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An examination of the relationship between personal and contextual variables and occupational stress-related depression in nurses

McCleave, Karen Jamison, Ph.D.

The University of Arizona, 1993

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AN EXAMINATION OF THE RELATIONSHIP BETWEEN
PERSONAL AND CONTEXTUAL VARIABLES AND
OCCUPATIONAL STRESS-RELATED DEPRESSION IN NURSES
by
Karen Jamison McCleave

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A Dissertation Submitted to the Faculty of the
DEPARTMENT OF NURSING
In Partial Fulfillment of the Requirements
For the Degree of
DOCTOR OF PHILOSOPHY
In the Graduate College
THE UNIVERSITY OF ARIZONA

1993
As members of the Final Examination Committee, we certify that we have
read the dissertation prepared by Karen Jamison McCleave
entitled An Examination of the Relationship Between Personal and
Contextual Variables and Occupational Stress-Related
Depression in Nurses

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Final approval and acceptance of this dissertation is contingent upon
the candidate's submission of the final copy of the dissertation to the
Graduate College.

I hereby certify that I have read this dissertation prepared under my
direction and recommend that it be accepted as fulfilling the dissertation
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Pamela D. Reed
Dissertation Director
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DEDICATION

I dedicate this work to my husband for his loving support and to all nurses who provide heartfelt care to their patients despite the pervasive occupational obstacles.
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Abstract

The issue of occupational stress in nurses is significant because it has been associated with absenteeism, burnout and turnover among nurses. This study was an attempt to illuminate the occupational stress experience of workers in general with a focus upon nurses as subjects. Consequently, this research evaluated multiple contributory components to this stress process. Further, consideration of the fit between this stress-coping-depression model and General Systems Theory was another major focus of this study.

The independent variables of daily hassles, occupational stress, primary stress appraisal, coping strategies, social support, repression and extraversion were measured in an attempt to determine their combined and singular influence upon the dependent variable of professional depression. These variables were measured by means of a paper-and-pencil self-report inventory of questionnaires mailed to a random sample of six hundred registered nurses in the state of Arizona.

Analyses of returned questionnaires consisted of regression analyses of a causal model of the above noted variables. The findings indicate that emotion-focused coping strategies, especially escape avoidance and
distancing strategies, demonstrated the most consistently significant effect upon depression for the total sample as well as for all of the demographic subgroups.

The next most significant variable measured in this study was that of social support. This variable demonstrated an inverse relationship to depression and thereby appears to provide protection from depression when an individual is exposed to external stressors.

External stressors, especially the daily hassles subscales of work, and time pressures, were also significantly related to increased depression in most of the analyses. Occupational stress, on the other hand, as measured revealed a statistically significant relationship to depression for only two subsamples of the study population, charge nurse/clinical specialists and nurses who had worked in nursing longer than 20 years.

In regard to stress appraisal, the aspects of threat and stressfulness both revealed significant relationships. The appraisal of threat was significantly related to depression while stressfulness revealed influences upon both external stressors of daily hassles and occupational stress as well as upon depression.
CHAPTER 1

STATEMENT OF THE PROBLEM

Introduction

Job-related or occupation-related stress is experienced at some time by anyone who works. Workers all have deadlines to meet, more work than time and intermittent unsatisfactory interpersonal interactions either with co-workers or customers. Nursing is one occupation or profession that frequently can be characterized as stressful and, thereby lends itself to study of the impact of occupational stress upon the health of individuals.

Further, discovery of factors that contribute to occupational stress in workers can be applied by Occupational Health Care Providers who treat workers manifesting the physical and psychological effects of stress. This increase in the understanding of contributing factors of occupational stress may enhance the efficacy of management by Occupational Health Care Providers as they attempt to relieve the manifestations of such stress. Nurses are frequent recipients of such services in the Occupational Health setting of this researcher and, as a result, are of particular interest.
Significance

Nursing is an occupation that has many inherent conflicts. This profession is often characterized by stress, frequent turnover and early burnout (Firth, McKeown, McIntee, & Britton, 1987; Gray-Toft, & Anderson, 1985; Hipwell, Tyler, & Wilson, 1989; McGrath, Reid, & Boore, 1989; Ogus, 1990; Revicki, & May, 1989). The stress typical of nursing can be related to many factors, specifically, low decision latitude with a sense of inability to influence administrative decisions or physicians, ineffective voice in patient care decisions, lack of autonomy, underutilization of skills and abilities, no open expression of views or joint problem-solving and little say about career development, classifications and assignments. All of these variables contribute to an organizational structure that subjects nurses to role conflict and ambiguity (Landsbergis, 1988; McGrath, Reid, & Boore, 1989; Revicki, & May, 1989).

Gray-Toft and Anderson (1981) further note in their study of nursing stress that workload, feeling inadequately prepared to meet the emotional demands of the patients and their families, and death and dying all contributed significantly to stress. As a result, it is no surprise that the occupational stress to which nurses are exposed has been noted to be a direct cause of job dissatisfaction and an indirect cause of absenteeism. Further, this
occupational stress experience has been directly linked to depression in hospital nurses (Revicki, & May, 1989; Gray-Toft, & Anderson, 1985).

Along with these occupational stressors are other potential contributors to depression in nurses. Of these additional contributing variables to the state of depression which will be examined are the personality characteristics of extraversion and repression; the stress related variables of cognitive stress appraisal, coping strategies, daily hassles; and the moderating variable of social support. Consequently, the purpose of this study is to analyze the influence of multiple variables upon depression among nurses. Further, this project makes an original contribution to nursing because it examines the relationship of multiple and diverse variables upon the adverse personal and professional outcome of depression among nurses.

Conceptual Overview

The author holds a world hypothesis supporting the holistic, systems approach and believes that this approach is useful for studying and understanding the stress process. Kitchener (1982) contends that the holistic world view has three basic characteristics:

1: the whole is not the additive or linear sum of isolated parts;
2: the whole determines the nature of its parts and their characteristic ways of behaving;
3: the whole consists of parts which are internally related to each other.

In regard to this first characteristic, holism denotes that the whole is more than the sum of its parts. This is the case primarily because the summation of the parts fails to account for the internal relations between them. Additionally, holism denotes that the whole must possess some property that is unique to it as a whole and that is not possessed by any of its parts.

In regard to the second characteristic of holism, the parts of a whole cannot be understood unless considered in conjunction with the whole because their nature is not the same in isolation. Further, and very significantly, organizational properties of holism or systems such as equifinality or equilibrium determine how the parts interact.

As to the third characteristic, it is essential to recognize that the parts of the whole are internally related and that these interrelationships are not always discernable. Holism, further notes that the parts are in dynamic interaction with reciprocal causality such that each part effects and changes the other parts. Consequently,
holism supports studying a part of the whole always in relation to the entire whole (Kitchener, 1982).

**General Systems Theory.** General Systems Theory (GST) specifically evaluates the system which is commonly defined as a whole. As noted previously, a whole is considered to function as a whole by virtue of the interdependence but not summation of its parts. The focus of General Systems Theory, however, is to not only discover wholeness and the inter-relatedness of its parts in the widest variety of systems but to also classify or hierarchically organize these systems based upon the inter-relatedness of their components (Buckley, 1968; Fawcett, 1989; Grubbs, 1980; Johnson, 1980; Miller, 1978; Rapoport, 1968). Further, General Systems Theory focuses upon the dynamic interactions within the multivariate systems which abound in reality such as the those proposed within the stress-coping-depression paradigm proposed for this study (Boulding, 1968; Bertalanffy, 1968b).

An important characteristic of an open system is that of equifinality. This characteristic of equifinality is defined in reference to a system that will attain the same final state regardless of the initial conditions. Consequently, the system's final state is influenced by its own properties and proceeds toward its own end goal or
equifinality. This condition is quite significant when considering biological regulation since, due to this characteristic, a living system will maintain and/or develop toward a predetermined condition despite external interferences, although significantly influenced by these interferences (Bertalanffy, 1968a; Rapoport, 1968).

Cybernetics. Cybernetics, which is a part of systems theory, relates to systems demonstrating self-regulation as a result of information and feedback. Specifically, it is the feedback of information within a system as a result of communication between the system and its environment which enables a system to maintain a desired state despite the environmental influence (Bertalanffy, 1968a). Laszlo (1972), however, notes that there are two types of system cybernetics. One type of system cybernetics, Cybernetics I, relates to self-stabilizing controls which are operated by error-reducing negative feedback. This system results in maintenance of a typical system structure over time within a dynamic environment. This system structure maintenance is classically considered a stationary or steady state.

The second type of system cybernetics, Cybernetics II, refers to the error or deviation amplifying control process which functions by means of positive feedback. This process results in progressive modification of the structural system
in response to environmental inputs and is usually considered evolutionary (Laszlo, 1972).

Cybernetics I. Bertalanffy (1968a) notes that living systems are not closed systems in true equilibrium but are rather open systems in a steady state. Systems are able to maintain this steady state or state equilibrium by means of self-regulation. The self-regulation process entails a compensation within a system's internal variables in order to control the impact of a changing environment. Further, this steady state maintenance in systems is achieved by means of negative feedback. Negative feedback functions by cancelling an initial deviation or error in a system's performance, thereby decreasing the movement away from the steady state and enabling the reestablishment of equilibrium (Laszlo, 1972; Miller, 1978).

Ultimately, system cybernetics I is the function of adaptation to environmental disturbances resulting in the re-establishment of a previous steady state in the system. Thus, if the environmental disturbances are not beyond the capacity of the system to self-stabilize, it will return to a previously established state (Laszlo, 1972).

Cybernetics II. System cybernetics II is a function of adaptation to environmental disturbances that result in the
reorganization of the system's state. This reorganization, in turn, leads to increased negentropy and information content within a system. Consequently, systems have the capability to complexify in response to environmental inputs. This complexification results in a reorganization of existing steady states and acquisition of new parameters to these states when subjected to a physical constant in the environment (Laszlo, 1972).

This process of evolution can be closely related to positive feedback mechanisms since these mechanisms often overshoot and proceed in a direction opposite that leading to the steady state. This increased deviation from the steady state, in turn, can result in alteration of variables, the destruction of the steady state and subsequent system changes and evolution (Miller, 1978).

Natural systems, therefore, move toward increasingly organized non-equilibrium states. Although these states are adaptive to environmental influences, they are progressively more unstable states and, as a result, systems must balance this more unstable condition by means of a broader range of self-stabilizing functions. All in all, the evolution of a complex system always requires the merging of some characteristics, differentiation of others and the development of further subsystems all within a hierarchical order (Laszlo, 1972).
Ultimately, in an environment in which environmental influences are operative and constant yet within the realm of correction for a system, the system will not only self-stabilize and survive in a previously established steady state but will also self-organize toward more negentropic states, thereby evolving. As is identified in the Le Chatelier principle, a stable system under stress will move in the direction which tends to minimize the stress whether that is self-stabilization or self-organization (Laszlo, 1972; Miller, 1978).

Dualism. All systems manifest a dual functional-structural role. This dual role relates to the fact that a system is not only composed of multiple subsystems itself which require its adaptation as a systemic whole, but that the system is also a coacting part of a suprasystem totality which it forms along with other systems in its environment. This dual role is known as the Holon property whereby a system self-stabilizes around existing steady states while, at the same time, evolves into more negentropic or informed states (Laszlo, 1972). This ongoing system development occurs in an increasingly hierarchical structural organization. Further, as a system increases hierarchical complexification, stable intermediate forms of the system not only increase the rate or speed of this complexification
but they also allow for decomposition to a more stable subsystem rather than complete destruction of the whole system should failure of the organization occur (Laszlo, 1972).

Ultimately, as depicted in Figure 1, all of the components of General Systems Theory as described contribute to the functioning of an open system. Further, as will be discussed at this point, the stress process readily fits within this broader systems approach.

Testability. Although grand theories, such as General Systems Theory, in and of themselves, are probably not testable, their validity can be examined through middle-range theory testing. The McCleave Occupational Stress Theory, proposed here as a middle-range theory that has been derived from General Systems Theory, can be subjected to empirical testing and, if found to be supported, in turn, can lend support to the validity of the grand theory.

As Bertalanffy (1968a) notes, the systems problem is essentially the problem of the limitations of analytical procedures in science. Due to limitations of research and statistical analytic measures, it is quite difficult to study a whole as a whole without resorting to measurement of its parts. As noted in the discussions related to holism, a whole is not a summation of its parts but has
DUALISM:
System composed
of subsystems -
itself a subsystem
of a suprasystem.

Self-Organizing
(Cybernetics II)

Self-Stabilizing
(Cybernetics I)

Influenced by Equifinality
of System

GENERAL SYSTEMS THEORY

Figure 1
characteristics of its own. Consequently, measurement of parts of a whole would be expected to miss this holistic characteristic of a phenomenon. Nevertheless, Schwartz (1984) notes that the systemic approach is a constructionistic approach such that combinations of parts are studied together in an attempt to identify complex effects which depict characteristics of the whole. The author contends that by studying multiple contributory variables in the stress-coping-depression paradigm that the essence of the whole of the individual within this experience can be better understood.

Theoretical Framework

The author proposes an occupational stress-coping-depression model to explain the occupational experience of nurses. This model is congruent with the holistic systems approach since the open system of an individual is constantly responding to the internal and external influences from stressors with a persistent attempt to maintain or regain the preprogramed steady state. Additionally, this sought after steady state is influenced not only by prior and current experiences but also by the individual’s pre-existing personality characteristics and the equifinality of the organism. The existence of
equifinality in an organism is acknowledged but will not be measured in this study.

The external stressors upon the open system of the individual in this model are the experiences of daily hassles and occupational stress. The internal variable of stress appraisal functions to evaluate the importance of these external stimuli and is itself influenced by the personality characteristics of extraversion and of repression as well as by prior experiences. The personality characteristics can be measured, whereas the effect of prior experiences as well as the interrelationships between these variables can only be assumed.

The appraisal process informs the individual as to what coping strategy to implement, including utilization of social support, in order to either maintain the existing steady state by self-regulation as with Cybernetics I of the General Systems Theory or to evolve into a newer more negentropic and adaptive state by reorganization as with Cybernetics II of General Systems Theory. Another possible state which can occur as a result of such a stressful experience, however, is that of evolving into a new state which is maladaptive - that is: depression. This reorganization into a state of depression is most likely to occur when an individual has limited resources with which to cope with an important yet unchangeable situation.
The components of the theoretical framework of the proposed McCleave Occupational Stress Model (see Figure 2) will be discussed initially by addressing the external stressor stimuli of Daily Hassles and Occupational Stress. The next variable to be presented will be that of cognitive stress appraisal. This variable which is internal to the organismic open system not only influences the perception of the external stressors but also affects the coping strategies employed. Accordingly, coping strategies and social support will be addressed next. By means of these mechanisms, the organism either self-regulates and retains its existing steady state or evolves into an alternative state. The next variables to be examined will be person traits including the personality characteristics of extraversion and repression, both of which impact the stress-coping process as does the inherent equifinality of an organism as it develops over time. This latter aspect will not be examined in this study. Finally, the adverse mental health outcome variable of depression will be reviewed since it is hypothesized by the author to be a maladaptive reorganized state of an organism insulted by external stressor stimuli.
McCleave Occupational Stress Model - Proposed

Figure 2
Stress

Stress has been identified by Selye (1976) as the common factor for all adaptive reactions in the body with psychological stress defined as the relationship between the person and environment which is appraised by the individual as significant and as exceeding one's coping resources (Lazarus, & Folkman, 1984). Further, these actual or perceived demand-capability imbalances often manifest as nonspecific physical or psychological responses (Mikhail, 1985).

