE RsqCh	MBIEE B	MBIDP RsqCh	MBIDP B	MBIPA RsqCh	MBIPA B	TEDIUM SCALE RsqCh	TEDIUM SCALE B
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Empathic Concern (EC)	.00	.05	.06***	-.24	.02*	.15	.00	-.01
NSS X EC	.00	.02	.00	-.23	.02*	.81	.00	-.11
Total	.13***		.14***		.06**		.14***	
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Perspective-Taking (PT)	.02*	-.14	.04**	-.20	.04**	.20	.06***	-.25
NSS X PT	.01	-.51	.02*	-.70	.00	.08	.00	.22
Total	.16***		.14***		.06**		.20***	
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Fantasy Scale (FS)	.02*	.16	.03**	.17	.01	-.09	.02*	.15
NSS X FS	.02*	.59	.00	.39	.00	-.09	.00	.10
Total	.17***		.12***		.03*		.16***	

(Table 10 continues)

(Table 10 continued)

Variable	Burnout Scales: Maslach Burnout Inventory Subscales MBIEE RsqCh	MBIEE B	MBIDP RsqCh	MBIDP B	MBIPA RsqCh	MBIPA B	TEDIUM SCALE RsqCh	TEDIUM SCALE B
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Personal Distress (PD)	.03**	.18	.00	.01	.06***	-.24	.07***	.28
NSS X PD	.01	.34	.00	.16	.00	.07	.00	-.20
Total	.17***		.08***		.07***		.21***	
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
AIM	.00	.07	.01	-.07	.02*	.15	.01	.11
NSS X AIM	.01	.78	.01	-.70	.00	.85	.01	-.71
Total	.14***		.09***		.05*		.16***	
Nursing Stress Scale (NSS)	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
MES	.08***	-.30	.04**	-.19	.01	.09	.09***	-.31
NSS x MES	.02*	-.71	.01	-.51	.01	-.48	.00	.11
Total	.23***		.13***		.03*		.22***	

n = 216

* $p \leq .05$
** $p \leq .01$
*** $p \leq .001$

RsqCh = R square change
B = Standardized beta weight
NSS = Nursing Stress Scale
EC = Empathic Concern Subscale
PT = Perspective-Taking Subscale
FS = Fantasy Empathy Subscale
PD = Personal Distress Subscale
AIM = Affect Intensity Measure
MES = Maintenance of Emotional Separation Scale
MBIEE = Maslach Burnout Inventory Emotional Exhaustion Subscale
MBIDP = Maslach Burnout Inventory Depersonalization Subscale
MBIPA = Maslach Burnout Inventory Personal Accomplishment Subscale

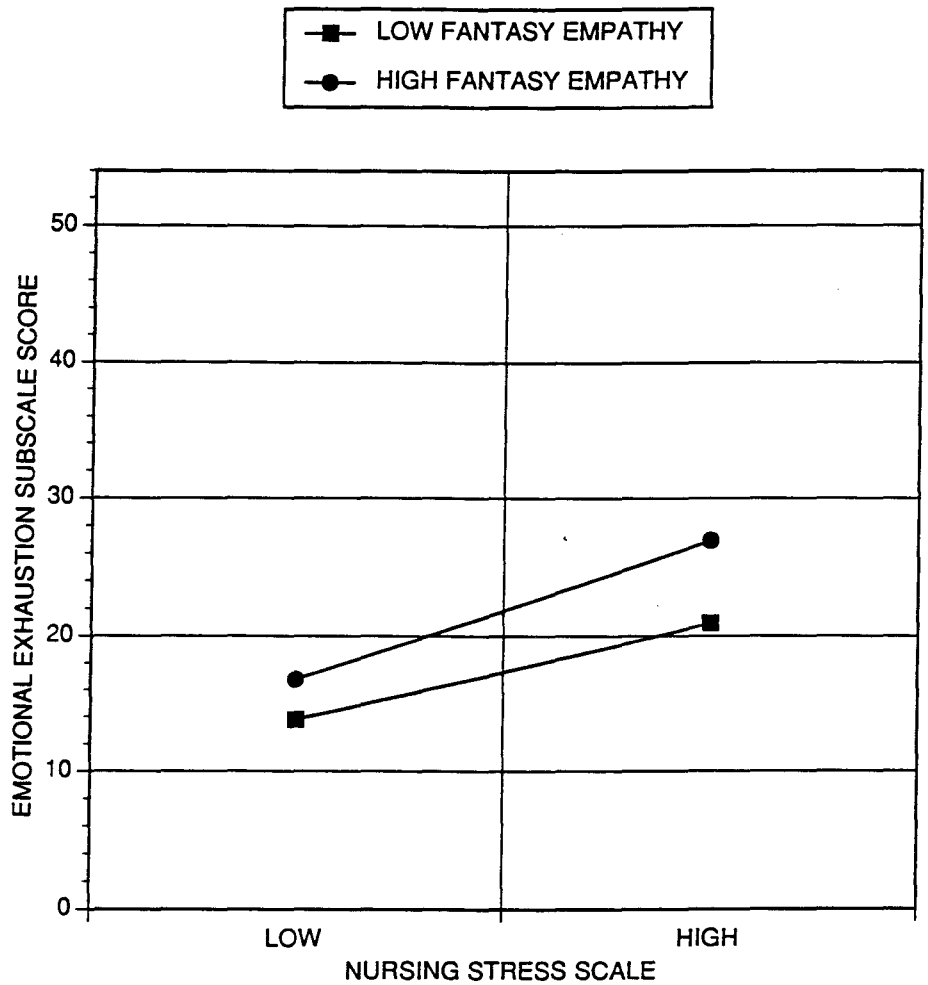

FIGURE 2

INTERACTION BETWEEN THE NURSING STRESS SCALE AND FANTASY EMPATHY ON THE EMOTIONAL EXHAUSTION SUBSCALE OF THE MASLACH BURNOUT INVENTORY

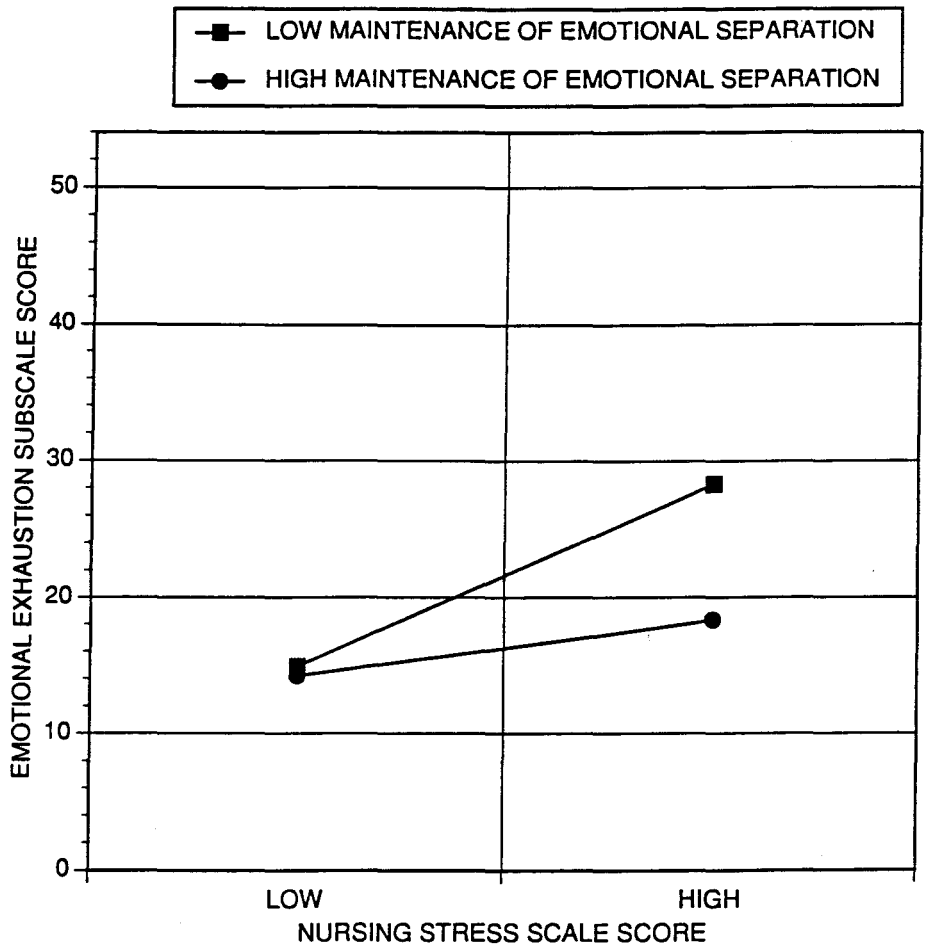

FIGURE 3

INTERACTION BETWEEN THE NURSING STRESS SCALE AND THE MAINTENANCE OF EMOTIONAL SEPARATION ON THE EMOTIONAL EXHAUSTION SUBSCALE OF THE MASLACH BURNOUT INVENTORY

Separation Scale.

The third interaction which was small but significant was the interaction between the Nursing Stress Scale and the Perspective-Taking subscale. This interaction accounted for an additional 1. % (p = .04) of the variance in the Depersonalization subscale. As seen in the graph (Figure 4), at low levels of stress, nurses who have high levels and low levels of Perspective-Taking report relatively the same degree of Depersonalization. However, at high levels of stress, nurses who have low levels on the Perspective-Taking subscale tend to have higher levels of Depersonalization than nurses who have a higher level of Perspective-Taking.

Finally, the fourth significant interaction was between the Nursing Stress Scale and the Empathic Concern subscale. The interaction between Nursing Stress and Empathic Concern explained an additional 1.7% (p = .05) of the variance on the Personal Accomplishment subscale after these two variable were entered hierarchically into the regression analysis. By graphing the results in Figure 5, a small crossover disordinal interaction is evident. At low levels of stress, nurses who have low levels of Empathic Concern report higher levels of Personal Accomplishment than nurses who have a higher Empathic Concern; but at high levels of nursing stress, nurses who have higher levels of Empathic Concern report higher

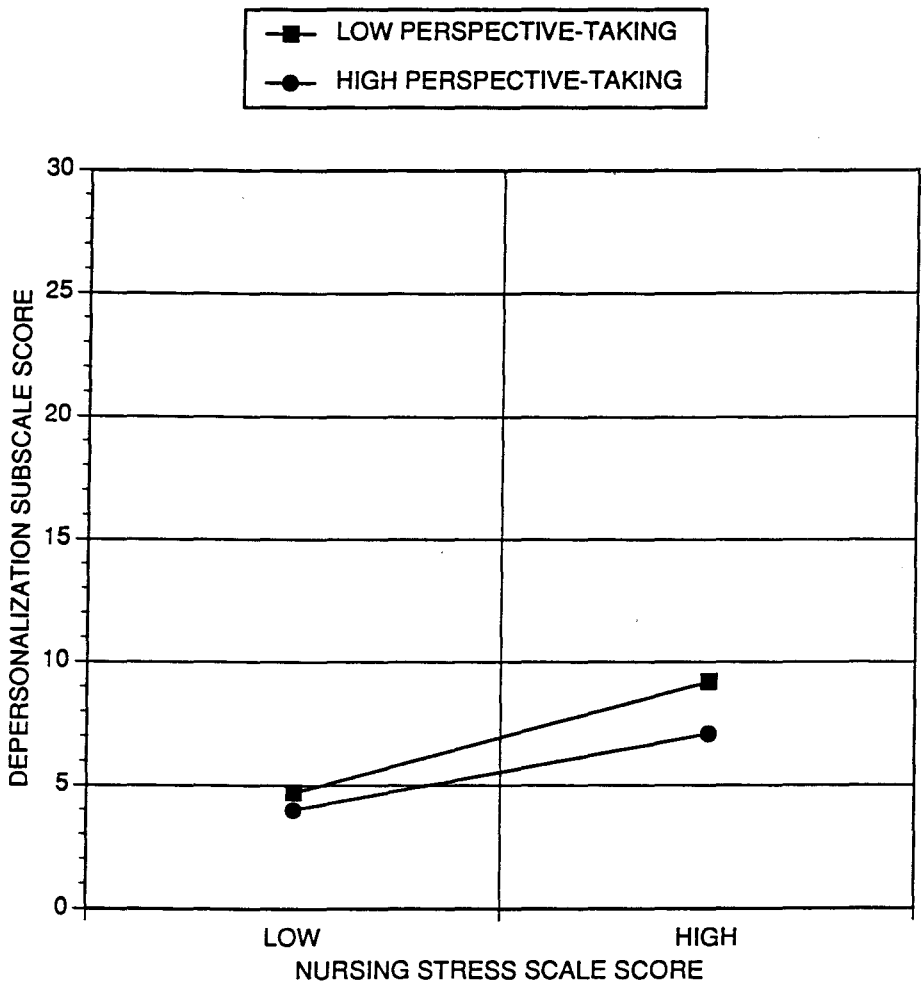

FIGURE 4

INTERACTION BETWEEN THE NURSING STRESS SCALE AND THE PERSPECTIVE-TAKING SUBSCALE ON THE DEPERSONALIZATION SUBSCALE OF THE MASLACH BURNOUT INVENTORY

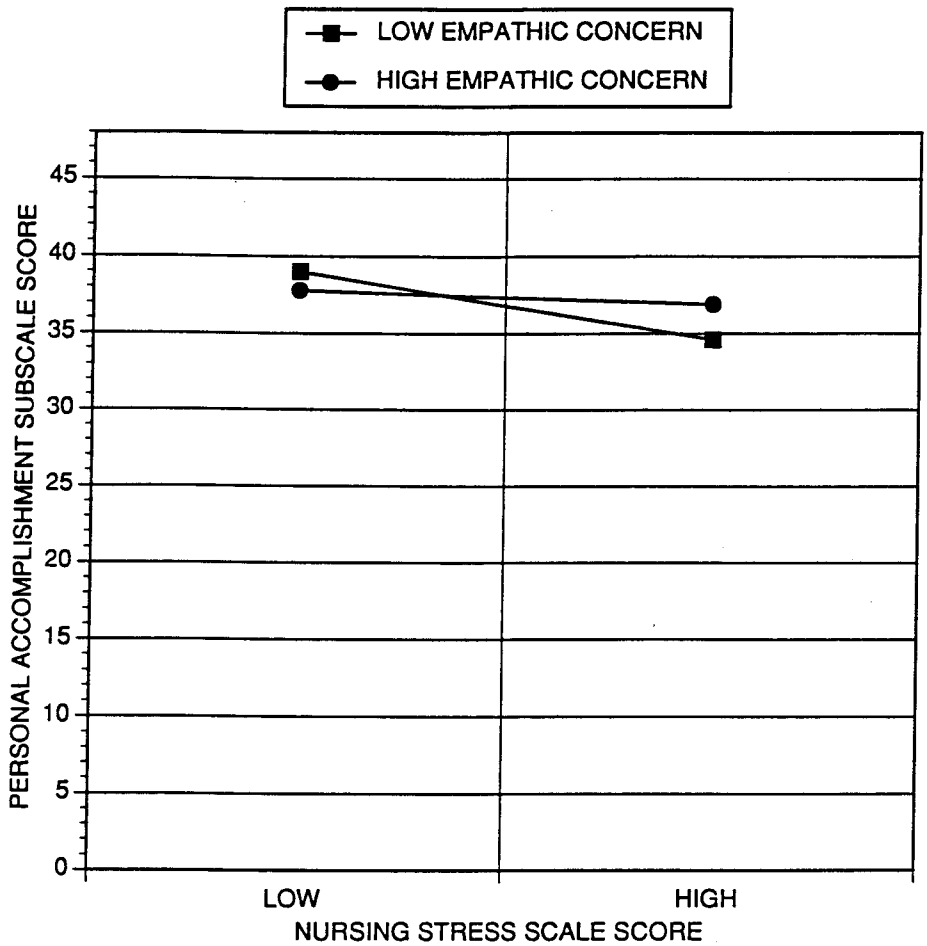

FIGURE 5

INTERACTION BETWEEN THE NURSING STRESS SCALE AND THE EMPATHIC CONCERN SUBSCALE ON THE PERSONAL ACCOMPLISHMENT SUBSCALE OF THE MASLACH BURNOUT INVENTORY

levels of Personal Accomplishment than nurses with lower levels of Empathic Concern.

In order to test if Affect Intensity moderated the way each of the dispositional empathy subscales influenced the stress-burnout relationship, the Nursing Stress Scale, one of the empathy subscales, and the Affect Intensity Measure were entered into a hierarchical regression equation first. Then the interaction between the Affect Intensity Measure and the empathy subscales was entered. The results can be found in Table 11. Six interactions were found to be significant.

The interaction between Fantasy Empathy and Affect Intensity accounted for an additional 2.4% (p = .014) of the variance in the Emotional Exhaustion subscale. As seen in Figure 6, nurses high in Fantasy Empathy reported more emotional exhaustion than those low in Fantasy Empathy. But, the difference in emotional exhaustion was significantly greater between low and high Fantasy Empathy at low Affect Intensity than at high Affect Intensity.

The interaction between the Perspective-Taking subscale and Affect Intensity explained an additional 2.2% (p = .018) of the variance on the Emotional Exhaustion subscale. In Figure 7, it can be seen that at low Affect Intensity, nurses high in Perspective-Taking reported more Emotional Exhaustion than those low in Perspective-Taking. But at high Affect Intensity, nurses high in Perspective-

Taking reported lower Emotional Exhaustion than those who had low Perspective-Taking.

The interaction between the Personal Distress subscale and the Affect Intensity Measure accounted for an additional 4% (p = .001) of the variance on the Emotional Exhaustion subscale and an additional 2.8% (p = .006) on the Tedium Scale. These interactions are plotted in Figures 8 and 9. The difference between nurses who have higher Personal Distress scores and those who have lower scores is greater for those who have high Affect Intensity than for those at low Affect Intensity.

Finally, the interaction between the Maintenance of Emotional Separation Scale and the Affect Intensity Measure explained an additional 2.2% (p = .014) of the variance on the Emotional Exhaustion subscale and an additional 1.9% (p = .022) on the Tedium Scale. As shown in Figures 10 and 11, those with a low Maintenance of Emotional Separation scores had higher Emotional Exhaustion scores than those with higher Maintenance of Emotional Separation scores. But the difference between those who had either low or high Maintenance of Emotional Separation scores was greater at high Affect Intensity than at low Affect Intensity.

Table 11

Hierarchical Multiple Regressions Testing for Interactions between Affect Intensity and the Interpersonal Reactivity Index Subscales and the Maintenance of Emotional Separation Scale

	Burnout Scales							
	Maslach Burnout Inventory Subscales						TEDIUM SCALE	
Variable	MBIEE		MBIDP		MBIPA			
	RsqCh	B	RsqCh	B	RsqCh	B	RsqCh	B
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Empathic Concern (EC)	.00	.05	.06***	-.24	.02*	.15	.00	-.01
Affect Intensity (AIM)	.00	.06	.00	.01	.00	.11	.02*	.14
EC x AIM	.00	.36	.00	.31	.00	.33	.00	.65
Total	.14***		.14***		.05*		.16***	
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Perspective-Taking (PT)	.02*	-.14	.04**	-.20	.04**	.20	.06***	-.25
Affect Intensity (AIM)	.00	.05	.01	-.11	.03**	.19	.00	.08
PT x AIM	.02*	-1.24	.00	-.51	.00	-.21	.00	-.44
Total	.17***		.14***		.09***		.20***	

(Table 11 Continues)

(Table 11 Continued)

Burnout Scales

Variable	Maslach Burnout Inventory Subscales MBIEE RsqCh	MBIEE B	MBIDP RsqCh	MBIDP B	MBIPA RsqCh	MBIPA B	TEDIUM SCALE RsqCh	TEDIUM SCALE B
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Fantasy Scale (FS)	.02*	.16	.03**	.18	.01	-.09	.02*	.15
Affect Intensity (AIM)	.00	.02	.02*	-.15	.03**	.20	.01	.08
FS x AIM	.02*	1.35	.00	.24	.01	-.74	.00	.48
Total	.18***		.13***		.07*		.17***	
Nursing Stress Scale (NSS):	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
Personal Distress (PD)	.03**	.18	.00	.01	.06***	-.24	.07***	.28
Affect Intensity (AIM)	.00	.00	.01	-.09	.07***	.28	.00	.02
PD x AIM	.04**	1.55	.00	.55	.00	-.11	.03**	1.29
Total	.20***		.09***		.14***		.24***	
Nursing Stress Scale (NSS)	.13***	.36	.08***	.28	.02*	-.14	.13***	.37
MES	.08***	-.3	.04**	-.20	.01	.08	.09***	-.31
Affect Intensity	.00	-.02	.02*	-.15	.03**	.19	.00	.03
MES x AIM	.02*	-1.10	.01	-.50	.00	-.26	.02*	-1.02
Total	.24***		.14***		.06*		.24***	

n = 216

* p ≤ .05
** p ≤ .01
*** p ≤ .001

B = Beta Weight
RsqCh = R square change

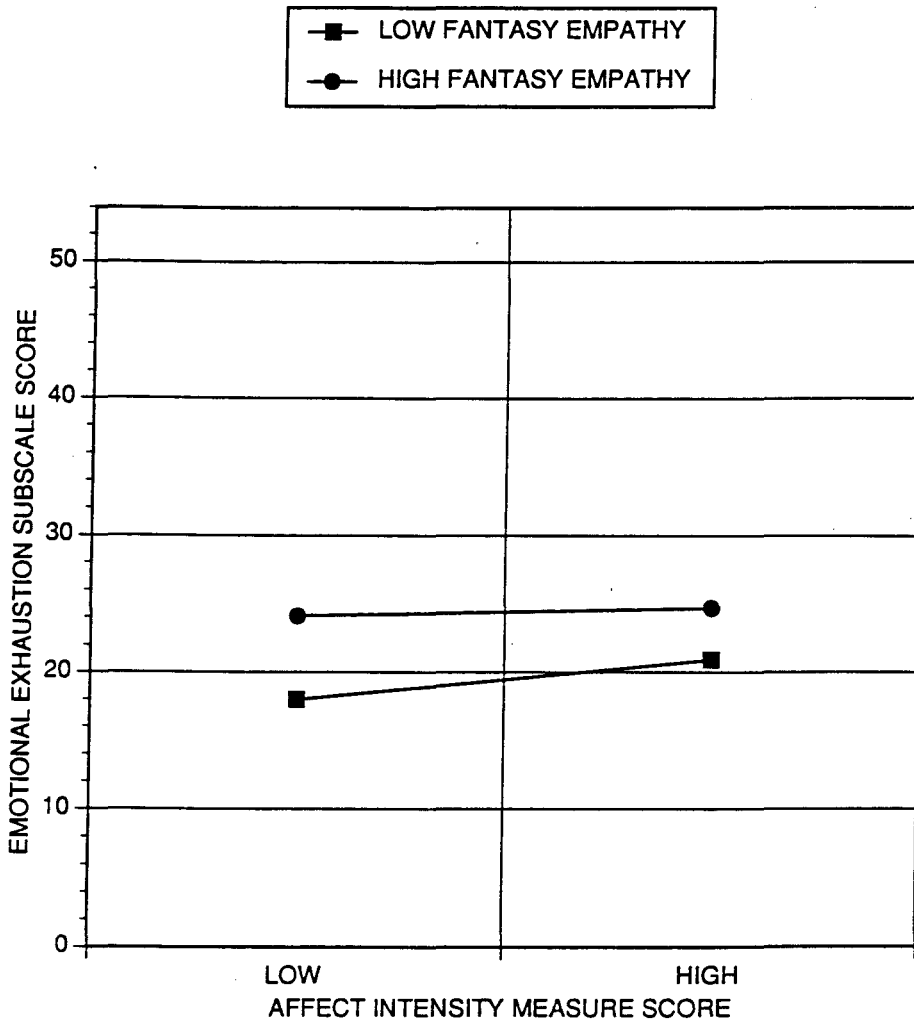

FIGURE 6

INTERACTION BETWEEN THE AFFECT INTENSITY MEASURE AND THE FANTASY EMPATHY SUBSCALE ON THE EMOTIONAL EXHUASTION SUBSCALE OF THE MASLACH BURNOUT INVENTORY

