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Brian Andrew Bienn

Louisiana State University and Agricultural & Mechanical College

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EFFECTS OF JOB STRESS, COPING, AND TYPE A BEHAVIOR
AMONG RECENTLY-GRADUATED NURSES

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in
The Department of Psychology

by

Brian Andrew Bienn
B.S., Louisiana State University, 1978
M.A., Louisiana State University, 1983

May 1986
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Abstract

A model integrating elements of job stress theory, coping theory, and Type A behavior research was developed and tested in the present study. The model was employed to generate numerous hypotheses concerning proposed relations among job stresses, coping strategies, Type A behavior, and stress-related outcomes. These hypotheses were tested utilizing questionnaire data collected from 136 recently-graduated nurses in ten hospitals. As predicted, Type A behavior was positively associated with job stresses, both Type A and job stresses were related to felt strain and organizational commitment, and commitment inversely predicted turnover intention. Hypotheses concerning the proposed moderating effect of coping on the stress-strain and stress-commitment relations were not supported. Because both the role of coping and some relations among other variables in this model remained unclear, a revised model was proposed and tested post hoc using path analysis. The results of the path analysis suggested that: (a) Type A behavior was a determinant of job stresses and felt strain, (b) coping behavior affected nurses' feelings of strain, (c) strain influenced nurses' organizational commitment, and (d) commitment affected turnover intention. Overall, the results indicated that Type A behavior and job stress can adversely affect a nurse's adaptation to a new job.
and suggested the importance of developing programs to help new nurses adapt to their jobs. The results also pointed to the need for continued examination of the process and outcomes of coping with job stress.
Effects of Job Stress, Coping, and Type A Behavior Among Recently-Graduated Nurses

The present research examines both the relations among and results of job stress, Type A behavior, and coping behavior in a sample of recently-graduated nurses. Accordingly, a model of the process by which job stress, Type A behavior, and coping affect personal and organizational outcomes will be presented. The proposed model represents an integration of previous job stress and coping models and research findings, both those general in focus and those specific to the field of nursing. Although existing models and findings will be reviewed, the expansiveness of the stress and coping literature necessarily limits the presentation of these theoretical and empirical works to those concepts that substantially contributed to the proposed model.

Job Stress

Introduction

Job stress can be conceptualized as "the feeling of a person who is required to deviate from normal or self-desired functioning in the workplace as the result of opportunities, constraints, or demands relating to potentially important work-related outcomes" (Parker & Decotiis, 1983, p.165). Strain is the "internal" change
within a person exposed to this external stress (Hall & Mansfield, 1971). Job stress is an issue of social and economic importance, because the effects of stressful jobs are manifest not only in the well-being of individual employees, but also in the functioning of entire organizations (Beehr & Newman, 1978; Kahn, Quinn, Snoek, & Rosenthal, 1964).

Stress has been found to exact tolls from two spheres of employee well-being: physical and emotional. Researchers have established links between stress and a variety of physical health outcomes, including ulcers (e.g., Cobb & Rose, 1973), hypertension (e.g., House, McMicheal, Wells, Kaplan, & Landerman, 1979), and general physical health (e.g., Koch, Tung, Gmelch, & Swent, 1982). Many investigators (e.g., House, 1974; Ivancevich & Matteson, 1979; Sales, 1969) have proposed that the health outcome of greatest importance to job stress research is coronary heart disease (CHD): the leading cause of adult mortality in the United States (American Heart Association, 1982). Emotional consequences of work stress have also been examined. Consistent positive correlations have been found between stress indices and several outcomes, including anxiety (e.g., Cherry, 1978), depression (e.g., Hamner & deMayo, 1982), and job related tension (e.g., Bedeian, Armenakis, & Curran, 1981).
The negative impact of job stress has also been analyzed in terms of organizational outcomes, particularly turnover, job satisfaction, and performance (Van Sell, Brief, & Schuler, 1981). Positive correlations have consistently been reported between stress and turnover intention (e.g., Bedeian & Armenakis, 1981; McKenna, Oritt, & Wolff, 1981), while the association between stress and job satisfaction has been consistently negative (e.g., Abdel-Halim, 1981; Thompson & Powers, 1983). The relationship between job stress and job performance has received less attention, with inconsistent results emerging; both negative (e.g., Jamal, 1984) and non-significant (e.g., Szaligyi, Sims, & Keller, 1976) stress-performance associations have been reported. These findings must be interpreted cautiously, because stressors and performance self-reports are susceptible to confound (Van Sell et al., 1981), and organizational variables (e.g., job level) moderate this relation (Schuler, 1977a).

The cost of job stress can remain largely hidden from those in positions to control it (Adams, 1980). One strategy for raising awareness of the prevalence of job stress is to describe the effects in economic terms. Meaningful estimates are difficult to establish (Ivancevich & Matteson, 1980), but a variety of economic indices has been offered. The U.S. Clearinghouse for
Mental Health has reported that, recently, stress-related mental dysfunction has cost organizations approximately $17 billion annually. Also, Ivancevich and Matteson (1980) provided an estimate gleaned from government, industry, and health group projections which places the cost of job stress at $75-90 billion annually. This figure, the authors noted, is probably conservative.

Models

Approximately 12 models of job stress have been developed, with most examining the relations among the following: (a) the potential stressors created by a work situation, (b) a person's resultant perceptions of stress, (c) the psychological, behavioral, or physiological effects of this stress, and (d) potential moderating effects of selected factors (e.g., personality) on this stress-strain relation. The following brief presentation of models is intended to acquaint the reader with basic structural components and theoretical assumptions common to job stress formulations. The models to be reviewed (French & Caplan, 1972; Ivancevich & Matteson, 1979; Parasuraman & Alutto, 1984) were selected because, examined together, they convey a sense of the development of job stress theory.

The French and Caplan Model. French and Caplan (1972) suggested that a person's reaction to job stress, i.e. the likelihood of experiencing strain, is a function of both
the stressor encountered and individual characteristics (see Figure 1). These theorists regard roles or occupations as the loci of stress in organizations. Several role related stressors, including role conflict and quantitative role overload are proposed as precursors of strain. Role conflict is present when a worker is torn by conflicting job demands or those he/she does not view as part of the job specification (Cooper & Marshall, 1976). Quantitative role overload is experienced when a worker has more work than can be completed in a given period of time (French & Caplan, 1972). For the remainder of this presentation, the abbreviated label of role overload will be used when referring to this stressor.

Different workers exposed to the same objective stressors are not expected to experience the same psychological and physiological strains. French and Caplan proposed that the level of job stress experienced is determined by the "goodness of fit" between job demands and the abilities and needs of the worker: person-environment (P-E) fit. They viewed P-E fit as a prime determinant of a worker's felt strain, but also acknowledged that personality factors could moderate the stress-strain process. One of these is Type A behavior pattern, a hard-driving aggressive style of life in which devotion to work is often a central element (Chesney & Rosenman,
Psychological and physiological strains (e.g., job dissatisfaction, cholesterol level) are viewed as, ultimately, affecting a worker's likelihood of developing CHD.

In a study conducted at Goddard Space Center, French and Caplan (1972) obtained empirical support for several of the relations proposed in the model. Role conflict correlated positively with job-related tension. Role overload was positively associated with high levels of cholesterol and job-related threat. Moreover, potential support was found for the moderating effect of Type A behavior. Professionals exhibiting stronger Type A patterns reported higher levels of stress and CHD risk factors than those scoring low on Type A.

The Ivancevich and Matteson Model. Ivancevich and Matteson (1979) developed a more detailed model for organizational stress research (see Figure 2). The variables included in this model fall into the following categories: (a) stressors—conditions antecedent to the perception of stress; (b) perceived stresses—an individual's interpretation of the objective conditions; (c) outcomes (strain)—responses to objective and perceived stresses; (d) consequences—long-term results of strain; and (e) moderators—individual differences affecting the relations among all stresses and outcomes. This
model, while more comprehensive than French and Caplan's, is guided by similar assumptions: (a) poor P-E fit is stressful; (b) strain results when this misfit is perceived by the worker; and (c) personality factors moderate the stress-strain relation.

Ivancevich, Matteson, and Preston (1982) conducted a study which examined several components of this broad framework. The relations among six stressors, job satisfaction, physiological indices, and Type A behavior were analyzed for samples of business managers and nurses. Middle managers reported more stress and less satisfaction, and Type A behavior affected perceived level of stress and moderated several stress-strain relations. A similar, but stronger, Type A moderating effect was obtained for nurses. The theorists emphasized the tentative nature of the model. Several proposed relations (e.g., the association between life satisfaction and physiological outcomes) remain to be examined.

The Parasuraman and Alutto Model. Parasuraman and Alutto (1984) employed path analytic techniques to assess the causal relations among sets of variables proposed in several job stress formulations (e.g., McGrath, 1976; Beehr & Newman, 1978; Van Sell et al., 1981). This model is presented in Figure 3. This model includes the following antecedents of job stress: (a) contextual variables--factors

Insert Figure 3 about here
such as functional subsystem and shift which capture
the stressful effect of behavioral setting or job sector;
(b) role-related variables—specific aspects of
organizational roles (e.g., job level, task characteristics,
leadership attention) which are related to stress
perceptions; (c) personal variables—characteristics
posited to influence perceptions of and reactions to
stressors (e.g., trait anxiety, education, tenure). Job
stressors proposed in the model were empirically derived
in prior research (Parasuraman & Alutto, 1981) and included
interunit conflict, role frustration, short lead times,
and too many meetings. Consequences of stress examined
in the model include both attitudinal (felt stress, job
satisfaction, organizational commitment) and behavioral
(performance, turnover) outcomes.

The model both shares similarities with and differs
from those previously described. A P-E fit orientation
guides the model; the primary foci of the Parasuraman
and Alutto model, however, are organizational rather
than physiological outcomes. This model also differs
from the first two by virtue of its path analytic basis;
the causal nature of a limited number of proposed relations
is assessed.

The model received moderate support from data gathered
from employees of a food processing company (Parasuraman
& Alutto, 1984). Contextual, role-related, and personal
variables all contributed to variation in reported job stress, job attitudes, and behavior. The researchers proposed that a major finding of the study was the observed contribution of felt stress and low organizational commitment to voluntary turnover. In addition, felt stress was positively, though nonsignificantly related to performance.

Overview of Role Conflict and Overload Research

Several thorough review articles exist which summarize the empirical job stress literature (e.g., Beehr & Newman, 1978; Lester, 1983; Van Sell et al., 1981). Rather than duplicate these efforts, the following presentation will focus on findings most relevant to the proposed study, which includes a limited sample of stresses (role conflict and role overload), moderators (Type A behavior), and outcomes (felt strain, organizational commitment, performance, turnover intention).

Stresses. The relation of role conflict to personal and organizational outcomes has been extensively investigated (Parasuraman & Alutto, 1981), but reviews (e.g., Beehr & Newman, 1976; Van Sell et al., 1981) have reported conflicting results across studies. Attempting to draw valid conclusions about the magnitude and direction of relations between role conflict and several correlates thereof, Fisher and Gittelson (1983) applied meta-analytic procedures to the results of 42 studies. Eighteen correlates
of role conflict were analyzed. Most pertinent to the present study are results indicating that organizational commitment was consistently negatively related to role conflict ($r = -.25$). Mean correlations across studies were of similar magnitude for other correlates of interest (tension, turnover intention, supervisor-rated performance), but substantial unexplained variance across samples prevented meaningful interpretation.

In addition to role conflict, the proposed study will examine outcomes associated with role overload. This stressor has been found to correlate negatively with job effectiveness (Jamal, 1984), and positively with fatigue (Beehr, Walsh, & Taber, 1976), felt stress (Parasuraman & Alutto, 1984), and withdrawal behavior (Jamal, 1984).