Selye (1976) notes that any demand upon the body, including those merely necessary to sustain life, function as stressors. It is the resulting process within the person, however, that constitutes stress. Although specific environmental events are typically cited as stressors, such as cataclysmic changes, major life events and daily hassles; repeated exposure to stressors, the duration of the exposure, the pacing of the occurrence of such stressors and the amount of time available for recovery from the stress experience also contribute to whether an event is deemed stressful by an individual (Breznitz, & Goldberger, 1982; Lazarus, & Folkman, 1984). Further, the features of stressful events that have the greatest potential for resulting in psychopathology are events that are
undesirable, uncontrollable, non-normative and unscheduled (Kessler, Price, & Wortman, 1985; Pearlin, 1989).

Lazarus (1984) contends that stress is the quality and intensity of threats, harms and challenges which are dependent upon the personal agendas, resources and vulnerabilities of the person and that individual's environmental condition. Consequently, stress effects are expected to occur as a result of the transaction between the individual and the environment. It is when the situation is evaluated or appraised as threatening or demanding by the individual and when the individual determines that insufficient resources are available both internally and externally with which to cope with the situation that an event is determined as stressful (Appley, & Trumbull, 1986a; Appley, & Trumbull, 1986b; Cohen, Kamarck, & Mermelstein, 1983; Gruen, Folkman, & Lazarus, 1988; Lazarus, DeLongis, Folkman, & Gruen, 1985; Mikhail, 1985). Furthermore, it is impossible to generalize across categories of stressors or even of the same stressor exposure at different times as to the impact of its effect due to interindividual and intraindividual variations in responses (Appley, & Trumbull, 1986a).

Stress, therefore, is not limited to any one variable. It is, rather, a transactional process in which characteristics of the person, and of the environment along
with the intervening processes of appraisal and coping as well as the short and long-term outcomes all interact upon and effect each other (Appley, & Trumbull, 1986a; Gruen, et al., 1988; Lazarus, et al., 1985). Consequently, although the individual, not the event, is the focus of stress research, the cognitive evaluative process of the individual, along with the multiplicity of person and environment variables which influence this appraisal process must all be measured together as they relate to mental health outcomes in nurses (Appley, & Trumbull, 1986a; Appley, & Trumbull, 1986b; Lazarus, 1984).

Moreover, due to the impact of occupational stress not only upon individual nurses but also upon the profession of nursing, this is an important topic for careful evaluation. Only after accurately identifying some of the key contributors to nursing occupational stress can appropriate and effective interventions be taken. As a result, the following variables which will be studied as potential contributors to occupational stress-related depression in nurses are: daily hassles, occupational stress, cognitive stress appraisal, coping strategies, extraversion, repression, and social support.

Life events and daily hassles. Physical and mental illnesses can be related to stressful life events,
especially when these events occur during a relatively brief period of time. The most commonly measured adaptational outcomes of experienced stress are psychological symptoms and somatic illnesses. Because the relationship between life events and health outcomes has been small, however, other factors such as environmental and personal disposition variables are now being considered to understand stress-related health responses (Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984; Dohrenwend, & Shrout, 1985; Lazarus, 1990). Nevertheless, since major life events can themselves result in an increase in daily problems, it may be these microstressors or daily problems which influence experienced stress levels (Ladewig, McGee, & Newell, 1990). Consequently, appraised stress is expected to be influenced by daily hassles and coping resources as well as by major life events (Cohen, et al., 1983).

Daily hassles have been defined as irritating, frustrating and distressing demands that characterize everyday transactions with the environment (Kanner, Coyne, Schaefer, & Lazarus, 1981). These daily hassles may include traffic jams, inclement weather, arguments, disappointments, financial difficulties and family concerns. Additionally, daily hassles are conditions of daily living that have been appraised as salient and harmful or threatening to the individual's well-being. This feature of salience, as with
the discussion of stress above, is based on the personal agenda or primary appraisal of the individual as well as on the coping resources or secondary appraisal. Therefore, to be a hassle, a daily experience must be appraised as negative and salient and as a harm, threat or challenge (Dohrenwend, & Shrout, 1985; Lazarus, 1984).

Ultimately, an increase in daily hassles is associated with a decline in health and mood (DeLongis, Folkman, & Lazarus, 1988). Further, central hassles, which are those daily experiences which reflect ongoing themes or issues of particular concern for an individual, can result in more psychological disturbance than incidental occurrences (Gruen, et al., 1988).

**Occupational stress.** The work setting functions as a common site for stressful experiences with job stress most commonly described as demands in the work environment perceived by an individual as problematic. Common causes of job stress are work overload, role conflict, role ambiguity, underutilization of skills and job insecurity (Marcelissen, Winnulist, Buunk, & deWolff, 1988).

Work related stressors are more analogous to chronic stressors than to an acute stressor such as a loss. In addition, work related stressors must be dealt with by the worker on a daily basis much like a daily hassle. Further,
Dewe and Guest (1990) note that when a work situation is noted to be controllable, the individual is more likely to employ problem-solving coping strategies. On the other hand, if the work situation is perceived as offering little or no means of control, the coping focus is more likely to be directed towards reducing emotional discomfort. Finally, work stressors are readily linked to depression and anxiety (Ganster, & Victor, 1988; Marcelissen, et al., 1988).

Within the Michigan Model of job stress, an individual experiences stress based on the relationship between personal characteristics and the work environment (Allanach, 1988). Role theory, on the other hand, explains that when behavior which is expected of an individual is inconsistent and coupled with ambiguity and conflict, that the individual will experience stress, become dissatisfied and ultimately perform less effectively (Gray-Toft, & Anderson, 1981; Gray-Toft, & Anderson, 1985).

Gray-Toft and Anderson (1985) note that role conflict is the result of differing expectations of an individual’s behavior while role ambiguity results when an individual is uncertain of what is expected. Both of these role related difficulties have been noted to be effectively eliminated by a supervisor who defines expectations as well as allows subordinate participation. Therefore, the experience of role ambiguity and role conflict is created by an
autocratic/nonparticipatory organizational climate, unsupportive supervisory practices and poor work group relationships all of which can result in a conflict between personal needs and the work setting (Firth, et al., 1987; Gray-Toft, & Anderson, 1985; Revicki, & May, 1989).

Ultimately, it has been speculated that many variables inherent in nursing practice as delineated previously result in such role conflict and ambiguity and are significant determinants of experienced stress (Gray-Toft, & Anderson, 1981; Gray-Toft, & Anderson, 1985).

Cognitive Appraisal

Cognitive appraisal is the process that an individual engages in when determining the relevance of a particular environmental encounter upon well-being. This appraisal takes place at two levels, primary and secondary. Primary appraisal consists of a person evaluating whether anything is at stake due to an encounter and is often viewed as the evaluation process whereby the existence of a threat or a challenge is determined. This primary appraisal, therefore, is pivotal since a threatening situation could result in the possibility of harm or loss for the involved individual (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus, & Folkman, 1984; Mikhail, 1985).
Secondary appraisal, on the other hand, consists of a person determining whether any action can be taken which will prevent harm or whether benefits can be obtained. These coping responses or strategies vary substantially based on the individual's characteristic coping styles, the characteristics of the environment at the time of the stressor experience, and the specific nature of the stressful event itself. This level of appraisal is often viewed as the process whereby a challenge is identified and is the point at which mastery can be implemented (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus, & Folkman, 1984; Parkes, 1986).

This cognitive theoretical approach, therefore, identifies two significant processes - primary cognitive appraisal and coping. These two processes are hypothesized to be critical mediators of a stressful person-environment experience and they affect the short and long-term outcomes of such an experience (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Folkman, Lazarus, Gruen, & DeLongis, 1986).

Primary stress appraisal. Primary evaluation of a stressful event is significantly influenced by a person's values, commitments, goals and beliefs about self and the world. Moreover, these personal variables help define the
stakes that an individual assesses as being relevant to well-being during the process of primary appraisal. Additionally, although a personal predisposition of vulnerability or stress proneness may exist as a result of prior experiences or coping patterns, this vulnerability can be mediated by primary appraisal. (Appley, & Trumbull, 1986a; Appley, & Trumbull, 1986b; Folkman, Lazarus, Gruen, & DeLongis, 1986; Gruen, et al., 1988; Lazarus, 1984).

Fish (1986) contends that there are three broad categories of primary appraisal: irrelevant appraisals, benign-positive appraisals and stressful appraisals. The irrelevant appraisals occur when an encounter is not perceived as significant while the benign-positive appraisals reflect an evaluation that an event does not exceed an individual's resources. The stressful appraisal, however, is one in which an event is seen as jeopardizing an individual's well-being and may be seen as either threatening or challenging. When an event is appraised as threatening, an individual feels jeopardized, anticipates the possibility for harm or loss in the future and feels that the associated demands of the event appear to exceed the individual's available coping resources. Conversely, an event which is appraised as a challenge is viewed as taxing but not beyond the individual's available resources (Fish, 1986; Peacock, & Wong, 1990).
A further categorization of appraisal consists of perceptions of control. These situational control appraisals can be viewed in terms of three dimensions: the extent to which the situation is controllable-by-self, controllable-by-others and uncontrollable-by-anyone (Peacock, & Wong, 1990). Ultimately, as Forsythe and Compas (1987) note, appraisal of an event is independent of the nature of the stressor itself as well as is not correlated directly with an outcome of psychological distress. It is, however, the pairing of an appraisal with a mismatched coping strategy, such as an appraised uncontrollable situation with problem-focused coping, which seems to result in the greatest distress. This aspect of matching cognitive appraisal with coping strategy will not be evaluated in this study.

Coping strategies. Coping can be defined as an individual's ongoing cognitive and behavioral attempts to manage demands that are evaluated as exceeding that person's resources. These demands can be either internal or external and are assessed as important by the individual (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). Furthermore, coping is any response that helps the individual prevent, avoid or control emotional distress (Husaini, & Von Frank, 1985). Billings and Moos (1981)
extend this definition of coping to include behavioral responses that function to avoid a potential problem as well as those behaviors that manage a problem that has already developed. Fleishman (1984) has observed that coping includes overt and covert behaviors which specifically function to either reduce or eliminate a stressful condition or to reduce psychological distress. Consequently, as noted by Holahan and Moos (1987), coping is a stabilizing factor which enables an individual to maintain psycho-social adaptation during perceived stressful experiences.

The focus of coping strategies is to alter the subjective representation of the objective elements of a threatening situation (Krohne, 1989). It is assumed that individuals actively respond to forces which encroach upon them by employing coping strategies (Pearlin, & Schooler, 1978). Consequently, coping is a process which concentrates upon an individual's response to a stressful encounter and how this response might vary as the encounter unfolds (Folkman, Lazarus, Gruen, & DeLongis, 1986).

Suls and Fletcher (1985) note that an individual must first recognize the existence of a problem prior to being able to affectively and cognitively come to terms with it. In addition to the required recognition of a problem, a cognitive schema must be in place within which the variables of the stressful experience will fit. If no schema is
already in existence within the individual, one must be
developed. This perspective explains the common initial
denial by an individual when confronted by a stressful
experience. This initial denial, especially common if a
stressful encounter is quite discrepant from an individual’s
view of self, enables the person time to develop either an
additional schema within which to incorporate the experience
or the opportunity to incorporate components of the
experience into an already existing schema (Suls & Fletcher, 1985).

Fleishman (1984) notes that no consensus exists
regarding the topology of coping. Additionally, a coping
strategy is not evaluated as to whether it is good or bad
but whether it is effective in managing psychological
distress (Folkman, Lazarus, Dunkel-Schetter, DeLongis, &
either to change the stressful situation, to manage the
meaning of the situation so as to reduce its perception of
threat, or to contain the symptoms which manifest as a
result of the stressful experience. Nevertheless, coping
can be distinguished as to its focus and its method,
although Fleishman (1984) contends that the identification
of coping according to focus (problem-oriented versus
emotion-oriented) appears to have the least amount of
ambiguity. The author, consequently, will utilize this classification of coping within this study.

Problem-focused coping which is implemented most frequently when an event is appraised as challenging, is an attempt to modify, mitigate or eliminate the source or causation of stress by means of one's own behavior (Billings, & Moos, 1981; Fleishman, 1984; McCrae, 1984). Consequently, problem-focused coping is an attempt to alter a person-environment interaction which is causing distress (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

Emotion-focused coping, on the other hand, which is more frequently implemented when an event is appraised as a threat or a loss, is the behavioral or cognitive response whereby maintenance of emotional equilibrium or reduction of psychological distress is attempted (Billings, & Moos, 1981; Fleishman, 1984; McCrae, 1984). Typically, emotion-focused coping strategies function to reinterpret a stressful situation rather than to confront the problem directly. Moreover, the primary concern is the emotional consequences of the stressor; therefore, it is the regulation of these emotions which is sought (Billings, & Moos, 1981; Fleishman, 1984; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).
An alternative mechanism for classification of coping strategies is by method of coping. These methods of coping consist of active-cognitive coping, active-behavioral coping and avoidance coping. The active-cognitive coping strategies consist of attempts to manage one's appraisal of the stressfulness of an event. The active-behavioral coping strategies, however, consist of attempts to directly deal with a problem and its effects. Avoidance coping strategies, on the other hand, consist of attempts to avoid actively confronting a problem by engaging in behavior to reduce emotional tension. These avoidance strategies may manifest as behaviors such as smoking or eating (Billings, & Moos, 1981).

As a result of research as to the influence of coping strategies upon psychological adjustment, active, problem-focused coping strategies were noted to be more effective at lessening the adverse influence of negatively appraised life events. Conversely, avoidance coping has demonstrated a more positive association with psychological distress (Holahan, & Moos, 1987; Suls, & Fletcher, 1985).

Social Support

Most simply stated, social support represents the social resources that a person utilizes in dealing with life's problems (Pearlin, 1989). More specifically,
however, Fisher (1985) notes that social support can be conceptualized as the number as well as quality of friendships or caring relationships that an individual has. Dohrenwend, Dohrenwend, Dodson, & Shrout (1984) measured social support as a subjective report of feeling cared for and loved, esteemed and valued, and belonging to a social network. These relationships function as social support systems by providing either emotional reassurance, needed information, instrumental aid or an alternative appraisal of an event (Fisher, 1985; Leavy, 1983; Marcelissen, et al., 1988).

Social support consists of both the structure and content of available helping relationships as well as the process by which an individual makes use of these associations. The social support structure consists of the size, setting, reciprocity, accessibility and make-up of the interpersonal relationships. The social support process, on the other hand, is the mechanism by which an individual develops, maintains and utilizes the supportive ties in the structure.