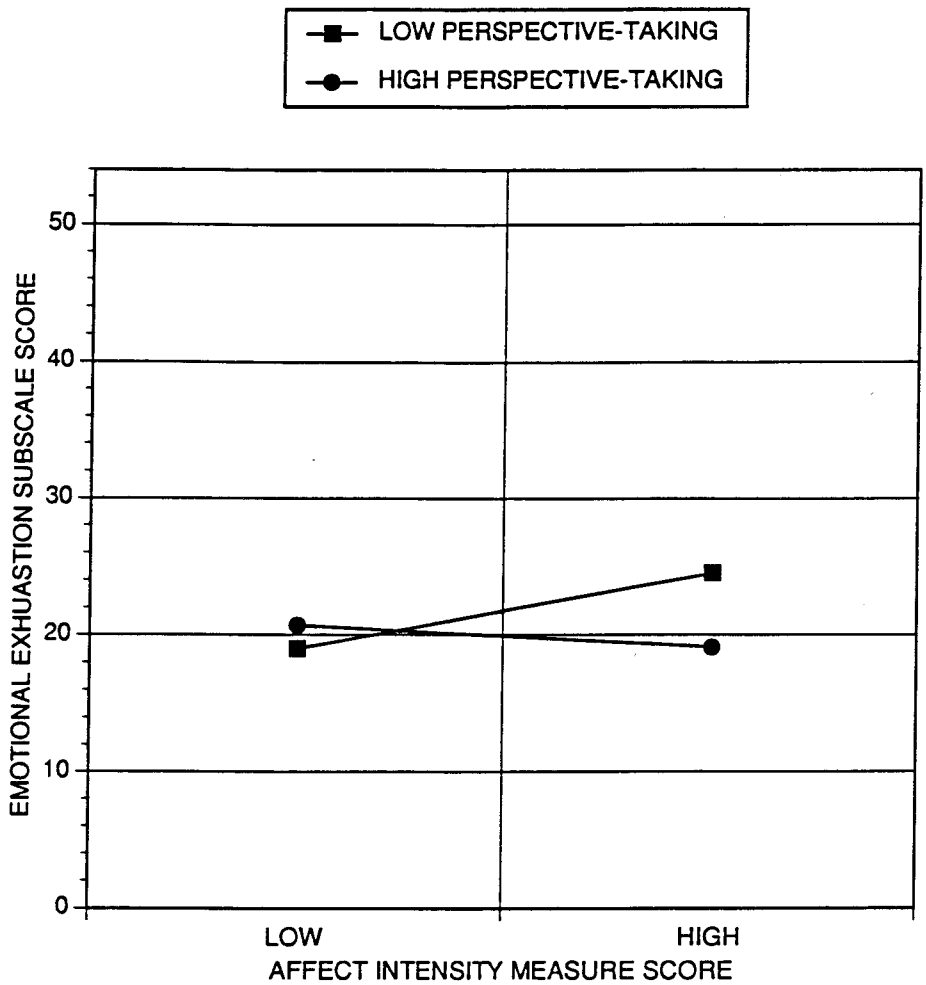

FIGURE 7

INTERACTION BETWEEN THE AFFECT INTENSITY MEASURE AND THE PERSPECTIVE-TAKING SUBSCALE ON THE EMOTIONAL EXHUASTION SUBSCALE OF THE MASLACH BURNOUT INVENTORY

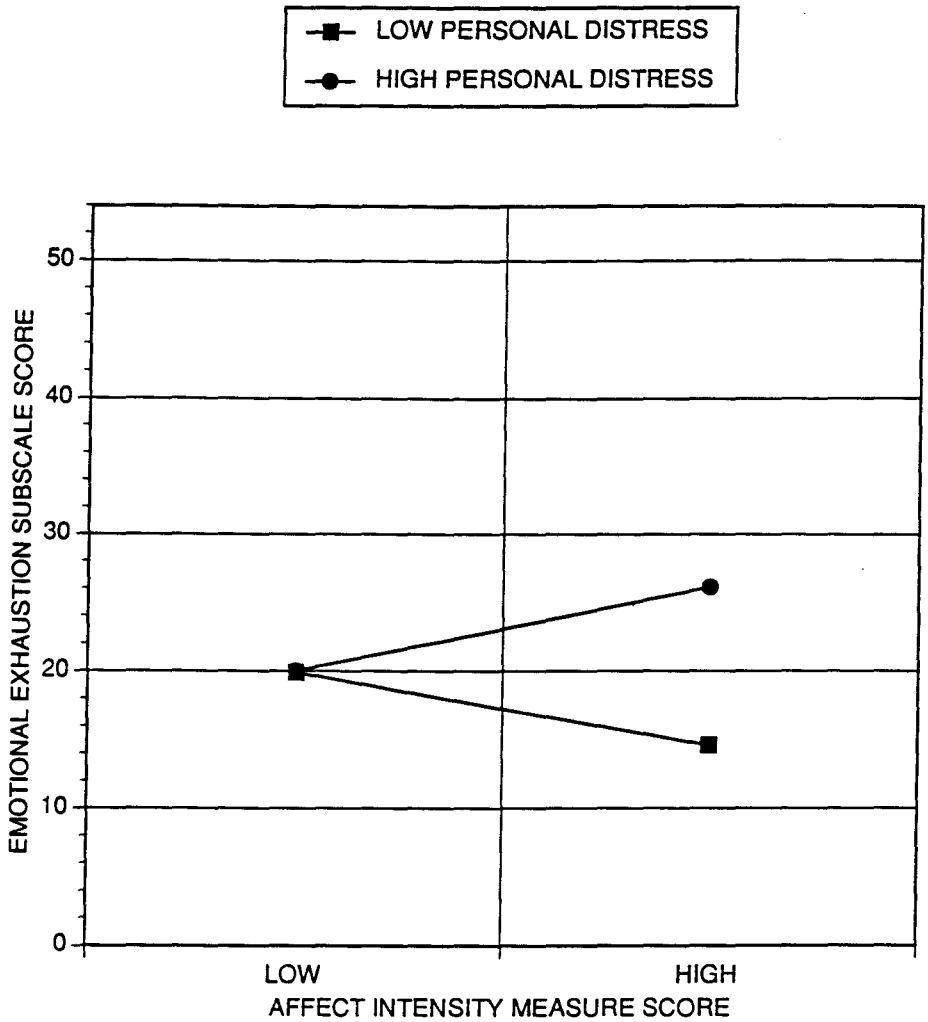

FIGURE 8

INTERACTION BETWEEN THE AFFECT INTENSITY MEASURE AND THE PERSONAL DISTRESS SUBSCALE ON THE EMOTIONAL EXHAUSTION SUBSCALE OF THE MASLACH BURNOUT INVENTORY

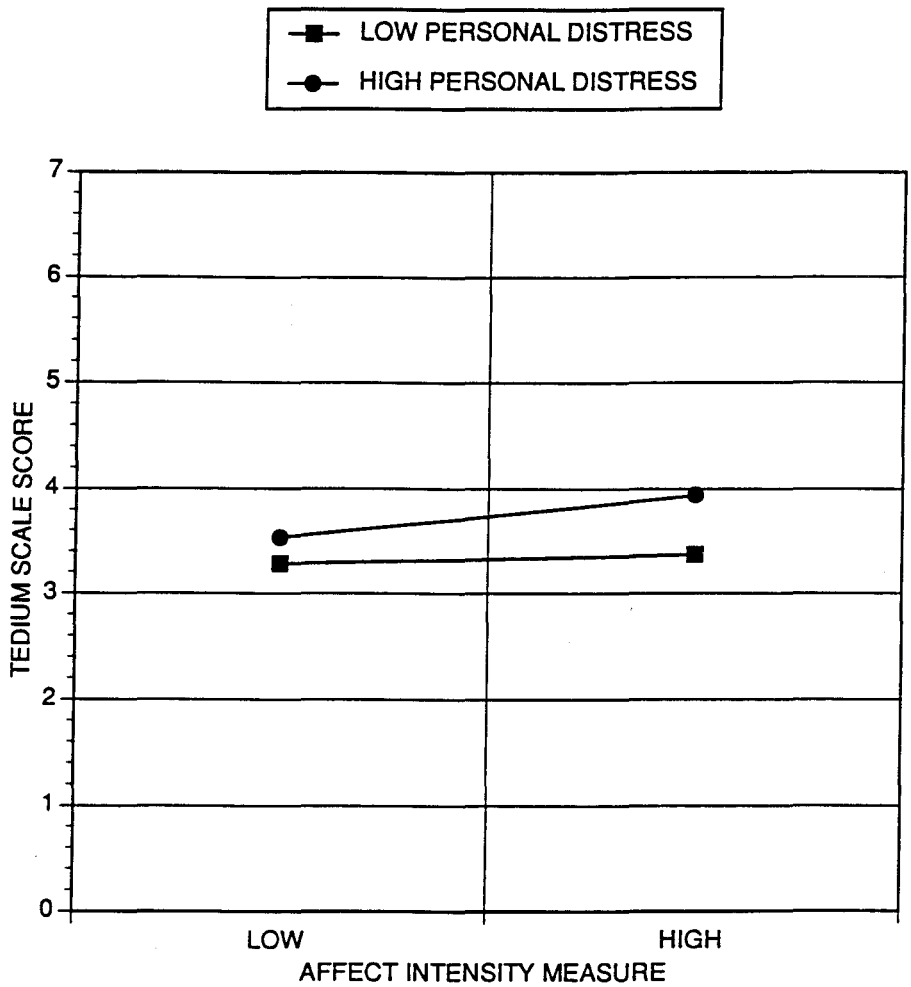

FIGURE 9

INTERACTION BETWEEN THE AFFECT INTENSITY MEASURE AND THE PERSONAL DISTRESS SUBSCALE ON THE TEDIUM SCALE

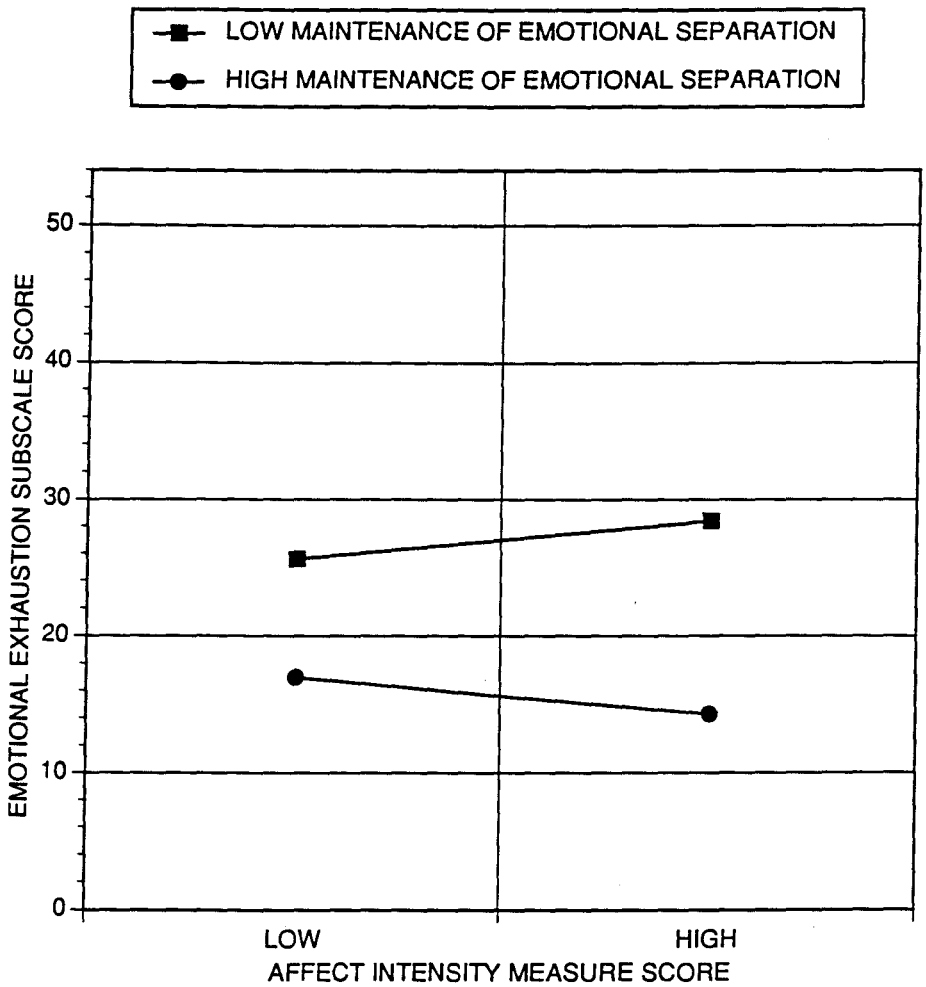

FIGURE 10

INTERACTION BETWEEN THE AFFECT INTENSITY MEASURE AND THE MAINTENANCE OF EMOTIONAL SEPARATION SCALE ON THE MASLACH BURNOUT INVENTORY

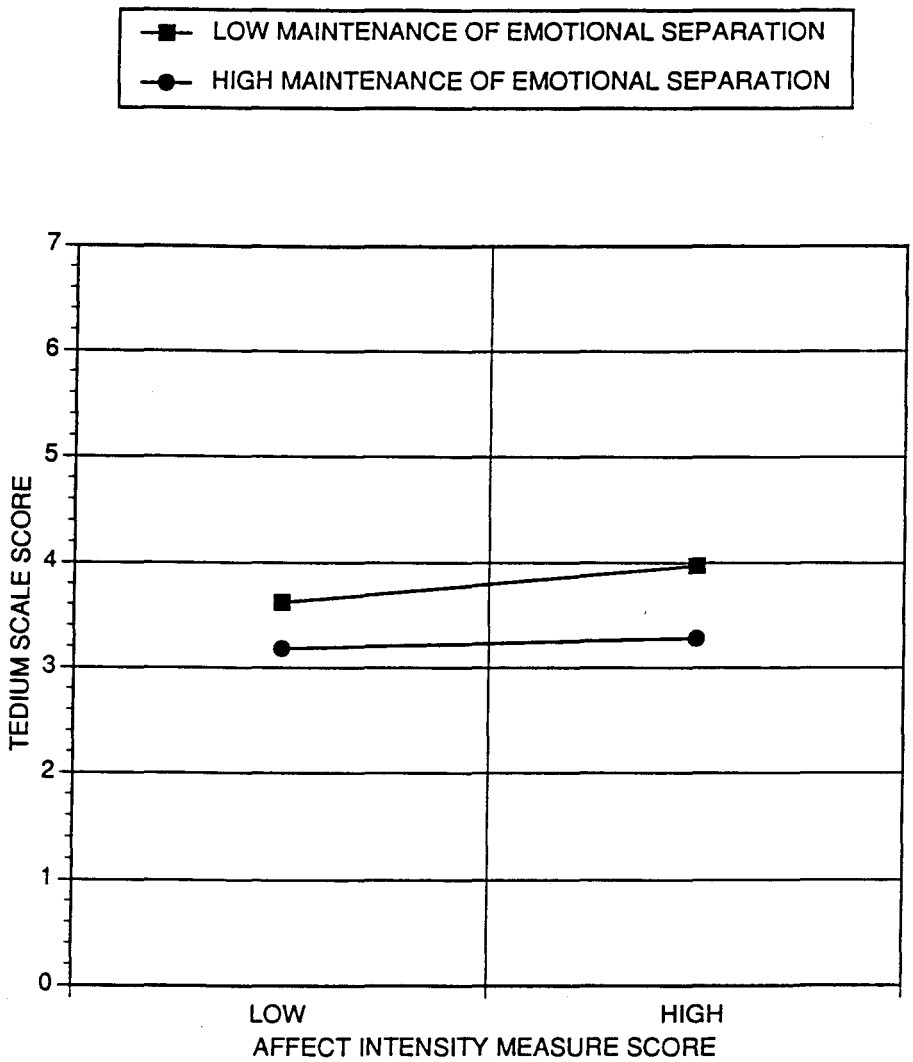

FIGURE 11

INTERACTION BETWEEN THE AFFECT INTENSITY MEASURE AND THE MAINTENANCE OF EMOTIONAL SEPARATION SCALE ON THE TEDIUM SCALE

Testing the Direct Effects Model

While four of the empathy variables operate as moderators on respective measures of burnout, mediator and moderator models do not appear to be operating in the remaining variables in terms of their influence on the stress-burnout relationship. A direct effect or additive model describing that influence in the last possible alternative. A direct effects or additive influence is detected by entering the Nursing Stress Scale first into a hierarchical regression equation, and then the variable hypothesized to account for additional variance on the specific measure of burnout.

The results listed in Table 10 confirm a direct effects or additive for many of the other variable relationships. Empathic Concern accounts for an additional 6% (p = .0003) of the variance on the Depersonalization subscale. Perspective-Taking explains an additional 2% (p = .03) of the variance on the Emotional Exhaustion subscale, an additional 4% (p = .004) on the Personal Accomplishment subscale, and an additional 6% (p = .0001) on the Tedium Scale. The Fantasy Empathy subscale accounts for an additional 3% (p = 007) of the variance on the Depersonalization subscale, and an additional 2% (p = .02) on the Tedium Scale. The Personal Distress subscale accounted for 3% (p = .005) more of the variance on the Emotional Exhaustion subscale, 6%

(p = .0004) more of the variance on the Personal Accomplishment subscale, and an additional 7% (p < .0001) of the variance on the Tedium Scale.

When the Affect Intensity Measure is entered into the regression equation after Nursing Stress is controlled, Affect Intensity explains an additional 2% (p = .03) of the variance of the Personal Accomplishment subscale. When the Maintenance of Emotional Separation Scale is entered after the Nursing Stress Scale, it accounts for an additional 4% (p = .003) of the variance of the Depersonalization subscale and an additional 9% (p < .0001) on the Tedium Scale.

The following variables had no effect in accounting for the variance on particular measures of burnout. The Empathic Concern subscale accounted for no additional variance on the Emotional Exhaustion subscale or the Tedium Scale. Fantasy Empathy did not add to explaining the variance on the Personal Accomplishment subscale and the Personal Distress subscale did not add in accounting for variance on the Depersonalization subscale. The Affect Intensity Measure did not account for significant variance on Emotional Exhaustion, Depersonalization, or the Tedium Scale. Finally, the Maintenance of Emotional Separation Scale did not add in explaining the variance on the Personal Accomplishment subscale.

To summarize, Empathic Concern, Perspective-Taking,

Fantasy Empathy, and the Maintenance of Emotional Separation function as moderator variables with the frequency of nursing stressors in explaining a significant amount of the variance on several of the burnout measures. Also, there were significant interactions between Affect Intensity and Fantasy Empathy, Perspective-Taking, Personal Distress, and the Maintenance of Emotional Separation. A direct effects model appears to describe the data in which Empathic Concern, Perspective-Taking, Fantasy Empathy, Personal Distress, Affect Intensity, and the Maintenance of Emotional Separation function as additive predictors of various aspects of burnout.

Hypothesis #7

Satisfaction with one's job on a particular unit and satisfaction with the career of nursing may influence how affect intensity and dispositional empathy affect the stress-burnout relationship. The prediction is that satisfaction will interact with empathy and affect intensity in predicting how stress is related to burnout.

This hypothesis was predicated on the assumption that affect intensity and dispositional empathy influenced the relationship between stress and burnout as mediator or moderator variables. Thus, the influence of job or career satisfaction was investigated only for the four variables which function as moderators in the stress-burnout relationship. In these instances, the Nursing Stress

Scale was first entered into the hierarchical regression equation; second, the moderator variable; third, either job or career satisfaction; and finally, the interaction term between the moderator variable and job satisfaction or career satisfaction. One significant interaction was detected.

In the moderator role the Perspective-Taking subscale plays in the relationship between Nursing Stress and the Depersonalization subscale, the interaction between Perspective-Taking and job satisfaction accounted for an additional 2.0% (p = .027) of the variance on the Depersonalization subscale. In the graph of this ordinal interaction in Figure 12, it can be seen that at both low and high levels of job satisfaction, nurses who had low levels on the Perspective-Taking subscale tended to have higher Depersonalization scores than those with high levels of Perspective-Taking. Also, at a high level of job satisfaction, both nurses high and low on the Perspective-Taking subscale tended to have lower Depersonalization scores than their counterparts who had lower job satisfaction. However, there was a slightly larger degree of difference between low and high Perspective-Takers at high levels of job satisfaction than at low levels of job satisfaction.

In order to determine if job and career satisfaction alone function as moderators or as direct effect variables

in the prediction of burnout, a hierarchical regression approach was utilized in which job and career satisfaction were entered individually after the Nursing Stress Scale was entered followed by entering multiplicative terms which test the interactions of job or career satisfaction with the Nursing Stress Scale in predicting burnout. The results are found in Table 12. One significant interaction was detected between the Nursing Stress Scale and job satisfaction in explaining the variance of the Tedium Scale. After the Nursing Stress Scale and the job satisfaction item were entered individually in the hierarchical regression equation, the interaction between Nursing Stress and job satisfaction accounted for 3.2% of the variance (p = .004) on the Tedium Scale. This ordinal interaction can be viewed in Figure 13. At low levels of Nursing Stress, there was not a great deal of difference between nurses who were high and low in job satisfaction. However, at high levels of Nursing Stress, those nurses expressing low job satisfaction reported significantly more burnout on the Tedium Scale than those who expressed high job satisfaction. Thus, job satisfaction appears to operate as a moderator variable between Nursing Stress and burnout as measured by the Tedium Scale.