Moderators. As indicated in the models previously examined, several classes of variables have been posited to affect the stress-strain relation. The moderating effects of organizational (e.g., job level, Schuler, 1977b), personality (e.g., locus of control, Parasuraman & Alutto, 1984), and demographic (e.g., tenure, Gupta & Beehr, 1979) variables have often been assessed. The proposed study will focus only on the potential moderating effects of Type A behavior pattern. This variable, rather than others, was selected for inclusion both because of its relation to CHD (Friedman & Rosenman, 1959) and
its established effect on the job stress-strain process (e.g., Ivancevich et al., 1982).

A substantial and growing body of evidence (see Matthews, 1982) suggests that persons displaying a sense of time urgency, competitive achievement striving, aggressiveness, and easily aroused hostility (Rosenman, Brand, Jenkins, Friedman, Straus, & Wurm, 1975) are prone to coronary heart disease. Seminal investigations (e.g., Friedman and Rosenman, 1959) found this cluster of behaviors common to relatively young cardiac patients, but uncommon among noncardiac patients. Subsequent clinical and epidemiological studies verified the Type A pattern as an independent factor in CHD development (for a review, see Rowland & Sokol, 1977). As Matthews has noted, Type A pattern is not considered to be a trait, but rather a continuum of behaviors ranging from extreme Type A to Type B. Type B is characterized by the relative absence of Type A behavior patterns.

Type A behavior is of interest to stress researchers because response patterns to job stress have been found to differ for Type A and Type B employees. Howard, Cunningham, and Rechnitzer (1977), for example, found that Type A managers reported greater levels of work overload than did Type Bs. Orpen (1982), investigating middle managers, reported higher associations between
role conflict and both physiological and psychological strain indices for Type As than for Type Bs.

**Outcomes.** As the research cited to this point indicates, considerable attention has been directed toward several of the job stress outcomes to be included in the proposed study: intention to turnover (e.g., Bedeian & Armenakis, 1981), performance (e.g., Jamal, 1984), and felt strain (e.g., Parasuraman & Alutto, 1984). Also to be examined is the effect of stress on organizational commitment: the relative strength of an individual's identification with and involvement in a particular organization (Steers, 1977). Porter, Steers, Mowday, and Boulian (1974) characterized high organizational commitment as: (a) a strong belief in and acceptance of the organization's goals and values, (b) a willingness to exert considerable effort on behalf of the organization, and (c) a definite desire to maintain organizational membership. These authors found organizational commitment to be more important than job satisfaction in discriminating employees staying on the job during the first year from those leaving. Porter, Crampon, and Smith (1976), also focusing on new employees, obtained further support for the negative relation between commitment and turnover.

**Nursing Stress Research**

**General Overview.** As several researchers have noted (e.g., Vredenburgh & Trinkaus, 1981), nurses represent
a particularly suitable sample for investigating job stress. Although stress has been a topic of concern in nursing for 20 years, research examining the work-related stress of nurses is still in its infancy (Hache-Faulkner & MacKay, 1985). A significant portion of this literature that does exist is anecdotal in nature (Numerof & Abrams, 1984); the remainder of the nursing stress literature is divided between descriptive studies (e.g., Huckaby & Jagla, 1979) and those which relate nursing stress to important outcomes including job satisfaction and turnover (e.g., Vredenburgh & Trinkaus, 1983).

Most investigations of nursing job stress have focused on critical care nurses because they, among all nursing specialists, have been assumed to experience the greatest levels of stress (Hache-Faulkner & Mackay, 1985). As research has progressed, however, mounting evidence suggests that nurses across specialty areas experience similar stresses and stress responses (Jacobson, 1983; Keane, Ducette, & Adler, 1985).

Role Conflict and Role Overload in Nursing. Descriptive studies of nursing stress have often identified the set of factors most stressful to nurses (e.g., Huckaby & Jagla, 1979; Scully, 1980). Typically, role conflict (e.g., Anderson & Basteyns, 1981) and role overload (e.g., Grant, Steffen, & Bailey, 1983) have appeared among these factors. Jacobson (1977), for example, found that neonatal
intensive care unit nurses rated nurse-physician conflicts, understaffing/overwork, and nurse-nurse conflicts as, respectively, the second, third, and fourth most stressful incidents they encountered.

Several investigators (e.g., Gunning, 1983; Kramer, 1974) have identified the period of transition from school to professional employment as one of tremendous role conflict for nurses. Conflict is created by the disparity between the nursing norms and standards taught in schools and those advocated by employing organizations (Gunning, 1983). Vredenburgh and Trinkaus (1983) concur with this view and provide the following explanation of role conflict: "As members of a profession working for bureaucratic organizations, nurses may experience conflict about control growing out of incongruity between actual work practices and expectations inculcated during training" (p. 82). Kramer found that recently-graduated nurses were "shocked" by the discrepancy between the approach to nursing they had been taught in school and the method of organizing and executing nursing tasks in the work situation. In light of this evidence, the present study will focus on the stress-related responses of recently-graduated nurses.

Role overload is equally, if not more, prevalent as role conflict in the nursing profession; Tierney and Strom (1980) noted that "Too much to do in too short
a time seems to be the chronic cry of the staff nurse” (p. 915). Role overload frequently emerges as the most stressful condition listed by nurses (Garbin, 1983; Grout, Steffen, & Bailey, 1981), and its detrimental effects on nurses have been documented (e.g., Ivancevich et al., 1982). Current conditions within the field are largely responsible for omnipresence of this stressor; high nursing turnover and a labor market characterized by high demand relative to supply has lead to inadequate staffing and promoted role overload (Vredenburgh & Trinkaus, 1981).

**Type A Behavior.** Because there exists a dearth of empirical research of nursing job stress, few moderators of the stress-outcome process have been identified. Support has been obtained, however, for the moderating effect of Type A behavior. Ivancevich et al. (1982) found, for a sample of nursing personnel, stronger associations between both role conflict and role overload and affective and physiological outcomes for Type As than for Bs.

**Outcomes.** Few published studies have attempted to relate the outcomes of strain, performance, and turnover intention to either nursing role conflict or role overload; the effect of stress on organizational commitment remains to be assessed. Bedeian and Armenakis (1981), in a path analytic study, found that role conflict was related
Tension affected job satisfaction which, in turn, influenced propensity to leave the job. And, treating role conflict as a moderator variable, Vredenburgh and Trinkaus (1983) determined that conflict moderated the relation between a nurse's education and performance.

The Proposed Job Stress-Outcome Model

Figure 4 reflects the combined influences of the job stress models and findings considered up to this point, and represents the stress model forming the conceptual base of the present study. The model adheres to a P-E fit orientation; job stress results when the needs or abilities of a person do not match the demands or constraints created by a work environment. Perceived stressors (role conflict, role overload) are posited to influence emotional/physical (felt strain), attitudinal (organizational commitment, turnover intention), and behavioral (performance) outcomes. Type A behavior is proposed to moderate several relationships within the stress-outcome process.

The model depicted in Figure 4 is offered as a framework into which the construct of coping can be incorporated. Further explication of the relations depicted in this model and the hypotheses derived from them will be provided when the complete model is presented.
Coping

Conspicuous by its absence in most job stress models is consideration of any coping behavior following the stressful experience. Coping effectiveness, however, is important to understand because stress is a virtually omnipresent feature of life (Selye, 1976). Further, Roskies and Lazarus (1983) have proposed that the process of coping is more crucial to social, emotional, and physical health than are the precipitating stress episodes. In an attempt to delineate the role played by coping in the job stress-outcome process, one very influential coping formulation, as well as findings from general job stress coping research and nursing coping research, will be examined.

The Lazarus and Folkman Paradigm

Lazarus and his colleagues (Lazarus, 1966, 1981; Lazarus & Launier, 1978; Lazarus & Folkman 1984) have developed a paradigm describing coping responses to stressful general life events. Lazarus & Folkman (1984) defined coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 142). These theorists advocated a cognitive-phenomenological approach for studying coping. Coping is viewed as a transactional process
arising from a series of joint appraisals of situational events and adaptive resources.

Two major classes of coping behaviors, problem-focused and emotion-focused, have been delineated by Lazarus and Folkman (1984). Problem-focused strategies encompass a variety of problem solving approaches to handling stress. These include not only those actions directed toward modifying environmental sources of stress, but also those which change the person's behavior in response to the stressor (i.e. coping actions directed at oneself). Emotion-focused coping, on the other hand, attempts to modify emotional responses to the problem. Examples include strategies of avoidance, repression, and selective attention (Lazarus & Folkman, 1984). The authors proposed that problem-focused strategies are likely to be initiated when a stressor is appraised as modifiable; emotion-focused behaviors are utilized when it seems nothing can be done to change a situation.

Relations implicit in the Lazarus-Folkman paradigm have been tested empirically (e.g., Cohen & Lazarus, 1973; Folkman & Lazarus, 1980, 1985). In a study examining coping responses to stressful life events (Folkman & Lazarus, 1980), perceived stresses and coping strategies of middle-aged subjects were assessed. Results indicated that in 98% of the cases, subjects responded to stressful events by using a combination of problem-focused and
emotion-focused strategies. Events perceived as modifiable were associated with a greater utilization of problem-focused coping, whereas unmodifiable events elicited primarily emotion-focused responses.

The influence of this paradigm has been apparent in both theoretical and empirical investigations of coping with job stress (e.g., McGrath, 1976; Parkes, 1984). McGrath (1976) and Schuler (1984) have proposed job stress coping models which, having borrowed concepts from Lazarus' paradigm, outline the steps involved in coping. Other researchers (e.g., Chiriboga, Jenkins, & Bailey, 1983) have adapted the "Ways of Coping" checklist to examine empirical questions. The present study will also employ a modified version of this scale.

Job Stress and Coping: Empirical Findings

Implicit in the theoretical treatments of coping literature just described is the assumption that coping with stress can be a beneficial activity; successful coping leaves a person better off than if he/she had not engaged in that behavior. Coping, therefore, changes or moderates the relation between a stressful experience and outcomes of that event. The following presentation of job stress coping will describe past research which is pertinent to the present study, i.e. investigations which have examined problem- or emotion-focused coping in response to role conflict or overload, or which have
assessed the outcomes of strain, organizational commitment, performance, or turnover intention. Research which has focused on the coping responses of new employees will also be presented.

**General Job Stress and Coping Research.** One early examination of coping strategy effectiveness (Anderson, Hellriegel, & Slocum, 1977) evaluated small business owners' coping responses to a flood. Performance criteria (effectiveness of recovery) were obtained, and related to coping style. Problem-focused coping was significantly associated with effective recovery, emotion-focused with ineffective.

Felt stress served as one criterion in a coping study conducted by Parasuraman and Cleek (1984) which examined the effects of coping responses and personal characteristics on the relations between role stresses and outcomes for 200 public utility managers. Subjects' self-reported coping strategies were classified by subject-matter experts as either "adaptive" (problem-focused) or "maladaptive" (emotion-focused). Role conflict and role overload contributed to felt stress; maladaptive coping exacerbated perceived stress, while adaptive coping had little effect on the stress-strain relationship.

Feldman and Brett (1983), assessing the stress encountered by employees adapting to new jobs, examined coping strategies used over a two-year period by new
hires and job changers in a consumer products corporation. Specific stressors were not identified; the authors proposed that the uncertainty associated with new jobs and job changes would differ, leading to the use of different sets of coping strategies by new and transferring employees. Utilization of eight strategies (e.g., work longer hours, delegate responsibility, seek social support) was assessed. Pertinent to the present study is the finding that new hires utilized a combination of problem- and emotion-focused coping strategies, soliciting both the aid and social support of others.