There are many personality characteristics which affect both the structure and process of the social support system. Specifically, clinical populations with mental illness disorders are noted to have support systems which are smaller, focused on nonfamily ties and more one-sided than
reciprocal when compared to the support systems of non-clinical populations.

Whatever the status of an individual's social support system, however, there needs to be a fit between that individual's perceptions or expectations of the available support system and the actual experience of support received. Should such a fit not be present, social support may fail to assist an individual during the coping process (Leavy, 1983). Further, Husaini and Von Frank (1985) note that social support is effective only when it raises an individual's coping ability. As a result of these findings, the perception of social support will be the only aspect of this variable which will be measured and analyzed in this study.

**Stress and social support.** The absence of social support has been correlated to a higher degree of psychological distress. Additionally, individuals who more frequently experience feelings such as anxiety, anger and depression are noted to have a lower degree of social support available (Leavy, 1983; Marcelissen, et al., 1988). The question here is whether the lack of social support resulted in the unhealthy psychological adaptation or whether a pre-existing personality characteristic resulted in an inadequate support system.
Whatever the pre-existing situation might be, however, a stressful event can have a detrimental effect on the supportiveness of an individual's social support system. This demise of an individual's support system may occur because individuals who are under high levels of strain are incapable of maintaining the contacts necessary to perpetuate social system ties. Conversely, stress may reveal the true effectiveness of one's social support system which may turn out to be less than what had been perceived prior to the stressful event. Furthermore, the severity of the stressful event in addition to the individual's ability to cope with it may both also affect the amount of support received (Duckitt, 1984; Dessler, Price and Wortman, 1985; Mitchell, & Moos, 1984).

Ultimately, the relationship between depression and stressful experiences is present among those with low social support as well as those with high social support. The distress effect, however, is twice as strong for those individuals who are unsupported when compared to those who are supported. Consequently, it appears that a lack of social support increases an individual's vulnerability to the adverse impact of undesirable events (Aneshensel, & Stone, 1982; Bell, LeRoy, & Stephenson, 1982; Thoits, 1982).
Person Factors

A personal predisposition of vulnerability or stress proneness may exist as a result of prior experiences or coping patterns. Additionally, this propensity for vulnerability can be mediated by the perceived threat of a situation, that is the primary appraisal. This primary evaluation of a stressful event is significantly influenced by a person’s values, commitments, goals and beliefs about self and the world. Moreover, these personal traits help define the stakes that an individual assesses as being relevant to his well-being during the process of primary appraisal (Appley, & Trumbull, 1986a; Appley, & Trumbull, 1986b; Folkman, Lazarus, Gruen, & DeLongis, 1986; Gruen, et al., 1988; Lazarus, 1984).

Husaini and Von Frank (1985) note that people who perceive of themselves as valuable and significant to others, that is, are part of a social support system, feel more worthwhile to themselves. In turn, individuals who view themselves positively are found to cope more effectively with stressful life events. On the contrary, individuals who frequently utilize support to cope with stressful experiences were found to be lacking in personal resources. Additionally, those who used more social support during a stressful experience were also noted to be most
depressed and most adversely affected by stressful events (Husaini, & Von Frank, 1985).

Pre-existing depression is a condition which does affect the appraisal of stressful episodes. Nevertheless, there are no differences between depressed and non-depressed persons as to the context of stressful experiences (i.e., work, family, health or other) or in the ratings of the importance of the episodes reported (Coyne, Aldwin, & Lazarus, 1981; Husaini, & Von Frank, 1985). Depressed individuals do feel that they need more information when appraising a stressful event whereas non-depresseds more frequently report unquestioning acceptance. Furthermore, depressed individuals become caught up in negative self-preoccupations which hamper their ability to effectively cope with their problems. Specifically, depressed individuals utilize more emotional support at work than non-depressed and rely on wishful thinking and self-blame for coping with home-related difficulties (Coyne, et al., 1981; Kessler, Price, & Wortman, 1985).

This depressed personality trait which may contribute to adverse stress responses can be described by the diathesis-stress theory of depression. According to this reformulated theory of human helplessness and depression, individuals with a depressogenic attributional style have a biologically based increased vulnerability for hopelessness
depression (Metalsky, Halberstadt, & Abramson, 1987). First of all, in the presence of a negative event, these individuals are more likely to attribute the cause of the events to internal, stable and global variables rather than to unstable and specific ones. This attribution of causation for the stressful event then functions as a diathesis or inherent vulnerability for a depressive reaction which is accompanied by lowered self-esteem. In addition, these individuals modulate the onset, intensity and chronicity of their depressive reactions by the causal attributions that they make for the stressful events which they experience. Consequently, these depressive reactions are more likely to occur, are more intense and last longer than those which occur in individuals who do not have this attributional style. Another characteristic of individuals with depressogenic attributional styles, however, is that these individuals are no more likely to develop depressive reactions in the absence of negative life events than are those who do not exhibit this attributional tendency. Ultimately, although this diathesis-stress theory seems intuitively sound, research has revealed it to be empirically weak as a predictive model (Metalsky, et al., 1987; Williams, 1985). As a result, this researcher has decided to measure depression as an outcome variable rather than as a pre-existing moderating variable.
Another pre-existing characteristic worthy of consideration is that of gender differences. In regard to sex differences, Kanner, Coyne, Schaefer and Lazarus (1981) note in their study that men were negatively affected by hassles but not by uplifts whereas women were negatively affected by both hassles and uplifts. Furthermore, men experience both depression and psychosomatic symptoms when social support was decreased in the work setting but not when a decrease in family support was experienced. Women, on the other hand, experienced depression with a decrease in social support at either work or at home (Leavy, 1983). Additionally, Pearlin and Schooler (1978) note that women commonly utilize less effective coping mechanisms than men use. All of these researchers believe, however, that these findings are related to socialization and cultural forces rather than due to biologically based gender differences and that gender itself functions as a structural context or social stratification thereby influencing the stressors to which people are exposed (Pearlin, 1989).

Nevertheless, the most effective coping strategies for limiting the negative impact of stressors are most commonly employed by men, by the educated and by the affluent members of society. In addition, the groups most frequently exposed to stressful experiences, especially those in the lower
socio-economic strata, are the least equipped to effectively cope with these events (Kessler, et al., 1985; Mattlin, et al., 1990).

Education level, gender and socio-economic level will all be measured as demographic variables as part of this study. Further, two personality variables representative of pre-existing longstanding personality characteristics which will be included and measured in this study are extraversion and repression.

Extraversion. Eysenck (1975) defines personality as semi-permanent patterns of behavior which are of social importance and relevance and which are characteristic of individuals. He further notes that individual differences in personality can be conceptualized in terms of types and traits. This can be exemplified by considering the personality type of extraversion. This type is identified by observing habitual response patterns or traits such as sociability, impulsiveness, activity, liveliness and excitability.

Eaves, Eysenck and Martin (1989) identify that there are three major dimensions of personality - psychoticism, extraversion and neuroticism and that these dimensions are perhaps the most important descriptive and causal features of personality. These personality superfactors or
dimensions are not only identified in many different Western measuring instruments but have also been determined to be characteristic of populations in the Third World as well. Additionally, these researchers also purport that, based on interval studies of fifty years, intelligence and personality can be viewed as relatively stable characteristics over an adult life span. Consequently, extraversion, neuroticism and psychoticism are believed to provide explanations and predictions of behavior in many different socially important domains.

Montag (1982) and Eaves, Eysenck and Martin (1989) describe the traits characteristic of extraverts as sociable, lively, active, assertive, sensation-seeking, carefree, dominant, surgent and venturesome. Introverts, on the other hand, are the opposite of these characteristics while ambiverts are viewed as intermediate between these extremes. The general population demonstrates a relatively normal distribution for this type of personality, with ambiverts making up the majority of the population and extraverts and introverts one standard deviation above and below the mean, respectively.

Eysenck's theoretical basis. The philosophical foundation for Eysenck's approach to personality can be related back to the ancient scheme of the four temperaments
of Melancholic, Choleric, Phlegmatic, and Sanguine. Eysenck (1975) has extensively factor analyzed these four temperament traits and subsequently developed his theory of personality. Eysenck then theorized a more physiologic conceptualization for explaining extraversion by means of the Activation Theory. Activation Theory is based on the concept of activation level - the degree of neural activity in the reticular activation system (RAS) of the brain. The RAS receives input from external, internal and cerebral cortex sources all of which monotonically or equivalently impact on activation level. Activation level is difficult to measure directly and must be inferred from other measures such as EEGs for CNS activation or skin conductance for physiological arousal measures (Gardner, 1986).

Gardner (1986) purports that the activation level is a function of CNS activity and that the arousal level is a function of peripheral autonomic nervous system activity. Eysenck (1975) further notes that the aroused or activated cortex has an enhanced ability to learn and more readily forms conditioned responses. Gardner (1986) adds that the RAS not only receives neural input from almost all of the sensory pathways but that it also sends collaterals out to control lower central and peripheral nervous systems' activities. Therefore, arousal levels due to peripheral autonomic system activity influence the cerebral activation
level and may also be controlled to some extent by the same cerebral activation level.

Eysenck (1975) claims that individuals have a preferred median level of arousal. If a person’s arousal level is below their preferred level, they become bored; whereas if it is above their preferred level, they become upset or anxious. Introverts are believed to have an inherently high level of arousal in their cortex as a result of an overactive ascending reticular formation. Gardner (1986) supports this position by noting that introverts have EEG patterns with low amplitude and high frequency alpha waves - a pattern typical of increased arousal.

On the other hand, extraverts suffer with an arousal level which is inherently too low and are, therefore, stimulus-hungry and spend much of their time sensation seeking. This is demonstrated by noting that extroverts have an EEG pattern of high amplitude and low frequency alpha waves - a pattern typical of a low arousal state. These differences, Gardner (1986) believes, are a function of genetically predisposed physiologic variations between these two groups which are measureable physically as well as behaviorally. Because of their inherently higher levels of arousal, introverts are more sensitive to environmental stimulation than extraverts and as a result experience a
higher level of activation than extraverts in a given task (Gardner, 1986).

Eaves (1989) extends this concept of biologic influence on behavior further by suggesting that neurobiological structures and secretions are genetically induced to cause behavioral variations. An example of such a mechanism is the strong negative correlation between platelet MAO levels and sensation-seeking behavior. He concludes that this association leaves little doubt that there are important biological foundations for differences in personality.

Ultimately, since extraversion has been demonstrated to be a constant personality trait throughout an individual’s lifetime influencing one’s values, stakes and commitments, it follows that this personality characteristic would also impact upon the appraisal, management and outcome of a stressful experience. Due to this assumption of the impact of extraversion upon the proposed stress-coping-depression paradigm, it will be included and measured in this study.

Repression. The other pre-existing personality trait which is believed to affect the stress-coping-depression process and which will be included in this study is that of repression. Repressors are individuals who tend to deny both the significance of negative events as well as their self-relevance. Individuals who are repressors usually have
established their self-concepts during late childhood and often utilize a variety of strategies to avoid awareness of affects and impulses which are incompatible with this self-image. Specifically, an individual who employs a repressive mechanism ignores the emotional system rather than informs it and often disattends to negative feedback cues which might be essential for self-regulation (Schwartz, 1990; Weinberger, 1990).

Interestingly enough, there is assumed to be a neurophysiological basis to this cerebral disconnection that repressors are assumed to be engaged in. Galin (1974) notes that each hemisphere is specialized for a different cognitive style. The left hemisphere predominantly engages in an analytical, logical mode for which words are best suited, while the right hemisphere more commonly employs a holistic, gestalt mode which is more suited to spatial relations. It has been further identified that the right frontal region of the cerebral hemisphere is highly interconnected with the limbic system and, as a result, is particularly activated during processing and generation of negative emotions (Weinberger, 1990). As support of the validity of this interconnection, Galin (1974) noted over fifteen years ago that there appears to be a parallel between functioning of the isolated right hemisphere and mental processes that are repressed, and unconscious.
Due to the fact that an anatomically distinct region of the brain, specifically the right frontal region of the cerebral hemisphere, appears to be particularly involved in processing of negative emotional content, it is not surprising to have subsequently noted that normal, neurologically intact individuals can disconnect such uncomfortable mental events from their left hemisphere. This disconnection occurs first of all, as a result of the different modes of information organization in the two hemispheres which often do not readily translate from one region to the other, that is: verbally and spatially, and secondly, due to the active inhibition of information transfer from one to the other which can and does occur during instances of conflict; that is: the disattention promotes a state of disconnection (Galin, 1974; Schwartz, 1990; Weinberger, 1990).

As a result of this theorized cerebral disconnection between the emotional experience and awareness, repressors often represent themselves as experiencing even less negative affect and anxiety than even true non-defensive, low-anxious individuals. Upon objective evaluation of repressors when compared with low-anxious and high-anxious subjects, however, the repressors incongruently report low anxiety while manifesting high levels of galvanic skin response, elevated heart rates and other objective indices
of emotional agitation; the latter variables often being higher than those of the self-reported high-anxious subjects (Schwartz, 1990; Weinberger, 1990).

Thus, because repressors are so preoccupied, albeit subconsciously, with avoiding awareness of their anxiety and remaining unreactive even when confronted with aversive stimuli; they may in actuality be interfering with their ability to cope effectively and, in turn, further worsen their behavioral and physiological manifestations of distress. Repressors attempt to pre-empt emotion-focused coping by altering the primary appraisal of an event by means of intellectualizing defenses such as rationalization, isolation of affect, and denial of personal meaning of an event. This inflexible adherence to a predetermined, unchangeable self-image and unrealistic interpretation of life events are characteristic of the repressive personality and interferes with adaptive stress management (Schwartz, 1990; Weinberger, 1990).

Depression and Stress

Lin and Ensel (1984) identified that some segments of the population have an increased vulnerability to depression. Additionally, the onset of current depression is clearly related to previous depression, to an increase in the incidence of undesirable life events and to diminished
Multiple other researchers have also identified this link between a recent experience of stressful or undesirable events and current manifestation of psychological maladjustment or, specifically, depression (Aneshensel, & Frerichs, 1982; Holahan, & Moos, 1981; Husaini, & Von Frank, 1985; Kessler, et al., 1985).

Ganster and Victor (1988) contend that stressful experiences lead to lowered self-esteem, a diminished sense of self-efficacy as well as a perception of lack of social control. All of these variables, in turn, can lead to depression. Persons with low self-esteem and low emotional support have been noted to have a positive association between stress and both physical symptoms and poor mood (DeLongis, et al., 1988). Dohrenwend and Shrout (1985) note that the presence of psychopathology in an individual appears to lead to the experience of stressful life events which, in turn, leads to further psychopathology. It also has been noted that the poorer one's overall health, the more likely one is to suffer negative health consequences from common stress (DeLongis, et al., 1988). Monroe (1982) further notes that for individuals with high levels of psychopathology, even neutral-ambiguous or desirable events were more likely to precipitate symptoms of distress. Nevertheless, even when pre-existing levels of psychopathology are factored out, daily hassles in and of
themselves are significant and independent predictors of subsequent psychological symptoms (Monroe, 1982).