Table 12

Hierarchical Multiple Regressions Testing Interactions between Nursing Stress and Job or Career Satisfaction

	Burnout Scales							
	Maslach Burnout Inventory Subscales						TEDIUM SCALE	
Variable	MBIEE		MBIDP		MBIPA			
	RsqCh	B	RsqCh	B	RsqCh	B	RsqCh	B
Nursing Stress Scale (NSS):	.13***	.36***	.08***	.28***	.02*	-.14*	.13***	.37***
Job Satisfaction:	.19***	-.45***	.01		.04***	.20***	.06***	-.26***
NSS X Job Satisfaction:	.01		.00		.00		.03**	.88**
Total	.33***		.31***		.06**		.23***	
Nursing Stress Scale (NSS):	.13***	.36***	.08***	.28***	.02*	-.14*	.13***	.37***
Career Satisfaction:	.07***	-.28***	.01		.06***	.26***	.03**	-.19**
NSS X Career Satisfaction:	.01		.00		.00		.01	
Total	.21***		.09***		.08***		.17***	

n = 216

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

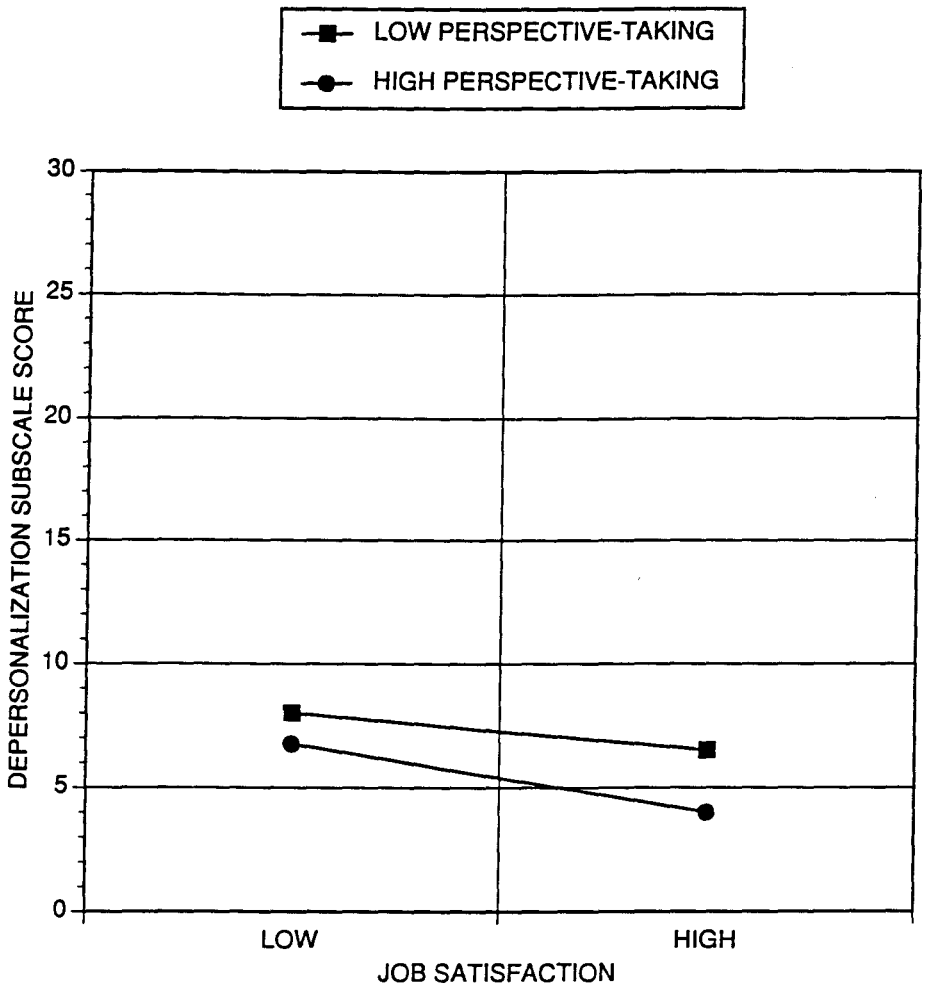

FIGURE 12

INTERACTION BETWEEN JOB SATISFACTION AND THE PERSPECTIVE-TAKING SUBSCALE ON THE DEPERSONALIZATION SUBSCALE OF THE MASLACH BURNOUT INVENTORY

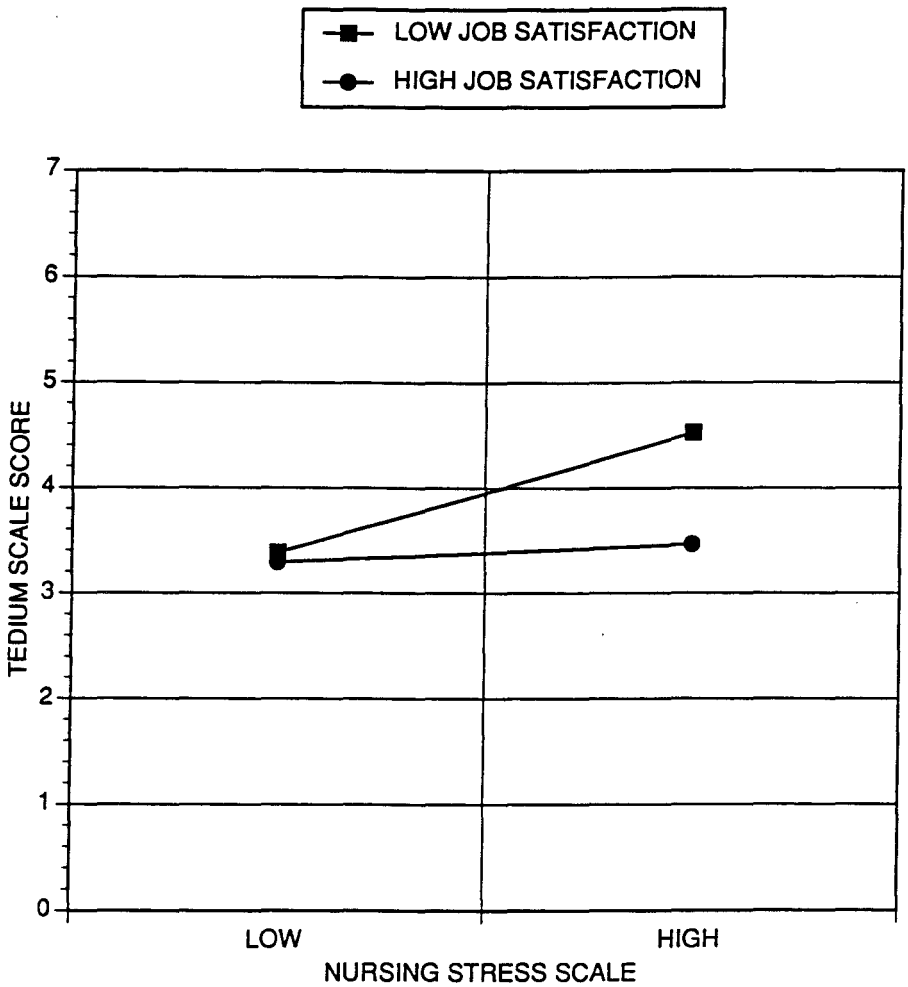

FIGURE 13

INTERACTION BETWEEN THE NURSING STRESS SCALE AND JOB SATISFACTION ON THE TEDIUM SCALE

On the other analyses of the role of job and career satisfaction, it was found that job and career satisfaction operate mainly additively in predicting the respective burnout scales. The inclusion of job satisfaction with the Nursing Stress Scale accounted for an additional 19.1% ($p < .0001$) of the variance on the Emotional Exhaustion subscale, an additional 3.8% ($p = .0034$) on the Personal Accomplishment subscale, and an additional 6.3% ($p = .0001$) of the variance on the Tedium Scale. The inclusion of the career satisfaction item accounted for an additional 7.4% ($p < .0001$) of the variance on the Emotional Exhaustion subscale, an additional 6.3% ($p = .0002$) of the variance on the Personal Accomplishment subscale, and an additional 3.1% ($p = .005$) of the variance on the Tedium Scale.

Thus, the greater the job and career satisfaction reported, the more likely nurses reported having a greater sense of personal accomplishment on the job and a lesser degree of physical, mental, and emotional exhaustion than nurses who expressed lower job satisfaction.

It was observed that the Emotional Exhaustion subscale was moderately negatively correlated with job satisfaction as measured by the single item in the survey ($r = -.51$, $p < .001$) and with the single item of career satisfaction ($r = -.37$). Thus, increased job and career satisfaction is associated with decreased emotional

exhaustion. However, because the validity of the satisfaction items is not established, it is possible that, given such strong correlations with emotional exhaustion, the satisfaction items may be measuring some aspect of burnout and not so much the constructs of job and career satisfaction.

Hypothesis #8

There will be different types of nurses with distinct profiles in terms of the four dimensions of dispositional empathy and the ability to maintain emotional separation from others. These profiles will correlate with specific levels of burnout and nursing stress such that nurses with higher levels of empathy and a low level of emotional separation from others will tend to have higher levels of burnout while nurses with lower levels of empathy and a higher level of ability to maintain emotional separation will tend to have lower levels of burnout. Furthermore, it is hypothesized that nurses with higher levels of empathy will tend to be working in the moderate and chronic units than the acute units.

In order to answer this question, cluster analysis was used. Only fulltime nurses were included in the analysis in order to exclude possible extraneous factors which might be operating among nurses who choose to do part-time or per diem work. Ward's method of clustering employing squared Euclidean distances was executed in

analyzing the sample of 162 fulltime nurses. The variables included in the analysis were the four subscales of the Interpersonal Reactivity Index: Perspective-Taking, Fantasy Empathy, Empathic Concern, and Personal Distress; and the Maintenance of Emotional Separation Scale. Because the scales of these five measures are different, the scores for each were standardized before being analyzed.

Cluster analysis proceeds by joining those cases which are more homogenous first and then being merged with more similar cases (i.e. the least squared Euclidean distance between them). Cluster solutions were judged by means of the agglomeration schedule, the hicicle, and the dendrogram. First, in the agglomeration schedule, the coefficients provide a way to judge how different the clusters being joined together are. Small coefficients indicate that the distances between two clusters being joined are smaller meaning that those clusters are similar. Large coefficients indicate larger differences between cluster signifying more dissimilarity between the clusters. The agglomeration schedule thus provides a guide for the optimal number of clusters by inspecting it to find the place where there is a large increase in the coefficient compared to the previous coefficient (Norusis, 1988). In this sample, this marked increase in coefficients appeared to occur between the three cluster

to the two cluster solution (555.29 to 643.66).

To ascertain which of these solutions is optimal, the second step is to analyze the hicicle and the dendrogram which provide visual representations of the proportionate distances between clusters. From these it appeared that the three-cluster solution best described the sample. The means and standard deviations of the Interpersonal Reactivity subscales can be found in Table 13.

Discriminant analyses were applied to the three cluster solution to determine how accurate it was in classifying the subjects in terms of distinctive profiles of the Interpersonal Reactivity subscales. As seen in Table 14, Wilks' Lambda was significant beyond the .0001 level indicating that the group means for each of the subscales were not equal; that is, a significant amount of the total variability is due to the differences between the means as opposed to the within-groups variability. Two canonical discriminant functions resulted both of which were significant beyond the .0001 level (Table 15). Function 1 had an eigen value of 1.71 which accounted for 68.51% of the variance and function 2 had an eigen value of .79 which accounted for 31.49% of the variance. These two functions together accounted for 100% of the variance. The three-cluster solution correctly classified 87.7% of

Table 13

Means and Standard Deviations for the Three-Cluster Solution by Subtype and Interpersonal Reactivity Index Subscales and the Maintenance of Emotional Separation Scale

Cluster	PT	FS	EC	PD	MES
A	20.7 (2.5)	18.7 (4.5)	23.2 (3.2)	7.8 (3.5)	28.6 (5.7)
B	18.1 (3.9)	10.9 (2.7)	17.4 (3.5)	6.1 (3.6)	33.1 (4.7)
C	14.3 (3.5)	17.2 (4.1)	20.4 (2.7)	10.9 (4.4)	29.0 (4.6)
Total Sample	17.6 (4.3)	15.5 (5.1)	20.2 (3.9)	8.3 (4.3)	30.2 (5.3)

n = 162

PT = Perspective-Taking
FS = Fantasy Empathy
EC = Empathic Concern
MES = Maintenance of Emotional Separation

Table 14

Wilks' Lambda, F, and Probability for the 3-Cluster Solution by the Interpersonal Reactivity Index Subscales and the Maintenance of Emotional Separation Scale

Variable	Wilks' Lambda	F	Prob.
IRI Perspective-Taking	.62	48.33	.0000
IRI Fantasy Scale	.56	62.27	.0000
IRI Empathic Concern	.64	44.07	.0000
IRI Personal Distress	.79	21.61	.0000
Maintenance of Emotional Separation Scale	.85	13.68	.0000

n = 162

Table 15

Statistics for Discriminant Analysis for the Three-Cluster Solution for the Interpersonal Reactivity Index Subscales and the Maintenance of Emotional Separation Scale

Function	Eigenvalue	Percentage of Variance	Wilks' Lambda	Prob.
1	1.71	68.51	.21	.0000
2	.79	31.49	.56	.0000

n = 162

Table 16

Classification Results of the Discriminant Analysis of the Three-Cluster Solution for the Interpersonal Reactivity Index Subscales and the Maintenance of Emotional Separation Scale

Subtype	Number of cases	Predicted Group Membership 1	2	3
A	51	45 88.2%	3 5.9%	3 5.9%
B	55	2 3.6%	50 90.9%	3 5.5%
C	56	5 8.9%	4 7.1%	47 83.9%

Percent of cases correctly classified: 87.7%

the cases (21 cases misclassified) (Table 16).

The next step was to determine if this three-cluster solution was related to different levels of burnout and perceived stress. A MANOVA was executed for the three clusters by levels on the Maslach Burnout Inventory subscales, the Tedium Scale, and the Nursing Stress Scale. The overall MANOVA was significant at the .05 level indicating significant differences between group means on the dependent variables (Table 17). It was therefore warranted to analyze the univariate significance tests. Significant differences were found for the Emotional Exhaustion subscale, the Depersonalization subscale, the Personal Accomplishment subscale, and the Tedium Scale. The pairwise comparison Scheffe tests for each of these variables can be found in Tables 18, 19, and 20. Only the Emotional Exhaustion subscale, the Personal Accomplishment subscale, and the Tedium Scale had pairwise comparisons which were significant beyond the .05 level.

A graph of the three-cluster solution is presented in Figure 14 to facilitate an overall understanding of the way the three subtypes of dispositional empathy profiles among nurses are related to levels of burnout and perceived stress. The graph is based on the standardized means and standard deviations found in Table 21. Subtype A consisted of 51 nurses who can be described in the

Table 17

Results of MANOVA on the Three-Cluster Solution for the Maslach Burnout Inventory, the Tedium Scale, and the Nursing Stress Scale

MANOVA Tests of Significance:	Approximate F	Significance of F
Hotelling's Trace:	2.09	.026*
Wilks' Lambda:	2.08	.026*
Pillai's Trace:	2.07	.027*

Univariate Analyses of Variance: (F-Tests with 2,143 degrees of freedom)	F	Significance of F
Maslach Burnout Inventory:		
Emotional Exhaustion Subscale:	5.47	.005**
Depersonalization Subscale:	4.03	.020*
Personal Accomplishment Subscale:	3.34	.038*
Tedium Scale:	5.30	.006**
Nursing Stress Scale:	.55	.577

* $p \leq .05$

** $p \leq .01$

*** $p \leq .001$

Table 18

Means and Scheffe Test Contrasts for the Three Cluster Solution by MBI Emotional Exhaustion

Subtype	Mean
A	21.41
B	19.43
C	24.33

Significant Scheffe Contrasts (df = 157)

B < C t = 2.07, p = .019

Table 19

Means and Scheffe Test Contrasts for the Three Cluster Solution by the Tedium Scale

Subtype	Mean
A	3.45
B	3.42
C	3.74

Significant Scheffe Contrasts (df = 151)

A < C t = -2.30 p = .023

B < C t = -2.60, p = .010

Table 20

Means and Scheffe Test Contrasts for the Three Cluster Solution by the MBI Personal Accomplishment Subscale

Subtype	Mean
A	38.53
B	37.43
C	35.25

Significant Scheffe Contrasts (df = 148)

A > C t = 2.73, p = .007

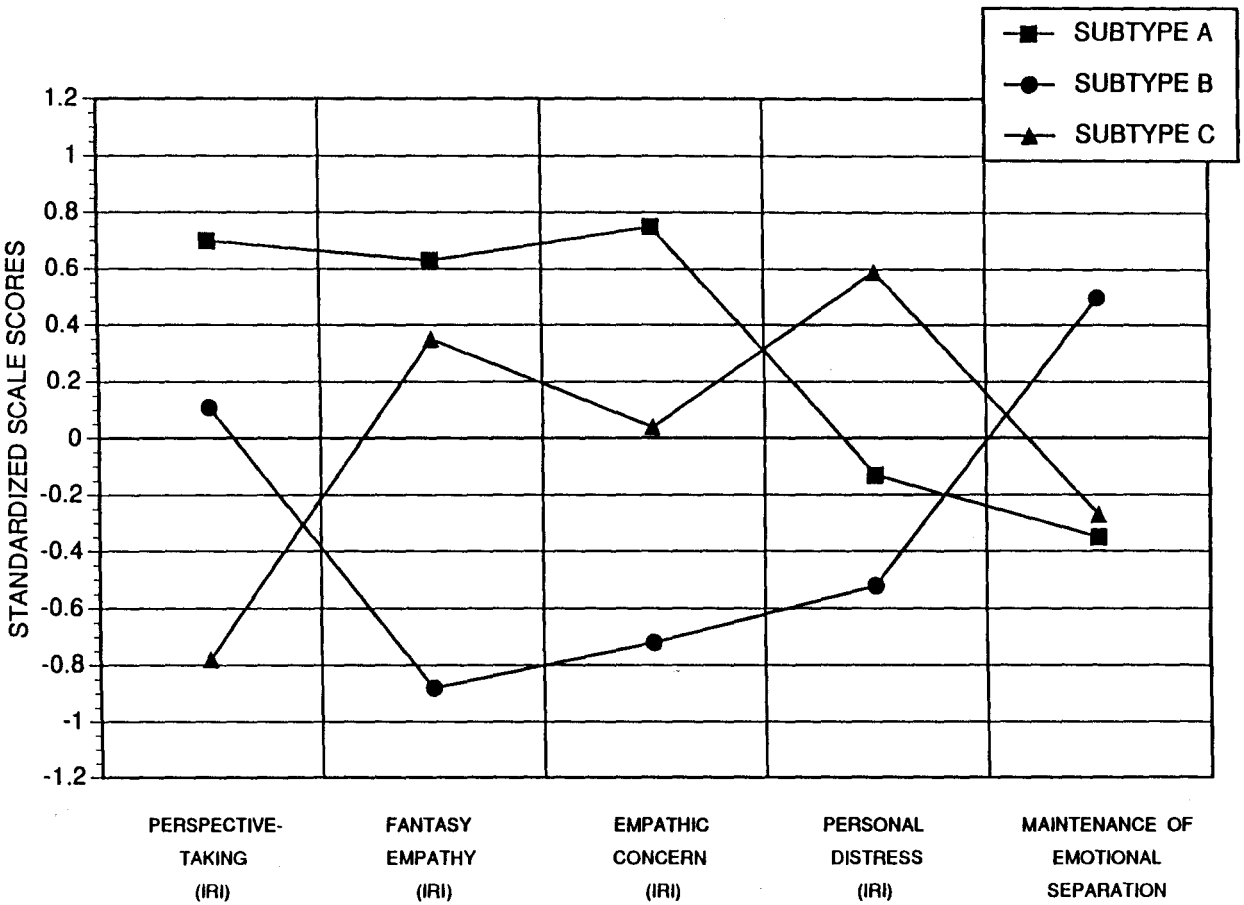

Figure 14

FIGURE 14. STANDARDIZED MEANS FOR THE 3-CLUSTER SOLUTION ON THE INTERPERSONAL REACTIVITY INDEX SUBSCALES (IRI) AND THE MAINTENANCE OF EMOTIONAL SEPARATION SCALE

Table 21

Standardized Means and Standard Deviations for the Three-Cluster Solution by Subtype and Interpersonal Reactivity Index Subscales and the Maintenance of Emotional Separation Scale

Subtype	PT	FS	EC	PD	MES
A	.70	.63	.75	-.13	-.35
	(.59)	(.88)	(.81)	(.82)	(1.06)
B	.11	-.88	-.72	-.52	.50
	(.91)	(.52)	(.89)	(.84)	(.88)
C	-.78	.35	.04	.59	-.27
	(.82)	(.80)	(.69)	(1.02)	(.85)

n = 162

PT = Perspective-Taking subscale
FS = Fantasy Empathy subscale
EC = Empathic Concern subscale
PD = Personal Distress subscale
MES = Maintenance of Emotional Separation Scale

following way: compared to the other subtypes, they have relatively higher Perspective-Taking, higher Fantasy Empathy, higher Empathic Concern, average Personal Distress, and a lower ability maintain emotional separation. Subtype B consisted of 55 nurses with the following profile: they have average Perspective-Taking, lower Fantasy Empathy, lower Empathic Concern, lower Personal distress, and higher Maintenance of Emotional Separation. Subtype C consisted of 56 nurses who can be described in the following way: they have lower Perspective-Taking, average to high Fantasy Empathy, average Empathic Concern, higher Personal Distress, and lower ability to maintain emotional separation.

The Scheffe comparisons on the Emotional Exhaustion subscale found in Table 18 indicate that subtype C nurses reported significantly more emotional exhaustion than nurses in subtype B. No other comparisons were significant.

When the clusters are compared using the Tedium Scale (Table 19), which is similar to the Emotional Exhaustion subscale in that it measure physical, mental as well as emotional exhaustion, Subtype C nurses have a significantly higher Tedium Scale mean than Subtypes A and B. Subtypes A and B were not found to be significantly different from each other on the Tedium Scale.

On the Personal Accomplishment subscale, Subtype C

nurses report significantly less sense of personal accomplishment than the nurses in Subtype A (Table 20).

Looking more closely at the profiles, subtype C nurses tended to be more physically, mentally, and emotionally exhausted than Subtype A and B nurses. The critical differences compared to Subtype A nurses were that subtype C nurses were lower in perspective-taking (t(105df) = 10.36, p < .01), lower in empathic concern (t(105df) = 4.72, p < .01), and higher in the tendency to be personally distressed (t(105df) = -3.90, p < .01). Compared to Subtype B nurses, Subtype C nurses were significantly lower in perspective-taking ability (t(109df) = 5.11, p < .01), significantly higher in fantasy empathy (t(109df) = -9.09, p < .01), significantly higher in empathic concern (t(109df) = -4.71, p < .01), significantly higher in personal distress (t(109df) = -5.9, p < .01), and significantly lower in the ability to maintain emotional separation (t(109df) = 4.41, p < .01). Looking just at the similarities in comparisons with Subtypes A and B, Subtype C nurses were lower in perspective-taking ability, higher in their tendency to be personally distressed. Subtypes A and B are not significantly different, but they are quite different in terms of their empathy profiles. Compared to Subtype A, Subtype B was lower in perspective-taking (t(104df) = 3.86, p < .01), lower in fantasy empathy (t(104df) =

10.49, $p < .01$), lower in empathic concern ($t(104df) = 8.56$, $p < .01$), lower in personal distress ($t(104df) = 2.29$, $p < .05$), and higher in the ability to maintain emotional separation ($t(104df) = -4.35$, $p < .01$). The main reason they do not differ in exhaustion even though they differ on all four of the Interpersonal Reactivity Subscales appears to be that Subtype A has a lower ability to maintain emotional separation than Subtype B.