Nursing Coping Research. Although several authors (e.g., Baldonado, 1983; Scully, 1980) have acknowledged the importance of coping, few studies have examined the ways in which nurses cope with job stress (Albrecht, 1982). Of this limited sample, most pertinent to the present study is an investigation which assessed the effectiveness of nurses' coping strategies in combating burnout (Albrecht, 1982). Nurses reported how frequently they utilized each of 15 coping strategies in response to job stress. These behaviors were then correlated with the frequency and intensity of self-reported burnout symptoms. Findings suggested that nurses experiencing high burnout relied on behaviors which allowed them to escape from their nursing role (e.g., talking with friends, thinking about changing jobs); nurses experiencing less
burnout, however, used problem- and emotion-focused strategies which were more job-related (e.g., seeking out supervisors, talking with co-workers).

The Proposed Study

Specific Aims

The proposed study constitutes an attempt to contribute to the job stress and coping literature by examining the effectiveness of coping strategies utilized by recently graduated nurses during their initial months of employment. New employees will be used because findings from nursing research (Kramer, 1974), organizational commitment research, (Porter et al., 1974), and organizational socialization theory (Feldman, 1976, 1981) suggest that a worker's initial period of employment can be crucial in determining long-term adaptation to a job.

Also assessed will be the role of Type A behavior in the stress-coping-outcome process. Analysis of perceived job stress, Type A behavior, coping behavior, and strain indices (personal and organizational outcomes) should provide a clearer understanding both of the determinants and effects of nurses' responses to job stress.

The Complete Research Model

This conceptual model (see Figure 5) represents the incorporation of coping into the job stress model
previously presented (Figure 4). The model is designed to assess the effects of stress on important outcomes, and to examine potential moderating effects of coping strategy and Type A behavior on the stress-outcome process. Solid arrows indicate direct relations between constructs; broken arrows designate effects of proposed moderating variables.

Objective Environmental Conditions. In line with other job stress models (e.g., French & Caplan, 1972; House, 1974), conditions in the objective organizational environment are viewed as precursors of stress. This component of the model, although important to acknowledge, will not be assessed in the present study.

Perceived Job Stress. Because role conflict (Van Sell et al., 1981) and role overload (e.g., Numerof & Abrams, 1984) have frequently been associated with strain and other important outcomes, these potential stressors form the basis of the model. This model proposes that both role conflict and role overload are related to felt strain and to organizational commitment.

Coping Strategy. Mixed results have emerged from the few empirical studies which have examined coping; evidence suggests that problem-focused coping and emotion-focused coping can each be an effective strategy. This is reflected in the proposed model; problem- and
emotion-focused coping are both depicted as moderating the relations between each role stress and the outcomes of felt strain and organizational commitment.

**Type A Behavior.** Drawing upon established findings (e.g., Burke & Weir, 1980; Kittel, Kornitzer, DeBacker, Dramaix, Degre, & Denolin, 1983), the proposed model depicts Type A behavior as moderating the relation between the objective environment and perceived stress. Also consistent with existing findings (Ivancevich et al., 1982), Type A behavior is posited to moderate the relation between role stress and felt strain.

**Prediction of Turnover Intention and Performance.** In line with findings suggesting that felt strain and organizational commitment are associated with turnover intention (Parasuraman & Alutto, 1984) and performance (Jamal, 1984), the present model depicts similar relations among these measures. Strain and commitment are posited to independently predict turnover intention and performance.

**HYPOTHESES**

**H1.** Role conflict and role overload will each correlate negatively with organizational commitment.

**H2.** Role conflict and role overload will each correlate positively with felt strain.

**H3.** Turnover intention will be predicted by a negative relation with organizational commitment and a positive relation with felt strain.
H4. Performance will be predicted by a positive relation with organizational commitment and a negative relation with felt strain.

H5. The relation between each role stress and organizational commitment will be moderated by problem-focused coping, such that coping will reduce the relation between stress and organizational commitment.

H6. The relation between each role stress and felt strain will be moderated by problem-focused coping, such that coping will reduce the relation between stress and strain.

H7. The relation between each role stress and organizational commitment will be moderated by emotion-focused coping, such that coping will reduce the relation between stress and organizational commitment.

H8. The relation between each role stress and felt strain will be moderated by emotion-focused coping, such that coping will reduce the relation between stress and strain.

H9. The moderating effect of problem-focused coping on organizational commitment will be significantly greater than the moderating effect of emotion-focused coping.

H10. The moderating effect of problem-focused coping on felt strain will be significantly greater than the moderating effect of emotion-focused coping.

H11. Type A behavior will correlate positively with both role conflict and role overload.

H12. The relation between each role stress and felt strain will be moderated by Type A behavior, such that the relation will be significant for Type A nurses and nonsignificant for Type B nurses.

Additional Relations to be Explored

Finally, though no hypotheses will be proposed, analyses will determine the consistency with which subjects use coping strategies across stressful situations. In other words, is the same predominant coping style used when dealing with both role conflict and role overload?
Method

Subjects

Questionnaires were distributed throughout ten large (> 200 beds) urban hospitals to all recently-graduated (Spring, 1985) registered nurses (n=219). The nurses included in this sample had no previous professional nursing experience (e.g., an LPN position), and at the time of survey distribution had been employed by their respective hospitals for fewer than six months. One hundred thirty-six usable questionnaires were returned, yielding a response rate of 62%. Table 1 lists, by hospital, the number of questionnaires distributed and returned.

Insert Table 1 about here

The final sample consisted of 124 females (91%) and 12 males (9%). Seventy-three nurses (54%) held a baccalaureate degree, 44 (32%) held an associate degree, and 19 (14%) were diploma program graduates. Nurses involved in all major specialty areas were included in the sample; for descriptive purposes, related specialty areas were grouped together to form four categories: (a) critical care nurses (all intensive care specialties), (b) emergency room nurses, (c) medical unit nurses (medicine units, pediatrics, oncology), (d) and surgical nurses (surgery, labor and delivery). Twenty-six nurses (19%) worked in critical care, 8 (6%) worked in emergency,
75 (54%) worked on medical units, 23 (17%) worked on surgical units, and 4 nurses (3%) did not specify an area of specialization.

Procedure

Permission to conduct the study was obtained from each hospital's Director of Nursing Service. With the exception of hospital #5 in which surveys were distributed to all new nurses by the Director of Nursing, questionnaire distribution was handled by the investigator, and accomplished by speaking either to individual nurses while on their unit or to groups of nurses assembled by the Director of Nursing or an assistant. During these meetings nurses were told that the study was an attempt to better understand how new employees cope with job stress. They were informed that the research had administrative approval, that participation was voluntary, and that results would remain confidential. Nurses were provided an opportunity to ask questions, and were then requested to sign an informed consent sheet (see Appendix A); this coded form was designed to facilitate matching a nurse's completed questionnaire with the performance rating form returned by her/his supervisor. Nurses were then given a questionnaire and stamped envelope addressed to the investigator, and were requested to complete and return the survey within two weeks. In some cases, direct contact with a nurse was not possible. When this occurred, an explanatory cover
letter (see Appendix B) was attached to the packet, which the nurse's supervisor was asked to distribute. Performance ratings were obtained from each nurse's immediate supervisor. Explanation and distribution of this form paralleled that of the questionnaire. When direct contact with a supervisor was not possible, an explanatory cover letter was attached to the rating form (see Appendix C), which was then distributed by the Director of Nursing or an assistant. The performance rating procedure differed slightly for hospital #10, where the administration stipulated that all performance ratings be shared with the nurse by her/his supervisor and then signed by that nurse before the completed form was mailed. This required that minor modifications be made in the informed consent sheet and the performance rating form (see Appendices D and E). In addition, nurses in this hospital were informed, during explanation of the research, that this rating feedback was part of the study. Subsequent analysis revealed no significant difference between the performance ratings of these nurses and those of the remainder of the sample ($t=-.17$).

**Instruments**

**Role Stresses.** Two sources of perceived stress were assessed: quantitative role overload and role conflict (see Appendix F). Role overload was measured using a 5-item scale developed by Ivancevich and Matteson (1982).
The authors report internal reliabilities ranging from .79 to .83 across several samples. A 7-point response format ranging from "never" to "always" is employed for scoring. Role conflict was assessed using an 8-item scale developed by Rizzo, House, and Lirtzman (1970), who reported an internal reliability of .82 in the original study. The scale has been used extensively across diverse research settings (Cook, Hepworth, Wall, & War, 1981). Items are scored using a 7-point response format; the responses (very false-very true) were changed to match those of the role overload scale.

**Type A Behavior.** The Framingham Type A Scale was used to assess Type A behavior. This scale (see Appendix G) is a 10-item self-report measure assessing an individual's competitive drive, sense of time urgency, and perception of time pressures (Matthews, 1982). The scale has been related prospectively to coronary heart disease (Haynes, Feinleib, & Kannel, 1980), and has an internal reliability of .70 (Haynes, Levine, Scotch, Feinleib, & Kannel, 1978). The scale is divided into sections of six and four items; in the first section respondents indicate on a 4-point scale (not at all-very well) if each item describes him/her. Items in the second section require a "yes" or "no" response (worth four and one points, respectively) from subjects. The highest score attainable is 40 points; respondents scoring above the sample median are considered
Type A, whereas those scoring below this are viewed as Type B (Matthews, 1982).

Outcome Measures. Four job stress-related outcomes were measured: felt strain, organizational commitment, turnover intention, and performance (see Appendix H). Felt strain was assessed using the General Health Questionnaire (Goldberg, 1972). Originally designed as a self-administered screening test for detecting minor psychiatric disorders among respondents in community settings, the instrument has subsequently proved effective in estimating psychological distress associated with employment-related problems (Banks, Clegg, Jackson, Kemp, Stafford, & Wall, 1980). A 12-item form of the scale was used in the present study. The scale assesses components of general mental health (e.g., ability to concentrate, sleep patterns, strain level, depression), and has an internal reliability ranging from .82 to .90 across three samples (Banks et al., 1980). The 7-point response format used with the stress scales was also used with this measure.

Organizational commitment was assessed using the Porter and Smith (1970) Organizational Commitment Questionnaire (15 items). Internal consistency estimates of this scale have consistently ranged from .82 to .90 (Cook et al., 1981). Responses are scored on a 7-point scale (strongly disagree–strongly agree).
Turnover intention was assessed with the Propensity to Leave Scale (Lyons, 1971). This 3-item scale taps respondents' reported tendencies to leave their employing organization. Internal reliability is reported to be .81 (Cook et al., 1981), and the scale has been found to correlate with role conflict (.23) for nursing aides and assistants (Brief & Aldag, 1976). Because this scale immediately followed the organizational commitment scale in the questionnaire, the commitment scale response format was adopted for the turnover intention scale items.

The final outcome measure examined, nurse performance, was obtained through a single-item supervisory rating. Supervisors, typically head nurses, completed a global 5-point item which required them to compare the performance of the nurse being rated to the average performance of all nurses (performing similar duties) they had supervised.

Coping Measures. The coping section of the questionnaire (see Appendix I) was divided into two subsections, one addressing each source of role stress. Each subsection provided respondents with a definition of the stress and requested them to report if they had experienced that stress on their job. Those responding affirmatively then completed a shortened version of the "Ways of Coping" checklist which contained 12 problem-focused and 12 emotion-focused coping items. These items represented the subset of the 64 original scale items
(24 problem-focused, 40 emotion focused) determined most content valid (Lawshe, 1975) by a panel of 10 judges familiar with the concepts of problem and emotion-focused coping.