Mitchell and Moos (1984) speculate that the reason life change events perpetrate psychological distress might be that such experiences negatively impact upon an individual's support system. This adverse impact upon the support system as a result of psychological distress could be due to a realization that the perceived support system was an overestimation of the actual functioning system, that the members of the support system are threatened by the disturbance and rejected the affected individual, or that the social support system is not effectively mobilized due to the illness (Barrera, 1986). Whatever the etiology, certainly the lack of a confiding relationship is strongly associated with depressive symptoms in a stressed individual (Holahan, & Moos, 1981; Leavy, 1983).

The author speculates that the symptoms which nurses manifest of depersonalization, absenteeism, turnover and drug/alcohol impairment may actually be due to underlying psychological distress in the form of depression. Additionally, nurses are usually not actually clinically depressed as defined by the DSM III but rather typically manifest depressive symptomology.
Contribution to Nursing

Stress is a multi-factorial process. As noted previously, daily hassles have been clearly related to psychological distress, specifically depression. Nursing can be typically characterized as an occupation in which individuals daily contend with work overload, role conflict, and role ambiguity as well as in which individuals have little control over their day-to-day experiences or over their careers. This experience of working in an environment in which events are unchangeable predisposes nurses to avoidance coping styles in an attempt to reduce emotional distress. These avoidance, emotion-focused coping techniques are the least effective mechanisms for coping with stress and are most likely to result in unhealthy behavioral avoidance strategies such as overeating or drug abuse or withdrawal behaviors such as absenteeism or depersonalization which are manifestations of depression.

In addition to the occupational environment, certain personal and social factors as well as ineffective coping styles may further increase the risk of professional depression in nurses. By evaluating the contribution of the personality characteristics and social support upon the development of depression in a stressful occupation, the author speculates that foci of interventions for alleviation of occupational stress in nurses can be identified. These
interventions may consist of providing a more supportive supervisory setting, retraining of nurses in appraisal of and coping with stressful experiences or redirection of nurses into career tracks which are more suited to their personality characteristics.

Research Question

The research question proposed by this study is that the outcome of depression among nurses will be differently affected by the multiple preceding variables as depicted in the proposed McCleave Occupational Stress Model. Since it has already been demonstrated that daily hassles, occupational stress, lack of social support, and emotion-focused coping strategies all positively correlate with the outcome of depression, the researcher is most interested in identifying the contribution of the personality characteristics of extraversion and repression upon this stress-coping-depression model. Further, the researcher is interested in identifying the contribution that primary stress appraisal makes to this process of stress-coping-depression. The hypotheses to be evaluated are as follows:

Hypotheses

Direct.

1: Extraversion will increase an individual's appraisal of stress.
2: Repression will decrease an individual's appraisal of stress.

3: An individual's appraisal of a situation as stressful will increase the interpretation of daily hassles as stressful.

4: An individual's appraisal of a situation as stressful will increase the interpretation of occupational stress as stressful.

5: Daily hassles increase the implementation of problem-focused coping strategies.

6: Daily hassles increase the implementation of emotion-focused coping strategies.

7: Occupational stress increases the implementation of problem-focused coping strategies.

8: Occupational stress increases the implementation of emotion-focused coping strategies.

9: Problem-focused coping strategies decrease depression.

10: Emotion-focused coping strategies increase depression.

11: Daily hassles increase depression.

12: Occupational stress increases depression.

13: Perceived social support decreases depression.

Mediating.

14: Occupational stress, and emotion-focused coping strategies will mediate and increase depression.

15: Occupational stress, and problem-focused coping strategies will mediate and decrease depression.

16: Daily hassles, and emotion-focused coping strategies will mediate and increase depression.

17: Daily hassles, and problem-focused coping strategies will mediate and decrease depression.
Indirect.

18: A significant amount of variance in depression can be explained by knowledge of the variables of emotion-focused coping strategies, occupational stress, stress appraisal and repression.

19: A significant amount of variance in depression can be explained by knowledge of the variables of emotion-focused coping strategies, occupational stress, stress appraisal and extraversion.

20: A significant amount of variance in depression can be explained by knowledge of the variables of problem-focused coping strategies, occupational stress, stress appraisal and repression.

21: A significant amount of variance in depression can be explained by knowledge of the variables of problem-focused coping strategies, occupational stress, stress appraisal and extraversion.

22: A significant amount of variance in depression can be explained by knowledge of the variables of emotion-focused coping strategies, daily hassles, stress appraisal and repression.

23: A significant amount of variance in depression can be explained by knowledge of the variables of emotion-focused coping strategies, daily hassles, stress appraisal and extraversion.

24: A significant amount of variance in depression can be explained by knowledge of the variables of problem-focused coping strategies, daily hassles, stress appraisal and repression.

25: A significant amount of variance in depression can be explained by knowledge of the variables of problem-focused coping strategies, daily hassles, stress appraisal and extraversion.

These proposed hypotheses will not only help identify the contribution of the preexisting personality characteristics of extraversion and repression upon this
stress-coping-depression model, they will also reveal the contribution of social support, problem-focused and emotion-focused coping strategies and stress appraisal upon the relationship of the experienced stressors of daily hassles and occupational stress upon depression.
CHAPTER 2

LITERATURE REVIEW

Empirical Research

Daily hassles. Kanner, Coyne, Schaefer and Lazarus (1981) performed the earliest research comparing the impact of major life events versus daily hassles upon psychological symptoms. They found that hassle frequency is a significantly more powerful predictor of psychological symptoms than is major life events and that major life events have little effect on psychological symptoms independent of daily hassles (Kessler, et al., 1985; Pearlin, 1989). Pearlin (1989) notes, it is not the event or the strain which are problematic but the disruption of people's lives which perpetrates the negative responses.

Monroe (1983) further studied this issue of the impact of daily hassles versus life events upon psychological disturbance. He, however, believed that the Hassles and Uplifts Scale utilized by Kanner and his colleagues was confounded and directly measured psychological distress as well as daily hassles. Consequently, he utilized a modification of Epsteins's minor life events scale which solicited self-report of pleasant and unpleasant daily situations (36 items altogether). Not only did Monroe also
find unpleasant minor life events (daily hassles) to be a better predictor of psychological disturbance, he also identified daily hassles as mediators of the effects of major life events on psychological disturbance as well (Monroe, 1983). He nevertheless, continued to be concerned as to the potential of confounding the effects of minor life events (hassles or uplifts) with either preexisting psychological disorder or major life events. He speculated that individuals with psychological difficulties or experiencing major life events may utilize reporting of hassles to justify their psychological difficulties (Monroe, 1983).

Further study as to the impact of daily hassles upon psychological well-being was performed by DeLongis, Folkman and Lazarus in 1988. This study addressed the intraindividual variation of mood and physical symptoms based on the experience of daily hassles. Additionally, due to pertinent observations of weaknesses in the Hassles and Uplifts Scale, the tool to measure daily hassles utilized in this study had been revised.

The weaknesses noted in the Hassles and Uplifts Scale consisted of the identification of items that were judged by a sample of clinical psychologists to be measuring psychological distress rather than daily hassles (Dohrenwend, et al., 1984). Many of these items were deleted from the revised Hassles Scale. Additionally, due to the structuring
of the response categories as to some level of severity only, this aspect of the scale was also modified (Dohrenwend, & Shrout, 1985). Nevertheless, even with the revised Hassle and Uplifts Scale, this study revealed an association between a high score for daily hassles and an increase in same day and next day physical symptoms and in same day mood disturbances. Consequently, it was concluded that an increase in daily hassles is associated with a decline in health and mood (DeLongis, et al., 1988).

A further study was performed by Wolf, Elston, and Kissling (1989) on the effects of daily hassles upon medical students. They also noted that the number of daily hassles was significantly related to psychological well-being. Additionally, although daily uplifts or salient and positive daily experiences were also included in most of these studies, they were unrelated to significant psychological or physical health outcomes (Kanner, et al., 1981; Lazarus, 1984).

Another aspect of hassles which is currently being addressed is centrality (Gruen, et al., 1988). Central hassles are those daily experiences which reflect ongoing themes or issues of particular concern for an individual. On the other hand, noncentral or peripheral hassles, are related to uncontrollable occurrences of the moment such as weather or traffic. Not only was it revealed that central hassles produce more emotional distress but individuals also feel more
responsible for causing them. Consequently, these researchers concluded that those daily occurrences that are more important to an individual can result in more psychological disturbance (Gruen, et al., 1988). This position supports the view that it is the personal appraisal which is most important in this stress-health outcome paradigm. In addition, it does appear that it is the undesirable events rather than change itself which is most relevant for determining the onset of psychological symptoms (Monroe, 1982).

Occupational stress. Since Nursing is an occupation which has many inherent conflicts, it is a profession often characterized by stress, frequent turnover and early burnout. The stress typical of nursing can be related to many factors which were noted previously: low decision latitude with a sense of inability to influence administrative decisions or physicians, ineffective voice in patient care decisions, lack of autonomy, underutilization of skills and abilities, no open expression of views or joint problem-solving and little say about career development, classifications and assignments. It is these types of variables which contribute to an organizational structure which subjects nurses to role conflict and ambiguity (Landsbergis, 1988; McGrath, et al., 1989; Revicki, & May, 1989).
Once again, as identified earlier, Gray-Toft and Anderson (1981) noted in their study of nursing stress that workload, feeling inadequately prepared to meet the emotional demands of the patients and their families and death and dying all contributed significantly to stress. These researchers speculated that inadequate preparation for coping with emotional needs of patient families as well as uncertainty regarding treatments were sources of occupational stress for nurses. They ultimately concluded, however, that these variables were in actuality a part of role ambiguity. Nevertheless, it is no surprise that the occupational stress that nurses are exposed to has been noted to be a direct cause of job dissatisfaction and an indirect cause of absenteeism as well as that this experience has a direct impact on depression in hospital nurses (Revicki, & May, 1989; Gray-Toft, & Anderson, 1981; Gray-Toft, & Anderson, 1985).

Hipwell, Tyler and Wilson (1989) note that workload and death and dying issues are major stressors for nurses, with non-specialized nurses experiencing greater levels of stress when compared with specialized nurses. Since study of occupational stress in nurses has historically been focused on those individuals in specialty areas, this observation of greater stress among nurses in non-specialized roles is a major shift in research focus. If one were to consider this finding from the perspective of role ambiguity, however, it is
intuitively reasonable to conceptualize how nurses in non-specialized roles would have a less clearly defined role and thus greater experienced stress. Tetrick and LaRocco (1987) have proposed that allowing some understanding and predictability of events and control over outcomes may function as effective mechanisms for decreasing occupational stress among nurses.

It has been identified that individual differences may have a major impact on how one might respond to role ambiguity or conflict (Numerof, & Abrams, 1984). Some of the personal characteristics which have been noted to also impact upon occupational stress among nurses are nurse status, length of time spent as a nurse, time spent on the ward, gender and expectation of remaining at current job (Hipwell, et al., 1989).

Better studied than these individual variations, however, is the impact of social support upon nurse occupational stress. Ogus (1990) observed that an effective social support system, especially spousal support, decreased experienced stress despite the level of work stress. Additionally, social and emotional support provided by family members has been noted to significantly diminish the depressogenic effects of occupational stress on an individual (Revicki, & May, 1985).

Moreover, one of the most effective mechanisms for managing occupational stress has been identified as social
support from co-workers and supervisors. Social support provided by co-workers and supervisors which is most effective is that which is helpful and informative. More specifically, however, efforts on the part of a supervisor to involve staff in decision-making clearly decreases the experience of role ambiguity. In addition, supportive supervisory behavior results in more open, supportive relationships among co-workers all of which enhances job satisfaction and decreases symptoms of distress such as absenteeism. Ultimately, this supervisor and co-worker support is positively related to increased job satisfaction, performance and commitment and negatively related to role ambiguity, work overload and turnover (Fisher, 1985; Ganster, & Victor, 1988; Gray-Toft, & Anderson, 1985; Revicki, & May, 1989). Finally, this social support which relieves occupational stress demonstrates a main effect on psychological outcomes and accounts for five to ten percent of the variance in mental health variables such as anxiety, depression and somatic complaints (Ganster, & Victor, 1988).

Cognitive appraisal. Cognitive appraisal pertains to the individual evaluation of an event or stressor. Fish (1986) proposed in his study, three broad categories of cognitive appraisal - irrelevant appraisals, benign-positive appraisals and stressful appraisals. He attempted to clarify this
categorical distinction by performing sequential semantic differential studies on undergraduate psychology students. These studies began by having the students write down relevant adjectives for positive and negative events. A dichotomous scale of fifteen terms was then derived from the most frequently listed adjectives. This bipolar scale of dichotomous terms for event appraisal was then tested on two subsequent groups of students to further refinement it.

Ultimately, Fish (1986) determined that benign-positive appraisal reflects a belief that an event does not exceed an individual's available resources. On the other hand, stressful appraisals were more negative. The appraisal of a stressful event as a threat had a negative emotional tone, placed the individual's well-being in jeopardy and had the potential for loss or harm. The appraisal of an event as challenging, also stressful and potentially harmful to an individual's well-being, had a more positive emotional tone with the potential for future growth (Fish, 1986).

Another study about appraisal performed by Forsythe and Compas (1987) focused upon the relationship of primary appraisal to coping strategy applied. Within their study, these researchers, who also utilized undergraduate psychology students as subjects, solicited cognitive appraisal of stressful major life events as well as daily hassles. Additionally, they solicited the subjects to determine the
controllability of the event as well as the coping strategies applied. From the results of this study, the researchers determined that psychologic distress was more related to the fit between the appraisal of the controllability of an event and the type of coping strategy than to the event itself. Specifically, if an event was deemed uncontrollable and an individual applied problem-focused coping strategies rather than emotion-focused coping strategies, their score of distress was greater than that of the latter group (Forsythe, & Compas, 1987).

Appraisals studies were also performed by Peacock and Wong (1990) on undergraduate psychology students. As a part of their research, these investigators sought to clarify three primary appraisal dimensions of threat, challenge and centrality as well as three secondary appraisal variables based on controllability: controllable-by-self, controllable-by-others, and uncontrollable-by-anyone. After performing three separate studies on over three hundred subjects, these researches identified that the appraisal of threat and centrality significantly predicted stressfulness in all three studies. Each of the following appraisals: controllable-by-others, uncontrollable-by-anyone and challenge, was statistically significantly related to stressfulness in one of the three studies (Peacock, & Wong, 1990).
Additional research on cognitive appraisal has been performed within the arena of chronic back pain patients and caregiver burden (Pellino, & Oberst, 1992; Oberst, Gass, & Ward, 1989). Within the study of chronic low back pain patients, the appraisal of control significantly influenced not only the evaluation of the level of pain but also the amount of mood disturbance of the patient (Pellino, & Oberst, 1992).