Subtype C nurses reported significantly less sense of personal accomplishment than did Subtype A nurses. When the critical differences are examined, it appears that Subtype C nurses were lower in perspective-taking ($t(105df) = 10.36$, $p < .01$), lower in empathic concern ($t(105df) = 4.72$, $p < .01$), and higher in the tendency to be personally distressed ($t(105df) = -3.90$, $p < .01$). While it is not clear if one or all of these differences actually cause the difference in a sense of personal accomplishment on the job, it seems that the ability to take the perspective of others and be sympathetic to their situations, but without becoming personally distressed by them is what is related to more of a sense of personal accomplishment on the job.

In order to test the hypothesis that there would be higher levels of empathy among nurses in the moderate and chronic units than in the acute units, a Pearson chi-square test of association was employed to test the

relationship between the three subtypes of dispositional empathy and emotional separation profiles and the seven types of medical units. No significant association was found between the subtypes and the types of units nor did any of the frequencies in the cells of the 3 x 7 contingency table exceed what would be expected by chance.

CHAPTER V

DISCUSSION

Overview of Findings

The major finding of this study was that individual differences in dispositional empathy, the maintenance of emotional separation, and affect intensity do influence the stress-burnout relationship. Fantasy empathy and the ability to maintain emotional separation operated as moderator variables in the relationship between stress and emotional exhaustion. Perspective-taking was a moderator between stress and depersonalized attitudes toward patients. Empathic concern functioned as a moderator between stress and personal accomplishment on the job. A direct effects model applied to many of the other empathy variables in predicting burnout measures of exhaustion, depersonalization, and personal accomplishment.

Affect intensity was a moderator variable for the relationship between burnout measures of exhaustion and fantasy empathy, perspective-taking ability, the tendency to be personally distressed in emergency situations, and the ability to maintain emotional separation from others. In each of these cases, affect intensity tended to magnify the positive or negative effects of each type of empathy.

The second major finding of this study was that perspective-taking ability and the tendency to be personally distressed in emergency situations was associated with working on particular types of units. Nurses on the emergency, critical care, and oncology units had the highest levels on perspective-taking ability while nurses in obstetrics, NICU, medical-surgical, and surgery units had significantly lower levels of perspective-taking ability. Emergency room nurses had the lowest tendency to be personally distressed, medical-surgical and critical care nurses had somewhat higher levels of the tendency to be personally distressed, and nurses in obstetrics, NICU, oncology, and surgery had the highest levels compared to the other nurses on the tendency to be personally distressed in emergency situations.

Other findings included the following. Nurses as a group had a significantly lower level of affect intensity than the general population. Affect intensity also appears to decrease somewhat with age and the number of years one has been a nurse. Dispositional empathy is related to burnout, but two dimensions of empathy were associated with higher burnout while two dimensions of empathy were associated with lower burnout. Higher levels of fantasy empathy and the tendency to be personally distressed were associated with increased emotional, physical, and mental exhaustion and a decreased sense of

personal accomplishment, while higher levels of perspective-taking ability were related to lower levels of exhaustion, decreased depersonalized attitudes toward patients, and an increased sense of personal accomplishment. High empathic concern was not related to exhaustion but was related to less depersonalized attitudes toward patients. Lack of an ability to maintain emotional separation from others was related to increased exhaustion, increased depersonalization toward patients, and a decreased sense of personal accomplishment. Fantasy empathy was found to decrease somewhat with age and years of experience; and empathic concern was also found to decrease somewhat with years of experience. Job satisfaction interacted with perspective-taking ability in predicting depersonalized attitudes toward patients, and job satisfaction also interacted with perceived stress in predicting a measure of general exhaustion. Finally, three types of nurses in terms of levels of empathy and emotional separation were observed and which were predictive of several burnout symptoms.

Individual Differences and the Stress-Burnout Relationship

One of the major findings of this study was that individual differences in fantasy empathy, perspective-taking, empathic concern, and the ability to maintain emotional separation from others, do function as moderator variables influencing the relationship between nursing

stress and burnout.

First, in terms of fantasy empathy, or the tendency to transpose oneself into fictional characters in movies, books, etc., nurse with higher fantasy empathy tended to have higher levels of emotional exhaustion than those having less fantasy empathy. Furthermore, this tendency is intensified at higher levels of nursing stress in which both nurses with high and low fantasy empathy have more emotional exhaustion, but with the additional finding that high fantasy empathy in combination with high levels of nursing stress is related to more emotional exhaustion than would be expected compared to nurses with high fantasy empathy who are experiencing lower levels of nursing stress.

Second, empathic concern was a moderator between nursing stress and the sense of personal accomplishment on the job. At low levels of nursing stress, nurses with low scores on empathic concern had a greater sense of personal accomplishment than nurses who scored higher in empathic concern. But at high levels of nursing stress, the reversed occurred: nurses who scored high in empathic concern tended to report more of a sense of personal accomplishment than nurses with low scores in empathic concern.

Third, perspective-taking ability was found to be a moderator between nursing stress and the level of

depersonalization nurses felt toward their patients. At low levels of nursing stress, nurses with both high and low levels of perspective-taking ability have relatively similar levels of depersonalizing attitudes. But at high levels of nursing stress, nurses with high perspective-taking ability report less depersonalized attitudes than nurses with low perspective-taking ability.

Finally, the ability to maintain emotional separation from others is a moderator variable influencing the way nursing stress is related to emotional exhaustion. At low levels of nursing stress, nurses with high and low levels in the ability to maintain emotional separation from others have relatively the same degree of emotional exhaustion. but in situations in which there is a high amount of nursing stress, nurses who have a lack of emotional separation are more emotionally exhausted than those who have more of the ability to maintain emotional separation.

A direct effects or additive model described the ways in which the other dispositional empathy variables, affect intensity, and the ability to maintain emotional separation, affect the relationship between stress and measures of different components of burnout. Nursing stress due to workload, death and dying, uncertainty regarding treatment, inadequate preparation, lack of support, conflict with physicians, and conflict with other

nurses were positively correlated with scales measuring burnout in terms of emotional exhaustion, depersonalized attitudes toward patients, and a reduced sense of personal accomplishment. To a lesser but still significant degree, a number of the individual differences contributed in an additive manner to the relationship between stress and burnout. That is, the frequency of general stressors found in a nursing environment were most related to various measure of burnout. But the following characteristics of nurses related to an increased experience of burnout than that due just to the frequency of nursing stresses alone.

Specifically, the following traits and characteristics are associated with increased emotional exhaustion in a direct effects or additive manner:

a. The tendency to become distressed and uncomfortable in emergency situations (High Personal Distress empathy).

b. The lack of the ability to understand the perspectives of others (Low Perspective-Taking empathy).

The following traits and characteristics are associated with having depersonalized attitudes toward patients:

a. The tendency to transpose oneself into fictional characters in movies, books, etc. (High Fantasy

Empathy).

b. The tendency not to have warm feelings of concern for people in difficulty (Low Empathic Concern).

c. Lack of the ability to maintain emotional separation from others (Low Maintenance of Emotional Separation).

The following traits and characteristics are associated with having an increased sense of personal accomplishment on the job:

a. The tendency to be able to understand the perspective of others (High Perspective-Taking).

b. The tendency not to become distressed and uncomfortable in emergency situations (Personal Distress).

c. Having higher affect intensity.

Contrary to what was expected affect intensity did not relate to the level of emotional exhaustion or the depersonalization of patients; that is, high levels of affect intensity did not appear to relate to increasing levels of burnout. However, affect intensity did correlate positively with a greater sense of personal accomplishment on the job. In other words, the tendency to experience feelings more intensely than others do may function as a means of lessening or preventing burnout. Such individuals may experience the successes of their jobs more intensely than those who have lower affect

intensity and therefore experience less burnout than those with lower affect intensity.

When affect intensity was analyzed in combination with other variables, small but significant interactions were found between affect intensity and the following variables in predicting burnout: the tendency to be personally distressed, fantasy empathy, perspective-taking, and the maintenance of emotional separation. In general, affect intensity magnified the relationship between the empathy variables and measures of burnout which focused on exhaustion. The tendency to be personally distressed was related to significantly more emotional, physical, and mental exhaustion for high affect intensity nurses than for nurses lower in affect intensity. Also, low personal distress in combination with high affect intensity was related to lower emotional exhaustion than when low personal distress was combined with low affect intensity. The same amplifying effect of an empathy construct was found for the maintenance of emotional separation construct. High affect intensity was related to an increase of emotional exhaustion for nurses with lower maintenance of emotional separation and a decrease in emotional exhaustion for those higher in the ability to maintain emotional separation when compared to how lower affect intensity and emotional separation were related to emotional exhaustion. This also occurred for

perspective-taking empathy which is more cognitive in nature. Higher affect intensity was associated with higher emotional exhaustion for low perspective-takers and to lower emotional exhaustion for high perspective-takers. Finally, affect intensity also interacted with fantasy empathy similarly, but in a less pronounced manner. Low affect intensity was associated with less emotional exhaustion for low fantasy empathy nurses when compared to low fantasy empathy nurses at high affect intensity. In conclusion, affect intensity appears to increase the respective positive or negative effects of the empathy variables relationships with the exhaustion component of burnout.

No study has previously investigated the role of affect intensity in stress appraisal and burnout. This study has provided new evidence that the construct of affect intensity developed by Larsen (1984) has what seems to be an amplifying effect with other personality constructs. Affect intensity was found to correlate positively with the more affective subscales of the Davis Interpersonal Reactivity Index and negatively with the more cognitive Perspective-Taking subscale. Affect intensity is related to the perception of emotional stimuli (Larsen, Diener, and Cropanzano, 1987) and is also related to the tendency to exaggerate the emotional states of others (Larsen & Diener, 1987). Thus, it follows that

it would make the empathic experience of another's negative feelings possibly more emotionally taxing and thus more likely to lead to emotional exhaustion as a symptom of burnout. The above findings also add support to Larsen's (1984) theory that affect intensity should be understood as a temperament because it operates as a general style of emotional experience and response rather than a personality construct which focuses on a particular emotion. By itself, affect intensity did not correlate with most measures of burnout, but it did influence how other variables were related to burnout.

The finding that the individual differences in dispositional empathy have moderator and direct effects on the stress-burnout relationship is consistent with Lazarus and Folkman (1984) that individual appraisal of stress is partly influenced by individual differences. Past research with nurses has provided evidence of how the appraisal of stress is related to the hardiness personality construct (McCranie, Lambert, Lambert, 1987; Pagana, 1990; Topf, 1989) personality variables (Numerof & Abrams, 1984), and to nurses' coping styles (Rosenthal, Schmid, & Black, 1989). Research has also shown how burnout is related to hardiness (McCranie, Lambert, & Lambert, 1987, Topf, 1989). The findings in this study also add to the general psychological research literature in terms of how individual differences influence the

appraisal of stress and coping styles (Anderson, 1977; Chan, 1977; Denny & Frisch, 1981; Fleishman, 1984; McCrae & Costa, 1986; Parkes, 1984, 1986; Parasuraman & Cleek, 1984; Pearlin & Schooler, 1978; Pittner & Houston, 1980; Vickers, Hervig, Rahe, & Rosenman, 1981; Vingerhoets & Flohr, 1984; Wheaton, 1983).

Individual Differences and Type of Nursing Unit

The second major finding was there were some differences in certain components of dispositional empathy being more associated with working in certain types of units than others. It was found that Emergency Room nurses tended to have the lowest amount of personal distress empathy. Nurses with moderate levels of personal distress empathy tended to be working on medical-surgical and critical care units, and nurses with the highest levels of personal distress empathy tended to be associated with working on the obstetrics, NICU, oncology, and surgery units.

Perspective-taking empathy, an aspect of dispositional empathy focusing on the cognitive tendencies to take the perspective of others, was also associated with working on particular units. Nurses with higher levels of perspective-taking tended to work on the emergency, critical care, and oncology units while nurses with lower levels of perspective-taking tend to work on obstetrics, medical-surgical, surgery, and newborn

intensive care units.

This finding is supportive of the theory that nurse with particular personality traits are attracted to working on certain types of units and is consistent with research which has found differences among units in terms of state and trait anxiety (Gray-Toft & Anderson, 1981; Johnson, 1979) the distinct personality profiles of hospice nurses compared to other types of nurses (Amenta, 1984; Gray-Toft & Anderson, 1981), and the personality profiles of critical care nurses (Levine, Wilson, & Guido, 1988).

Nurses' Affect Intensity Level Compared to the General Population

Contrary to what was predicted based on the beginning conceptualizations of affect intensity, the mean affect intensity score for the nurses in this sample were significantly lower than that found for more general samples of adults. When only female nurses were compared with the female subjects in other studies, they, too, were found to have significantly lower affect intensity than more general female samples.

This finding in hindsight does seem consistent with the present understanding of the affect intensity construct. The hypothesis that nurses' affect intensity would be higher than that of the general population was based on the assumption that nurses are more active and

lead more stimulating lives. But, Larsen, Diener, and Emmons (1986) found that people with high affect intensity did not seek out more emotion-producing situations than people with low affect intensity even though they react more intensely to the same situations. Larsen and Diener (1987) have stated that people who are high in affect intensity experience strong negative and positive emotions regularly and this seems to result in somatic and psychological negative effects. Thus, it would seem advantageous for nurses to have more of an even-keeled temperament in handling the diverse emotion-provoking events typical of nursing.

Affect Intensity and Age

Consistent with past research, affect intensity was found to have small negative correlations with age, the numbers of years as a nurse, and the number of years employed at the same hospital. Affect intensity decreases somewhat with age and experience as a nurse. It was found that the correlation between affect intensity and the number of years as a nurse was significantly greater than the correlation between affect intensity and age. Such a higher correlation suggests that possibly the work of nursing contributes to a decrease in affect intensity beyond what would be expected by age alone. Besides affect intensity, other trait-like variables also showed a similar pattern. Fantasy empathy, one of the four

dimensions of dispositional empathy, was found to have small but significant negative correlations with age, the number of years as a nurse, and the number of years employed on the same unit. Empathic concern was found to be negatively correlated with years as a nurse and years employed at the same hospital and the same unit; but it did not correlate with age. Given the same pattern with empathic concern as with affect intensity, it is possible that the experience of nursing contributes in an additive fashion to the decrease of affect intensity, empathic concern, and even fantasy empathy. The many years of emotionally taxing work may lead to a desensitizing effect. However, such correlational research cannot be used to make definitive causal claims, but further research regarding this seems warranted.

The Relationship Between Dispositional Empathy and Burnout

In terms of the relationship between dispositional empathy and burnout, it was found that using all four subscales of the Interpersonal Reactivity Index could provide further explication of exactly what dimensions of dispositional empathy relate to burnout and in what manner. The Personal Distress subscale measures the type of empathy that results in becoming distraught or upset in emergency situations. This tendency to be personally distressed was found to relate to increased emotional, mental, and physical exhaustion and to a decreased sense

of personal accomplishment. Such a tendency to be distressed is obviously emotionally taxing and if it continued over a long period of time on a particular type of nursing unit, it would lead to having less energy to do that work. It also makes sense that this tendency to be distressed could detract from a sense of accomplishment in a particular type of nursing. There is a sense of loss of emotional control which would diminish the sense of gratification in managing a situation with equanimity and composure. The fact that the tendency to be personally distressed does not correlate with depersonalized attitudes toward patients seems consistent in that depersonalization would involve a detached view of the patient thus blocking the tendency to become upset by what is happening to a patient. It may also be that depersonalization occurs during a more advanced stage of burnout while exhaustion and reduced personal accomplishment are symptoms of the initial phases of burnout. For example, Cherniss (1980) theorizes that emotional detachment, cynicism, rigidity, and apathy are part of a later stage of burnout developed in order to defend against the effects of the prolonged stress and strain in the earlier stages of burnout.

Fantasy empathy or the tendency to transpose oneself into fictional characters had a similar pattern of relationships with burnout measures except that it

correlated positively with depersonalized attitudes toward patients. The tendency to see oneself in fictional characters while reading a book or watching a movie was related to increased emotional, mental, and physical exhaustion, increased depersonalized attitudes toward patients, and a reduced sense of personal accomplishment. Like the tendency to be personally distressed, it would seem emotionally draining to be prone to putting oneself in the dramatic series of events which might unfold in a hospital setting. A reduced sense of personal accomplishment would make sense to accompany this tendency in that always putting oneself in the place of the patient could produce frequent feelings of anxiety, fear, despair, and tension which make it difficult to feel accomplishment. In other words, such a nurse would have lost a sense of her or him self as distinct from what is occurring to a patient and thus be focused on what is happening in the patient's experience and not on what the nurse is doing to improve or manage the situation. It is not clear, however, why fantasy empathy would correlate positively with depersonalization when the tendency to be personally distressed in an emergency situation is not correlated with it. It may be that those who are high in fantasy empathy tend to employ depersonalized attitudes toward patients as a defense against further emotional drain resulting from transposing oneself. Further

research is needed to explain why this would occur for those high in fantasy empathy when it does not appear to occur for those high in the tendency to be personally distressed.

Empathic concern, or the tendency to have warm feelings of concern for people in difficult situations, was not found to correlate with emotional, mental, and physical exhaustion. Instead, the tendency to have warm feelings of concern for others was related to an increased sense of personal accomplishment and less depersonalized attitudes toward patients. Miller, Stiff, and Ellis (1988) found similar correlations, but they also found that empathic concern was negatively correlated with Emotional Exhaustion. Even though that finding differs from this study's finding, it still is clear that empathic concern is associated with less burnout.

This type of empathy appears to be desirable and beneficial to have in nursing. Not only does it appear unrelated to general exhaustion in this study, but it is related to a more sensitive, understanding, and personal attitude toward patients which is the very quality which has been found to be related to patients' motivation to get better, reduction of tension for patients, and increased satisfaction with the healthcare services provided. (Squier, 1990). What is critical in this, however, is that this quality be communicated or expressed

to patients and this empathy scale measures the level of dispositional empathy, not necessarily how effectively it is communicated. However, Miller, Stiff, and Ellis (1988) found that empathic concern did influence the level of communicative responsiveness.

Recent research by Smith (1992) on the Empathic Concern trait (which they call sympathy) found that people who have high scores in Empathic Concern were more likely to choose to enter sympathy-arousing situations as long as they felt some control over the situation and as long as they expected to be able to help the distressed person. Furthermore, people high in empathic concern tend to view such situations as positive or attractive. As Smith (1992) speculated, "sympathizers' tastes for controlled or expressible sympathy may well derive from the anticipation of a moving and largely pleasant experience"; and, "the promise of a resolution provides for sympathy experienced less as prolonged sorrow and concern than as a prolonged sorrow and concern than as a pleasant sense of attachment to the person in need." (p. 215). Thus, not only is high empathic concern beneficial for patients, but also exercising it may be a source of gratification and satisfaction for nurses and therefore unrelated to, or a buffer against, burnout.

Perspective-Taking is the cognitive dimension of empathy in which one has the ability to understand the

perspectives of others. In this study, having more of the ability to take the perspective of others was related to decreased emotional, mental, and physical exhaustion, less depersonalized attitudes toward patients, and a greater sense of personal accomplishment in one's work. Like empathic concern, this is a dimension of empathy in which having higher levels of it is associated with having less burnout. It is not clear why empathic concern and perspective-taking empathy would be associated with less of the symptoms of burnout while personal distress and fantasy empathy is related to an increased experience of the symptoms of burnout. One possibility is that in empathic-concern and perspective-taking, there appears to be a clear sense of self separate from the patient while in personal distress and fantasy empathy there appears to be some type of loss of oneself into the experience of the other.

To summarize, using a multidimensional construct of dispositional empathy clarifies more exactly what types of empathy might exacerbate the burnout process and what types of empathy are associated with a lack of the symptoms of burnout. Past research has not used such a multidimensional approach. Williams (1989) found that measures of emotional empathy and fantasy empathy were positively correlated with emotional exhaustion and personal accomplishment. Corcoran (1989) used a measure

of fantasy empathy and found a positive correlation with burnout. Miller, Stiff, and Ellis (1988) used only the Empathic Concern subscale of the Interpersonal Reactivity Index and, using a path analysis, found that it positively related to communicative responsiveness which in turn was a negative predictor of depersonalization and a positive predictor of personal accomplishment. This study has provided new evidence that the Davis (1983) measure of dispositional empathy using a multidimensional construct delineates differential relationships with measures of burnout and thereby clarifies what dimensions of empathy can be problematic and which beneficial.

It is important to note in the relationship between the dimensions of dispositional empathy and burnout that this is correlational research and therefore one must be quite tentative about causal claims. Because the empathy scales used in this study have been understood and tested to represent more stable trait-like construct of empathy, a case can be made for stating that various symptoms of burnout result from certain dimensions of empathy. But it is possible that the four components of dispositional empathy might be affected by the process of burnout. Or, it is possible that dispositional empathy is not the causal agent but the by-product of another variable's influence. Further research including longitudinal studies are necessary to answer these questions.

The Relationship Between Affect Intensity and Empathy

In terms of the relationship of affect intensity and dispositional empathy, it was found that affect intensity was positively correlated with the more affective subscales of the Interpersonal Reactivity Index (i.e. Empathic Concern, Fantasy Empathy, and Personal Distress) and negatively correlated with the more cognitive subscale of Perspective-Taking. Experiencing feelings more intensely is associated with increased empathic concern, fantasy empathy, and the tendency to be personally distressed, than those who experience feelings less intensely. But having higher ability in understanding the perspective of others is associated with experiencing feelings less intensely than those who have less of the ability to take the perspective of others. This pattern of correlations is consistent with previous research that demonstrated how Empathic Concern, Fantasy Empathy, and Personal Distress tap the more affective dimensions of personality while Perspective-Taking measures more of a cognitive dimension. What was not expected was that Perspective-Taking would be negatively correlated with affect intensity. This implies that the ability to take the point of view of another would be impeded by a tendency to feel emotions very intensely. This is consistent with past research, however. People high in affect intensity have been found to perceive the average

person as having intense emotional reactivity (Larsen & Diener, 1987) and they tend to add more to a scene in terms of fantasy elaboration than low affectively intense individuals (Larsen, Diener, & Cropanzano, 1987) which means that they might be exaggerating the feelings of others in certain cases. Also, high affect intensity is associated with the cognitive operations of generalization, personalization, and selective abstraction (Larsen, Diener, & Cropanzano, 1987). Thus, the construct of perspective-taking appears to represent a tendency to understand the perspective of others with encumbered by the cognitive distortions people high in affect intensity may be prone to make.