For each of the 24 items on the shortened scale, respondents indicated how frequently they had used that coping behavior in response to the stressor being considered. Responses ranged from "don't use" to "use a great deal", and were scored from 0 to 3. Therefore, each subject received a problem-focused and an emotion-focused coping score for each stressor she/he reported experiencing.

**Demographic Items.** A limited number of demographic items, used primarily for descriptive purposes, was included in the questionnaire. These are listed in Appendix J.

**Analysis**

Hypotheses 1 and 2, addressing relations between each role stress and both felt strain and organizational commitment were analyzed using bivariate correlation. Hypotheses 3 and 4, prediction of turnover intention and performance from strain and commitment, were analyzed using multiple regression. Hypotheses 5 through 10, assessing the moderating effect of coping, were tested using moderated regression, (Cohen & Cohen, 1983). This procedure provides information about the effects of an independent variable, a moderator variable, and their interaction (the cross-product of these two variables)
in a regression equation. The dependent variable is first regressed on the predictor and moderator variables. The interaction term is then added to the regression equation and its predictive contribution assessed. A significant increase in $R^2$ with the addition of the interaction term signals a moderator effect, which is analyzed by plotting the regression equation for different levels of the moderator variable. Hypothesis 11, the relation between Type A and each stressor, was tested with bivariate correlation, and the proposed moderating effect of Type A on the stress-strain relation (Hypothesis 12) was assessed with moderated regression. Finally, coping style consistency across stressful situations was assessed. Nurses reporting both stressors were classified as either problem or emotion-focused copers in each situation. Extent of agreement was determined by calculating the phi-coefficient between coping styles across stressors.
Results

Differences Among Hospitals

To determine if differences among hospitals might have played a significant role in determining results, a multivariate analysis of variance (MANOVA) was conducted. Wilks' criterion, testing for an overall hospital effect on all variables measured, was nonsignificant ($F_{99, 314} = 1.23$), indicating that any effects due to hospital differences were minimal.

Reliability of the Measures

The internal consistencies of the stress, Type A behavior, felt strain, organizational commitment, and turnover intention scales, as well as the four coping measures (problem-focused and emotion-focused coping with role overload; problem-focused and emotion-focused coping with role conflict) were determined using Cronbach's coefficient alpha. These reliabilities are presented in Table 2 along with the scale length, number of respondents, mean, and standard deviation of each measure. With the exception of the Framingham Type A Scale, all stress and outcome measures exhibited acceptable reliabilities ($\alpha > .70$).

Reliabilities of the problem-focused coping subscales (with role overload and with role conflict) and of the
measure of emotion-focused coping with role conflict were also acceptable. Reliability of the measure of emotion-focused coping with role overload was relatively low (.54). Elimination of two items (numbers 9 and 10) exhibiting low average correlations with other subscale items increased coefficient alpha from .54 to .62. This shorter, more reliable version of the subscale was used in all subsequent analyses. Calculations revealed that elimination of the same two items from the measure of emotion-focused coping with role conflict increased the coefficient alpha from .74 to .79; therefore, to maintain consistency between the contents of the emotion-focused coping subscales, analyses were conducted with items 9 and 10 omitted from this subscale also.

Interrelations Among Variables

Zero-order correlations for the Type A, stress, and outcome measures are displayed in Table 3. Correlations between these measures and the four coping subscales

Insert Table 3 about here

measures and the four coping subscales, as well as the correlations among the subscales, are shown in Table 4.

Insert Table 4 about here

Tests of Hypotheses

Relations between stressors and commitment and strain. Hypothesis 1 proposed that role overload and role conflict
would each correlate negatively with organizational commitment. This hypothesis was supported; significant zero-order correlations (see Table 3) were found between organizational commitment and both role overload \((r = -.18, p < .05)\) and role conflict \((r = -.38, p < .001)\).

Hypothesis 2, proposing a positive correlation between both role overload and felt strain and role conflict and felt strain, was also supported. The same significant zero-order correlation \((r = .27, p < .01)\) was obtained for each of these relations (Table 3).

Prediction of turnover intention and performance. Hypothesis 3 proposed that organizational commitment would be a significant negative predictor of turnover intention, whereas felt strain would be a significant positive predictor. Partial support was found for this hypothesis (see Table 5); multiple regression revealed a significant negative relation between organizational commitment and turnover intention \((t = -13.81, p < .001)\), while felt strain did not contribute significantly to the prediction of turnover intention \((t = -.39)\).

Multiple regression analysis was also used to test Hypothesis 4, the prediction of performance from both organizational commitment and felt strain. The proposed relations were not supported (see Table 6); neither a significant positive relation between organizational
commitment and performance nor a significant negative

relation between felt strain and performance was found
($F_{2, 127} = 1.16$).

The moderating effect of coping. Hypotheses 5 through
10 examined the proposed moderating effect of coping
on the stress-outcome process, and were tested using
moderated multiple regression analysis. Hypothesis 5
proposed that the relations between each stressor
and organizational commitment would be moderated by a
nurse's use of problem-focused coping. Tables 7a and
7b present the results of these analyses. Regression

of organizational commitment on role overload and
problem-focused coping with overload yielded an $R^2$ of .06
($F_{2,113} = 3.53, p < .05$). Inclusion of the interaction
term in the subsequent regression did not substantially
increase the amount of explained variance in organizational
commitment ($t = .61$). Similar results were obtained
for the effect of problem-focused coping on the role
conflict-organizational commitment relation. Although
the two-variable model yielded a significant $R^2$ (.10,
$F_{2, 73} = 4.30, p < .05$), addition of the interaction
term did not significantly increase $R^2$ ($t = 1.60$).
Hypothesis 5, therefore, was not supported.

Hypothesis 6 proposed that the relation between
each stressor and felt strain would be moderated by a nurse's use of problem-focused coping (see Tables 8a and 8b). Role overload and problem-focused coping together accounted for a small, but significant portion of the variance in felt strain ($R^2 = .11, F_{2, 113} = 7.28, p < .01$). The addition of the interaction term yielded no increase in $R^2$ ($t = .19$). The amount of variance in felt strain predicted from role conflict and problem-focused coping was nonsignificant ($R^2 = .06, F_{2, 73} = 2.29$); inclusion of the interaction term did not significantly increase $R^2$ ($t = .89$). In sum, Hypothesis 6 was not supported.

Hypothesis 7 proposed that emotion-focused coping behaviors would moderate the relation between each stressor and organizational commitment. The results obtained were similar to those in Hypothesis 6, and are shown in Tables 9a and 9b. The combination of role overload and emotion-focused coping with overload predicted a small, but significant portion of organizational commitment ($R^2 = .07, F_{2, 113} = 4.13, p < .05$), and the addition of the interaction term to the regression did not increase $R^2$ ($t = .71$). Role conflict and emotion-focused coping with conflict together did not significantly predict organizational commitment ($R^2 = .07, F_{2, 73} = 2.70$);
the interaction term did not substantially improve $R^2$ ($t = .57$).

Hypothesis 8 examined the moderating effect of a nurse's emotion-focused coping on the stress-felt strain process. The results of the tests of this hypothesis are given in Tables 10a and 10b. As was found for the prediction of organizational commitment, the combined

**Insert Tables 10a and 10b about here**

effect of role overload and emotion-focused coping with overload accounted for a small, but significant portion of the variance in felt strain ($R^2 = .14, F_{2, 113} = 9.26, p < .001$), and $R^2$ remained unchanged with the addition of the interaction term ($t = .22$). As was the case for organizational commitment, felt strain was not significantly predicted from role conflict and emotion-focused coping with conflict ($R^2 = .05, F_{2, 73} = 1.92$); the interaction effect was not significant ($t = .40$). Hypothesis 8 was not supported.

Hypothesis 9 proposed that the moderating effect of problem-focused coping on organizational commitment would be significantly greater than that of emotion-focused coping (see Tables 11a and 11b). Initially, the three variable model of role overload, emotion-focused coping

**Insert Tables 11a and 11b about here**

with overload, and problem-focused coping with overload (Table 11a) was used to predict organizational commitment,
and explained a significant portion of its variance ($R^2 = .09, F_{3, 112} = 3.59, p < .05$). Interaction terms were then added to this model, but did not explain a significantly larger portion of the variance in organizational commitment ($t = 1.03$). This pattern of results emerged also when assessing the comparative effects of coping with role conflict on the conflict-organizational commitment relation (Table 11b). Combined, role conflict and the two coping-with-conflict subscales accounted for a significant part of the variance in organizational commitment ($R^2 = .10, F_{3, 72} = 2.85, p < .05$). Addition of the interaction terms, however, did not significantly increase $R^2$ ($t = 1.71$).

Hypothesis 10, the final one to examine proposed moderating effects of coping, predicted that problem-focused coping would be a significantly stronger moderator of the relation between each stressor and felt strain than would emotion-focused coping. As with the previous hypothesis, results did not support this prediction (see Tables 12a and 12b). Examined together, role overload, 

**Insert Tables 12a and 12b about here**

problem-focused coping with overload, and emotion-focused coping with overload (Table 12a) explained a significant portion of the variance in felt strain ($R^2 = .23, F_{3, 112} = 11.16, p < .001$), but addition of the interaction terms did not substantially increase the $R^2$ ($t = .85$).
Similar results were obtained for role conflict (Table 12b) which, when entered with emotion-focused and problem-focused coping with conflict, significantly predicted felt strain ($R^2 = .13, F_{3, 72} = 3.65, p < .05$). The conflict X coping interaction terms did not significantly improve the prediction of felt strain ($t = .50$). Hypothesis 10, therefore, was not supported.

**The role of Type A behavior.** Hypotheses 11 and 12 addressed the role of Type A behavior in the stress-coping-outcome process. Consistent with Hypothesis 11, Type A behavior correlated positively with each of the stressors (see Table 3); significant positive correlations were found between Type A behavior and both role overload ($r = .45, p < .001$) and role conflict ($r = .32, p < .001$). Hypothesis 12 proposed that Type A behavior would moderate the relation between each stressor and felt strain. This hypothesis was not supported for the relation between either stressor and felt strain (see Tables 13a and 13b). Role overload and Type A together predicted a significant amount of the variance in felt strain ($R^2 = .31, F_{2, 134} = 29.62, p < .001$), but inclusion of the interaction term did not increase $R^2$ ($t = .64$). Role conflict and Type A also yielded a significant $R^2$ ($F_{2, 134} = 33.22, p < .001$); little additional variance was accounted for by including the interaction term ($t = .63$).
Consistency of coping. The final issue initially raised in this study assessed the consistency with which a nurse would use one predominant coping orientation across stressful situations. Extent of agreement was determined by calculating the phi-coefficient between coping styles across stressors. A significant phi-coefficient was obtained ($\phi = .38$, $p < .01$), indicating consistency of predominant coping style across stressful situations.