Interestingly enough, within the study performed upon caregivers of patients receiving cancer radiotherapy, appraisal of the caregiver role was related to characteristics of the caregiver rather than to those of the patients. Specifically, caregivers with the fewest personal and material resources, such as limited education and lower socio-economic level, were most likely to appraise the caregiving role as harmful and threatening. Age, on the other hand, was most often related to the positive appraisal of this caregiver role as challenging (Oberst, et al., 1989).

Coping strategies. As noted previously, emotion-focused coping strategies are those techniques which are used as an attempt to reduce psychological distress (Fleishman, 1984). Typically, emotion-focused coping strategies function to reinterpret a stressful situation rather than to confront the problem directly (Fleishman, 1984). Some examples of emotion-
focused coping strategies are: distancing, self-control, seeking social support, escape-avoidance, accepting responsibility and positive reappraisal (Folkman, Lazarus, Gruen, & DeLongis, 1986).

Problem-focused coping strategies are acts which are engaged in in an attempt to remove or mitigate the source of stress (Fleishman, 1984). These coping strategies are commonly referred to as confrontive coping and planful problem-solving (Folkman, Lazarus, Gruen, & DeLongis, 1986).

As identified by means of the Ways of Coping Scale, three of these strategies are used more frequently in individually appraised valuable situations. These three strategies are: self-control or efforts to regulate one’s own feelings, escape-avoidance which consists of wishful thinking behavior, and seeking social support that is seeking informational and emotional support within one’s interpersonal network (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Hill, 1982).

For those encounters which were identified as unchangeable and requiring acceptance, distancing or efforts to detach oneself from the situation, and escape-avoidance techniques were more frequently utilized. Interestingly, those outcomes which were deemed as most unsatisfactory were the ones in which distancing and confrontive coping were used (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).
Confrontive coping, or aggressive efforts to alter the situation, is a coping strategy more frequently utilized when an encounter is appraised as changeable. Additional strategies utilized in such a situation are: positive reappraisal or efforts to create positive meaning out of the event by focusing on the personal growth opportunities of the experience, accepting responsibility which consists of acknowledging one's role in the problem along with an attempt to put things right, and planful problem-solving or the deliberate problem-focused analytic effort to change the situation. The more satisfactory outcomes were characterized by use of planful problem-solving and positive reappraisal (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986).

Mattlin, Wethington and Kessler (1990) evaluated six coping strategies in relation to the situations in which they were used. These researchers agree that avoidance coping is indeed a maladaptive coping strategy, especially when applied to interpersonal events and chronic illnesses. On the other hand, however, they discovered that active cognitive coping and reappraisal were actually maladaptive techniques when not accompanied by active behavioral coping. This they felt was the case because re-evaluation of the stressful situation might actually interfere with behavior activity toward problem resolution (Mattlin, et al., 1990).
Holahan, and Moos (1987) found that individuals from a higher socio-economic status are more likely to utilize active-behavioral, problem-solving coping strategies and are less likely to rely on avoidance behavior. Additionally, active cognitive coping strategies appear to be less vulnerable to the environmental disruption of increased stress or decreased social support (Holahan, & Moos, 1987). Nevertheless, there is no evidence that either the types of coping strategies applied nor the intensity of coping efforts are influenced by the perceived severity of the stressful event (Mattlin, et al., 1990). It has been noted, however, that problem-focused coping strategies appear to be applied more frequently than emotion-focused strategies to deal with work-related stressors (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

**Social support.** The social network can be defined as the totality of social resources upon which an individual can potentially draw (Pearlin, 1989). Social support networks may lessen the negative health consequences of stressors by encouraging changes in behavior. A healthy social support network may enhance an individual's health and/or coping by encouraging healthful behaviors, by providing information regarding healthful behavior or by directly facilitating such behaviors (Ganster, & Victor, 1988). Nevertheless, the
ability to cope with stressful life events may actually depend less on the extent of one's social support network and more upon the perceived closeness of the relationships within that network as well as the availability of social support from the same (Husaini, & Von Frank, 1985). Specifically, Ladewig, McGee, and Newell (1990) note that relative support, especially perceived spousal support, had both a main effect as well as mitigating effect on depressive affect.

Apart from social support network, perceived social support is characterized as an estimation during cognitive appraisal of being reliably connected to others (Barrera, 1986). DeLongis, Folkman and Lazarus (1988) note that it is the perception of having available emotional support from close others which accounts for much of the effect of social support on stress. Within their study, the availability of social support diminished the link between daily hassles and illness. Furthermore, they found that subjects with lower emotional support were more likely to have experienced a mood disturbance on a stressful day than were subjects with higher emotional support. Lastly, the network size of an individual's social support system appears to have no independent effect on the relationship between hassles and illness or mood (DeLongis, et al., 1988).

Perceived support has been related to actual deterioration of support in the face of stressful events such
that what one might have perceived is not represented by reality (Duckitt, 1984). Nevertheless, studies do indicate that perceived social support performs a mediating function in the stress process (Pearlin, 1989). Furthermore, it may be incorrect to attempt to separate perceived support from received support. This is the case because most of the studies on support are retrospective evaluations obtained by means of self-report scales, as a result they are more than likely obtaining information on perceptions of social support only (Barrera, 1986).

Whatever the circumstances, the relationship between depression and stressful experiences is present among those with low social support as well as those with high social support. The distress effect, however, is twice as strong for those individuals who are unsupported when compared to those who are supported. Consequently, it appears that a lack of social support increases an individual's vulnerability to the adverse impact of undesirable events (Aneshensel, & Stone, 1982; Bell, LeRoy, & Stephenson, 1982; Thoits, 1982).

**Effects of social support.** Social support has been hypothesized to have two possible types of impacts on the stress process. The main effect of social support on the outcome of the stress process is that individuals who experience an adaptive social support system are themselves
less depressed and more healthy. The main effect of social support on perceived stress for an individual functions by enabling an individual to receive instrumental aid from one's support system so as to aid in reinterpreting the importance of environmental stressors (Fisher, 1985).

The moderating or buffering effect of social support is that this system may actually facilitate successful coping and thereby lessen the effect of stress on the individual's psychological well-being. This buffering effect of social support, however, has only been demonstrated in relation to perceived support and then only in high strain situations. This moderating effect, therefore, has received minimal support in the literature and must be considered inconclusive. Consequently, social support appears to perform primarily a direct role in the stress process rather than a buffering or moderating role (Aneshensel, & Stone, 1982; Cohen, & Wills, 1985; Fisher, 1985; Ganster, & Victor, 1988; Leavy, 1983; Thoits, 1984).

**Personality dimensions.** Parkes (1986) notes in her research of nursing students, that extraverts utilize more direct coping strategies than introverts. Additionally, she also notes that high social support tended to facilitate direct coping strategies among extraverts but diminished these behaviors on the part of introverts. Additionally, extraverts
appear to be more affected generally by social support. When unsupported, extraverts report higher levels of psychological distress than non-extraverts while supported extraverts reported reduced distress when compared to non-extraverts (Duckitt, 1984).

The other personality characteristic of concern in this study, repression, has never been studied in relation to daily hassles and occupational stress nor in relation to an outcome of depression.

Summary

The intent of this study, as noted previously, is to build upon these prior studies of stress. Unique to this current study, however, is the concurrent combined measurement of seven predisposing variables - extraversion, repression, stress appraisal, daily hassles, occupational stress, coping strategies and social support - upon the psychological outcome variable of depression. Ultimately, a more thorough explanation of professional depression is hoped to be discovered as a result of this multiple variable study.
CHAPTER 3

METHOD

Design

The design of this research project was that of an ex post facto non-experimental descriptive correlational causal model design study. Further, this study encompassed a one-time collection of data thereby rendering it a cross-sectional design. Additionally, this type of research design was purely observational and did not expose the subjects to any manipulation nor random assignment to treatment groups (Polit, & Hungler, 1983; Spector, 1981).

The cross-sectional correlational design was not only simplistic and easy to administer but it was also useful for establishing relationships between variables. This design, further, was useful for studying variables for which no experimental manipulation was possible as was the case in this study (Polit, & Hungler, 1983; Spector, 1981).

Sample

The study population consisted of all registered nurses in the state of Arizona actively practicing in either a hospital-like setting or in a community health nurse role who were functioning either as an administrator, a
supervisor, a head nurse or as a general duty nurse. From this population, a random sample of six hundred nurses was selected. This size for a sample was chosen so as to provide as much power or likelihood of rejecting a false null or accepting the alternative hypothesis as possible. The researcher was interested in moderate to large group differences identified as a result of regression analysis. Further, an alpha of .05 was deemed acceptable by the researcher. Although a sample of 300 to 500 was anticipated, only 147 subjects responded. Since the power to detect the effect of a variable on an outcome is affected by sample size, the smaller sample was able to identify only large effects and maybe some moderate effects in group differences (Cobb, 1984; Goodwin, 1983; Shott, 1990). This random sample of six hundred nurses was sent the study questionnaires by mail with a self-addressed envelope included during a season of the year free of holidays and other distractions in hopes of enhancing the return rate. Based on a summary of mailed questionnaire response rates performed by Heberlein and Baumgartner, a forty seven per cent (47%) return rate from the initial mailing could be anticipated (Miller, 1991). A second contact was expected to increase the response rate by an additional twenty per cent (20%) whereas a third contact was anticipated to add an additional ten per cent (10%) to the response rate bringing
it to an overall level of seventy seven per cent (77%) (Miller, 1991).

Another variable which might have influenced the response rate was the saliency of the study issue to the respondent. Heberlein and Baumgartner noted in their study of factors which effect response rates to mailed questionnaires that saliency of the questionnaire resulted in a seventy seven per cent (77%) response rate. The researchers further noted that the length of the questionnaire bore no correlation to overall response rate (Miller, 1991).

Procedure

The data for this study was gathered by means of self-report questionnaires. The questionnaires were composed of eight instruments measuring extraversion, repression, daily hassles, occupational stress, stress appraisal, coping strategies, social support and depression. Further, the questionnaire solicited demographic data such as age, years worked as a nurse, occupational setting and marital status.

The participants in this study were informed of their human rights by means of a disclaimer form which accompanied the questionnaires. This disclaimer informed the participants of the purpose of the study, any potential risks to them, of which there were none, their ability to
withdraw from the study at any time and their ability to obtain answers to any questions at any stage of the research. Further, the confidentiality of all participants was maintained by not revealing any individual names as well as by aggregating the findings so that no one participant could be identified.

In an attempt to attain as high a return rate as possible, the following techniques were utilized. First of all, the eight tools and demographic questions were compiled into a booklet format to appear less formidable to the respondent. In addition, the Health Professions Stress Inventory was the first tool in the booklet in an attempt to take advantage of the saliency of nursing occupational stress issues with a sample of nurses (Miller, 1991).

Approximately one week to ten (10) days after the first mailing of the questionnaire, a postcard was mailed to those respondents from whom a completed questionnaire had not been received. Another week to ten (10) days after the postcard mailing, a second questionnaire was mailed to non-respondents. With this second questionnaire mailing, a self-addressed, return envelope was included. It was anticipated that the three mailings plus the saliency of the topic would result in a return rate of sixty (60%) to eighty per cent (80%) or three hundred and sixty (360) to four hundred and eighty (480) useable questionnaires (Miller, 1991).
Instruments

Health Professions Stress Inventory. Occupational stress was measured by means of the Health Professions Stress Inventory (see Appendix B) which is a thirty (30) item job situations Likert-type scale developed to assess the levels and sources of stress experienced by health professionals. This scale solicits responses on each job situation item on a scale from 'never' (0) to 'very often' (4) such that total scores can range from 0 to 120. From a sample of 379 nurses, the developer of the inventory identified a mean score of 61.2. When this scale was evaluated on a large sample (1242) of pharmacists, nurses and physicians, the internal reliability was identified as .88 via Cronbach's alpha. Finally, this tool also revealed convergent validity of .75-.78 when compared with Lyons' index of work-related tension thereby demonstrating that the Health Professions Stress Inventory appears to measure job related stress among health professionals (Wolfgang, 1988).

Stress Appraisal Measure. Measurement of primary stress appraisal was performed by means of the Stress Appraisal Measure (SAM) (see Appendix B). This tool which consists of 28 items, measures six appraisal variables: threat, challenge, centrality, controllable-by-self, controllable-by-others, and uncontrollable-by-anyone as well
as contains a scale for measurement of perceived overall stressfulness. Each of these subscales is composed of four (4) items. The items are scored on a five point Likert scale ranging from 1 to 5 (1-not at all to 5-extremely). As a result, each item can be scored 1 to 5, each subscale can result in a total score ranging from 4-20 while the total scale can result in a total score ranging from 28-40.

The internal consistencies or alphas of these subscales after three studies of over four hundred individuals were: .71 for the threat scale, .73 for the challenge scale, .86 for the centrality scale, .86 for the controllable-by-self scale, .84 for the controllable-by-others scale, .63 for the uncontrollable-by-anyone scale, and .78 for the perceived stressfulness scale. Additionally, the relationships between these subscales and dysphoric mood were also found to be significant. The subscales of threat, centrality, uncontrollable-by-anyone and perceived stressfulness were all positively correlated to dysphoric mood with coefficients of .55, .40, .37 and .58 respectively. The subscales of challenge, controllable-by-self and controllable-by-others were all negatively correlated to dysphoric mood with coefficients of -.19, -.26 and -.37 respectively (Peacock, & Wong, 1990). This scale, therefore, is not only congruent conceptually with the
analysis of appraisal-stress and depression of the current study but also appears to have strong subscale reliability.

**Daily Hassles Scale.** Daily Hassles was measured by means of the Daily Hassles Scale (see Appendix B). This scale is composed of 117 items soliciting a response ranging from 'none or did not occur' (0) to 'extremely severe' (3). The scoring is additive and is based on frequency of hassle occurrence as well as on severity of the hassles. The mean frequency of hassle occurrence for a sample of 100 middle-aged adults sampled monthly for nine months was 20.5 with a mean severity of 1.47 (Lazarus & Folkman, 1989).

The hassles frequency score demonstrated a reliability of .79 in the above-noted study whereas the reliability of the hassle severity score was only .48. This finding might indicate that hassle frequency is a more stable measurement than is hassle severity (Lazarus & Folkman, 1989). Due to the low reliability of the hassle severity component of this scale, only hassle frequency was evaluated in this study.

**Ways of Coping Scale.** The Ways of Coping Scale which is composed of 66 items will be utilized for measuring coping strategies applied (see Appendix B). This scale solicits a response for each item from 'does not apply or not used' (0) to 'used a great deal' (3). A raw score is
developed by summing all of the subject’s responses to the items in each scale. These resultant scores describe the coping effort for each of the eight types of coping: confrontive coping (μ: 3.05), distancing (μ: 3.05), self-control (μ: 5.77), seeking social support (μ: 5.4), accepting responsibility (μ: 1.87), escape-avoidance (μ: 3.18), planful problem-solving (μ: 7.25) and positive reappraisal (μ: 3.48). The previously noted means were derived from a sample of 150 middle- and upper-middle class white adults averaged over five separate measurements with alphas ranging from .61 to .79 (Folkman & Lazarus, 1988).