Empathy Profiles of Nurses

Another finding was that there appear to be three different types of nurses. Focusing only on the 162 fulltime nurses in this sample, it was found that one could distinguish among three types of nurses based on the levels of trait empathy (Perspective-Taking, Fantasy Empathy, Empathic Concern, Personal Distress), and the ability to maintain emotional separation from others (Maintenance of Emotional Separation Scale). Below are the three profiles of these types of nurses with the number of nurses in each type:

n = 51 A. High Perspective-Taking
High Fantasy Empathy
High Empathic Concern
Average Personal Distress
Lack of ability to maintain Emotional Separation

n = 55 B. Average Perspective-Taking
Low Fantasy Empathy
Low Empathic Concern
Low Personal Distress
High ability to maintain Emotional Separation

n = 56 C. Low Perspective-Taking
Average Fantasy Empathy
Average Empathic Concern
High Personal Distress
Lack of ability to maintain Emotional Separation

Subtype C nurses were more exhausted and felt less personal accomplishment than other subtypes. Looking more closely at the profiles (see Figure 14), subtype C nurses tended to be more physically, mentally, and emotionally exhausted than Subtype A and B nurses. Looking just at the similarities in comparisons with Subtypes A and B, Subtype C nurses were lower in perspective-taking ability, and higher in their tendency to be personally distressed.

Subtypes A and B are not significantly different in terms of exhaustion, but they are quite different in terms of their empathy profiles. Subtype A has higher levels than Subtype B on all four subscales of the Interpersonal Reactivity Index. Subtype A has a lower ability to maintain emotional separation than Subtype B. While it is understandable that Subtype B nurses who have lower levels of dispositional empathy and a high ability to maintain emotional separation, it is not as obvious why Subtype A with higher levels of dispositional empathy and a lower ability to maintain emotional separation are not significantly different from Subtype B nurses in exhaustion. Because fantasy empathy was positively correlated with exhaustion and empathic concern was not correlated with exhaustion, these variables would not seem to be candidates for explaining how the lower ability to maintain emotional separation still result in the same level of exhaustion as Subtype B nurses. The deduction, then, is that perspective-taking ability balances this lower ability to maintain emotional separation.

Subtype C nurses reported significantly less sense of personal accomplishment than did Subtype A nurses. When the critical differences are examined, it appears that Subtype C nurses were lower in perspective-taking, lower in empathic concern, and higher in the tendency to be personally distressed. While it is not clear if one or

all of these differences actually cause the difference in a sense of personal accomplishment on the job, it seems that the ability to take the perspective of others and be sympathetic to their situations, but without becoming personally distressed by them is what is related to more of a sense of personal accomplishment on the job.

Job and Career Satisfaction

Job and career satisfaction appear to play an important role in influencing how at least one empathy variable moderates the stress-burnout relationship. A small but significant interaction was found between perspective-taking ability and job satisfaction. Nurses who were higher in job satisfaction tended to have less depersonalized attitudes toward patients than those with low job satisfaction. But also high perspective-takers who had high job satisfaction tended to have even somewhat lower depersonalized attitudes than what would occur with high perspective-taking alone. In other words, high job satisfaction appears to magnify the benefits of perspective-taking ability in terms of less depersonalized attitudes toward patients.

When job and career satisfaction were tested as moderators themselves in the stress-burnout relationship, job satisfaction was found to moderate the relationship between nursing stress and the level of physical, mental, and emotional exhaustion as measured by the Tedium Scale.

At low levels of nursing stress, there was no difference in exhaustion between those who were low and high in job satisfaction. But at high levels of nursing stress, nurses with low job satisfaction tended to report more exhaustion than those with high job satisfaction. For other measures of burnout, it was found that either job or career satisfaction had additive effects with nursing stress. That is, in addition to how nursing stress is related to higher burnout, having low job or career satisfaction is associated with more exhaustion and less personal accomplishment than those higher in job or career satisfaction.

There are two cautionary remarks which must be made regarding how job and career satisfaction influence the stress-burnout relationship. The first is that because of the correlational nature of this research study, it is not clear if job and career satisfaction are the causes or the results of higher burnout. Second, the job and career satisfaction variables were only single items and therefore their validity is unclear. They were found to have such high correlations with emotional exhaustion that it is possible that they are actually measuring emotional exhaustion and not satisfaction. Further research would need to confirm the above findings by using measures of job and career satisfaction which have been tested for their validity and reliability.

Limitations of the Study

One of the problems of the study is that it is based measures done at one point in time using correlational and multiple regression techniques. Thus, it is not possible to make definitive causal statements about the relationships among the variables. It can be argued that some causal statements might be proposed based on the fact that some of the variables are traits or temperaments, and therefore stable over time (e.g. dispositional empathy, affect intensity). However, such causal statements can only be made tentatively and tested in longitudinal research designs. Furthermore, the variables advanced as being traits or temperaments show some change over time and more research is necessary to understand how and why this occurs. There is the possibility that the experience of nursing may influence these.

There are possible problems due to the sole use of self-report measures in this study. Schauboeck, Ganster, and Fox (1992) found evidence that trait negative affectivity may introduce false observed correlations between self-report measures of stress and strain. As they explain, "Because individuals who have a tendency toward aversive mood states interpret stimuli more negatively, their reports of stressors and stress outcomes reflect a systematic negative bias" (Schauboeck et al., 1992, p. 322). It is possible that in this study there

were dispositional effects on the self-reporting of stress and burnout. One of these possible dispositional factors is negative affectivity. Another is affect intensity. Affect intensity has been found to correlate positively with yeasaying (Goldsmith & Walters, 1989). Yeasayers are more likely to agree, to rate things highly which impress them, and to be uncritical and enthusiastic. Thus, it is possible that affect intensity may have inflated the way nurses reported their stress and feelings of burnout. Yet, in validity studies, the effect of the Affect Intensity Measure still holds when yeasaying is controlled (Goldsmith & Walters, 1989). Furthermore, Goldsmith & Walters (1989) have argued that yeasaying has been found to relate to individuals who tend to be extroverted, impulsively overexpressive, excitable, active, and who seek out novelty and external stimulation, and these are characteristics of individuals with high affect intensity. Thus, while affect intensity can certainly have dispositional effects on self-report measures, this is not necessarily an artifact nor are the findings involving affect intensity necessarily spurious. The tendency to yeasay is merely reflective of what affectively intense individuals do in their tendency to experience affect intensely; that is, in a sense, they are "saying yes" or acceding to having emotionally-provoking situations affect them more intensely than others are.

It had been expected that a mediation model would explain how dispositional empathy and affect intensity influence the stress-burnout relationship based on Maslach's (1982) theory of burnout. There may be a number of reasons why this was not detected if this theory is indeed true. One is that the level of burnout was generally in the average range compared to the norms for the Maslach Burnout Inventory (Maslach & Jackson, 1986) and the Nursing Stress Scale means were lower than found in a number of other studies. Second, the response rate of 37.7% makes achieving a truly representative sample difficult. It is more likely that more motivated nurses who are invested in their work and in research responded to the survey. More burned out and apathetic nurses, about whom the study is most concerned, would tend not to respond. Third, a restricted range of scores was evident for the Affect Intensity Measure as well as other measures.

A fourth reason why a mediation model may not have been found is that the Nursing Stress Scale may not have measured perceived nursing stress well. The Nursing Stress Scale measures the frequency with which 34 types of nursing stressors occur. One problem is that it does not measure the perceived intensity of those stressors. The Nursing Stress Scale originally did have intensity ratings included. However, a number of problems have been noted

in using this including reliability problems (J. Anderson, personal communication, September 18 & 26). A second problem is that stress specific to a particular type of unit can be underestimated. For example, specialized unit may have stressors unique to it when compared to a medical-surgical unit which would have a wide range of stressors. In the present study, the emergency unit has the lowest overall Nursing Stress Scale score when compared to most of the other types of units. It is not clear if this is because the overall stress is indeed less than other types of units or if it is actually more stressful and the items on the Nursing Stress Scale do not include those distinctive stressors or the intensity of them. Finally, it was noted in the results that the mean Nursing Stress Scale scores are lower than some other research studies which have used this scale. In short, these three problems may have led to lower overall stress scores which would make the tests for the mediation model more difficult to show significance if indeed the mediation model is actually operating.

While moderator models were supported in this study, there are possible problems regarding this. One is the multicollinearity of the independent variables (Cronbach, 1987; Pedhazur,1982). While interactions between variables were detected, it is possible that their magnitude is underestimated due to multicollinearity of

variables. Also, other moderator variable relationships may have gone undetected because of the multicollinearity.

Second, Hull, Tedlie, and Lehn (1992) point out that one problem in researching moderator variables is that there may plausible alternative variables which are operating which are actually causing the moderator variables being studied. It is therefore possible that there are other variables which are responsible for the moderators found in this study including affect intensity, and the measures of dispositional empathy.

Implications of this Dissertation Study

This study has important implications for the field of nursing as well as the field of stress and burnout research. The first is that it is more clear how affect intensity and dispositional empathy influence the stress-burnout relationship. No study appears to have been done using affect intensity and the entire Interpersonal Reactivity Index in order to study how stress is related to burnout. Such results may be used in nursing training as well as for those who are currently working as nurses. Student nurses and nurses already in the field could become more aware of their own levels of affect intensity, dispositional empathy, and their ability to maintain emotional separation and thereby choose to do the types of nursing which would be most agreeable to them in terms of stressfulness. It could be useful to nurses entering the

field in terms of anticipating and dealing with acclimation to a particular type of nursing. Also, awareness of these personality factors might be useful in terms of learning particular stress management techniques which would help nurses compensate for vulnerabilities these individual differences would create; in this way, they might be more satisfied, less prone to burnout symptoms, and thus less likely to leave the field of nursing. These findings can be applied in nursing school advisement, in-services for nurses, or individual counseling.

This study also has clarified what dimensions of empathy are particularly related to the occurrence of burnout. It was found that fantasy empathy, the tendency to become personally distressed in emergency situations, and the lack of emotional separation are the characteristics which are related to burnout symptoms. However, empathic concern and the ability to take the perspective of others are not related to burnout or high levels of them are even associated with less burnout. Recall that research has shown the importance of nurse empathy in helping patients recover faster and cope better with their health problems as well as improving their satisfaction with the health care (Squier, 1990). Also, people high in empathic concern seem to gain some type of satisfaction in exercising this trait (Smith, 1992).

Thus, the goal is not to lessen empathy but to find the right balance in experiencing one's feelings and thoughts in doing nursing care. The use of the Davis (1983) Interpersonal Reactivity Index and the Corcoran (1982) Maintenance of Emotional Separation Scale in the study of stress and burnout helps to provide the theoretical clarification of empathy's role in nursing which Alligood (1992) has explained has been needed in empathy research.

More generally, the findings of this study have potential implications for understanding stress and burnout in all human service occupations. It has added more information about how individual differences influence how stress is perceived and related to burnout. In terms of career counseling, the study has provided more data about the role of affective factors in selecting and continuing in a particular human service job or career, in this case, the field of nursing.

Considerations for Future Research

Future research needs to be continued on this subject in order to confirm and improve on the above findings. A longitudinal research design would be most helpful in ascertaining the causal mechanisms operating with regard to affect intensity and dispositional empathy. Other studies might use another measure of perceived stress as well as job satisfaction in order to improve on the limitations of this study. The dispositional variables

used in this study could also be studied for their relationship to the coping styles used. Finally, this study could be replicated using other human service professions in order to see if the dynamics of empathy and affect intensity are similar to nursing.

APPENDIX A

Cover Letter Accompanying the Nursing Experience Survey

LOYOLA
UNIVERSITY
CHICAGO

WATER TOWER CAMPUS

Water Tower Campus
820 North Michigan Avenue
Chicago, Illinois 60611
Telephone: (312) 915-6000

Dear Registered Nurse,

As a nurse, you encounter a wide range of stressors in your work. The purpose of this dissertation research study, in which I am inviting you to participate, is to look at the emotional experience of nurses in their work and how this relates to stress and burnout.

My hope is that your participation will have direct and indirect benefits for you as a professional. Directly, I will be presenting the results to your unit providing an opportunity to learn more about how nurses experience stress in order to improve ways of dealing with it. The indirect benefit is that this study will advance the research on nursing stress and contribute to an understanding of what you and other nurses desire in their careers.

You have been given an envelope with your name on the outside and enclosed you will find the Nursing Experience Survey and postage-paid envelope. Your responses to the survey are strictly confidential. There is a code number on the outside of your survey which is used to send a follow-up reminder to anyone who might have forgotten to fill it out. In order to guarantee the confidentiality of your responses, your hospital does not and will not know your code number. Information about whether you participated will not be known by your hospital and any presentations or articles about this study will also keep the hospital identity confidential. If you are in any way uncomfortable with this, I invite you to tear off the corner with the code number which will then keep your survey responses anonymous.

There are no known risks involved in this study nor is any deception involved. Your participation is completely voluntary and confidential. If at any time you feel uncomfortable with a question on the survey, you are free to skip that question and you are free to withdraw from the study at any time. Your completion of the survey will indicate your informed consent to participate in this research.

The survey takes about 40 minutes to complete. I would appreciate that you return your survey to me via Loyola University as soon as possible and no later than November 20. For your convenience, I have enclosed a postage-paid return envelope.

The chairperson of my dissertation research committee is Dr. Steven Brown Ph.D., along with Dr. Donna Rankin D.Nurs.Sc., and Dr. Marilyn Susman Ph.D., all of whom are faculty at Loyola University of Chicago.

If you have any questions, concerns, or comments, I would invite you to contact me at my home phone: (219)233-3168. Thank you very much for your participation.

Sincerely,

Dominic O. Vachon Ph.D.(Cand.)
Loyola University of Chicago

APPENDIX B

Reminder Letter for Survey Participation

LOYOLA
UNIVERSITY
CHICAGO

Department of Counseling & Educational Psychology

Water Tower Campus
820 North Michigan Avenue
Chicago, Illinois 60611
Telephone: (312) 915-6045

Dear Registered Nurse,

I am writing to thank those of you who completed and returned the Nursing Experience Survey which was sent to you several weeks ago. Your participation is very much appreciated and I hope you will receive some benefit from this study when the results are given to you early in 1992. My plan is to have the results completed by early February and to share and discuss these with you either by means of a written summary or verbal presentation, whichever your hospital and unit prefer.

For those of you who have not had a chance to fill out the survey, your participation is very important. Your involvement in this research will make the results more representative and accurate of nurses who work in your unit. As I said before, your responses are completely confidential. I know your schedule must be very busy. If possible, would you return your survey by December 23 or at your earliest convenience? If for some reason you have misplaced your survey, I would be glad to send you another. Just contact me by calling (219-233-3168) or by mail through Loyola University.

Happy Holidays,

Sincerely,

Dominic O. Vachon Ph.D.(Cand.)
Loyola University of Chicago

APPENDIX C

Cover Letter Accompanying the Nursing Experience Survey for Hospital C

LOYOLA
UNIVERSITY
CHICAGO

WATER TOWER CAMPUS

Water Tower Campus
820 North Michigan Avenue
Chicago, Illinois 60611
Telephone: (312) 915-6000

Dear Registered Nurse,

As a nurse, you encounter a wide range of stressors in your work. The purpose of this dissertation research study, in which I am inviting you to participate, is to look at the emotional experience of nurses in their work and how this relates to stress and burnout.

My hope is that your participation will have direct and indirect benefits for you as a professional. Directly, I will be presenting the results to your unit providing an opportunity to learn more about how nurses experience stress in order to improve ways of dealing with it. The indirect benefit is that this study will advance the research on nursing stress and contribute to an understanding of what you and other nurses desire in their careers.

You have been given an envelope in which you will find the Nursing Experience Survey and a postage-paid envelope. Your responses to the survey are anonymous and unidentifiable. In addition, any presentations or articles about this study will also keep the hospital identity confidential.

There are no known risks involved in this study nor is any deception involved. Your participation is completely voluntary and confidential. If at any time you feel uncomfortable with a question on the survey, you are free to skip that question and you are free to withdraw from the study at any time. Your completion of the survey will indicate your informed consent to participate in this research.

The survey takes about 40 minutes to complete. I would appreciate that you return your survey to me via Loyola University as soon as possible and no later than November 20. For your convenience, I have enclosed a postage-paid return envelope.

The chairperson of my dissertation research committee is Dr. Steven Brown Ph.D., along with Dr. Donna Rankin D.Nurs.Sc., and Dr. Marilyn Susman Ph.D., all of whom are faculty at Loyola University of Chicago.

If you have any questions, concerns, or comments, I would invite you to contact me at my home phone: (219)233-3168. Thank you very much for your participation.

Sincerely,

Dominic O. Vachon Ph.D.(Cand.)
Loyola University of Chicago

APPENDIX D

Demographic Information

Note: The contents of the survey instruments may be found in Appendices D through I, but, because of technological limitations, could not be reproduced in the exact format that was used in this study.

APPENDIX D

Demographic Information

1. On what type of nursing unit do you currently work? (Check one or write in the name of your unit.)
   __ Cardiology __ Maternal-Child __ Progressive
   __ Cardiac Recovery __ Medical-Surgical Care
   __ Emergency __ Oncology __ Surgery
   ___ Intensive Care_____ __ Other_____
   (Please Specify Type)

2. How long have you worked on this unit? _____ (years/months)

3. Which shift do you work? (Circle one)
   (1) Day (2) Evening (3) Night (4) Rotating

4. How long have you been employed at the present hospital/institution? _____
   (Years/months)

5. What is your work status? (Circle one)
   (1) Full time (2) Part time (3) Per diem

6. How long have you been a nurse? _____years.

7. What is your age? _____years old.

8. What is your gender? (Circle one) (1) Female (2) Male

9. What is your educational level? (Circle one)
   (1) Associate's (2) Bachelor's (3) Master's (4) Diploma in Nursing

10. What is your racial/ethnic background? (Circle one)
    (1) African-American (2) American Indian (3) Asian
    (4) Caucasian (5) Hispanic (6) Other
    _____(Please specify)

11. What is your marital status? (Circle one)
    (1) Single (2) Married (3) Divorced (4) Separated
    (5) Widowed

12. If you have children, how many do you have? _____

13. How many hours of direct contact with patients do you have per week? _____

(The following items will be rated on a 5-point Likert scale ranging from 'Not at all' to 'Very much".)

14. How satisfied are you with your present job?

15. How well-suited are you to work on your present unit (i.e. in terms of your personality, abilities, etc.)?

16. How satisfied are you with your career in nursing?

17. How fulfilled do you feel in your present work on this unit?

18. How much does the present health care delivery system in your unit interfere with the kind of patient care you would like to give?

19. How often have you considered leaving the field of nursing?

20. How much stress do you feel outside the work setting?

APPENDIX E

Nursing Stress Scale

Below is a list of situations that commonly occur on a hospital unit. For each item indicate how <u>often</u> on your present unit you have found the situations to be <u>stressful</u>. Your responses are strictly confidential.

Never	Occasionally	Frequently	Very Frequently
0	1	2	3

1. Breakdown of computer.
2. Criticism by a physician.
3. Performing procedures that patients experience as painful.
4. Feeling helpless in the case of a patient who fails to improve.
5. Conflict with a supervisor.
6. Listening or talking to a patient about his/her approaching death.
7. Lack of an opportunity to talk openly with other unit personnel about problems on the unit.
8. The death of a patient.
9. Conflict with a physician.
10. Fear of making a mistake in treating a patient.
11. Lack of an opportunity to share experiences and feelings with other personnel on the unit.
12. The death of a patient with whom you developed a close relationship.
13. Physician not being present when a patient dies.
14. Disagreement concerning the treatment of a patient.
15. Feeling inadequately prepared to help with the emotional needs of a patient's family.
16. Lack of an opportunity to express to other personnel on the unit my negative feelings toward patients.
17. Inadequate information from a physician regarding the medical condition of a patient.
18. Being asked a question by a patient for which I do not have a satisfactory answer.
19. Making a decision concerning a patient when the physician is unavailable.
20. Floating to other units that are short-staffed.
21. Watching a patient suffer.
22. Difficulty in working with a particular nurse (or nurses) outside the unit.
23. Feeling inadequately prepared to help with the emotional needs of a patient.
24. Criticism by a supervisor.
25. Unpredictable staffing and scheduling.
26. A physician ordering what appears to be inappropriate treatment for a patient.

27. Too many nonnursing tasks required, such as clerical work.
28. Not enough time to provide emotional support to a patient.
29. Difficulty in working with a particular nurse (or nurses) on the unit.
30. Not enough time to complete all of my nursing tasks.
31. A physician not being present in a medical emergency.
32. Not knowing what a patient or a patient's family ought to be told about the patient's condition and treatment.
33. Uncertainty regarding the operation and functioning of specialized equipment.
34. Not enough staff to adequately cover the unit.

Supplementary Items

35. Making decisions that affect peers (e.g., when nurse in charge).
36. Having to deal with a particularly difficult patient, for example, demanding, crying, combative.
37. Frequent changes in house staff.
38. Physical exertion in caring for patients.
39. Number of rapid decisions that must be made.
40. Large number of admissions at one time.
41. Conflict with a patient's family.
42. Preparing and/or transporting a body to the morgue.
43. Conflict with or delays in service from another department, for example, Pharmacy, Lab, Dietary, X-ray, Transportation.
44. Sensory overload due to multiple alarms, monitoring devices, noise level.
45. Multiple order changes.
46. Listening or talking to a family about a patient's critical condition, for example, possible brain damage, death, loss of a limb.
47. Unreasonable deadlines from a supervisor.
48. An emergency situation involving the life of a patient.
49. Inadequate communication from a supervisor regarding hospital policy, changes in procedures, announcements.
50. Inability to take scheduled breaks/vacations/days off.
51. Inadequate space to care for a patient.

APPENDIX F

Affect Intensity Measure Questionnaire

Directions: The following questions refer to emotional reactions to typical life-events. Please indicate how YOU react to these events by placing a number from the following scale in the blank space preceding each item. Please base your answers on how YOU react, not on how you think others react or how you think a person should react. (Reverse-keyed items are indicated by (-) in the blank space preceding each item.)

Never	Almost Never	Occasionally	Usually	Almost Always	Always
1	2	3	4	5	6

1. ___When I accomplish something difficult I feel delighted or elated.
2. ___When I feel happy it is a strong type of exuberance.
3. ___I enjoy being with other people very much.
4. ___I feel pretty bad when I tell a lie.
5. ___When I solve a small personal problem, I feel euphoric.
6. ___My emotions tend to be more intense than those of most people.
7. ___My happy moods are so strong that I feel like I'm "in heaven."
8. ___I get overly enthusiastic.
9. ___If I complete a task I thought was impossible, I am ecstatic.
10. ___My heart races at the anticipation of some exciting event.
11. ___Sad movies deeply touch me.
12. (-)When I'm happy it's a feeling of being untroubled and content rather than being zestful and aroused.
13. ___When I talk in front of a group for the first time my voice get shaky and my heart races.
14. ___When something good happens, I am usually much more jubilant than others.
15. ___My friends might say I'm emotional.
16. (-)The memories I like the most are of those of times when I felt content and peaceful rather than zestful and enthusiastic.
17. ___The sight of someone who is hurt badly affects me strongly.
18. ___When I'm feeling well it's easy for me to go from being in a good mood to being really joyful.
19. (-)"Calm and cool" could easily describe me.
20. ___When I'm happy I feel like I'm bursting with joy.
21. ___Seeing a picture of some violent car accident in a newspaper makes me feel sick to my stomach.
22. ___When I'm happy I feel like I'm bursting with joy.