Path Analysis

The preceding analyses failed to substantiate the proposed moderating role of coping in the stress-outcome process. One tenable explanation for this is that the model originally developed does not accurately depict the relations among the stress, coping, and outcome measures. Examination of the zero-order correlations suggests that systematic relations among the constructs do exist; therefore, post hoc, a revised model was proposed and tested using path analysis. Two conceptual revisions distinguish this model from the original. The first is that two general coping variables were created by combining the two problem-focused subscales ($r = .82$) and the two emotion-focused subscales ($r = .82$). This was done to reduce the complexity of the analysis and increase the interpretability of the results. The second revision, one fundamental to a path analysis, entailed
a causal ordering of the variables. The sequencing of variables and identification of paths for this model were theory-driven (e.g., French & Caplan, 1972), guided by existing findings (e.g., Kemery, Bedeian, Mossholder, & Touliatos, 1985; Parasuraman & Cleek, 1984), and based on relations among variables in the original model. Consistent with past research (e.g., Newton & Keenan, 1985), Type A was viewed as a precursor of stress. Also, because the moderating role of coping was not supported, this construct was reconceptualized as directly resulting from stress and affecting several outcomes. And, because organizational commitment was more strongly associated with turnover intention than was felt strain, commitment was conceptualized as intervening between strain and turnover intention. Figure 6 displays these paths and their accompanying zero-order coefficients. Although

[Insert Figure 6 about here]

a weak causal ordering of variables is implied, the tentative nature of this revised model is acknowledged. This post hoc examination is offered as one possible explanation of the data, and is intended to serve as a point of departure for subsequent investigations in the area.

Closer examination of Figure 6 reveals that the revised model contains one exogenous variable (Type A behavior), while the remaining variables are endogenous.
No attempt is made to account for the variation in exogenous variables because they are assumed to be determined by causes outside the system. Arrows leading from one variable to another suggest the causal influence of the first variable on the second. A curved line without arrows is positioned between role overload and role conflict to indicate that any significant relation here results from noncausal covariation between the constructs.

Figure 7 depicts the path diagram displaying the path coefficients to be generated in the analysis. This model is recursive; causal flow is unidirectional. Recursive models permit the use of ordinary least squares solutions to estimate the path coefficients in each path analytic equation (Cohen & Cohen, 1983).

For each coefficient, the first subscript indicates the dependent variable, and the second subscript the independent variable. Typically, these paths are also represented by a system of linear equations (see Table 14). Another feature of many path diagrams is the designation of the effects of latent variables on endogenous variables in the model. These latent variables (E's) represent all unspecified sources of variation for a given measure.
Path coefficients (standardized beta weights) were estimated by regressing a specified dependent variable on all variables with paths leading to it; the analysis is, essentially, a series of hierarchical regressions. For any predicted variable, the number of necessary regression solutions equals the number of independent variables. For example, the prediction of $X_1$ (turnover intention) involved the regression of $X_1$ on $X_2$ (organizational commitment), followed by the regression of $X_1$ on $X_2$ and $X_3$ (performance), and so on until $X_2$-$X_6$ and $X_8$ had been included in the regression equation predicting $X_1$.

This model was tested, and nonsignificant paths were eliminated. The restricted model was then re-tested with regressions performed on the remaining significant paths. This yielded the paths and coefficients included in the revised path model depicted in Figure 8. Also shown in this model are the path coefficients from latent variables associated with each endogenous variable, estimated by the formula $1-R^2$ where $R^2$ is the variance accounted for by all causally-prior variables (Kim & Kahout, 1975).

The following results describe only those paths significant in the revised path model; all other originally-proposed paths were found nonsignificant and...
were eliminated. Turnover intention was associated with a nurse's level of organizational commitment; this model yielded an $R^2$ of .60 (see Table 15 for results of this and remaining analyses). The path coefficient from organizational commitment to turnover intention was -.78.

Organizational commitment was affected by a nurse's level of felt strain, yielding an $R^2$ of .10. The path coefficient from strain to organizational commitment was -.31. Three significant paths leading to felt strain were found. Emotion-focused coping ($\beta = .27$), problem-focused coping ($\beta = -.17$), and Type A behavior ($\beta = .45$) all significantly predicted a nurse's level of strain. Combined, these three variables produced an $R^2$ of .37.

Emotion-focused coping was predicted only by role conflict ($\beta = .24$, $R^2 = .06$). No significant paths emerged for the prediction of problem-focused coping. Additional analysis revealed that the strongest predictive combination for this coping variable was role conflict and Type A behavior, explaining a nonsignificant 7% of the variance in problem-focused coping. The asterisk beside this variable designates its tenuous status.

Because Type A behavior was proposed as the only causal variable for both role overload and role conflict, the obtained path coefficients equaled the zero-order correlations for each of these relations. The path
coefficient from Type A to role overload was .45 ($R^2 = .20$), while that between Type A and role conflict was .32 ($R^2 = .10$).
Discussion

Discussion of the findings of this study will be presented in the following manner. First, results of the originally-proposed model will be discussed by organizing them into four subsections: (a) the role of Type A behavior, (b) relations between each role stress and strain and commitment, (c) prediction of turnover intention and performance, and (d) the moderating effect of coping. Pertinent path analysis results will be included in each subsection. This will be followed by an overview of the path analysis findings. Limitations of the study will then be discussed, followed by theoretical and practical implications of the findings. Finally, directions for future research will be suggested.

Test of the Original Model and Pertinent Path Analysis Results

The role of Type A behavior. Consistent with previous research (e.g., Orpen, 1982), Type A nurses experienced more role overload and role conflict than did Type B nurses. Path analysis results corroborated these findings and also indicated that Type A behavior directly contributed to nurses' levels of strain, a result at odds with existing findings which suggest that Type A moderates the stress-strain relation (Ivancevich et. al., 1982).
Established relations between each role stress and both felt strain (Parasuraman & Alutto, 1984) and organizational commitment (Fisher & Gittelson, 1983) were supported; as nurses experienced greater levels of role overload and role conflict, they reported feeling more strain and less commitment. Path analysis results of the present study, however, indicated that coping was a more significant factor than job stress in predicting felt strain, and that strain was the only significant predictor of organizational commitment. These findings suggest that conclusions drawn from existing job stress-outcome studies which did not examine coping responses might be simplistic.

Prediction of turnover intention and performance.
Felt strain and organizational commitment were posited to independently affect performance and turnover intention. Performance was not predicted, a result common to several job stress studies (Van Sell et al., 1981) and attributable to the fact that performance ratings are influenced by a wide variety of factors. Organizational commitment did not predict turnover intention; nurses strongly committed to their hospital were less likely to report they would leave. This lends support to the existing body organizational commitment research (e.g., Porter et al., 1976). The path analysis underscored these results.
The role of coping. Though the moderating role of coping was not established, the positive effect of problem-focused and negative effect of emotion-focused coping on felt strain was supported in the path analysis. These findings suggest that coping is more accurately viewed as an intervening step between stress perceptions and strain responses than as a moderator of the stress-strain process.

Test of the Path Model: Findings and Implications

Although certain path analysis results have been discussed, an overview of the model is in order. The results indicated that nurses, particularly Type A nurses, commonly experienced role overload and role conflict during their early stages of employment. The small portion of the variance in either role stress construct explained by the path model suggests that nurses' reports of overload and conflict were influenced by factors other than those assessed in this study. Other determinants of role stress might have included resource inadequacy (Parasuraman & Alutto, 1981) and general organizational climate (Hendrix et al., 1985).

Regarding coping behavior, the analysis indicated that role conflict influenced emotion-focused coping. The limited prediction of coping suggests that an expanded model, perhaps examining coping longitudinally (e.g.,
Folkman & Lazarus, 1985), might better explain nurses' coping behavior.

The path analysis results suggested that both coping styles and Type A behavior were important determinants of nurses' feelings of strain. This implies that Type A nurses relying on emotion-focused and using little problem-focused coping in response to job stresses experienced the most strain.

The factor significantly associated with organizational commitment, in this model, was felt strain; nurses' commitment, in turn, was strongly inversely related to turnover intention. These findings provide support for the body of research depicting this ordering of job stress outcomes (e.g., Kemery et al., 1985).

Limitations of the Present Research

Initially, the generalizability of the present results must be addressed. Responses obtained from recently-graduated nurses working in hospitals most likely differ both from those of more experienced nurses and nurses employed in other settings. This should be considered if the present findings are applied to these groups.

Regarding more specific concerns, it is possible that the items comprising the role stress and coping scales were too general, inadequately sensitive to either capture nursing stresses or discriminate among the coping behaviors available to nurses. Nursing stress and coping
studies both commonly employ scales of items developed to reflect specific stressful nursing conditions (e.g., Jacobson, 1977).

Also, the general performance rating item used in the present study may have been an inadequate substitute for a more complete performance assessment. A more thorough rating would have forced supervisors to consider more information when evaluating a nurse's performance, most likely increasing the variance among performance ratings, and thereby improving the magnitude of relations between performance and other measures.

Additionally, the present study relied heavily upon self-report measures. More objective indices of stress, strain, and performance would have been preferable and strengthened any conclusions drawn.

Finally, the limitations of the path model must be acknowledged. The relatively small sample size curtailed the power of this analysis. Also, questionable reliability of and intercorrelation between certain constructs included in the model necessitate cautious interpretation of the results. In addition, path model development and testing are, traditionally, theory-based; the present model was developed post hoc. This model, therefore, is perhaps best viewed as providing possible interpretations rather than firm conclusions about the relations therein.
Theoretical and Applied Significance of the Findings

Theoretical significance. Theories of job stress, coping behavior, and Type A behavior formed the basis for this research, and several of the findings are of theoretical importance. Pertinent to nursing job stress, results confirm the established prominence of role overload (Gelfant, 1983) and role conflict (Kramer, 1974). Of particular note is the higher incidence of overload; 115 reports of overload were recorded, compared to 75 reports of conflict. Perhaps nursing researchers have underestimated the success with which nursing education programs prepare students for the conflicts inherent in the transition from school to job, or possibly the nurses in this study had been on their units too briefly to encounter conflicting demands. In any case, this unexpectedly-low incidence (55%) of role conflict calls in to question the suggested prevalence of early "professional-bureaucratic" conflicts (Gunning, 1983; Kramer, 1974).

Relatedly, this study is of theoretical significance because it examined the responses of recently-graduated nurses. While not providing a direct test of organizational socialization theory (Feldman, 1976, 1981), the results do offer insight into the experiences of new organization members during what is most likely their "encounter" phase of socialization. For example, the present findings
might indicate that stresses impinge upon new nurses at different times; role overload might be immediately experienced, while role conflict develops later on.

This research contributes to the theoretical understanding of Type A behavior in two ways. First, the study is important because it examined Type A behavior in professional women, a population about which little Type A data exist (Sparacino, 1979). Also significant is the study's focus on the Type A behavior of staff, rather than managerial employees; the predominance of research addressing Type A behavior and work has used managers (e.g., Howard et al., 1976; Orpen, 1982).

The results of this study, some confirming and some refuting previous coping findings, hold importance for coping theory research. Problem-focused coping has been shown to have little effect on felt stress (Parasuraman & Cleek, 1984); in the present study, however, problem-focused coping was inversely related to nurses' feelings of strain. This finding, therefore, provides support for the theorized efficacy of problem-focused coping and points to the need for research directed toward resolving the theoretical status of problem-focused coping. Results also indicated that emotion-focused coping can be maladaptive, an observation which concurs with the findings of Parasuraman and Cleek (1984), and which
provides additional understanding of the theoretical position of this coping strategy.

Also noteworthy is that only role conflict predicted either of the coping strategies: emotion-focused coping. Huckaby and Jagla (1979) proposed that overload and conflict, in particular, are stressful for nurses because these strategies are among the most difficult to control. Results of the present study could be interpreted as supportive of this proposal; perhaps coping did not directly follow in response to either stressor because nurses do view them as largely uncontrollable. Theoretically, emotion-focused coping in response to role conflict could also imply either or both of the following: (a) the experience of role conflict is more emotionally-taxing for nurses than is role overload, (b) nurses attempt to cope more with role conflict because they view outcomes of conflict as more important (potentially-damaging) than those of role overload.