This scale, which has been utilized as a means for measuring coping strategies applied during a stressful experience, has been used in a variety of stressful settings such as work, acute health-related stress, loneliness, depression and chronic illness. As a result of these applications, the reliability of this scale has been determined by means of a Cronbach’s alpha to be .80 for the Problem-focused subscale and .81 for the Emotion-focused subscale (Tennen & Herzberger, 1985).

Since this scale has demonstrated consistently reliable findings across a variety of settings, the validity question of whether this scale is actually measuring coping strategies would appear to be affirmed (Tennen & Herzberger, 1985).
**Personal Resource Questionnaire.** Social support was measured by means of the Personal Resource Questionnaire (PRQ) (see Appendix B). Weinert (1987) noted that social support is a construct composed of five underlying dimensions: intimacy, social integration, nurturance, worth and assistance. As a result of this conceptualization, she has developed the Personal Resource Questionnaire which is a norm referenced measure of social support. This scale consists of two parts for the measurement of social support. The first part assesses the number of interpersonal resources a person can call upon in stressful life situations and satisfaction with these resources. Part 2, on the other hand, is designed to measure an individual's perceived social support.

The reliability of the entire scale as measured by Cronbach’s alpha is .93 with subscale reliabilities of .79-.88. Additionally, test-retest reliability measurement revealed an r of .81 for interpersonal resources (Part 1) and an r of .72 for perceived support (Part 2) (Weinert, & Brandt, 1987). Since this study focused upon perceived social support, only Part II of the PRQ was used.

This tool consists of 25 items which are scored based upon a 7 part Likert type scale ranging from a response of 'strongly disagree' (1) to 'strongly agree' (7). Out of four studies with a total N of 363, the mean for Part II was
determined to be 143. Further, after extensive factor analysis of the PRQ-Part II and further revision of some of the questions, Weinert (1987) determined that rather than five subscales, that this scale actually measures only three subscales or factors. These three factors are Intimacy/Assistance, Nurturance and Integration/Affirmation with respective reliabilities of .85, .89 and .82.

The validity of this scale has been analyzed both by congruence with the theoretical underpinnings as noted above as well as by divergent testing. Low correlations between scores on the PRQ and on mental health measures of anxiety and depression substantiate the anticipated viewpoint that individuals with a high level of social support would have low levels of anxiety and depression (Weinert, 1987).

Eysenck Personality Inventory. The personality factor of extraversion has been measured via multiple techniques including the Eysenck Personality Inventory (EPI) for many years. Montag (1982) identified a .54 correlation between the Eysenck E scale and the Comrey Personality Scale (CPS), Extraversion scale even though Eysenck's constructs were designed to be broader in scope than those of the CPS.

Wakefield (1976) noted that Myers-Briggs Type indicator and the Eysenck Personality Questionnaire (EPQ) are both based on Jung's theory of extraversion-introversion and
neuroticism. The extraversion scales of these two tests are significantly positively correlated as would be expected from scales derived from the same theoretical base.

Kramer (1969) studied the relationship between self-reports of extraversion and Eysenckian E scores. The validity of this relationship is founded upon Allport's position that normal subjects should be able to tell us valid things about their own personality. Kramer (1969) noted a .48 correlation between the Eysenckian E score and naive subjects' estimation of how extraverted they believed they appear to others (significant at the .001 level) and a .46 correlation between the E scale and subjects' estimation of how extraverted they feel they really are (significant at the .001 level). He thereby concluded that this strong correlation between Eysenck's E scale and naive subjects' ratings of their own degree of extraversion contributes to establishing the construct validity of the EPI for this dimension.

Finally, subjects who scored high on the EPQ extraversion scale, also rated themselves on the Adjective Checklist with terms which are consistent with Eysenck's description of extraversion. The resultant findings were that the EPQ correlated positively with terms from the Adjective Checklist such as dominance, heterosexuality, exhibition, autonomy and change and correlated negatively
with terms such as succorance, abasement and deference (Wakefield, 1976).

Farley (1976) noted that extraverts are considered to be those individuals who score at or greater than one standard deviation above the mean. These individuals will manifest as outgoing, impulsive, uninhibited, with many social contacts and frequent participators in social activities. On the other hand, introverts are subjects who score at or one standard deviation below the mean. These individuals can be typified as quiet, retiring, introspective, and socially distant except with intimate friends (Eysenck, & Eysenck, 1968).

Ultimately, the personality characteristic of extraversion was measured by means of the Eysenck Personality Inventory (EPI). The EPI measures neuroticism as well as extraversion and contains a lie scale. Since this study focused on extraversion and was not evaluating neuroticism, only the twenty four (24) extraversion items and nine (9) lie scale items were used. The items solicit a "yes/no" response and were scored based on number of affirmative responses (see Appendix B).

In regard to the reliability of the EPI, this test was assessed both by test-retest and by split half reliability techniques. Within the test-retest evaluation process, two separate samples of normal subjects tested twice, with a
time span of one year separating the testing, revealed a reliability of .90 for the extraversion dimension. This is a remarkably high reliability level considering the length of time between testing session.

A split half reliability of .74 was obtained when the extraversion dimension of Form A was compared with that of Form B of the EPI. On the other hand, when the whole test was evaluated by means of the Spearman-Brown formula, the reliability of the extraversion dimension was found to be .91. As a result of these findings, Eysenck and Eysenck (1968) recommended that the entire test be utilized if individual decisions are to be based on the inventory but that one of the two forms would be adequate for experimental studies.

Weinberger Adjustment Inventory. Although the Marlowe-Crowne Social Desirability Scale is frequently used to identify repressors, the author chose the Weinberger Adjustment Inventory (WAI) for measuring this characteristic (see Appendix B). Weinberger (1990) argued that the Marlowe-Crowne Social Desirability Scale was not designed for measuring repression whereas the Weinberger Adjustment Inventory specifically focuses upon identifying the repressor (Weinberger, 1990).
The WAI has either a long form or a short form. The long form consists of 84 items which constitute 10 subscales. The short form, on the other hand, is composed of 37 items which are a subset of those on the 84 item scale and constitute three subscales. One of the subscales of the WAI, both long and short form, is that of repressive defensiveness. This subscale which is composed of 11 items in the WAI-SF (short form) demonstrates a Cronbach Alpha reliability of .80 after three separate studies of a total of 872 subjects. Since repression was the variable of concern within this study, the 11 item repressive defensiveness subscale of the WAI-SF was used. Each item is scored on a 1 to 5 scale (1-false to 5-true) with a score of 16 required to be classified as repressive defensive (Weinberger, 1989).

In addition, a 2 item response set scale will also be included. Finally, within the distress subscale of the WAI-SF are 2 subscales of interest: a three item scale for low self-esteem (α .82) and a three item scale for low well-being (α .80). These two subscales will also be included to explore any non-hypothesized association between these variables and the mental health outcome of depression (Weinberger, 1989).
Finally, depressive symptomology was measured by means of the Center for Epidemiologic Studies Depression Scale (CES-D) (see Appendix B). The CES-D was constructed to assess frequency of depressive symptoms with emphasis on depressed affect or mood. Specifically, the CES-D focuses on six components of depressive symptomology: depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite and sleep disturbance (Robinson, Shaver, & Wrightsman, 1991).

This tool consists of 20 items which are scored from 1 (rarely or none of the time) to 4 (most or all of the time). A score of 16 or above is believed to indicate the presence of depressive symptomology. Reliability analyses of this tool demonstrate a split-half correlation of .85 for clinically depressed patients and a split-half of .77 for normal groups. Coefficient alphas and Spearman-Brown coefficients, on the other hand, were .90 for both clinically depressed patients and for a normal sample. The CES-D also demonstrates convergent validity by revealing a .81 correlation with the Beck Depression Inventory. This scale is recommended as a survey of depressed mood within the general population (Robinson, et al., 1991; Radloff, 1977).
Due to the complexity of this stress-coping-depression paradigm, the author proposed a causal analysis model to aid in explication as well as evaluation of the study variables (Figure 2). A causal relationship may be defined as one in which the relationship between an antecedent phenomenon and a consequent phenomenon are connected such that if the antecedent occurs then the consequent phenomenon also occurs (Ferketich, & Verran, 1990). Further, there are three basic criteria for causal statements: temporal ordering, covariation of the cause and effect, and possible causal effects of other phenomena on the consequence have been accounted for or controlled. This third criteria of inclusion of all relevant causes in a model is critical in causal modeling and is one reason for the multiple variables within this proposed study (Asher, 1983; Ferketich, & Verran, 1990). Ultimately, Asher (1983) notes that the choice of variables to include in a model is based on prior empirical research and upon theoretical considerations.

Causal modeling is functionally utilized as a means by which causal sequences in nonexperimental data can be examined. The temporal ordering of the variables as well as causal inferences about variable relationships must be supported by sound theoretical rationale derived from the literature and/or previous research, for it is the
theoretical development of the causal model which is the science of causal modeling (Asher, 1983; Ferketich, & Verran, 1990).

The McCleave Occupational Stress Model - A Causal Model. The variables of extraversion and repression were ordered at the far left of the model as the first temporally influential contributors to this process. Since an individual's evaluation of a situation as stressful depends on that person's values and commitments which, in turn, are affected by the person's personality, it intuitively follows that these characteristics would be temporally ordered in the first stage of the model.

The next temporally ordered variables were those of primary stress appraisal followed by daily hassles, and occupational stress. Both of the personality characteristics from the previous temporal stage directly related to or impacted upon the variable of primary stress appraisal. Subsequently, primary stress appraisal mediated between the pre-existing personality variables and the variables of daily hassles and occupational stress.

The next temporally ordered variables were those of emotion-focused and problem-focused coping strategies. These variables not only directly related to the outcome variable of depression but also mediated the relationships
between daily hassles and depression and between occupational stress and depression.

The next temporally ordered stage consisted of social support. Since it was identified within the literature that this variable of social support has a direct effect on psychological outcome and no consistently measured moderating or mediating effect on the previously ordered variables of daily hassles and occupational stress it was deemed appropriate to place it in its own stage.

The final temporally ordered stage was that of depression. This was the dependent variable and the outcome measured to determine the effectiveness with which an individual dealt with the stress-coping-depression paradigm. It is directly related to emotion-focused and problem-focused coping strategies and to social support as well as to daily hassles and occupational stress as depicted by the straight lines (Ferketich, & Verran, 1990).

Analysis

The analysis was begun with evaluation of the reliabilities of the individual instruments and of many of the subscales. Further, the data was scrutinized to determine that the assumptions of path analysis were met by means of multiple regression and residual analyses. Had analysis assumptions not been met, data transformation would
have been necessary to correct for lack of normal distribution or lack of homoscedasticity. Next, evaluation of these causal relationships was performed by means of regression analyses of the depicted paths.

Regression analysis which is a process for examining a causal model is a two-step process whereby the theorized links of the model were examined and then the links theorized to be nonexistent were evaluated to confirm their nonexistence. The assumptions of regression analysis are that there is a zero mean, there is independence among the residual terms, there is equal variance or homoscedasticity and that the residual is distributed normally. Further, the assumptions required by regression analysis can be evaluated by performing residual analysis of the regression equations (Ferketich, & Verran, 1990). A histogram of the residuals can confirm normality while a widely scattered scatterplot can assure independence and homoscedasticity (Shott, 1990).

Limitations

The limitations of this study were that it was a paper-and-pencil self report study rather than a direct observational study. Additionally, misspecification of variables which significantly influence this process of stress-coping-depression as well as measurement error on the part of the instruments utilized could have also resulted in
incorrect findings. Finally, not only was the sample self-select in regard to who returned questionnaires and who did not, thereby threatening internal validity, the sample also only included nurses from the state of Arizona which may limit the external validity or generalizability to nurses from other states or countries.
CHAPTER 4

RESULTS

Sample

Six hundred randomly selected Registered Nurses actively practicing nursing in the state of Arizona were mailed a questionnaire which was labeled with a confidential identifier number. This initial questionnaire mailing was followed in ten days by a reminder postcard and then by a second mailing of a questionnaire two weeks later if no questionnaire had been returned. From this mailing to the random sample of 600 nurses, 56 questionnaires/postcards were returned undeliverable or not completed while 147 questionnaires were returned completed resulting in a return rate of 27%. The questionnaire itself was composed of eight instruments as well as nine demographic questions and in total contained 346 questions. Although it was previously noted that the length of a questionnaire would have no effect upon the return rate, the impact of complex or thought-provoking questions was not addressed. Consequently, the researcher speculates that the 27% return rate of this questionnaire booklet was a result of the complexity of the multiple measures in this booklet.
Demographics. Of the sample who returned questionnaires, 97% were females and 3% were males. Additionally, 12% of the responders were aged 22-30, 32% were 31-39, 31% were 40-49, 17% were 50-59 and 10% were 60 and older. Thirteen per cent of the sample were single, 66% were married, 16% were divorced and 5% were widowed. No demographics regarding gender, age or marital status were available from the State Board of Nursing for comparison with this sample to determine the representativeness of the participants to registered nurses in Arizona for these variables.

The response sample of this study educationally demonstrated 29% ADN prepared, 23% Diploma graduates, 35% BSN nurses and 12% for the combination of baccalaureate non-nursing, Master’s in Nursing or Master’s in Non-Nursing. Comparatively, of the 54,401 registered nurses in the State of Arizona as of 1/29/93, 33% are ADN prepared, 25% are Diploma graduates, 27% are BSN nurses and 13% were analogous to the last three categories described above (Arizona State Board of Nursing, 1993). Consequently, for the variable of educational level, the study sample was similar to the population of nurses in the state of Arizona.

The occupational distribution of the response set was composed of 67% staff nurses, 18% charge nurse/clinicians, 8% unit directors, 3% community health nurses and 1% other -
usually self-represented as psych-mental health nurses. The worksite distribution of this sample consisted of 50% hospital workers, 33% working in specialty areas such as EDs, or ICUs, 6% employed in extended care, 2% working in a Hospice role, 3% working in the community and 5% other. When compared with the population of registered nurses in the state of Arizona, of the comparable data, 50% of nurses in the state were employed in hospitals and 27% represented themselves as working in a special care setting (OR, ICU, CCU) (Arizona State Board of Nursing, 1993). The location of employment as well as self-depiction as specialty care nurse for the study sample was analogous to these distributions of nurses in the state of Arizona.

Of the sample population who responded to the questionnaire, 80% responded that they live in a urban area of 20,000 inhabitants or more while 19% noted that they resided in a rural setting of less than 20,000 population. When compared with statistics from the state population of RNs, 86% were identified as residing in either Maricopa or Pima county demonstrating a relatively close approximation to the study breakout between rural and urban settings (Arizona State Board of Nursing, 1993).

Finally, the study sample was also evaluated according to income and years employed as a nurse. Of this sample, 2% earned less than $20,000 annually, 70% earned between
$20,001 and $50,000, 20% earned between $50,001 and $100,000 and 5% earned over $100,001 annually. As to years employed as a nurse, for the sample of study participants, 42% had worked from 1-10 years, 32% had worked from 11-20 years, 14% had worked from 21-30 years, 10% had worked from 31-40 years and 3% had worked greater than 41 years. There were no state statistics available to compare either of these two variables with the population of RNs in the state.