23. ___When I receive an award I become overjoyed.
24. (-)When I succeed at something, my reaction is calm contentment.
25. ___When I do something wrong I have strong feelings of shame and guilt.
26. (-)I can remain calm even on the most trying days.
27. ___When things are going good I feel "on top of the world."
28. (-)When I get angry it's easy for me to still be rational and not overreact.
29. (-)When I know I have done something very well, I feel relaxed and content rather than excited and elated.
30. ___When I do feel anxiety it is normally very strong.
31. (-)My negative moods are mild in intensity.
32. ___When I am excited over something I want to share my feelings with everyone.
33. (-)When I feel happiness, it is a quiet type of contentment.
34. ___My friends would probably say I'm a tense or "high-strung" person.
35. ___When I'm happy I bubble over with energy.
36. ___When I feel guilty, this emotion is quite strong.
37. (-)I would characterize my happy moods as closer to contentment than to joy.
38. ___When someone compliments me, I get so happy I could "burst."
39. ___When I am nervous I get shaky all over.
40. (-)When I am happy the feeling is more like contentment and inner calm than one of exhilaration and excitement.

APPENDIX G

Davis Interpersonal Reactivity Index (IRI)

Respond to each of the following items by circling the appropriate number.

Please use the following scale:
0 = Does not describe me at all
1 = Does not describe me well
2 = Describes me somewhat
3 = Describes me well
4 = Describes me very well

1. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

0	1	2	3	4
Does not describe me very well				Describes me very well

2. I really get involved with the feelings of the characters in a novel.

0	1	2	3	4
Does not describe me very well				Describes me very well

3. I am usually objective when I watch a move or play, and I don't often get completely caught up in it.

0	1	2	3	4
Does not describe me very well				Describes me very well

4. After seeing a play or movie, I have felt as though I were one of the characters.

0	1	2	3	4
Does not describe me very well				Describes me very well

5. I daydream and fantasize, with some regularity, about things that might happen to me.

0	1	2	3	4
Does not describe me very well				Describes me very well

6. Becoming extremely involved in a good book or movie is somewhat rare for me.

0	1	2	3	4
Does not describe me very well				Describes me very well

7. When I watch a good movie, I can very easily put myself in the place of a leading character.

0	1	2	3	4
Does not describe me very well				Describes me very well

8. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

0	1	2	3	4
Does not describe me very well				Describes me very well

9. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

0	1	2	3	4
Does not describe me very well				Describes me very well

10. I sometimes try to understand my friends better by imagining how things look from their perspective.

0	1	2	3	4
Does not describe me very well				Describes me very well

11. I believe that there are two sides to every question and try to look at them both.

0	1	2	3	4
Does not describe me very well				Describes me very well

12. I sometimes find it difficult to see things from the "other guy's" point of view.

0	1	2	3	4
Does not describe me very well				Describes me very well

13. I try to look at everybody's side of a disagreement before I make a decision.

0	1	2	3	4
Does not describe me very well				Describes me very well

14. When I'm upset at someone, I usually try to "put myself in his/her shoes for a while.

0	1	2	3	4
Does not describe me very well				Describes me very well

15. When I see someone being taken advantage of, I feel kind of protective toward them.

0	1	2	3	4
Does not describe me very well				Describes me very well

16. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

0	1	2	3	4
Does not describe me very well				Describes me very well

17. I often have tender, concerned feelings for people less fortunate than me.

0	1	2	3	4
Does not describe me very well				Describes me very well

18. I would describe myself as a pretty soft-hearted person.

0	1	2	3	4
Does not describe me very well				Describes me very well

19. Sometimes I don't feel very sorry for other people when they are having problems.

0	1	2	3	4
Does not describe me very well				Describes me very well

20. Other people's misfortunes do not usually disturb me a great deal.

0	1	2	3	4
Does not describe me very well				Describes me very well

21. I am often quite touched by things that I see happen.

0	1	2	3	4
Does not describe me very well				Describes me very well

22. When I see someone who badly needs help in an emergency, I go to pieces.

0	1	2	3	4
Does not describe me very well				Describes me very well

23. I sometimes feel helpless when I am in the middle of emotional situation.

0	1	2	3	4
Does not describe me very well				Describes me very well

24. In emergency situations, I feel apprehensive and ill-at-ease.

0	1	2	3	4
Does not describe me very well				Describes me very well

25. I am usually pretty effective in dealing with emergencies.

0	1	2	3	4
Does not describe me very well				Describes me very well

26. Being in a tense emotional situation scares me.

0	1	2	3	4
Does not describe me very well				Describes me very well

27. When I see someone get hurt, I tend to remain calm.

0	1	2	3	4
Does not describe me very well				Describes me very well

28. I tend to lose control during emergencies.

0	1	2	3	4
Does not describe me very well				Describes me very well

APPENDIX H

Maintenance of Emotional Separation Scale (MES)

Completely false for me					Completely true for me
1	2	3	4	5	6

*1. I often get so emotionally involved with my friends' problems that I lose sight of my own feelings.
*2. When I talk with a depressed person, I feel sad myself for quite some time after the conversation.
*3. Sometimes I get so involved in other people's feelings, I seem to lose sight of myself for a while.
4. When friends describe an emotional problem, I am in touch with their feelings without becoming too emotionally involved.
*5. I usually take the problems of others home with me.
*6. After listening to a friend tell of a scary experience, I have a difficult time studying or working.
7. When the worries experienced by my friends concern me, I temporarily feel these worries but don't really get upset myself.

* Indicates negatively directed items where scoring was reversed.

APPENDIX I
Tedium Scale

How often do you have any of the following experiences?
Please use the following scale:
1 = Never; 2 = Once; 3 = Rarely; 4 = Sometimes; 5 = Often;
6 = Usually; 7 = Always

1. Being tired
2. Feeling depressed
3. Having a good day
4. Being physically exhausted
5. Being emotionally exhausted
6. Being happy
7. Being "wiped out"
8. Feeling "burned out"
9. Being unhappy
10. Feeling rundown
11. Feeling trapped
12. Feeling worthless
13. Being weary
14. Being troubled
15. Feeling disillusioned and resentful about people
16. Feeling weak
17. Feeling hopeless
18. Feeling rejected
19. Feeling optimistic
20. Feeling energetic
21. Feeling anxious

APPENDIX J

INDEX OF ABBREVIATIONS OF MEASURES USED IN THE STUDY

AIM	Affect Intensity Measure
CARSA	Career Satisfaction
CHILD	Number of Children
DEGR	Degree
FULFI	Fulfillment on the Job
GEND	Gender
HOSP	Hospital
HRPTC	Number of Hours of Direct Patient Contact
INTER	Interference from Health Care Delivery System
IRI	Interpersonal Reactivity Index
IRIEC	Empathic Concern Subscale of the IRI
IRIFS	Fantasy Subscale of the IRI
IRIPD	Personal Distress Subscale of the IRI
IRIPT	Perspective-Taking Subscale of the IRI
JBSAT	Job Satisfaction
LEAVE	Desire to Leave Nursing
MARIT	Marital Status
MBI	Maslach Burnout Inventory
MBIDP	Depersonalization Subscale of the MBI
MBIEE	Emotional Exhaustion Subscale of the MBI
MBIPA	Personal Accomplishment Subscale of the MBI
MES	Maintenance of Emotional Separation Scale
NSS	Nursing Stress Scale

NSSALL	Nursing Stress Scale and 17 Additional Nursing Stress Items
NSSCNURS	Nursing Stress Due to Conflict with Nurses (NSS Subscale)
NSSCP	Nursing Stress Due to Conflict with Physicians (NSS Subscale)
NSSDD	Nursing Stress Due to Death and Dying (NSS Subscale)
NSSIPREP	Nursing Stress Due to Inadequate Preparation (NSS Subscale)
NSSLSUP	Nursing Stress Due to Lack of Support (NSS Subscale
NSSUTRT	Nursing Stress Due to Uncertainty Regarding Treatment (NSS subscale)
NSSWORK	Nursing Stress Due to Workload (NSS Subscale)
OSTRE	Rating O Stress Outside the Work Setting
PAB	Tedium Scale
RACE	Racial/Ethnic Background
TYPUN	Type of Hospital Unit
WELLS	Rating of How Well-Suited Nurse Feels to do Her/His Work
WKSTA	Workstatus (Fulltime, Part-time, Per Diem)
YRSHO	Number of Years Employed at the Same Hospital
YRSNU	Number of Years as a Nurse
YRSUN	Number of Years Employed on the Same Unit

APPENDIX K

Correlation Matrix

	NSS	NSALL	AIM	IRIFS	IRIPT	IRIEC	IRIPD	MES	MBIEE	MBIDP	MBIPA	PAB
NSS		.969 .000	.123 .027	.087 .084	.050 .216	.090 .078	.155 .007	-.257 .001	.342 .000	.254 .000	-.100 .061	.332 .000
NSSALL			.114 .037	.097 .060	.057 .181	.113 .037	.150 .008	-.260 .000	.361 .000	.274 .000	-.113 .040	.336 .000
AIM				.321 .000	-.192 .001	.333 .000	.385 .000	-.325 .000	.097 .066	-.042 .260	.104 .056	.144 .014
IRIFS					.055 .192	.282 .000	.163 .005	-.233 .000	.183 .002	.204 .001	-.104 .052	.166 .005
IRIPT						.248 .000	-.162 .005	.081 .099	-.110 .041	-.172 .003	.206 .001	-.215 .000
IRIEC							.112 .038	-.265 .001	.025 .348	-.198 .001	.115 .038	.006 .465
IRIPD								-.346 .000	.188 .001	.015 .408	-.268 .000	.333 .000
MES									-.347 .000	-.250 .000	.119 .032	-.383 .000
MBIEE										.483 .000	-.227 .000	.597 .000
MBIDP											-.205 .001	.312 .000
MBIPA												-.252 .000
AGE	-.107 .044	-.158 .006	-.143 .012	-.187 .001	-.060 .172	-.096 .065	-.021 .373	.125 .023	-.057 .185	-.154 .007	.052 .211	-.037 .286
YRSNU-	.069 .135	-.119 .029	-.216 .000	-.193 .001	-.048 .225	-.185 .002	.083 .094	.165 .004	-.099 .058	-.102 .054	.051 .217	-.087 .088
YRSUN-	.115 .034	-.110 .039	-.166 .004	-.177 .002	.011 .431	-.151 .008	-.080 .104	.074 .120	-.061 .168	.005 .467	.044 .248	-.004 .477
YRSHO-	.034 .297	-.028 .327	-.135 .017	-.081 .100	.067 .146	-.137 .015	-.035 .291	.083 .094	-.009 .445	.008 .451	.081 .106	.008 .448

	NSS	NSALL	AIM	IRIFS	IRIPT	IRIEC	IRIPD	MES	MBIEE	MBIDP	MBIPA	PAB
HOSP	.198	.195	.192	.066	-.009	.105	.039	-.020	.100	.076	.083	.025
	.001	.001	.001	.146	.442	.048	.267	.375	.056	.114	.099	.348
TYPUN-	.093	-.117	.014	.002	-.231	-.006	.183	-.069	.164	-.062	-.024	.142
	.070	.030	.414	.489	.000	.460	.002	.137	.005	.166	.354	.013
AGE	-.107	-.158	-.143	-.187	-.060	-.096	-.021	.125	-.057	-.154	.052	-.037
	.044	.006	.012	.001	.172	.065	.373	.023	.185	.007	.211	.286
YRSNU-	.069	-.119	-.216	-.193	-.048	-.185	.083	.165	-.099	-.102	.051	-.087
	.135	.029	.000	.001	.225	.002	.094	.004	.058	.054	.217	.088
YRSUN-	.115	-.110	-.166	-.177	.011	-.151	-.080	.074	-.061	.005	.044	-.004
	.034	.039	.004	.002	.431	.008	.104	.120	.168	.467	.248	.477
YRSHO-	.034	-.028	-.135	-.081	.067	-.137	-.035	.083	-.009	.008	.081	.008
	.297	.327	.017	.100	.146	.015	.291	.094	.445	.451	.106	.448
SHIFT-	.031	-.035	-.098	-.004	.098	.026	.076	-.094	-.015	.028	-.098	.108
	.310	.287	.062	.478	.060	.339	.114	.068	.404	.327	.065	.046
WKSTA-	.025	-.018	-.033	-.093	-.013	.035	.194	.028	-.172	-.130	-.103	.053
	.348	.390	.302	.069	.418	.291	.001	.326	.003	.020	.056	.205
GEND	.005	.013	-.087	.068	.041	.025	-.114	.004	-.005	.101	.090	-.060
	.467	.420	.087	.137	.260	.345	.035	.476	.466	.055	.081	.174
DEGR	-.098	-.125	-.110	-.125	-.037	-.037	-.093	.116	-.213	-.162	.174	-.161
	.060	.023	.042	.023	.279	.279	.071	.032	.000	.005	.003	.006
RACE	.027	.002	-.031	-.072	-.083	-.046	.035	-.078	-.107	-.074	.072	-.047
	.330	.486	.314	.127	.096	.235	.290	.108	.046	.123	.134	.235
MARIT-	.082	-.095	-.010	-.032	-.107	-.045	-.001	.009	-.132	-.051	-.041	-.008
	.097	.066	.440	.308	.046	.239	.496	.441	.019	.213	.262	.452
CHILD-	.050	-.083	-.051	-.036	.007	.043	-.011	.050	-.156	-.129	-.045	.029
	.217	.097	.218	.286	.454	.251	.432	.218	.007	.023	.244	.330
HRPTC	.104	.142	.074	.092	-.036	.064	-.156	-.072	.079	.146	.009	.084
	.051	.012	.127	.073	.286	.159	.007	.130	.108	.011	.445	.098
JBSAT-	.213	-.181	.106	.040	.107	.091	-.006	.105	-.509	-.151	.210	-.312
	.000	.002	.049	.264	.045	.074	.463	.047	.000	.009	.001	.000
WELLS-	.047	-.016	.012	-.013	.048	.002	-.163	.042	-.181	-.035	.199	-.040
	.229	.401	.429	.416	.224	.489	.005	.254	.002	.294	.001	.268
CARSA-	.301	-.264	.037	.006	.068	.069	-.109	.119	-.367	-.128	.282	-.274
	.000	.000	.280	.465	.140	.138	.042	.029	.000	.022	.000	.000

	NSS	NSALL	AIM	IRIFS	IRIPT	IRIEC	IRIPD	MES	MBIEE	MBIDP	MBIPA	PAB
FULFI	-.254	-.204	.089	-.019	.068	-.066	-.089	.127	-.410	-.201	.280	-.288
	.000	.001	.082	.380	.144	.149	.081	.022	.000	.001	.000	.000
INTER	.259	.265	.011	.029	.058	.082	-.020	-.127	.262	.077	.052	.147
	.000	.000	.433	.322	.179	.097	.378	.022	.000	.114	.210	.011
LEAVE	.261	.219	.033	.084	-.098	-.137	.103	-.096	.331	.121	-.204	.232
	.000	.000	.304	.090	.061	.015	.051	.071	.000	.029	.001	.000
OSTRE	.196	.212	.061	.199	-.072	.057	.073	-.192	.133	.113	-.159	.407
	.001	.000	.171	.001	.128	.182	.126	.001	.018	.038	.007	.000

	HOSP	YRSUN	SHIFT	YRSHO	WKSTA	YRSNU	AGE	GEND	DEGR	RACE
TYPUNIT	-.042 .251	.080 .102	-.104 .048	.112 .037	.091 .074	.177 .002	.164 .004	-.133 .017	.215 .000	-.061 .167
HOSP		-.124 .024	-.006 .461	-.072 .126	.063 .156	-.136 .014	-.125 .023	-.049 .216	-.036 .286	-.047 .230
YRSUN			-.073 .122	.774 .000	.022 .364	.520 .000	.444 .000	-.095 .064	.229 .000	-.098 .059
SHIFT				-.146 .010	-.003 .480	-.052 .205	-.096 .063	-.054 .196	-.006 .459	-.032 .307
YRSHO					.043 .247	.562 .000	.501 .000	-.067 .142	.212 .000	-.035 .209
WKSTA						.128 .020	.052 .202	-.095 .065	.108 .042	.049 .216
YRSNU							.803 .000	-.060 .171	.325 .000	-.002 .407
AGE								-.039 .265	.224 .000	-.002 .490
GEND									-.044 .240	.020 .373
DEGR										-.021 .367

	HOSP	YRSUN	SHIFT	YRSHO	WKSTA	YRSNU	AGE	GEND	DEGR	RACE
MARIT	.011	.074	-.046	.074	.009	.178	.317	-.079	.006	.051
	.429	.121	.234	.121	.444	.002	.000	.104	.465	.210
CHILD	-.086	.221	-.014	.254	.288	.427	.540	-.014	.147	-.072
	.087	.000	.415	.000	.000	.000	.000	.416	.010	.130
HRPTC	-.091	-.072	.128	-.105	-.502	-.194	-.120	.061	-.145	-.022
	.075	.127	.022	.049	.000	.001	.029	.167	.011	.365
JBSAT	-.050	.031	-.042	.035	.005	-.038	.003	.055	.063	.049
	.214	.310	.254	.288	.472	.275	.484	.190	.159	.218
WELLS	-.082	.208	.014	.135	-.003	.019	-.037	.017	.125	-.042
	.096	.000	.413	.016	.481	.384	.280	.392	.023	.251
CARSA	-.027	.103	-.013	.116	-.023	.029	.057	-.052	.052	.074
	.332	.049	.417	.032	.360	.320	.181	.204	.203	.119
FULFI	-.134	.126	-.098	.068	-.015	.005	.067	.057	.105	.057
	.017	.023	.060	.140	.405	.468	.146	.183	.048	.183
INTER	.082	.088	-.097	.136	.061	.081	.089	-.066	.045	-.136
	.097	.079	.062	.015	.167	.098	.077	.147	.239	.015
LEAVE	.027	-.043	-.064	.024	-.005	.070	-.003	.114	-.042	-.115
	.333	.248	.153	.352	.466	.133	.483	.034	.254	.033
OSTRE	.061	-.033	-.058	-.002	.085	-.033	-.048	-.046	-.208	.003
	.165	.299	.177	.490	.088	.298	.221	.233	.000	.481

	MARIT	CHILD	HRPTC	JBSAT	WELLS	CARSA	FULFI	INTERF	LEAVE	OSTRE
TYPUN	.116 .032	.132 .019	-.246 .000	-.126 .022	.018 .389	-.075 .116	-.091 .075	.131 .018	.016 .403	-.103 .051
MARIT		.263 .000	-.065 .155	.095 .066	.025 .346	.099 .057	.135 .016	.020 .375	-.106 .047	.198 .001
CHILD			-.260 .000	.060 .175	.030 .317	.033 .302	.075 .123	-.006 .464	-.067 .146	.231 .000
HRPTC				.042 .257	.053 .204	.109 .044	.111 .042	-.012 .426	-.084 .093	-.047 .232
JBSAT					.324 .000	.471 .000	.636 .000	-.180 .002	-.351 .000	-.059 .174
WELLS						.272 .000	.367 .000	-.013 .418	-.065 .150	.020 .378
CARSA							.616 .000	-.195 .001	-.575 .000	-.173 .003
FULFI								-.214 .000	-.407 .000	-.096 .064
INTER									.254 .000	.036 .282
LEAVE										.088 .081

APPENDIX L

NURSING SUBSCALE CORRELATION MATRIX

	NSSDD	NSSCP	NSSIPREP	NSSLSUP	NSSCNURS	NSSWORK	NSSUTRT
NSS	.740	.760	.649	.504	.748	.686	.772
	.000	.000	.000	.000	.000	.000	.000
AIM	.145	.080	.076	-.003	.030	.176	.020
	.012	.104	.119	.479	.318	.003	.378
IRIFS	.113	.073	-.030	-.007	.040	.132	.007
	.036	.124	.316	.457	.263	.017	.459
IRIPT	.168	.033	.004	-.084	-.041	-.011	.076
	.004	.303	.477	.093	.257	.431	.116
IRIEC	.147	.035	.024	-.037	-.019	.144	.050
	.010	.292	.351	.281	.380	.011	.216
IRIPD	.082	.217	.215	.043	.160	.124	.122
	.097	.000	.000	.248	.400	.025	.027
MES	-.263	-.231	-.144	-.181	-.101	-.193	-.088
	.000	.000	.011	.002	.053	.001	.081
MBIEE	.194	.235	.175	.271	.246	.425	.109
	.001	.000	.003	.000	.000	.000	.043
MBIDP	.093	.198	.153	.203	.215	.271	.144
	.072	.001	.008	.001	.000	.000	.011
MBIPA	-.083	-.110	-.107	-.122	-.071	-.041	.007
	.100	.044	.049	.030	.138	.266	.454
PAB	.139	.297	.165	.302	.277	.372	.115
	.015	.000	.005	.000	.000	.000	.038

	NSSDD	NSSCP	NSSIPREP	NSSLSUP	NSSCNURS	NSSWORK	NSSUTRT
TYPEUNIT	-.305	-.011	-.151	.067	-.005	.161	-.135
	.000	.429	.008	.143	.469	.005	.016
HOSP	.110	.159	.008	.116	.051	.233	.255
	.040	.005	.451	.032	.208	.000	.000
YRSUNIT	-.150	-.090	-.055	-.015	-.074	-.045	-.080
	.008	.077	.192	.404	.120	.235	.101
SHIFT	-.013	-.019	-.045	-.001	-.037	-.051	.015
	.419	.382	.236	.493	.276	.208	.408
YRSHOSP	-.123	-.038	.014	-.032	-.014	.072	-.005
	.025	.275	.414	.304	.415	.125	.471
WORKSTAT	-.053	.035	-.046	-.098	-.094	.062	.050
	.201	.290	.231	.059	.067	.164	.213
YRSNURS	-.195	-.103	-.027	.088	-.017	.035	-.021
	.001	.051	.332	.080	.396	.290	.373
AGE	-.193	-.147	.012	.055	-.128	.014	-.028
	.001	.010	.427	.191	.021	.415	.329
GENDER	-.005	-.025	-.005	.027	.065	-.036	.015
	.472	.346	.469	.337	.152	.282	.409
DEGREE	-.190	-.111	-.120	.091	.001	-.033	-.038
	.001	.039	.028	.074	.492	.298	.275
RACE	.050	.029	.037	-.013	.026	-.092	.109
	.215	.323	.278	.417	.339	.073	.041
MARITAL	-.062	-.060	-.031	-.025	-.069	-.055	-.083
	.162	.170	.314	.347	.138	.194	.094
CHILDREN	-.046	-.045	-.055	-.049	-.063	.027	-.035
	.238	.240	.194	.219	.163	.335	.291
HRSPTCT	.108	-.033	.113	.076	.140	.069	.029
	.046	.300	.038	.118	.014	.140	.328
JOBSAT	-.071	-.138	-.039	-.281	-.260	-.221	-.055
	.128	.014	.270	.000	.000	.000	.190
WELLSUIT	-.030	-.086	-.055	-.144	.043	.007	-.032
	.315	.085	.192	.011	.250	.459	.305
CARSAT	-.209	-.295	-.183	-.267	-.180	-.233	-.138
	.000	.000	.002	.000	.002	.000	.014