Applied significance. Several applications in the areas of nurse education and training are suggested by the present findings. Because Type A nurses most intensely feel the effects of stresses and strain, stress management programs should include components specifically designed to aid Type As. Research suggests that Type As find uncontrollable stressors (e.g., overload), particularly aversive (Brunson & Matthews, 1981; Glass, 1977).
Interventions based on cognitive restructuring (Meichenbaum, 1977) might prove effective in altering Type A nurses' maladaptive perceptual and behavioral responses to "uncontrollable" stressors.

The weak association between nurses' stress reports and coping behaviors suggests that, although nurses did engage in coping, these behaviors were not offered directly in response to a stressful event. Perhaps nurse education and orientation programs should provide more explicit instruction describing coping behaviors available to nurses encountering job stresses. This seems particularly pertinent for role overload, a stress experienced by most staff nurses (Tierney & Strom, 1980). Early educational or professional experience with this stress might imbue "learned helplessness" (Seligman, 1975), leaving nurses feeling powerless to alter the causes or effects of overload. If this does explain the lack of association between overload and coping, then nurses would benefit from programs which enable them to feel effectual when trying to cope with role overload.

Relatedly, and specifically addressing the lack of problem-focused coping in response to either stressor, nurses might use this strategy more if they were more aware of (and confident in) organizational channels available for these actions. Orientation and in-service programs familiarizing nurses with these potential coping
avenues might increase the use of problem-focused coping responses to job stress.

Results of this study point to another education and training implication: reduction of emotion-focused coping in new nurses. This coping strategy can lead to increased felt strain; coping education instruction should be offered to all nurses, and designed to decrease reliance on emotion-focused coping behaviors in situations where they will be maladaptive.

Because felt strain is directly associated with reduced organizational commitment, stress management programs which are successful in helping nurses cope with the emotional and physical costs of stress should increase the level of organizational commitment in nurses feeling strained. Employee Assistance Programs, because they attempt to involve employees under substantial distress, should be particularly effective in reducing the organizational costs of felt strain.

Finally, the results of this study imply that one approach to the severe retention problem in nursing (Fagin, 1980) might be periodic assessment of nurses' organizational commitment. Individualized interventions could be implemented when commitment level is found to be declining. If the decrease is detected in time, this action might impact on turnover intention.
**Future Research**

Findings of this study suggest several directions for future research. To generate greater understanding of how workers cope with job stress, future investigations must be methodologically more sound and conceptually more complete.

In particular, greater insight into the coping process must be gained. Several issues require attention, including: (a) the effect on coping of appraisal of control over both the stressful situation and the coping response offered, (b) the role of appraisal of importance of coping with a stressful situation, and (c) the effect of past coping attempts on future efforts. These issues are just beginning to receive theoretical treatment in the organizational behavior literature (e.g., Schuler, 1984). Other basic investigations must focus on the validity of coping scales and the integrity of coping self-reports. It is essential to determine if the coping instruments currently in use do relate to actual coping behavior.

To improve understanding of job stress and coping, programmatic research must be undertaken to assess a range of determinants of coping decisions, including the effects of specific stressors, personal factors, and organizational variables. Coping behaviors must continue to be related to specific job stresses. It would be useful to determine if consistency of coping
style, as was found in the present study, is actually more adaptive than coping flexibility across stressful situations. Also, by way of several focused studies, various individual differences and organizational factors must be assessed. At the personal level, existing evidence suggests that education (Kramer, 1974), sex (Parasuraman & Cleek, 1983), and tenure (Parasuraman & Cleek, 1983) are related to coping behavior. In addition, personality factors (other than Type A behavior) including locus of control (Parkes, 1984) and "hardiness" (Kobasa & Puccetti, 1983) have been shown to influence appraisal of a stressful situation, thereby affecting coping behavior. Organizational factors, including participation in decision making (Jackson, 1983), departmental structure (Marino & White, 1985), and supervisory leadership (Bedeian et al., 1981) have been related to job stress; but the influence of organizational factors in determining coping responses to job stress, while acknowledged as potentially important (Schuler, 1984), awaits empirical investigation. Future examinations of job stress and coping should also adopt the holistic, causal-modeling approach to job stress employed by Hendrix et al. (1984), characterized by inclusion of non-work factors and physiological outcomes.

The preceding comments regarding the directions of general job stress and coping research also pertain to nursing. Given the focus of the present study, more
specific research suggestions for nursing job stress
and coping are in order. Accepting that the most stressful
job experiences in nursing (death of a patient, overload,
nurse-physician conflicts) are the most uncontrollable
(Huckaby & Jagla, 1979), and are often psychosocial in
nature (Jacobson, 1977), further examination of nurses'
use of psychosocial support systems might prove to be
enlightening. The role of Type A behavior in nursing
also requires continued study to clarify the relation
between Type A and the work setting. Tierney and Strom
(1980) suggest that some nurses are incorrectly classified
as Type As when, actually, work conditions are responsible
for much of their Type A behavior. Finally, implementation
and evaluation of coping style training and stress
management programs for nurses seems warranted. This
suggestion, of course, is applicable to all professions
and occupations.

In conclusion, this study involved the development
and test of a job stress and coping model which integrated
general job stress and coping theories and applied them
to specific problems in nursing. Significant moderating
effects of coping were not found, but a path model was
proposed post hoc. Because diverse groups of investigators
are interested in stress and coping, muti-disciplinary
approaches must continue if the vast literature is to
be synthesized and the complex processes understood.
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analysis, model, and literature review. Personnel

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organizationally valued states: Higher order needs as

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APPENDIX A

Informed Consent Sheet
CONSENT FORM

Code
Number:______

The purpose of this study has been explained to me, and I have been given the opportunity to ask questions about the research. I understand that only the investigator will have access to the information provided. I also understand that my individual responses will not be divulged in the final report submitted to the administration; this report will describe the average results obtained from participants from this hospital as well as results obtained across hospitals used in this study.

Signed:_________________________________________
APPENDIX B

Explanatory Letter Left for "Missed" Nurses
Dear

My name is Brian Bienn. I'm a doctoral student at L.S.U. in Baton Rouge, and am collecting data for my dissertation. I regret that I am unable to speak with you in person, but would like to take this opportunity to explain the basics of my study and ask for your participation.

My major area of study is Organizational Psychology, a field in which we investigate the behavior of people in work settings. For my dissertation, I developed a model of job stress and coping. The basic idea behind this is that we all use certain coping strategies when dealing with situations we perceive as stressful. I'm interested in obtaining a better understanding of the work situations that new nurses see as stressful and the coping strategies used to deal with them. I have worked in nursing service departments myself, so I'm familiar with the work setting. I'm specifically interested in the responses of recently-graduated nurses because of the importance of this early period of adapting to a job.

I've developed a questionnaire (in the envelope) which assesses job stressors, coping strategies, and several outcomes, and I'm asking for your help. I'd be greatly appreciative if you would take the time within the next week to complete the questionnaire (at home in your spare time). This should take only about 15 minutes, and you don't have to do it all at one time. When you've finished, simply place the survey back in the envelope and drop it in the mail.

I hope you find time to assist me in this research. You have my assurance that all your responses will remain confidential. The final report submitted to the nursing director will describe how nurses here compared with those in other hospitals in the sample. In addition, a summary of the overall results will be provided.

Thank you for your time and interest.

Sincerely,

Brian Bienn, M.A.
APPENDIX C

Explanatory Letter Left for "Missed" Supervisors
Dear

My name is Brian Bienn. I'm a doctoral student in Organizational Psychology at L.S.U. in Baton Rouge. I regret that I am unable to speak with you in person, but would like to use this opportunity to describe the basics of my research and the part you've been requested to play.

As my dissertation, I developed a general model of job stress and coping, and have decided to use recently-graduated nurses as my research population. The premise is that we all must adapt to stresses we encounter on the job, and that successful early adaptation is in some way related to the coping strategies we use. Research suggests that most of us tend to use a combination of problem-focused and emotion-focused coping strategies when dealing with a stressful situation, but one of these predominates. I am trying to obtain a better understanding of the sources of job stress for new nurses, how they cope with these stressors, and whether one coping strategy is more effective than the other in helping the nurses adapt to the job.

I am operationalizing effective adaptation in terms of the following criteria: a felt strain index, a measure of commitment to the organization, intention to leave the job, and performance.

The questionnaire to which the nurses will respond measures all of the above except performance; I am asking you to assist me in this research by providing a general performance rating for each new nurse you supervise. You are asked to compare the performance of each new nurse to the average performance of all new nurses you have supervised.

This performance measure is of vital importance to the study; I am very appreciative of your assistance. Thank you for your time and interest.

Sincerely,

Brian Bienn, M.A.
APPENDIX D

Hospital # 10 Informed Consent Sheet
CONSENT FORM

Code
Number: _____

The purpose of this study has been explained to me, and I have been given the opportunity to ask questions about the research. I am aware that my supervisor will be providing a general rating of my performance, and that this evaluation is to be shared with me prior to being submitted to the investigator. I understand that only the investigator will have access to the information provided. I also understand that my individual responses will not be divulged in the final report submitted to the administration; this report will describe the average results obtained from participants from this hospital as well as results obtained across hospitals used in the study.

Signed: ____________________________________________
APPENDIX E

Hospital # 10 Performance Rating Form
Supervisory Rating Form

Nurse being evaluated (ratee): _______________________________

Supervisor (rater): ___________________________________________

Nurse's (ratee's) signature: _________________________________

INSTRUCTIONS:
This global job performance rating is being obtained
in conjunction with a study investigating how recently-
graduated nurses adapt to their initial period of employment.
Before responding to this item, think of how well (or
poorly) this nurse has performed required assignments
and duties during the period he/she has been assigned
to your unit. Considering the early job performance
of all the nurses you have supervised on this unit, how
does the performance of this nurse at this stage of
employment compare with that of these other nurses with
similar amounts of experience?
After completing the rating, share it with the nurse
being rated and have him/her sign the form. Then simply
mail the form to me. THANK YOU for your cooperation.

Compared to the performance of other recently-graduated
nurses with a similar amount of on-unit experience, the
nurse being evaluated has performed (circle one):

<table>
<thead>
<tr>
<th>Much Worse Than Average</th>
<th>Worse Than Average</th>
<th>Better Than Average</th>
<th>Much Better Than Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX F

Role Conflict and Role Overload Scales
Role Conflict Items

1. I have to do things that should be done differently.
2. I have to buck a rule or policy in order to carry out an assignment.
3. I work with two or more groups who operate quite differently.
4. I receive incompatible requests from two or more people.
5. I do things that are apt to be accepted by one person and not accepted by others.
6. I work on unnecessary things.
7. I receive an assignment without the manpower to complete it.
8. I receive an assignment without adequate resources and materials to execute it.

Role Overload Items

1. I don't have enough hours in the day to finish my job.
2. I am responsible for an almost unmanageable number of work projects or assignments going on at the same time.
3. I am responsible for turning out a large quantity of work.
4. My job involves much more responsibility for people (i.e., subordinates or clients) than for procedures.
5. I have a workload that is simply too heavy to finish in an ordinary day.

Responses: "never", "rarely", "occasionally", "sometimes", "often", "usually", "always", scored 1 to 7 respectively.
APPENDIX G

The Framingham Type A Behavior Scale
### Framingham Type A Behavior Scale

#### Part I.

**DESCRIPTS ME:**

1. I am hard driving and competitive. 1 2 3 4
2. I am usually pressed for time. 1 2 3 4
3. I am bossy or dominating. 1 2 3 4
4. I have a strong need to excel in most things. 1 2 3 4
5. I eat too quickly. 1 2 3 4
6. I get upset when I have to wait for anything. 1 2 3 4

Responses: "not at all", "somewhat", "fairly well", "very well", scored 1 to 4 respectively.