In an attempt to identify any differences among subsamples of the study sample, the study sample was subdivided according to age, education, occupation, work site, residence and years worked. When these demographics are analyzed as smaller groups of individuals a few differences can be detected (Table 1). First of all, the sample of Charge Nurse/Clinical Specialists (N=27), which admittedly is a small group, is found to be older when compared with the total sample and with the other depicted groups. Certainly, the group of nurses who were 40 or older (N=90) and the group who had been employed more than 20 years as an RN (N=39) would be expected to be older and are, therefore, exempted from this comparison. A further area of distinction for this Charge Nurse/Clinical Specialist group can also be noted when the educational level is evaluated. Sixty-three per cent of the Charge Nurse/Clinical Specialist group reveals an educational level of BSN, BA-Non-Nursing,
Demographic Comparisons

Table 1

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<th>OCCUPATION</th>
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### Demographic Comparisons (Cont)
#### Table 1

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<td>M</td>
<td>3% 6%</td>
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</tr>
<tr>
<td>22-30</td>
<td>12% 14%</td>
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</tr>
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</tr>
<tr>
<td>40-49</td>
<td>33% 37%</td>
<td>39% 32%</td>
</tr>
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<td>50-59</td>
<td>20% 10%</td>
<td>11% 22%</td>
</tr>
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<td>11% 20%</td>
<td>7% 14%</td>
</tr>
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<td>Married</td>
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<td>14% 18%</td>
<td>18% 15%</td>
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<tr>
<td>Widowed</td>
<td>7% 2%</td>
<td>4% 6%</td>
</tr>
<tr>
<td>ADN</td>
<td>29% 37%</td>
<td>32% 28%</td>
</tr>
<tr>
<td>Diploma</td>
<td>29% 14%</td>
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<td>BSN</td>
<td>30% 35%</td>
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<td>6% 4%</td>
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<td>Stf Nrs</td>
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<td>Chg H/Clin</td>
<td>15% 20%</td>
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<td>1% 1%</td>
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<td></td>
</tr>
<tr>
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<tr>
<td>Rural</td>
<td>23% 14%</td>
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<td>Urban</td>
<td>74% 86%</td>
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<td>73% 67%</td>
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</tr>
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<td>32% 12%</td>
<td>25% 26%</td>
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</table>
Masters in Nursing and Master-Non-Nursing. When compared with those nurses who were 40 or older and those who had worked 20 years or more, the educational level BSN/BA and above for these two groups was identified as only 46% and 43% respectively. When chi-square analysis was performed on these different distributions, chi-squares of 4.5 and 6.3 (p<.05) were obtained both of which were statistically significant.

Two more characteristics which distinguish the Charge Nurse/Clinical Specialist group from the nurses employed >20 years are those of occupation and years employed. Fifty nine per cent of the Charge Nurse/Clinical Specialist group has worked less than 20 years and 51% of the nurses who have worked 20 years or more are currently working as staff nurses. Clearly, these two subgroupings of the sample are different. The importance of these distinctions will become more apparent when the regressions are discussed later in this chapter.

**Instruments**

*Eysenck Personality Inventory (EPI).* The Eysenck Personality Inventory was applied for measuring the personality characteristic of extraversion. From this sample of 147 nurses, a mean of 18.3 was identified with a standard deviation of 1.15. This compares with a sample of
37 nurses provided in the EPI manual (Eysenck, & Eysenck, 1968) which demonstrated a mean of 14.7 and standard deviation of 3.4. For a total sample of 1931 subjects also provided in the EPI manual, there was a mean of 14.2 and a standard deviation of 3.9. Apparently, the response sample of nurses in the current study were a significantly more extroverted and somewhat more homogenous group than those studied by Eysenck and Eysenck in 1968. Additionally, this tool was found to have a consistency reliability as measured by Cronbach’s alpha of .72 for this study.

**Weinberger Adjustment Inventory – Short Form (WAI-SF).**

The Weinberger Adjustment Inventory – Short Form was used to measure the personality characteristic of repression. For the current sample of 147 nurses, a mean of 34.8 with a standard deviation of 6.9 was identified. A study of 171 adults ranging in age from 31-60 which was provided with the scale reveals a mean of 52.3 and a standard deviation of 5.2. Consequently, it appears that the current sample of nurses was significantly less repressed than the comparative study sample. Further, the repression questions of the WAI-SF demonstrated an internal reliability of .67 for this study.
Stress Appraisal Measure (SAM). The Stress Appraisal Measure was employed to evaluate the appraisal of stressfulness of experiences. The current study revealed an overall mean of 86 for this sample of 147, with a standard deviation of 27.1 and a reliability for the entire tool of .84. The author of the scale provided descriptive statistics only for the subscales of this tool. The subscales are threat, challenge, centrality, controllable-by-self, controllable-by-others, uncontrollable, and stressfulness. The means and standard deviations for the subscales of the sample of 147 nurses were as follows: threat: 10.5, 3.1; challenge: 11.8, 3.1; centrality: 13.2, 3.7; controllable-by-self: 14, 2.8; controllable-by-others: 10.8, 3.7; uncontrollable: 8.7, 3.5; and stressfulness: 12.7, 3.1. The author of the SAM scale who had evaluated these subscales on four separate populations of second year psychology students identified means for all of the subscales in the range of 2-4 with standard deviations as low as 0.6 to 1.1.

This researcher contends that the much higher means identified for the subscales on this stress appraisal measure than those found by the developer of the scale were due to the significantly different populations studied. Intuitively, it would be expected to find higher attributions of stress among a population of individuals who
range in age from 22 to 71 who are all employed in an occupation well known for its stressfulness than would be expected among 18 to 20 year olds whose greatest stress was their next exam. Further, the rankings of the subscales for the magnitude of the means was very similar for these two groups. Controllable-by-self and centrality are the highest two subscales for both groups followed by stressfulness, challenge and controllable-by-others as the next three highest means for both groups, although in different orders. The last two subscales, threat and uncontrollable, have the lowest means for both groups. Finally, the alphas indicating internal reliability for the subscales of this study sample compared with the author's samples (in parentheses) were as follows: .69 (.71) for threat, .70 (.73) for challenge, .67 (.86) for centrality, .70 (.86) for controllable-by-self, .73 (.84) for controllable-by-others, .73 (.63) for uncontrollable and .68 (.78) for stressfulness.

Daily Hassles (DH). The Daily Hassles scale was employed to measure hassles experienced by the sample during day-to-day experiences. The Daily Hassles scale can be scored according to frequency and severity of hassles. Since the frequency of hassles has been shown by the scale developer through research to be more stable over time, the
frequency of hassles was the scoring approach chosen by this researcher for the present study. The mean frequency of hassles identified by the current study sample of 147 nurses is 47.4 with a standard deviation of 21.2. The comparable mean and standard deviation based on a study of 100 white, middle-class adults aged 45-60 measured nine times over time was 20.3 and 17.7 respectively (Lazarus, & Folkman, 1989). This researcher contends that the current study population may be a higher stressed population than a sample composed of 100 white, middle-class adults and finds this higher mean frequency of hassles not surprising. The Cronbach's Alpha for determining internal reliability was found to be .95 for this sample.

Further, the Daily Hassles Scale can be broken down into eight subscales: neighborhood/environmental concerns, financial responsibilities, inner concerns, health, work, future security, time pressures, and household responsibilities. Although there were no normative means for these subscales to compare with the current sample, visual inspection of the various means and their subscales divided by the number of items for each subscale which does differ was of interest. The scales neighborhood/environmental concerns (μ of 3.22, #8), inner concerns (μ of 4.13, #9), health (μ of 4.1, #10) and work (μ of 2.61, #6) all revealed comparable scores ranging from .40
to .46. On the other hand, the finance scale (μ of 3.52, #7) showed a comparable score of .50 while the household responsibilities scale (μ of 6.21, #11) revealed a score of .56. The most significant scales as to frequency of hassles for the study population, however, appeared to be those of time pressures (μ of 5.61, #9) and future security (μ of 2.52, #4) with comparable scores of .62 and .63 respectively. Internal reliability alphas for all of these subscales ranged from .82 to .85 for this study.

Health Professions Stress Inventory (HPSI). The Health Professions Stress Inventory which was designed specifically to measure the occupational stress of physicians, nurses and pharmacists was used to measure the occupational stress of nurses in this study. The mean for this scale was 58 and the standard deviation was 12.2 for the study sample. This compared closely with the developer’s sample of 356 nurses which revealed a mean and standard deviation of 61.2 and 14.2 respectively. Further, the Cronbach’s alpha measuring internal reliability for this scale with this study’s sample was .82.

Since two stress measures were employed in this study, the researcher ran a correlation of these two measures, the Daily Hassles Scale and the Health Professions Stress Inventory. Not only did the correlation coefficient between
these two scales reveal significant correlation ($r = .42, \ p = .000$) but all of the subscales of the Daily Hassles Scale were also significantly correlated with the Health Profession Stress Inventory scale. This issue of correlation between these two stress measures will be revisited when the multiple regression analyses are discussed.

**Ways of Coping (WOC).** The Ways of Coping Scale was implemented for measuring the coping strategies employed by the study sample for dealing with experienced stress. When the scale was broken down into the two scales of Problem-Focused Coping and Emotion-Focused Coping, the respective means, standard deviations - in parentheses - and reliability coefficients were $13.3, (\sigma 5.3)$, and $\approx .71$ for the Problem-Focused Coping scales and were $35.7, (\sigma 14.5)$ and $\approx .73$ for the Emotion-Focused Coping scales. Since there were 38 Emotion-Focused Coping questions and only 12 Problem-Focused Coping questions, the means were divided by the number of scale questions to obtain a comparable mean. When this was performed, Emotion-Focused Coping revealed a comparable mean of $.9$ and Problem-Focused Coping revealed a comparable mean of $1.1$ demonstrating that these two forms of coping were employed relatively equally by the study sample. There were no normative data for the Ways of Coping Scale as
a Problem-Focused Coping Scale and Emotion-Focused Coping Scale although this was a common way of addressing coping in the literature (Folkman, & Lazarus, 1988).

The Ways of Coping Scale was also composed of eight subscales: Positive Reappraisal, Planful Problem Solving, Escape/Avoidance, Accepting Responsibility, Seeking Social Support, Confrontive Coping, Distancing and Self Controlling. The means and standard deviations of the study sample for each of these subscales compared with those for the developers' normative sample (in parentheses) were as follows: Positive Reappraisal: 7.35, 4.25 (3.48, 2.96); Planful Problem Solving: 8.08, 3.5 (7.25, 2.34); Escape/Avoidance: 5.14, 4.32 (3.18, 2.48); Accepting Responsibility: 3.34, 2.71 (1.87, 1.44); Seeking Social Support: 6.75, 4.19 (5.40, 2.40); Confrontive Coping: 5.23, 3.3 (3.94, 2.09); Distancing: 4.57, 3.3 (3.05, 1.78); Self Controlling: 8.72, 4.0 (5.77, 2.87). Certainly, just with gross inspection, these two groups appeared to be quite different in the coping techniques employed. When comparative means were analyzed, five of these subscales were found to be relatively close in regard to their implementation by these two samples: Planful Problem Solving, Escape/Avoidance, Seeking Social Support, Confrontive Coping and Distancing. The other three subscales of Positive Reappraisal, Accepting Responsibility
and Self Controlling were almost twice as large for the 147 nurses in the current study than they were for the developers' normative sample. It is important to note that the sample studied for developing the normative statistics consisted of 150 middle- and upper-middle class white, married people who were measured on five separate occasions. Once again, not only were these two samples quite different demographically but the nurse sample had already been demonstrated as experiencing more stress than another middle-class sample and may just be employing more coping strategies due to the increased stress experience. Further speculation regarding these subscales and their meaning will occur when the multiple regression analyses are discussed.

**Personal Resource Questionnaire - Part II.** The Personal Resource Questionnaire was utilized for evaluating perceived Social Support among the study sample of 147 nurses from the state of Arizona. The mean and standard deviation for this study sample were 139.2 and 19.9 respectively. This compared well with the means and standard deviations cited by the developer as occurring in the literature which ranged from 139 to 149 and 13.9-19 respectively. Further, the reliability coefficient for this scale as identified by this study was found to be .89.
The CES-D scale, which was designed to measure current level of depressive symptomatology with emphasis upon depressed mood, was employed in this study to measure the outcome variable of depression. After careful evaluation of the raw data and analyses, it was determined that the mean and standard deviation for the study sample of 147 nurses was 13 and 9.9 respectively. The expected mean based on normative statistics of 4996 individuals would be expected to range from 7.94 to 9.25 with a standard deviation ranging from 7.53 to 8.58 (Radloff, 1977). As noted with the Ways of Coping and Daily Hassles scales, the study sample may have been a more stressed population than the average population at large and thereby may also have been a more symptomatically depressed sample as well. Finally, the internal reliability of this scale was identified to be .90 with this sample of nurses.

Causal Model Assumptions and Regression Analysis

The assumptions of causal modeling were that the residuals were not correlated with each other nor with preceding variables in the model, that the links in the model were linear and additive and that all relevant variables were included in the model resulting in a correctly specified model. Residuals from regression
testing, which were the difference between observed values and the predicted values, were used to test for causal model violations (Ferketich, & Verran, 1984). Further, evaluation of the violations of causal model assumptions can result in the respecification of the model and possible further discovery of a more accurate representation of reality.

To evaluate the first causal assumption, a casewise plot of the residuals against the regression variables in the model was performed. Should a relationship between the variables or between the residuals have existed, a pattern within the casewise plot between the residuals and the regression variables should have been discernable. Should no pattern between the residuals and variable of interest have existed, than the assumption of independence could be supported (Nousis, 1990). None of the scatterplots of residuals from any of the regression analyses demonstrated a pattern; consequently, the first causal assumption of independence between residuals could be assumed.

The second causal assumption of linearity could also be evaluated by means of a scatterplot of the residuals. Systematic patterns between the predicted values and the residuals would have indicated a violation of this assumption whereas residuals which were randomly distributed in a band about the horizontal straight line through 0 would meet this assumption of linearity (Nousis, 1990). As noted
above, no pattern was discernable in the residual scatterplots; therefore, this second causal assumption of linearity could also be accepted for these data.

The third assumption that all the variables were included in the model was more difficult to support or refute. Since closure of the model influenced the data gathered, this model closure also affected the exploration of other variables which may have not been included but which may also have impacted upon the dependent variable (Ferketich, & Verran, 1984).

**Hypotheses - Proposed Pathways**

**Direct.** The first direct pathway to be examined was the regression of stress appraisal upon extraversion and repression. The results of this pathway were insignificant thereby not supporting the hypotheses that extraversion would increase an individual's appraisal of stress or that repression would decrease an individual's appraisal of stress (see Figure 3). Additionally, the regression analysis of daily hassles upon stress appraisal was also insignificant thereby not supporting the hypothesis that stress appraisal would increase an individual's interpretation of daily hassles as stressful. The pathway from stress appraisal to occupational stress was significant, however, with a beta of .31 (p=.0004)
McCLEAVE OCCUPATIONAL STRESS MODEL - HYPOTHESES PATHWAYS

FIGURE 3
explaining 9% of the variance. As a result, the hypothesis that an individual's stress appraisal would increase the interpretation of occupational stress as stressful was supported.