	NSSDD	NSSCP	NSSIPREP	NSSLSUP	NSSCNURS	NSSWORK	NSSUTRT
FULFILL	-.123	-.200	-.117	-.275	-.171	-.272	-.116
	.025	.001	.032	.000	.003	.000	.034
INTERF	.086	.177	.107	.177	.167	.395	.141
	.085	.002	.044	.002	.004	.000	.012
LEAVE	.184	.201	.157	.221	.211	.245	.053
	.002	.001	.006	.000	.000	.000	.200
OSTRESS	.176	.196	.087	.067	.092	.177	.114
	.003	.001	.085	.145	.072	.002	.035

APPENDIX M

Mean Nursing Stress Scale Total Score and Subscale Scores and Standard Deviations by Type of Unit

Nursing Stress Scale	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Total Stress	36.5 (12.4)	44.4 (12.6)	38.7 (12.2)	49.2 (11.0)	41.8 (13.9)	37.5 (15.7)	39.1 (12.1)
Death & Dying	8.8 (2.4) 16	9.5 (3.5) 54	9.9 (4.0) 43	10.2 (3.5) 41	10.5 (3.7) 13	6.0 (4.9) 51	6.6 (3.3) 36
Conflict with Physicians	5.4 (2.7)	7.1 (2.3)	7.0 (2.6)	6.6 (2.2)	6.6 (2.9)	6.6 (2.6)	6.6 (2.7)
Inadequate Preparation	3.1 (1.3)	3.5 (1.8)	3.0 (1.4)	4.2 (1.5)	2.8 (1.7)	2.9 (1.7)	2.7 (1.2)
Lack of Staff Support	2.6 (1.9)	3.0 (2.0)	2.1 (1.5)	3.4 (1.4)	2.2 (1.8)	2.6 (1.9)	3.5 (2.1)
Conflict with Nurses	4.1 (2.2)	5.7 (2.6)	4.7 (3.1)	6.1 (2.7)	4.3 (3.7)	5.0 (3.5)	5.2 (2.9)
Work Load	8.0 (3.2)	8.8 (3.0)	6.7 (2.7)	11.4 (2.5)	9.6 (3.6)	9.3 (3.1)	9.6 (3.9)
Uncertainty Regarding Treatment	4.5 (2.2)	6.8 (3.0)	5.1 (2.1)	7.2 (2.2)	5.8 (2.3)	5.2 (2.4)	4.9 (2.4)

APPENDIX N

Mean Nursing Stress Scale Total Score and Subscale Scores and Standard Deviations, and Number of Subjects by Type of Unit and Workstatus

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Nursing Stress Scale							
Full-time	35.3	43.8	39.6	47.9	42.0	39.6	39.8
	(13.8)	(11.8)	(12.0)	(10.1)	(14.3)	(18.1)	(11.3)
	11	39	33	31	6	24	28
Part-time	39.2	44.1	36.1	52.3	41.7	36.1	34.4
	(9.4)	(14.1)	(13.7)	(13.7)	(14.6)	(13.8)	(14.9)
	5	13	9	9	7	25	7
Per diem	----	59.5	31.0	60.0	----	31.5	53.0
		(16.2)	----	----		(3.5)	----
		2	1	1		2	1
Total Stress	36.5	44.4	38.7	49.2	41.8	37.5	39.1
	(12.4)	(12.6)	(12.2)	(11.0)	(13.9)	(15.7)	(12.1)
	16	54	43	41	13	51	36
Death and Dying Subscale of the Nursing Stress Scale							
Full-time	8.4	9.8	9.7	10.1	12.0	6.7	6.5
	(2.2)	(2.9)	(3.9)	(3.5)	(3.5)	(5.5)	(3.4)
Part-time	9.8	9.8	10.9	10.2	9.1	5.3	6.9
	(2.9)	(4.1)	(4.6)	(3.6)	(3.6)	(4.5)	(3.2)
Per Diem	---	10.0	7.0	14.0	---	6.0	9.9
		5.7	---	---		(1.4)	----
Total Sample	8.8	9.5	9.9	10.2	10.5	6.0	6.6
	(2.4)	(3.5)	(4.0)	(3.5)	(3.7)	(4.9)	(3.3)
	16	54	43	41	13	51	36

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Conflict with Physicians Subscale of the Nursing Stress Scale							
Full-time	5.2	6.8	7.2	6.5	7.0	6.8	6.5
	(2.8)	(2.2)	(2.8)	(2.1)	(2.5)	(3.0)	(2.6)
	11	39	33	31	6	24	28
Part-time	5.8	7.5	6.3	6.9	6.3	6.2	6.3
	(2.8)	(2.5)	(1.9)	(2.6)	(3.3)	(2.3)	(2.9)
	5	13	9	9	7	25	7
Per Diem	---	10.0	7.0	7.0	---	7.5	11.0
		(1.4)	---	---		(.7)	----
		2	1	1		2	1
Total	5.4	7.1	7.0	6.6	6.6	6.6	6.6
Sample	(2.7)	(2.3)	(2.6)	(2.2)	(2.9)	(2.6)	(2.7)
	16	54	43	41	13	51	36
Inadequate Preparation Subscale of the Nursing Stress Scale							
Full-time	3.0	3.7	3.1	4.0	2.3	2.9	2.7
	(1.6)	(1.9)	(1.5)	(1.5)	(1.2)	(1.8)	(1.2)
	11	39	33	31	6	24	28
Part-time	3.2	2.8	2.8	4.7	3.1	2.8	2.3
	(.4)	(1.5)	(1.4)	(1.4)	(2.1)	(1.7)	(1.1)
	5	13	9	9	7	25	7
Per Diem	----	4.5	3.0	5.0	----	3.0	2.0
		(2.1)	----	----		(.00)	----
		2	1	1		2	1
Total	3.1	3.5	4.2	2.8	2.8	2.9	2.7
Sample	(1.3)	(1.8)	(1.4)	(1.5)	(1.7)	(1.7)	(1.2)
	16	54	43	41	13	51	36
Lack of Staff Support Subscale of the Nursing Stress Scale							
Full-time	2.6	3.1	2.4	3.4	2.3	3.0	3.4
	(2.0)	(1.7)	(1.3)	(1.4)	(2.0)	(2.4)	(2.0)
	11	39	33	31	6	24	28
Part-time	2.6	2.6	1.3	3.4	2.1	2.2	4.1
	(1.7)	(2.6)	(1.8)	(1.3)	(1.8)	(1.3)	(2.7)
	5	13	9	9	7	25	7
Per Diem	----	4.0	1.0	3.0	----	2.5	3.0
		(2.8)	---	---		(.71)	---
		2	1	1		2	1
Total	2.6	3.0	2.1	3.4	2.2	2.6	3.5
Sample	(1.9)	(2.0)	(1.5)	(1.4)	(1.8)	(1.9)	(2.1)
	16	54	43	41	13	51	36

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Conflict with Nurses Subscale of the Nursing Stress Scale							
Full-time	4.0	5.8	5.2	5.7	3.7	5.8	5.5
	(2.6)	(2.5)	(3.1)	(2.5)	(4.1)	(3.7)	(3.0)
	11	39	33	31	6	24	28
Part-time	4.4	5.2	3.1	7.3	4.9	4.4	3.7
	(1.5)	(2.9)	(3.1)	(3.1)	(3.4)	(3.3)	(2.2)
	5	13	9	9	7	25	7
Per Diem	----	7.0	4.0	7.0	----	2.5	7.0
		(0.0)	---	---		(.71)	---
		2	1	1		2	1
Total	4.1	5.7	4.7	6.1	4.3	5.0	5.2
Sample	(2.2)	(2.6)	(3.1)	(2.7)	(3.7)	(3.5)	(2.9)
	16	54	43	41	13	51	36
Work Load Subscale of the Nursing Stress Scale							
Full-time	7.7	8.4	6.8	11.2	8.8	9.1	10.1
	(3.6)	(3.0)	(2.5)	(2.4)	(4.4)	(3.5)	(3.1)
	11	39	33	31	6	24	28
Part-time	8.6	9.3	6.4	11.8	10.3	9.8	6.9
	(2.6)	(2.6)	(3.6)	(2.4)	(3.0)	(2.6)	(5.8)
	5	13	9	9	7	25	7
Per Diem	----	13.0	6.0	17.0	----	6.0	12.0
		(2.8)	----	----		(2.8)	----
		2	1	1		2	1
Total	8.0	8.8	6.7	11.4	9.6	9.3	9.6
Sample	(3.2)	(3.0)	(2.7)	(2.5)	(3.6)	3.1)	(3.9)
	16	54	43	41	13	51	36
Uncertainty Regarding Treatment Subscale of the Nursing Stress Scale							
Full-time	4.7	6.6	5.1	7.0	5.8	5.2	5.0
	(2.4)	(2.9)	(2.0)	(2.0)	(1.7)	(2.8)	(2.3)
	11	39	33	31	6	24	28
Part-time	4.8	7.0	5.2	8.0	5.9	5.3	4.3
	(1.6)	(3.3)	(2.6)	(3.0)	(2.9)	(2.2)	(2.7)
	5	13	9	9	7	25	7
Per Diem	----	11.0	3.0	7.0	----	4.0	9.0
		(1.4)	----	----		(1.4)	----
		2	1	1		2	1
Total	4.5	6.8	5.1	7.2	5.8	5.2	4.9
Sample	(2.2)	(3.0)	(2.1)	(2.2)	(2.3)	(2.4)	(2.4)
	16	54	43	41	13	51	36

APPENDIX O

Means, Standard Deviations, and Number of Subjects of All Scale Scores by Type of Unit and Work Status

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Nursing Stress Scale							
Full-time	35.3	43.7	39.6	47.9	42.0	39.6	39.8
	(13.8)	(11.8)	(12.0)	(10.1)	(14.3)	(18.1)	(11.3)
	11	39	33	31	6	24	28
Part-time	39.2	44.2	36.1	52.3	41.7	36.1	34.4
	(9.4)	(14.1)	(13.7)	(13.7)	(14.6)	(13.8)	(14.9)
	5	13	9	9	7	25	7
Per diem	----	59.5	31.0	60.0	----	31.5	53.0
		(16.2)	----	----		(3.5)	----
		2	1	1		2	1
Total	36.5	44.4	38.7	49.1	41.9	37.5	39.1
Average	(12.4)	(12.6)	(12.2)	(11.0)	(13.9)	(15.7)	(12.1)
	16	54	43	41	13	51	36
Affect Intensity Measure							
Full-time	132.3	146.7	149.9	141.9	144.8	142.4	146.1
	(29.3)	(19.4)	(15.9)	(19.3)	(21.5)	(17.3)	(17.7)
	10	37	32	31	6	23	26
Part-time	148.2	142.7	144.6	144.0	140.4	145.7	142.4
	(22.6)	(18.1)	(14.9)	(14.0)	(14.0)	(19.9)	(17.7)
	5	13	9	8	7	26	7
Per diem	----	126.0	144.0	120.0	----	146.5	155.0
		----	----	----		(19.1)	----
		1	1	1		2	1
Total	137.6	145.3	148.6	141.8	142.5	144.3	145.6
Average	(27.5)	(19.0)	(15.5)	(18.3)	(17.2)	(18.4)	(17.3)
	15	51	42	40	13	51	34

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Perspective-Taking Subscale of the Interpersonal Reactivity Index							
Full-time	19.5	18.9	17.3	17.2	20.0	18.0	15.3
	(2.3)	(4.4)	(3.9)	(4.5)	(4.6)	(3.6)	(4.8)
	11	39	33	29	6	24	29
Part-time	19.8	19.8	17.1	18.1	19.3	16.5	17.0
	(6.3)	(4.9)	(2.8)	(3.6)	(2.9)	(4.0)	(3.1)
	5	12	9	9	7	26	7
Per diem	----	19.5	13.0	13.0	----	18.0	13.0
		(.71)	----	----		(0.0)	----
		2	1	1		2	1
Total	19.6	19.1	17.2	17.3	19.6	17.2	15.6
Average	(3.7)	(4.4)	(3.7)	(4.3)	(3.6)	(3.8)	(4.5)
	16	53	43	39	13	52	37
Fantasy Empathy Subscale of the Interpersonal Reactivity Index							
Full-time	12.8	15.9	15.5	15.9	16.2	15.1	15.3
	(4.5)	(4.8)	(4.7)	(6.2)	(7.9)	(4.6)	(5.1)
	11	39	33	29	6	24	29
Part-time	15.8	13.2	14.9	13.1	14.7	14.3	14.4
	(6.2)	(6.8)	(5.5)	(4.2)	(4.8)	(4.1)	(8.7)
	5	13	9	9	7	26	7
Per diem	----	12.0	22.0	18.0	----	13.0	15.0
		(1.4)	----	----		(5.7)	----
		2	1	1		2	1
Total	13.8	15.1	15.6	15.3	15.4	14.6	15.1
Average	(5.1)	(5.4)	(4.9)	(5.8)	(6.2)	(4.3)	(5.7)
	16	54	43	41	13	52	37
Empathic Concern Subscale of the Interpersonal Reactivity Index							
Full-time	19.6	20.4	20.3	20.9	22.8	20.7	18.7
	(3.3)	(3.5)	(4.2)	(4.7)	(1.3)	(3.2)	(4.2)
	11	38	33	31	5	23	28
Part-time	17.8	19.8	21.2	10.6	21.7	20.3	20.9
	(3.0)	(4.1)	(2.8)	(1.7)	(2.0)	(4.0)	(4.7)
	5	13	9	9	7	26	7
Per diem	----	21.0	17.0	22.0	----	23.0	21.0
		(4.2)	----	----		(0.0)	----
		2	1	1		2	1
Total	19.0	20.2	20.4	20.9	22.2	20.5	19.2
Average	(3.2)	(3.6)	(3.9)	(4.1)	(1.7)	(3.6)	(4.3)
	16	53	43	41	12	51	36

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Personal Distress Subscale of the Interpersonal Reactivity Index							
Full-time	5.3	7.8	9.9	7.0	7.5	9.3	9.2
	(3.1)	(4.7)	(3.9)	(3.7)	(3.2)	(3.8)	(4.7)
	11	38	32	30	6	23	29
Part-time	5.6	8.5	9.4	9.7	10.6	10.6	10.6
	(2.8)	(4.0)	(3.8)	(2.1)	(4.2)	(3.3)	(4.4)
	5	13	9	9	7	26	7
Per diem	----	16.5	11.0	13.0	----	10.0	8.0
		(2.1)	----	----		(1.4)	----
		2	1	1		2	1
Total	5.4	8.3	9.8	7.8	9.2	10.0	9.4
Average	(2.9)	(4.8)	(3.8)	(3.6)	(4.0)	(3.5)	(4.6)
	16	53	42	40	13	51	37
Maintenance of Emotional Separation Scale							
Full-time	31.6	31.7	30.0	29.4	30.3	29.6	30.6
	(5.5)	(6.2)	(5.3)	(4.4)	(6.9)	(5.5)	(4.7)
	11	39	32	31	6	24	29
Part-time	33.0	31.2	29.4	32.1	31.7	31.0	30.6
	(6.0)	(4.9)	(4.5)	(4.5)	(4.3)	(5.8)	(4.9)
	5	13	9	9	7	26	4
Per diem	----	28.0	36.0	31.0	----	22.5	35.0
		(2.8)	----	----		(.71)	----
		2	1	1		2	1
Total	32.1	31.2	30.0	30.0	31.1	30.1	30.7
Average	(5.5)	(5.8)	(5.1)	(4.4)	(5.4)	(5.7)	(4.7)
	16	54	42	41	13	52	37
Emotional Exhaustion Subscale of the Maslach Burnout Inventory							
Full-time	16.2	18.6	18.7	23.6	22.8	20.1	29.1
	(9.5)	(9.8)	(9.5)	(11.3)	(10.5)	(8.7)	(11.5)
	11	39	33	29	6	24	29
Part-time	26.0	20.1	12.8	20.4	21.4	16.5	20.1
	(16.2)	(9.4)	(7.5)	(6.5)	(13.7)	(7.6)	(11.0)
	5	12	9	9	7	25	7
Per diem	----	15.5	10.0	22.0	----	8.0	10.0
		(9.2)	----	----		(1.4)	----
		2	1	1		2	1
Total	19.3	18.8	17.2	22.8	22.1	17.8	26.9
Average	(12.4)	(9.6)	(9.3)	(10.2)	(11.9)	(8.4)	(12.0)
	16	53	43	39	13	51	37

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Depersonalization Subscale of the Maslach Burnout Inventory							
Full-time	9.7	6.0	6.3	8.0	4.0	6.7	7.9
	(6.7)	(5.4)	(4.3)	(5.6)	(4.9)	(5.1)	(5.7)
	11	39	32	30	6	24	27
Part-time	10.8	5.1	3.8	6.2	2.4	4.8	4.7
	(5.3)	(4.5)	(3.1)	(5.5)	(2.9)	(3.3)	(4.2)
	5	12	9	9	7	25	7
Per diem	----	10.0	---	18.0	----	4.0	0.0
		----		----		(0.0)	----
		2		1		2	1
Total	10.1	6.0	5.7	7.9	3.2	5.7	7.0
Average	(6.1)	(5.2)	(4.1)	(5.7)	(3.9)	(4.3)	(5.5)
	16	53	41	40	13	51	35
Personal Accomplishment Subscale of the Maslach Burnout Inventory							
Full-time	39.2	36.9	35.5	37.9	41.0	38.1	36.0
	(3.1)	(6.2)	(6.4)	(6.4)	(2.4)	(4.6)	(7.3)
	10	37	30	29	6	23	26
Part-time	37.8	35.8	35.9	36.8	38.0	38.4	30.0
	(3.1)	(5.6)	(8.1)	(6.4)	(4.4)	(6.2)	(11.3)
	5	13	8	9	7	25	7
Per diem	----	34.5	----	22.0	----	27.5	40.0
		(4.9)		----		(16.2)	----
		2		1		2	1
Total	38.7	36.5	35.6	37.3	39.4	37.8	34.9
Average	(3.1)	(6.0)	(6.7)	(6.8)	(3.8)	(6.2)	(8.4)
	15	52	37	39	13	50	34
Tedium Scale							
Full-time	3.18	3.46	3.51	3.54	3.48	3.62	3.72
	(.34)	(.69)	(.54)	(.58)	(.70)	(.62)	(.75)
	10	38	32	26	6	23	29
Part-time	3.87	3.45	3.61	3.55	3.33	3.63	3.90
	(.85)	(.70)	(.75)	(.62)	(.39)	(.69)	(.57)
	5	12	9	8	7	25	6
Per diem	----	3.55	3.52	4.62	----	3.36	3.67
		(.84)	----	----		(.77)	----
		2	1	1		2	1
Total	3.41	3.46	3.53	3.57	3.40	3.61	3.75
Average	(.62)	(.68)	(.58)	(.60)	(.54)	(.65)	(.71)
	15	52	42	35	13	50	36

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
AGE							
Full-time	38.1	35.7	33.9	37.7	37.3	39.5	37.6
	(7.2)	(9.0)	(7.6)	(10.3)	(14.5)	(11.3)	(7.3)
	11	39	33	30	6	24	29
Part-time	39.4	36.1	34.0	40.6	36.9	40.7	46.6
	(4.4)	(7.9)	(4.3)	(7.7)	(7.0)	(8.3)	(8.5)
	5	13	9	9	7	26	7
Per diem	----	34.5	31.0	30.0	----	28.0	36.0
		(.7)	----	----		(4.2)	----
		2	1	1		2	1
Total	38.5	35.8	33.9	38.1	37.1	39.7	39.3
Average	(6.3)	(8.5)	(6.9)	(9.7)	(10.6)	(9.8)	(8.1)
	16	54	43	40	13	52	37
Number of Years Employed at the Same Hospital							
Full-time	9.3	5.4	8.3	8.1	5.5	11.6	8.0
	(7.2)	(4.9)	(7.0)	(7.1)	(3.8)	(9.8)	(5.7)
	11	39	33	31	6	23	29
Part-time	11.6	6.6	8.3	12.1	7.3	11.5	5.0
	(6.5)	(4.8)	(6.2)	(8.8)	(5.7)	(7.1)	(6.8)
	5	13	9	9	7	26	7
Per diem	----	7.0	2.0	5.0	---	4.5	7.0
		(2.8)	---	---		(.7)	---
		2	1	1		2	1
Total	10.0	5.7	8.2	8.9	6.5	11.2	7.4
Average	(6.9)	(4.8)	(6.8)	(7.5)	(4.8)	(8.3)	(5.8)
	16	54	43	41	13	51	37
Number of Years Employed on the Same Unit							
Full-time	9.7	4.5	7.3	5.7	5.5	9.1	6.5
	(6.7)	(4.3)	(6.0)	(6.6)	(3.8)	(9.0)	(5.2)
	11	39	33	31	6	24	29
Part-time	8.0	4.5	7.4	9.4	4.1	9.2	5.1
	(3.1)	(4.7)	(5.6)	(5.3)	(3.1)	(6.5)	(4.9)
	5	13	9	9	7	26	7
Per diem	---	7.0	2.0	5.0	---	4.5	5.0
		(2.8)	---	---		(.7)	---
		2	1	1		2	1
Total	9.2	4.6	7.2	6.5	4.8	8.9	6.2
Average	(5.8)	(4.3)	(5.8)	(6.4)	(3.4)	(7.6)	(5.0)
	16	54	43	41	13	52	37