#### Part II.

**DESCRIPTS ME:**

At the end of an average day:

1. I often feel very pressed for time. 1 2
2. Work stays with me so I often think about it after working hours. 1 2
3. Work often stretches me to the very limits of my energy and capacity. 1 2
4. I often feel uncertain, uncomfortable, or dissatisfied with how well I am doing. 1 2

Responses: "yes" (1) or "no" (2), scored 4 and 1 respectively.
APPENDIX H

Outcome Measures
Felt Strain

Recently I have:

1. been able to concentrate on whatever I'm doing. (R)
2. lost much sleep over worry.
3. felt that I'm playing a useful part in things. (R)
4. felt capable of making decisions about things. (R)
5. felt constantly under strain.
6. felt I couldn't overcome my difficulties.
7. been able to enjoy my normal day-to-day activities. (R)
8. been able to face up to my problems. (R)
9. been feeling unhappy and depressed.
10. been losing confidence in myself.
11. been thinking of myself as a worthless person.
12. been feeling reasonably happy all things considered. (R)

Responses: "never", "rarely", "occasionally", "sometimes", "often", "usually", "always", scored 1 to 7 respectively. "R" designates reverse scoring.
Organizational Commitment

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this hospital be successful.

2. I talk up this hospital to my friends as a great organization to work for.

3. I feel very little loyalty to this hospital. (R)

4. I would accept almost any type of job assignment in order to keep working for this hospital.

5. I find that my values and the hospital's values are very similar.

6. I am proud to tell others that I am part of this hospital.

7. I could just as well be working for a different organization as long as the work were similar. (R)

8. This hospital really inspires the very best in me in the way of job performance.

9. It would take very little change in my present circumstances to cause me to leave this hospital. (R)

10. I am extremely glad that I chose this hospital to work for, over others I was considering at the time I joined.

11. There's not too much to be gained by sticking with this hospital indefinitely. (R)

12. Often, I find it difficult to agree with this hospital's policies on important matters relating to its employees. (R)

13. I really care about the fate of this hospital.

14. For me, this is the best of all possible hospitals for which to work.

15. Deciding to work for this hospital was a definite mistake on my part. (R)

Responses: "strongly disagree", "moderately disagree", "slightly disagree", "neither", "slightly agree", "moderately agree", "strongly agree", scored 1 to 7 respectively. "R" designates reverse scoring.
**Turnover Intention**

1. If completely free to choose, I would prefer to continue working in this hospital rather than go to a nursing job elsewhere. (R)

2. I would like to remain employed by this hospital for a very long period of time. (R)

3. If I had to quit work for a while (for example because of illness or pregnancy), it is very likely that I would return to this hospital to work. (R)

Responses: "strongly disagree", "moderately disagree", "slightly disagree", "neither", "slightly agree", "moderately agree", "strongly agree", scored 1 to 7 respectively. "R" designates reverse scoring.
Performance Rating Item

Compared to the performance of other recently-graduated nurses with a similar amount of on-unit experience, the nurse being evaluated has performed (circle one):

<table>
<thead>
<tr>
<th>Much Worse Than Average</th>
<th>Worse Than Average</th>
<th>Better Than Average</th>
<th>Much Better Than Average</th>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX I

Coping Scales
Coping Scale

In dealing with (role ________), I ...

Problem-focused items:
1. Just concentrate on what I have to do next -- the next step.
2. Get the person responsible to change his/her mind.
3. Draw on my past experiences from similar situations I have been in.
4. I know what has to be done, so I double my efforts and try harder to make things work.
5. Make a plan of action and follow it.
6. Talk to someone who can do something about the problem.
7. Change something so things will turn out all right.
8. Stand my ground and fight for what I want.
9. Come up with a couple of different solutions to the problem.
10. Do something that I'm not sure will work, but at least I'm doing something.
11. Think about how a person I admire would handle the situation, and use that as a model.
12. Ask someone I respect for advice and follow it.

Emotion-focused items:
1. Wish that I could change the way I feel.
2. Keep others from knowing how bad things are.
3. Daydream or imagine I'm in a better time or place.
4. Wish that I could change what happened.
5. Accept the situation, since nothing can be done.
6. Criticize or lecture myself.
7. Joke about it (the situation).
8. Go along as if nothing happened.
9. Concentrate on something good that can come out of the whole thing.
10. Let my feelings out somehow.
11. Try to forget the whole thing.
12. Tell myself things that make me feel better.

Responses: "don't use", "use somewhat", "use quite a bit", "use a great deal", scored 0 to 3 respectively.
APPENDIX J

Demographic Items
Demographic Information

Sex: Female Male

Type of nursing program graduated from:

Nursing specialty area:

Shift assignment (most frequent):

_______ 7-3

_______ 3-11

_______ 11-7

_______ Other: (specify)
<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of Questionnaires Distributed</th>
<th>Number of Questionnaires Returned</th>
<th>Return Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1</td>
<td>23</td>
<td>13</td>
<td>57%</td>
</tr>
<tr>
<td># 2</td>
<td>12</td>
<td>8</td>
<td>75%</td>
</tr>
<tr>
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<td>57</td>
<td>34</td>
<td>60%</td>
</tr>
<tr>
<td># 4</td>
<td>13</td>
<td>10</td>
<td>77%</td>
</tr>
<tr>
<td># 5</td>
<td>13</td>
<td>6</td>
<td>46%</td>
</tr>
<tr>
<td># 6</td>
<td>12</td>
<td>7</td>
<td>58%</td>
</tr>
<tr>
<td># 7</td>
<td>8</td>
<td>6</td>
<td>75%</td>
</tr>
<tr>
<td># 8</td>
<td>11</td>
<td>8</td>
<td>73%</td>
</tr>
<tr>
<td># 9</td>
<td>36</td>
<td>25</td>
<td>69%</td>
</tr>
<tr>
<td># 10</td>
<td>31</td>
<td>17</td>
<td>55%</td>
</tr>
</tbody>
</table>

**TOTAL:** 219  **TOTAL:** 136  **AVERAGE:** 62%
Table 2

Scale Length, Number of Respondents, Mean, Standard Deviation, and Reliability of Measures

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<tr>
<th>Measure</th>
<th>Number of Items</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Reliabilitya</th>
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<tr>
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<td>136</td>
<td>32.17</td>
<td>9.7</td>
<td>.88</td>
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<td>.89</td>
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<td>8.20</td>
<td>4.79</td>
<td>.82</td>
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<td>Performance</td>
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<td>Emotion-focused coping/overload</td>
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<td>115</td>
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<td>4.24</td>
<td>.62</td>
</tr>
<tr>
<td>Problem-focused coping/overload</td>
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<td>115</td>
<td>20.50</td>
<td>5.34</td>
<td>.76</td>
</tr>
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<td>.79</td>
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<td>75</td>
<td>21.59</td>
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a Reliabilities based on Coefficient Alpha.

b Single-item measure.
Table 3
Zero-Order Correlations Among Stress and Outcome Measures

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</tr>
<tr>
<td>2. Conflict</td>
<td>.51***</td>
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<td></td>
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<td>.32***</td>
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<td></td>
</tr>
<tr>
<td>4. Strain</td>
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<td>.27**</td>
<td>.57***</td>
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<tr>
<td>5. Organ' al commitment</td>
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<td>-.38***</td>
<td>-.25**</td>
<td>-.31</td>
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<td>6. Turnover intention</td>
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<td>.14</td>
<td>.22**</td>
<td>.78***</td>
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<td></td>
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<tr>
<td>7. Performance</td>
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<td>-.07</td>
<td>.04</td>
<td>-.13</td>
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<td>.01</td>
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*p<.05.
**p<.01.
***p<.001.
Table 4
Coping Scale Intercorrelations and Correlations with Other Measures

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<td>Type A</td>
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<tr>
<td>Strain</td>
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<td>-.23**</td>
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<td>.09</td>
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<td>.24**</td>
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<td>-.06</td>
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<td></td>
</tr>
<tr>
<td>emot.-foc.</td>
<td></td>
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</tr>
<tr>
<td>coping</td>
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</tr>
<tr>
<td>Overload/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>prob.-foc.</td>
<td>.14</td>
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<td>coping</td>
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<tr>
<td>Conflict/</td>
<td>.82***</td>
<td>.24*</td>
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<td>emot.-foc.</td>
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<td>coping</td>
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<tr>
<td>Conflict/</td>
<td>.08</td>
<td>.82***</td>
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<tr>
<td>prob.-foc.</td>
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<td>coping</td>
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*p<.05.
**p<.01.
***p<.001.
Table 5

Results of Hypothesis 3: Regression of Turnover Intention on Organizational Commitment and Felt Strain

<p>| | | | | | |</p>
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<tr>
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<td>DFE</td>
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Regression Coefficients, Standard Errors of Regression, Standardized Beta Weights, t Ratios

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<th>STB</th>
<th>t</th>
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<td>-.79</td>
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<td>-.02</td>
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</tbody>
</table>

***p<.001.
Table 6

Results of Hypothesis 4: Regression of Performance on Organizational Commitment and Felt Strain

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<th>STB</th>
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Table 7a

Results of Hypothesis 5: Moderated Regression of Organizational Commitment on Role Overload, Problem-focused Coping with Overload, and the Overload X Coping Interaction

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<th>Variables</th>
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<th>df</th>
<th>F</th>
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</thead>
<tbody>
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<td>.06</td>
<td>--</td>
<td>2, 113</td>
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</tr>
<tr>
<td>Role overload</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-focused coping/overload</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3 variable model</td>
<td>.06</td>
<td>.00a</td>
<td>3, 112</td>
<td>2.46</td>
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<tr>
<td>Role overload</td>
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</tr>
<tr>
<td>Problem-focused coping/overload</td>
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</tr>
</tbody>
</table>

Table 7b

Results of Hypothesis 5: Moderated Regression of Organizational Commitment on Role Conflict, Problem-focused Coping with Conflict, and the Conflict X Coping Interaction

<table>
<thead>
<tr>
<th>Variables</th>
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<th>R²</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
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<td>2, 73</td>
<td>4.30*</td>
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<tr>
<td>Role conflict</td>
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</tr>
<tr>
<td>Problem-focused coping/conflict</td>
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<tr>
<td>3 variable model</td>
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<td>.04a</td>
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<td>3.80*</td>
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</tr>
<tr>
<td>Problem-focused coping/conflict</td>
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<td></td>
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</tr>
</tbody>
</table>

*a Nonsignificant R².
*p<.05.
Table 8a

Results of Hypothesis 6: Moderated Regression of Felt Strain on Role Overload, Problem-focused Coping with Overload, and the Overload X Coping Interaction

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<th>R²</th>
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<tbody>
<tr>
<td>2 variable model</td>
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<td></td>
</tr>
<tr>
<td>Role overload</td>
<td>.11</td>
<td>--</td>
<td>2, 113</td>
<td>7.28**</td>
</tr>
<tr>
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<td>.00a</td>
<td>3, 112</td>
<td>4.28**</td>
</tr>
</tbody>
</table>

Table 8b

Results of Hypothesis 6: Moderated Regression of Felt Strain on Role Conflict, Problem-focused Coping with Conflict, and the Conflict X Coping Interaction

<table>
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<th>Variables</th>
<th>R²</th>
<th>R²</th>
<th>df</th>
<th>F</th>
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</thead>
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<tr>
<td>2 variable model</td>
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<tr>
<td>Role conflict</td>
<td>.06</td>
<td>--</td>
<td>2, 73</td>
<td>2.29</td>
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<td>Problem-focused coping/conflict</td>
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<tr>
<td>3 variable model</td>
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<td></td>
</tr>
<tr>
<td>Role conflict</td>
<td>.07</td>
<td>.01a</td>
<td>3, 72</td>
<td>1.79</td>
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a Nonsignificant R².

**p<.01.
Table 9a

Results of Hypothesis 7: Moderated Regression of Organizational Commitment on Role Overload, Emotion-focused Coping with Overload, and the Overload X Coping Interaction

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<td>2, 113</td>
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<tr>
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<tr>
<td>Emotion-focused coping/overload</td>
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<tr>
<td>3 variable model</td>
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<td>3, 112</td>
<td>2.91</td>
</tr>
<tr>
<td>Role overload</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Emotion-focused coping/overload</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Overload X Coping</td>
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Table 9b

Results of Hypothesis 7: Moderated Regression of Organizational Commitment on Role Conflict, Emotion-focused Coping with Conflict, and the Conflict X Coping Interaction

<table>
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<tr>
<td>Emotion-focused coping/conflict</td>
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<td>3 variable model</td>
<td>.07</td>
<td>.00a</td>
<td>3, 72</td>
<td>1.93</td>
</tr>
<tr>
<td>Role conflict</td>
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<td>Emotion-focused coping/conflict</td>
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<td>Conflict X Coping</td>
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$^a$ Nonsignificant $R^2$.

* $p<.05$. 
### Table 10a

Results of Hypothesis 8: Moderated Regression of Felt Strain on Role Overload, Emotion-focused Coping with Overload, and the Overload X Coping Interaction

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<td>6.14***</td>
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</table>

### Table 10b

Results of Hypothesis 8: Moderated Regression of Felt Strain on Role Conflict, Emotion-focused Coping with Conflict, and the Conflict X Coping Interaction

<table>
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<th>Variables</th>
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<th>$R^2$</th>
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<th>F</th>
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*a Nonsignificant

***p < .001.
Table 11a

Results of Hypothesis 9: Comparative Effectiveness of Coping Styles in Moderating the Role Overload-Organizational Commitment Relation

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<td>--</td>
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<td>3.59*</td>
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</tr>
<tr>
<td>Problem-focused coping/overload</td>
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<td></td>
</tr>
<tr>
<td>Emotion-focused coping/overload</td>
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<td></td>
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<tr>
<td>Overload X Problem-focused coping</td>
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<td>Overload X Emotion-focused coping</td>
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a Nonsignificant $R^2$.

*p<.05.
Table 11b

Results of Hypothesis 9: Comparative Effectiveness of Coping Styles in Moderating the Role Conflict-Organizational Commitment Relation

<table>
<thead>
<tr>
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<td>3, 72</td>
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<tr>
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<tr>
<td>Problem-focused coping/conflict</td>
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</tr>
<tr>
<td>Emotion-focused coping/conflict</td>
<td></td>
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<tr>
<td>5 variable model</td>
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<td>.04a</td>
<td>5, 70</td>
<td>2.31</td>
</tr>
<tr>
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<tr>
<td>Problem-focused coping/conflict</td>
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<tr>
<td>Emotion-focused coping/conflict</td>
<td></td>
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</tr>
<tr>
<td>Conflict X Problem-focused coping</td>
<td></td>
<td></td>
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<tr>
<td>Conflict X Emotion-focused coping</td>
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</table>

*a Nonsignificant R².

*p<.05.
Table 12a

**Results of Hypothesis 10: Comparative Effectiveness of Coping Styles in Moderating the Role Overload-Felt Strain Relation**

<table>
<thead>
<tr>
<th>Variables</th>
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<th>( R^2 )</th>
<th>df</th>
<th>( F )</th>
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<td>.23</td>
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<td>3, 112</td>
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<td>Problem-focused coping/overload</td>
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</tr>
<tr>
<td>Emotion-focused coping/overload</td>
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<tr>
<td><strong>5 variable model</strong></td>
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<td>.01a</td>
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<td>6.76***</td>
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<td>Emotion-focused coping/overload</td>
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<tr>
<td>Overload X Problem-focused coping</td>
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<td>Overload X Emotion-focused coping</td>
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a Nonsignificant \( R^2 \).

***p<.0001.
Table 12b

Results of Hypothesis 10: Comparative Effectiveness of Coping Styles in Moderating the Role Conflict-Felt Strain Relation

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<thead>
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<td>3,72</td>
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<td>Problem-focused coping/conflict</td>
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<td>Emotion-focused coping/conflict</td>
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<td>Conflict X Problem-focused coping</td>
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<td>Conflict X Emotion-focused coping</td>
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*a Nonsignificant $R^2$.

*p<.05.


Table 13a  
**Results of Hypothesis 12: Moderated Regression of Felt Strain on Role Overload, Type A Behavior, and the Overload X Type A Behavior Interaction**

<table>
<thead>
<tr>
<th>Variables</th>
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<td>--</td>
<td>2, 134</td>
<td>29.62***</td>
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<td>Type A Behavior</td>
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</tr>
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<td><strong>3 variable model</strong></td>
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<td>Role overload</td>
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<td>.00a</td>
<td>3, 133</td>
<td>19.73***</td>
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<td>Type A Behavior</td>
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<tr>
<td>Overload X Type A</td>
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Table 13b  
**Results of Hypothesis 12: Moderated Regression of Felt Strain on Role Conflict, Type A Behavior, and the Conflict X Type A Behavior Interaction**

<table>
<thead>
<tr>
<th>Variables</th>
<th>$R^2$</th>
<th>$R^2$</th>
<th>df</th>
<th>$F$</th>
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<tr>
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<td>Role conflict</td>
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<td>--</td>
<td>2, 134</td>
<td>33.22***</td>
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<tr>
<td>Type A Behavior</td>
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</tr>
<tr>
<td><strong>3 variable model</strong></td>
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<td></td>
</tr>
<tr>
<td>Role conflict</td>
<td>.34</td>
<td>.01*</td>
<td>3, 133</td>
<td>22.16***</td>
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<tr>
<td>Type A Behavior</td>
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<td></td>
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</tr>
<tr>
<td>Conflict X Type A</td>
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</table>

*a Nonsignificant $R^2$.  
***$p<.0001$.**
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Sources of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$X_9$ (Type A Behavior)</td>
<td>$E_9$</td>
</tr>
<tr>
<td>$X_8$ (Role Conflict)</td>
<td>$P_{89}X_9 + E_8$</td>
</tr>
<tr>
<td>$X_7$ (Role Overload)</td>
<td>$P_{79}X_9 + E_7$</td>
</tr>
<tr>
<td>$X_6$ (Problem-focused Coping)</td>
<td>$P_{69}X_9 + P_{68}X_8 + P_{67}X_7 + E_6$</td>
</tr>
<tr>
<td>$X_5$ (Emotion-focused Coping)</td>
<td>$P_{59}X_9 + P_{58}X_8 + P_{57}X_7 + E_5$</td>
</tr>
<tr>
<td>$X_4$ (Strain)</td>
<td>$P_{49}X_9 + P_{48}X_8 + P_{47}X_7 + P_{46}X_6 + P_{45}X_5 + E_4$</td>
</tr>
<tr>
<td>$X_3$ (Performance)</td>
<td>$P_{36}X_6 + P_{34}X_4 + E_3$</td>
</tr>
<tr>
<td>$X_2$ (Organizational Commitment)</td>
<td>$P_{28}X_8 + P_{27}X_7 + P_{26}X_6 + P_{25}X_5 + P_{24}X_4 + E_2$</td>
</tr>
<tr>
<td>$X_1$ (Turnover Intention)</td>
<td>$P_{18}X_8 + P_{16}X_6 + P_{15}X_5 + P_{14}X_4 + P_{13}X_3 + P_{12}X_2 + E_1$</td>
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Table 15

Results Describing Significant Paths in the Revised Path Model

<table>
<thead>
<tr>
<th>Dependent and source variables</th>
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<th>$R^2$</th>
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<tr>
<td>Turnover</td>
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<tr>
<td>Intention (from)</td>
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<tr>
<td>Organizational Commitment</td>
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<td>.60</td>
<td>--</td>
<td>1, 134</td>
<td>207.89***</td>
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<tr>
<td>Felt Strain (from)</td>
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<tr>
<td>Emotion-focused Coping (with)</td>
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<td>.12</td>
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<td>9.90**</td>
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<tr>
<td>Problem-focused Coping (with)</td>
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<td>.07</td>
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<td>1, 134</td>
<td>32.60***</td>
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</tbody>
</table>

*p<.05.
**p<.01.
***p<.001.
Personality
- Abilities and needs
- Introversion-extroversion
- Flexibility-rigidity
- Type A

Occupational Stresses
- Role ambiguity
- Role conflict
- Role overload
  - Quantitative
  - Qualitative
- Crossing organizational boundaries
- Responsibility for other people
- Relations with others
- Participation
- Occupational differences

Psychological and Physiological Strains
- Job dissatisfaction
- Job tension
- Job-related threat
- Low self-actualization
- Smoking
- Blood pressure
- Cholesterol
- Heart rate
- Low self-esteem

Coronary Heart Disease
Job Level
Task Characteristics
Leadership Attention

Personal Variables
Personality
Demographics

Role-Related Variables

Contextual Variables
Subsystem Shift

Performance

Job Stress
Felt Stress
Organizational Commitment

Job Satisfaction

Turnover
PERCEIVED STRESS

OBJECTIVE ORGANIZATIONAL ENVIRONMENT

Role Overload

OUTCOMES

Organizational Commitment

Performance

Turnover Intention

Felt Strain

TYPE A BEHAVIOR

Role Conflict
COPING

Predominantly Emotion-Focused
Predominantly Problem-Focused

PERCEIVED STRESS

Role Conflict

OBJECTIVE ORGANIZATIONAL ENVIRONMENT

Role Overload

OUTCOMES

Organizational Commitment

Performance

Turnover Intention

Felt Strain

TYPE A BEHAVIOR
Figure Captions

Figure 1. The French and Caplan model of organizational stress and individual strain.
Note. From "Organizational stress and individual strain" by J. R. P. French, Jr. and R. D. Caplan, 1972, in A. J. Marrow (Ed.), The Failure of Success.

Figure 2. The Ivancevich and Matteson job stress model.

Figure 3. The Parasuraman and Alutto stress model.

Figure 4. The job stress model guiding the present study.

Figure 5. The job stress and coping model guiding the present study.

Figure 6. The proposed path analytic model with correlation coefficients alongside paths.

Figure 7. Path analysis model displaying coefficients to be generated.

Figure 8. The revised path model.
Vita

Brian Andrew Bienn was born on August 4, 1956 in New Orleans, Louisiana, the son of Harold and Virginia Bienn. He graduated from Benjamin Franklin Senior High School in 1974. Four years later, he graduated with a B.S. degree in Psychology from Louisiana State University in Baton Rouge. In the fall of 1980 he entered the Industrial/Organizational Psychology doctoral program at Louisiana State University. Early in 1983 he married Patricia Ann Slattery, and later that year received his M.A. degree. He will receive his Ph.D. degree in Industrial/Organizational Psychology from Louisiana State University, Baton Rouge, Louisiana, in May, 1986.

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New Orleans, Louisiana 70125
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate:  Brian Andrew Bienn

Major Field:  Industrial/Organizational Psychology

Title of Dissertation:  Effects of Job Stress, Coping, and Type A Behavior Among Recently-Graduated Nurses

Approved:

[Signature]
Major Professor and Chairman

[Signature]
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signature]

Date of Examination:  March 14, 1986