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Number of Years as a Nurse							
Full-time	15.3	10.0	10.6	12.5	8.3	17.0	13.7
	(5.8)	(7.2)	(7.7)	(8.6)	(6.6)	(12.6)	(7.8)
	11	39	33	31	6	24	29
Part-time	18.2	14.3	10.8	19.8	11.3	17.2	22.9
	(4.7)	(8.6)	(5.2)	(8.2)	(4.9)	(8.7)	(10.3)
	5	13	9	9	7	26	7
Per diem	----	12.0	3.0	9.0	---	6.0	15.0
		(1.4)	---	---		(4.2)	----
		2	1	1		2	1
Total	16.2	11.3	10.4	14.0	9.9	16.7	15.4
Average	(5.5)	(7.6)	(7.2)	(8.9)	(5.7)	(10.7)	(8.8)
	16	54	43	41	13	52	37
Number of Hours of Direct Patient Contact							
Full-time	37.1	36.1	32.5	36.8	31.2	34.9	23.9
	(7.4)	(10.1)	(11.2)	(7.8)	(13.0)	(10.5)	(16.4)
	11	38	33	29	6	23	27
Part-time	22.4	21.2	20.7	25.8	17.6	22.1	12.6
	(6.1)	(5.5)	(7.1)	(7.5)	(7.9)	(9.5)	(10.2)
	5	13	9	9	7	25	7
Per diem	----	8.5	8.0	24.0	----	11.0	16.0
		(5.0)	---	---		(7.1)	----
		2	1	1		2	1
Total	32.5	31.4	29.4	33.9	23.9	27.5	21.4
Average	(9.8)	(11.9)	(11.8)	(9.0)	(12.3)	(12.1)	(15.6)
	16	53	43	39	13	50	35
Job Satisfaction							
Full-time	4.3	3.9	3.9	3.7	3.8	3.8	3.6
	(.7)	(.7)	(.8)	(.8)	(.8)	(1.0)	(1.0)
	11	39	33	31	6	24	29
Part-time	4.0	3.7	3.7	3.4	3.6	3.9	3.4
	(.7)	(.8)	(.7)	(.9)	(.8)	(.8)	(1.1)
	5	13	9	9	7	25	7
Per diem	---	4.5	4.0	4.0	---	3.5	5.0
		(.7)	---	---		(.7)	---
		2	1	1		2	1
Total	4.2	3.9	3.8	3.6	3.7	3.8	3.6
Average	(.7)	(.7)	(.8)	(.8)	(.8)	(.9)	(1.0)
	16	54	43	41	13	51	37

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Career Satisfaction							
Full-time	4.3	3.9	3.8	3.9	4.3	3.9	3.5
	(.7)	(.9)	(.8)	(.9)	(.5)	(1.0)	(1.1)
	11	39	33	31	6	24	29
Part-time	4.0	3.6	3.9	4.0	3.9	4.0	3.6
	(.7)	(1.0)	(.8)	(.9)	(1.1)	(.6)	(1.3)
	5	13	9	9	7	25	7
Per diem	---	3.5	4.0	2.0	---	4.0	3.0
		(2.1)	---	---		(0.0)	---
		2	1	1		2	1
Total	4.2	3.8	3.8	3.9	4.1	3.9	3.5
Average	(.7)	(1.0)	(.8)	(.9)	(.9)	(.7)	(1.1)
	16	54	43	41	13	51	37
Desire to Leave Nursing							
Full-time	2.3	2.6	2.3	2.4	1.5	2.4	3.0
	(1.3)	(1.2)	(1.3)	(1.4)	(.8)	(1.1)	(1.4)
	11	39	32	31	6	24	29
Part-time	3.0	2.6	2.3	2.8	2.1	2.4	2.0
	(1.6)	(1.0)	(1.0)	(1.7)	(1.1)	(1.3)	(1.3)
	5	13	9	9	7	25	7
Per diem	---	2.0	2.0	5.0	---	1.5	4.0
		(0.0)	---	---		(0.0)	---
		2	1	1		2	1
Total	2.5	2.6	2.3	2.5	1.9	2.4	2.8
Average	(1.4)	(1.2)	(1.2)	(1.5)	(1.0)	(1.2)	(1.4)
	16	54	42	41	13	51	37
How Well-Suited the Nurse Feels to do the Work							
Full-time	4.6	4.5	4.3	4.4	4.5	4.8	4.3
	(.7)	(.6)	(.8)	(.7)	(.8)	(.4)	(.7)
	11	39	33	31	6	24	29
Part-time	4.4	4.3	4.6	4.8	4.1	4.7	3.6
	(.6)	(.6)	(.5)	(.4)	(1.1)	(.6)	(1.1)
	5	13	9	9	7	25	7
Per diem	---	4.0	4.0	5.0	---	4.5	5.0
		(0.0)	---	---		(.7)	---
		2	1	1		2	1
Total	4.5	4.4	4.3	4.5	4.3	4.7	4.2
Average	(.6)	(.6)	(.8)	(.7)	(1.0)	(.5)	(.8)
	16	54	43	41	13	51	37

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Fulfillment in Doing Job							
Full-time	4.1	3.7	3.8	3.4	4.6	3.8	3.3
	(.8)	(.7)	(.8)	(.9)	(.6)	(1.0)	(1.0)
	11	39	32	31	5	23	29
Part-time	3.6	3.8	3.7	3.2	3.9	3.9	3.3
	(.6)	(.7)	(1.0)	(.7)	(.7)	(.7)	(.8)
	5	13	9	9	7	25	7
Per diem	---	3.0	4.0	2.0	---	3.5	5.0
		(1.4)	---	---		(.7)	---
		2	1	1		2	1
Total Average	3.9	3.7	3.8	3.3	4.2	3.8	3.3
	(.77)	(.74)	(.85)	(.85)	(.72)	(.82)	(.94)
	16	54	42	41	12	50	37
Interference by the Health Care Delivery System							
Full-time	2.7	2.3	2.5	3.4	3.7	2.6	3.2
	(1.2)	(1.0)	(1.2)	(1.0)	(.5)	(1.3)	(.9)
	11	39	33	31	6	24	29
Part-time	3.2	3.2	2.3	3.4	3.3	3.2	2.1
	(1.5)	(.9)	(1.1)	(1.0)	(1.3)	(1.0)	(.7)
	5	13	9	9	7	25	7
Per diem	---	2.5	2.0	5.0	---	2.0	2.0
		(.7)	---	---		(0.0)	---
		2	1	1		2	1
Total Average	2.9	2.5	2.4	3.4	3.5	2.9	3.0
	(1.3)	(1.0)	(1.1)	(1.0)	(1.0)	(1.2)	(1.0)
	16	54	43	41	13	51	37
Stress Outside the Work Setting							
Full-time	2.8	3.1	2.9	2.9	2.5	2.7	2.8
	(.9)	(1.1)	(.9)	(1.1)	(.8)	(.9)	(1.3)
	11	39	33	31	6	24	28
Part-time	3.8	3.4	2.9	2.7	2.7	3.1	2.6
	(1.3)	(1.2)	(1.1)	(1.2)	(.8)	(1.1)	(1.3)
	5	13	9	9	7	25	7
Per diem	---	3.0	4.0	4.0	---	2.5	4.0
		(1.4)	---	---		(.7)	---
		2	1	1		2	1
Total Average	3.1	3.2	2.9	2.9	2.6	2.9	2.8
	(1.1)	(1.1)	(.9)	(1.1)	(.8)	(1.0)	(1.3)
	16	54	43	41	13	51	36

APPENDIX P

Scheffe Comparisons Between Types of Units
on the Nursing Stress Scale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---	*		***			
Crit Care		---	*	*		*	*
NICU			---	***			
Med-Surg				---		***	***
Oncology					---		
Obstetrics						---	
Surgery							---

Nursing Stress Scale Means

Emergency	36.5
Critical Care	44.4
NICU	38.7
Medical-Surgical	49.2
Oncology	41.8
Obstetrics	37.5
Surgery	39.1

Emergency < Critical Care	t(24.9df) = 2.24 p = .034
Emergency < Medical Surgical	t(24.7df) = 3.58 p = .001
Critical Care > NICU	t(91.4df) = 2.29 p =.024
Critical Care < Medical-Surgical	t(91.2df) = -1.95 p = .054
Critical Care > Obstetrics	t(95.8df) = 2.47 p = .015
Critical Care > Surgery	t(77.1df) = 2.02 p = .047
NICU < Medical-Surgical	t(81.7df) = 4.17 p = .000
Medical-Surgical > Obstetrics	t(88.4df) = -4.17 p = .000
Medical-Surgical > Surgery	t(71.2df) = -3.80 p = .000

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX Q

Scheffe Comparisons Between Types of Units
on the MBI Emotional Exhaustion Subscale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---						*
Crit Care		---					***
NICU			---	*			***
Med-Surg				---		*	
Oncology					---		*
Obstetrics						---	
Surgery							---

Emotional Exhaustion Subscale Means by Type of Unit

Emergency	19.25
Critical Care	18.83
NICU	17.23
Medical-Surgical	22.82
Oncology	22.08
Obstetrics	17.84
Surgery	26.86

Emergency < Surgery	t(27.2df) = 2.08 p = .047
Critical Care < Surgery	t(66.2df) = -3.40 p = .001
NICU < Medical-Surgical	t(77.1df) = 2.58 p = .012
NICU < Surgery	t(67.5df) =3.98 p = .000
Medical-Surgical > Obstetrics	t(72.5df) = -2.48 p = .047
Obstetrics < Surgery	t(27.7df) = 2.08 p = .047

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX R

Scheffe Comparisons Between Types of Units
on the MBI Depersonalization Subscale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---	*	*		***	*	
Crit Care		---			*		
NICU			---	*	*		
Med-Surg				---	**	*	
Oncology					---	*	**
Obstetrics						---	
Surgery							---

Emergency	10.06
Critical Care	5.96
NICU	5.71
Medical-Surgical	7.88
Oncology	3.15
Obstetrics	5.67
Surgery	7.03

Emergency > Critical Care	t(22.1df) = -2.42 p = .024
Emergency > NICU	t(20.7df) = -2.62 p = .016
Emergency > Oncology	t(25.6df) = -3.69 p = .001
Emergency > Obstetrics	t(19.8df) = -2.67 p = .015
Critical Care > Oncology	t(24.1df) = 2.17 p = .015
NICU < Mecical-Surgical	t(71.3df) = 1.95 p = .056
NICU > Oncology	t(21.6df) = -2.03 p = .054
Medical-Surgical > Oncology	t(30.4) = -3.37 p = .002
Medical-Surgical > Obstetrics	t(70.1df) = -2.04 p = .045
Oncology < Obstetrics	t(20.1df) = 2.05 p = .054
Oncology < Surgery	t(31.0df) = 2.72 p = .011

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX S

Scheffe Comparisons Between Types of Units
for Number of Years on the Same Unit

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---	**			*		
Crit Care		---	*			***	
NICU			---				
Med-Surg				---			
Oncology					---	**	
Obstetrics						---	*
Surgery							---

Emergency	9.19
Critical Care	4.57
NICU	7.21
Medical-Surgical	6.49
Oncology	4.77
Obstetrics	8.94
Surgery	6.16

Emergency > Critical Care	t(20.3df) = -2.97, p = .008
Emergency > Oncology	t(24.7df) = -2.58, p = .016
Critical Care < NICU	t(75.6df) = -2.47, p = .016
Critical Care < Obstetrics	t(80.5df) = -3.62, p = .001
Oncology < Obstetrics	t(45.2df) = 2.97, p = .005
Obstetrics > Surgery	t(86.5df) = -2.08, p = .04

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX T

Scheffe Comparisons Between Types of Units
for the Number of Years as a Nurse

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---	**	**		**		
Crit Care		---				**	*
NICU			---	*		***	**
Med-Surg				---			
Oncology					---	**	*
Obstetrics						---	
Surgery							---

Emergency	16.19
Critical Care	11.13
NICU	10.44
Medical-Surgical	14.02
Oncology	9.92
Obstetrics	16.71
Surgery	15.43

Emergency > Critical Care	$t(33.4df) = -2.95$, $p = .006$
Emergency > NICU	$t(35.0df) = -3.27$, $p = .002$
Emergency > Oncology	$t(25.4df) = -2.98$, $p = .006$
Critical Care < Obstetrics	$t(91.7df) = -3.11$, $p = .003$
Critical Care < Surgery	$t(69.3df) = -2.42$, $p = .018$
NICU < Medical-Surgical	$t(76.9df) = 2.03$, $p = .046$
NICU < Obstetrics	$t(89.7df) = 3.42$, $p = .001$
NICU < Surgery	$t(69.4df) = 2.75$, $p = .008$
Oncology < Obstetrics	$t(35.4df) = 3.13$, $p = .003$
Oncology < Surgery	$t(32.8df) = 2.56$, $p = .015$

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX U

Scheffe Comparisons Between Types of Units
for the Number of Years Employed at the Same Hospital

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---	*					
Crit Care		---	*	*		***	
NICU			---			*	
Med-Surg				---			
Oncology					---	**	
Obstetrics						---	**
Surgery							---

	Means
Emergency	10.00
Critical Care	5.72
NICU	8.19
Medical-Surgical	8.93
Oncology	6.46
Obstetrics	11.25
Surgery	7.41

Emergency > Critical Care	t(19.4df) = -2.32, p = .031
Critical Care < NICU	t(72.4df) = -2.018, p = .047
Critical Care < Medical-Surgical	t(63.7df) = -2.40, p = .019
Critical Care < Obstetrics	t(78.4df) = -4.15, p = .000
NICU < Obstetrics	t(91.9df) = 1.97, p = .052
Oncology < Obstetrics	t(32.8df) = 2.71, p = .011
Obstetrics > Surgery	t(85.9df) = -2.55, p = .013

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX V

Scheffe Comparisons Between Types of Units
for the Number of Hours of Direct Patient Contact

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---						**
Crit Care		---					**
NICU			---	*			**
Med-Surg				---	**	**	***
Oncology					---		
Obstetrics						---	
Surgery							---

	Means
Emergency	32.5
Critical Care	31.4
NICU	29.4
Medical-Surgical	33.9
Oncology	23.8
Obstetrics	27.5
Surgery	21.4

Emergency > Surgery t(44.0) = -3.08 p = .004
Critical Care > Surgery t(59.4) = 3.22 p = .002
NICU < Medical-Surgical t(77.8df) = 1.96 p = .054
NICU > Surgery t(62.0df) = -2.50 p = .015
Medical-Surgical > Oncology t(16.5df) = -2.73 p = .015
Medical-Surgical > Obstetrics t(86.8df) = -2.86 p = .005
Medical-Surgical > Surgery t(53.0df) = -4.16 p = .000

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX W

Scheffe Comparisons Between Types of Units
for the Interference by Health Care Delivery System

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---						
Crit Care		---		***	**		*
NICU			---	***	**		*
Med-Surg				---		*	*
Oncology					---		
Obstetrics						---	
Surgery							---

	Means
Emergency	2.88
Critical Care	2.53
NICU	2.44
Medical-Surgical	3.41
Oncology	3.46
Obstetrics	2.88
Surgery	2.95

Critical Care < Medical-Surgical	t(87.3df) = -4.20, p = .000
Critical Care < Oncology	t(19.0df) = -3.06, p = .006
Critical Care < Surgery	t(80.1df) = -1.93, p = .057
NICU < Medical-Surgical	t(81.7df) = 4.21, p = .000
NICU < Oncology	t(22.6df) = 3.21, p = .004
NICU < Surgery	t(78.0df) = 2.16, p = .034
Medical-Surgical > Obstetrics	t(89.5df) = -2.36, p = .02
Medical-Surgical > Surgery	t(75.6df) = -2.10, p = .039

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX X

Scheffe Comparisons Between Types of Units
on the Death and Dying Subscale
of the Nursing Stress Scale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---					**	**
Crit Care		---				***	***
NICU			---			***	***
Med-Surg				---		***	***
Oncology					---	***	***
Obstetrics						---	
Surgery							---

	Means
Emergency	8.81
Critical Care	9.50
NICU	9.91
Medical-Surgical	10.22
Oncology	10.46
Obstetrics	5.98
Surgery	6.61

Emergency > Obstetrics	t(52.8df) = -3.10, p = .003
Emergency > Surgery	t(39.1df) = -2.70, p = .01
Critical Care > Obstetrics	t(90.2df) = 4.21, p = .000
Critical Care > Surgery	t(78.1df) = 3.96, p = .000
NICU > Obstetrics	t(91.9df) = -4.29, p = .000
NICU > Surgery	t(77.0df) = -4.02, p = .000
Medical-Surgical > Obstetrics	t(89.0df) = -4.82, p = .000
Medical-Surgical > Surgery	t(74.6df) = -4.63, p = .000
Oncology > Obstetrics	t(23.9df) = -3.62, p = .001
Oncology > Surgery	t(19.4df) = -3.30, p = .004

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX Y

Scheffe Comparisons Between Types of Units
on the Lack of Support Subscale
of the Nursing Stress Scale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---						
Crit Care		---	**				
NICU			---	***			**
Med-Surg				---	*	*	
Oncology					---		*
Obstetrics						---	*
Surgery							---

	Means
Emergency	2.63
Critical Care	3.02
NICU	2.14
Medical-Surgical	3.41
Oncology	2.23
Obstetrics	2.61
Surgery	3.50

Critical Care > NICU	t(94.5df) = 2.52, p = .013
NICU < Medical-Surgical	t(82.0df) = 4.15, p = .000
NICU < Surgery	t(60.1df) = 3.25, p = .002
Medical-Surgical > Oncology	t(16.6df) = -2.20, p = .043
Medical-Surgical > Obstetrics	t(88.9df) = -2.37, p = .02
Oncology < Surgery	t(25.2df) = 2.08, p = .048
Obstetrics < Surgery	t(69.8df) = 2.01, p = .048

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX Z

Scheffe Comparisons Between Types of Units
on the Stress Due to Inadequate Preparation Subscale
of the Nursing Stress Scale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---			**			
Crit Care		---				*	**
NICU			---	***			
Med-Surg				---	*	***	***
Oncology					---		
Obstetrics						---	
Surgery							---

	Means
Emergency	3.06
Critical Care	3.54
NICU	3.02
Medical-Surgical	4.17
Oncology	2.77
Obstetrics	2.86
Surgery	2.67

Emergency < Medical-Surgical	t(30.2df) = 2.72, p = .011
Critical Care > Obstetrics	t(103.0df) = 1.96, p = .053
Critical Care > Surgery	t(88.0df) = 2.74, p = .007
NICU < Medical-Surgical	t(81.5df) = 3.60, p = .001
Medical-Surgical > Oncology	t(17.9df) = -2.62, p = .017
Medical-Surgical > Obstetrics	t(89.5df) = - 3.93, p = .000
Medical-Surgical > Surgery	t(74.5df) = -4.93, p = .000

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX AA

Scheffe Comparisons Between Types of Units
on the Workload Subscale
of the Nursing Stress Scale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---			***			
Crit Care		---	***	***			
NICU			---	***	*	***	***
Med-Surg				---		***	*
Oncology					---		
Obstetrics						---	
Surgery							---

	Means
Emergency	8.00
Critical Care	8.81
NICU	6.74
Medical-Surgical	11.44
Oncology	9.62
Obstetrics	9.31
Surgery	9.56

Emergency < Medical-Surgical	t(22.3df) = 3.84, p = .001
Critical Care > NICU	t(93.4df) = 3.59, p = .001
Critical Care < Medical-Surgical	t(92.1df) = -4.67, p = .000
NICU < Medical-Surgical	t(81.9df) = 8.30, p = .000
NICU < Oncology	t(16.3df) = 2.66, p = .017
NICU < Obstetrics	t(91.9df) = 4.32, p = .000
NICU < Surgery	t(60.3df) = 3.65, p = .001
Medical-Surgical > Obstetrics	t(90.0df) = -3.66, p = .000
Mecical-Surgical > Surgery	t(57.9df) = -2.48, p = .016

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX BB

Scheffe Comparisons Between Types of Units
on the Uncertainty Regarding Treatment Subscale
of the Nursing Stress Scale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---	**		***			
Crit Care		---	***			**	***
NICU			---	***			
Med-Surg				---		***	***
Oncology					---		
Obstetrics						---	
Surgery							---

	Means
Emergency	4.50
Critical Care	6.83
NICU	5.09
Medical-Surgical	7.22
Oncology	5.85
Obstetrics	5.20
Surgery	4.94

Emergency < Critical Care	t(34.2df) = 3.44, p = .002
Emergency < Medical-Surgical	t(28.2df) = 4.23, p = .000
Critical Care > NICU	t(93.6df) = 3.32, p = .001
Critical Care > Obstetrics	t(100.6df) = 3.06, p = .003
Critical Care > Surgery	t(85.4df) = 3.30, p = .001
NICU < Medical-Surgical	t(81.2df) = 4.47, p = .000
Medical-Surgical > Obstetrics	t(88.5df) = -4.15, p = .000
Medical-Surgical > Surgery	t(72.1) = -4.30, p = .000

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX CC

Scheffe Comparisons Between Types of Units
for the IRI Perspective-Taking Subscale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---		*	*		*	**
Crit Care		---	*	*		*	***
NICU			---		*		
Med-Surg				---			
Oncology					---	*	**
Obstetrics						---	
Surgery							---

	Means
Emergency	19.6
Critical Care	19.1
NICU	17.2
Medical-Surgical	17.3
Oncology	19.6
Obstetrics	17.2
Surgery	15.6

Emergency > NICU	t(26.5df) = 2.26, p = .032
Emergency > Medical-Surgical	t(31.7df) = 1.98, p = .056
Emergency > Obstetrics	t(25.1df) = 2.24, p = .034
Emergency > Surgery	t(34.0df) = 3.41, p = .002
Critical Care > NICU	t(93.9df) = 2.35, p = .021
Critical Care > Medical-Surgical	t(83.2df) = 1.94, p = .056
Critical Care > Obstetrics	t(101.3df) = 2.34, p = .021
Critical Care > Surgery	t(76.4df) = 3.71, p = .000
NICU < Oncology	t(20.1df) = -2.14, p = .045
Oncology > Obstetrics	t(19.1df) = 2.11, p = .048
Oncology > Surgery	t(26.0df) = 3.25, p = .003

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

APPENDIX DD

Scheffe Comparisons Between Types of Units
for the IRI Personal Distress Subscale

	Emerg	Crit Care	NICU	Med-Surg	Oncol	Obstet	Surg
Emergency	---	**	***	*	**	***	***
Crit Care		---				*	
NICU			---	*			
Med-Surg				---		**	
Oncology					---		
Obstetrics						---	
Surgery							---

	Means
Emergency	5.37
Critical Care	8.28
NICU	9.81
Medical-Surgical	7.78
Oncology	9.15
Obstetrics	9.96
Surgery	9.43

Emergency < Critical Care	t(41.1df) = -2.97, p = .005
Emergency < NICU	t(35.5df) = -4.73, p = .000
Emergency < Medical-Surgical	t(34.2df) = -2.59, p = .014
Emergency < Oncology	t(21.6df) = -2.87, p = .009
Emergency < Obstetrics	t(29.8df) = -5.22, p = .000
Emergency < Surgery	t(43.3df) = -3.88, p = .000
Critical Care < Obstetrics	t(95.5df) = -2.05, p = .043
NICU > Medical-Surgical	t(80.0df) = 2.48, p = .015
Medical-Surgical < Obstetrics	t(82.6df) = -2.90, p = .005

* = $p \leq .05$
** = $p \leq .01$
*** = $p \leq .001$

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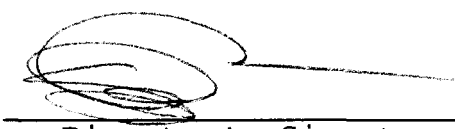
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