When the pathways of problem-focused coping and emotion-focused coping were regressed upon daily hassles and occupational stress, mixed findings were obtained. First of all, occupational stress was found to not be significantly related to either form of coping strategy. On the other hand, daily hassles was significantly related to both forms of coping with a beta of .32 to problem-focused coping (p=.003) explaining 9% of the variance and a beta of .42 to emotion-focused coping (p=.0000) explaining 20% of the variance. Consequently, the hypotheses that daily hassles increase the implementation of both problem-focused coping and emotion-focused coping were supported while the hypotheses that occupational stress increases the implementation of problem and emotion-focused coping strategies were not supported.

The final set of direct pathways to be examined were those of depression regressed upon daily hassles, occupational stress, problem-focused coping, emotion-focused coping and social support. The variables of occupational stress and problem-focused coping were found to be non-significant thereby not supporting the hypotheses that
occupational stress increases depression and that problem-focused coping decreases depression. The other three variables of daily hassles, emotion-focused coping and social support, however, were found to be significant. Daily hassles demonstrated a beta coefficient of .21 (p=.011) in relation to depression thereby supporting the hypothesis that daily hassles increase depression. Social support revealed a beta coefficient of -.34 (p=.0000) in relation to depression thereby supporting the hypothesis that perceived social support decreases depression. And finally, when depression was regressed upon emotion-focused coping, a beta of .39 (p=.0000) was revealed supporting the hypothesis that emotion-focused coping increases depression. These three variables of daily hassles, social support and emotion-focused coping resulted in an adjusted R-square of .45 indicating that 45% of the variance in depression symptoms measured in this sample can be explained by these three variables.

Mediating. There were four mediating hypotheses, none of which were supported. The hypothesis that emotion-focused coping would mediate and increase the relationship between depression and occupational stress was not supported since the only pathway of significance among these three variables was that between emotion-focused coping and
depression. Occupational stress dropped out completely when regressions were run between it and emotion-focused coping and depression. Analogously, the hypothesis that problem-focused coping would mediate and decrease the relationship between depression and occupational stress was also not supported. Regressions of these three variables of problem-focused coping, occupational stress and depression resulted in no significant pathways between any of these variables.

The pathways which included daily hassles resulted in more interesting findings. The hypothesis which proposed that problem-focused coping would mediate and decrease the relationship between depression and daily hassles was not supported primarily because no significant relationship was identified between problem-focused coping and depression. Relationships did exist between daily hassles and problem-focused coping \((\beta=.32)\) and between daily hassles and depression \((\beta=.21)\) as discussed previously. The hypothesis proposing that emotion-focused coping mediated and increased the relationship between depression and daily hassles was also not supported. The pathway from daily hassles to depression demonstrated a beta of .21. The pathways from daily hassles to emotion-focused coping and from emotion-focused coping to depression revealed betas of .45 and .39 respectively. When these two latter pathways were multiplied together, the indirect beta was .18 which was
less than the direct effect of daily hassles upon depression as demonstrated by the beta of .21.

**Indirect.** None of the indirect hypotheses were supported. Each of these hypotheses proposed via varying pathways that a significant amount of the outcome of depression would be explained by knowledge of all of the previously staged variables of emotion-focused coping, problem-focused coping, occupational stress, daily hassles, stress appraisal, repression and extraversion. As discussed previously and as depicted in Figure 3, none of these pathways were significant beyond the stage of daily hassles or emotion-focused coping.

**Model analysis.** The hypotheses of the contributing variables in this stress-coping-depression study as depicted in the proposed McCleave Occupational Stress Model (Figure 3) supported the findings of the literature. Daily hassles and emotion-focused coping were significantly and positively related to depression while perceived social support was identified as significantly but inversely related to depression. Daily hassles was also identified as significantly and positively related to both emotion-focused coping and problem-focused coping. The only pathway found to be significant which had not been previously identified
in the literature was that of stress appraisal to occupational stress. This pathway from stress appraisal to occupational stress was significant and positive.

The researcher speculates that due to the correlation between the Daily Hassles Scale and the Health Professional Stress Inventory of $r = .45$ ($p = .000$) as discussed previously, and the larger number of items in the prior scale, that significant pathways related to occupational stress may have been masked by the Daily Hassles Scale. Further analyses of not only the unhypothesized pathways but also of subgroups of the large heterogenous sample will be performed to attempt to reveal any previously unproposed relationships or intergroup variations.

**Unhypothesized Pathways**

Path analysis was performed not only upon hypothesized pathways but also upon pathways not hypothesized to discover unexpected relationships. Consequently, all unhypothesized pathways (see Figure 4) were analyzed. According to the staging of the variables, daily hassles and occupational stress were regressed upon extraversion and repression. Neither of the pathways from extraversion or repression to occupational stress were significant. On the other hand, although the pathway from repression to daily hassles was not significant, the pathway from extraversion to daily
McCleave Occupational Stress Model - Unhypothesized Pathways

Figure 4
hassles revealed a beta of -.27 (p=.002) explaining 6% of the variance in daily hassles.

Next the variables of problem-focused coping and emotion-focused coping were regressed upon extraversion, repression and stress appraisal. All of the pathways from extraversion, repression and stress appraisal to emotion-focused coping were found to be non-significant. The pathways from extraversion and stress appraisal to problem-focused coping were also found to be non-significant. The pathway from repression to problem-focused coping, however, revealed a beta of -.18 (p=.05) explaining 2% of the variance of problem-focused coping. Although this relationship was small, it was provocative and does coincide with the literature speculations that repression adversely influences an individual's ability to realistically deal with stress (Schwartz, 1990; Weinberger, 1990).

The next set of unhypothesized pathways to be examined were those from extraversion, repression, stress appraisal, daily hassles, occupational stress, emotion-focused coping and problem-focused coping to social support. The pathways from extraversion, repression, occupational stress, emotion-focused coping and problem-focused coping to social support were all non-significant and dropped out. The pathway from stress appraisal to social support demonstrated a positive relationship with a beta of .21 (p=.03). In addition, the
pathway from daily hassles to social support revealed a negative relationship with a beta of \(-.32\) \((p=.001)\). Together these two variables of stress appraisal and daily hassles explained 11% of the variance in social support as revealed by the adjusted R-square of .11 with this regression.

The next two sets of regressions were upon unhypothesized pathways to the outcome variable of depression. First of all, the pathways from extraversion, repression and stress appraisal to depression were analyzed and none were found to be significant. Next, depression was regressed upon all of the variables of extraversion, repression, stress appraisal, occupational stress, daily hassles, emotion-focused coping, problem-focused coping and social support simultaneously. Of these variables, extraversion, repression, stress appraisal, occupational stress and problem-focused coping all dropped out. Of the remaining variables which were regressed upon depression, emotion-focused coping demonstrated the strongest relationship with a beta of \(.45\) \((p=.0000)\). The variable of social support showed the next strongest relationship to depression with a beta of \(-.30\) \((p=.0003)\) while daily hassles revealed a weaker yet still significant relationship with depression with a beta of \(.19\) \((p=.04)\). Together, these three variables of emotion-focused coping, social support
and daily hassles explained 43% of the variance in depression of this sample of nurses as depicted by the adjusted R-square of .43.

Finally, since a high level of correlation was identified between the Daily Hassles Scale and the Health Profession Stress Inventory, a regression analysis was run of just occupational stress, emotion-focused coping, problem-focused coping, and social support on depression, deleting daily hassles from the analysis. However, as with the above noted analysis, occupational stress and problem-focused coping dropped out while emotion-focused coping demonstrated a beta of .47 (p=.0000) and social support revealed a beta of -.39 (p=.0000) together explaining 41% of the variance in depression. As a result, even after deleting the possibly confounding impact of daily hassles upon occupational stress, this latter variable still did not demonstrate a significant relationship with depressive symptomology in this sample of nurses.

**Proposed Model - Prediction Accuracy**

Finally, the proposed McCleave Occupational Stress Model can be evaluated based upon its accuracy of prediction (see Figure 5). When evaluated according to the current study, six out of the 13 proposed pathways were found to be statistically significant (depicted by the solid lines).
McCLEEVE OCCUPATIONAL STRESS MODEL - PREDICTION ACCURACY

FIGURE 5
Additionally, only four of the 20 unhypothesized pathways were identified as statistically significant (depicted by the dashed lines). Ultimately, 22 out of 33 or 67% of the possible pathways in the proposed McCleave Occupational Stress Model were correctly predicted as a result of regression analyses of this study sample data. These findings lend support to the accuracy of this model's representation of the real experience of stress-coping-depression for this study sample.

**Demographic Subgroups**

The next phase of analysis consisted of evaluating the impact of the various variables upon depression by demographic subgroups. This exploratory analysis was performed in an attempt to identify any difference among these subgroups. Since the variables of extraversion, repression and stress appraisal dropped out of all of the analyses with depression as the outcome variable of the total sample and actually decreased the variance and explanation of depression, these variables were not included in the demographic subgroup analyses. Consequently, all the demographic subgroup analyses consisted of regressions of depression upon daily hassles, occupational stress, emotion-focused coping, problem-focused coping and social support.
Age. The first demographic subgrouping consisted of individuals age 39 and less (N=56). Of the analyzed variables, daily hassles, occupational stress and problem-focused coping dropped out. The remaining variables of emotion-focused coping and social support revealed betas of .44 (p=.0010) and -.30 (p=.02) respectively and explained 30% of the variance in depression for this younger subsample (see Table 2). When the same analysis was performed on the individuals who were age 40 and older (n=90), the variables of problem-focused coping and occupational stress again dropped out. The variables of daily hassles with a beta of .29 (p=.008), of emotion-focused coping with a beta of .41 (p=.0001) and of social support with a beta of -.32 (p=.001) were all significant in relation to depression and explained 55% of the variance in this outcome variable for this older subgroup of nurses.

Marital status. The next demographic subgrouping to be evaluated was that of marital status. When a regression of depression upon daily hassles, occupational stress, emotion-focused coping, problem-focused coping and social support was run for the subgroup of single individuals (n=19), only one pathway was found to be significant. Emotion-focused coping revealed a beta of .63 (p=.01) and alone explained 35% of the variance in
DEMOGRAPHIC SUBGROUPS

BETAS - DV: DEPRESSION

Table 2
depression for this small subgroup. The subgroup of married individuals (n=97), on the other hand, demonstrated significant relationships between social support and depression as well as between emotion-focused coping and depression. Social support for this sample revealed a beta of \(-.50\) (p=.0000) while emotion-focused coping showed a beta of \(.45\) (p=.0000) together explaining 45% of the variance in depression for married nurses in this study. Finally, the subgroup of divorced and widowed individuals was evaluated. These groups were combined due to their respective small numbers of members as well as due to the fact that they were individuals who had once been in a significant relationship but were no longer. This subgroup (n=31) also demonstrated a significant relationship between emotion-focused coping and depression with a beta of \(.47\) (.02) but unlike the single and married subgroups, daily hassles revealed a significant relationship by means of a beta of \(.41\) (p=.03). These two variables of emotion-focused coping and daily hassles explained 58% of the depression for this subgroup of divorced or widowed nurses.

**Educational level.** The demographic subgroup which was evaluated next was that based upon educational level. First, the subgroup of nurses with ADNs and Diploma degrees (n=77) were evaluated. Much like the analyses of the total
sample, the variables of occupational stress, and problem-focused coping dropped out while the variables of emotion-focused coping, social support and daily hassles were significant with betas of .39 (p=.0009), -.33 (p=.002) and .25 (p=.04) respectively. Additionally, these three variables of emotion-focused coping, social support and daily hassles explained 50% of the variance in depression for these ADN and Diploma prepared nurses. The subgroup of nurses with BSN preparation (n=51) revealed significant relationships between emotion-focused coping and depression and between social support and depression with a beta of .58 (p=.0001) for the former and a beta of -.41 (p=.003) for the latter. Further, 48% of the variance in depression for this subgroup can be explained by these two variables of emotion-focused coping and social support.

Interestingly enough, daily hassles was a significant variable for the subgroups of individuals 40 and older, for divorced and widowed nurses and for ADN/Diploma prepared nurses. Since 27% of the divorced and widowed individuals are 40 or older compared to 10% of those 39 and younger, there may be some overlap between these two subgroups and the regression findings (see Table 1). On the other hand, 49% of the individuals 39 and younger are ADN/Diploma prepared compared to 54% of those 40 and older while BSN preparation for these two groups is 34% and 36%
respectively. Consequently, the different regression findings based on educational preparation may truly be related to education and not due to age or other confounding variables. Further, only the subgroups of nurses 40 and older and of ADN and Diploma prepared nurses mirrored the findings of the total sample with emotion-focused coping, social support and daily hassles all significantly related to depression.

Worksetting. The demographic subgrouping of worksite was the next breakout evaluated. The worksites of extended care, hospice, community and other all included numbers of participants too small to stand up to analyses and were too varied in nature to combine into a single subgroup. The two areas of worksite which were examined, however, were those of hospital/floor nurses and specialty area nurses who work in ICU or ED. The hospital-based participants (n=73) revealed significant relationships between emotion-focused coping and depression and between social support and depression with betas of .56 (p=.0000) and -.25 (p=.02) respectively. Further, these two variables of emotion-focused coping and social support explained 43% of the variance in depression for this subgroup. Similarly, the specialty nurses (n=49) demonstrated a beta of -.50 (p=.0002) for the pathway between social support and
DEMOGRAPHIC SUBGROUPS

BETAS - DV: DEPRESSION

Table 2 (cont.)
depression and a beta of .41 (p=.002) for the pathway between emotion-focused coping and depression with 42% of the variance in depression explained for this subgroup.

The next demographic subgroup to be evaluated was that based upon current occupation. Within this classification, only those individuals who classified themselves as staff nurses or as charge nurse/clinical specialists were analyzed since the numbers of participants who classified themselves as unit directors, as community health nurses and as administrators were too small to analyze alone and too diverse in nature of occupational experience to group together. Of those participants who classified themselves as staff nurses (n=98), social support and emotion-focused coping once again were found to be significant when regressed with the outcome variable of depression. The beta for social support was -.47 (p=.0000) and for emotion-focused coping was .46 (p=.0000) with 47% of the variance in depression for these staff nurses explained by these two variables.

For those participants who classified themselves as charge nurse/clinical specialist (n=27), the findings were quite different. As with all the analyses so far, emotion-focused coping demonstrated a significant relationship with depression with a beta of .52 (p=.003). Unlike any previous analysis, however, occupational stress
demonstrated a significant relationship with depression with a beta of 0.50 (p=0.003) for this subgroup of charge nurse/clinical specialists. Further, 56% of the variance in depression for this subgroup can be explained by these two variables of emotion-focused coping and occupational stress.

Residence. The next demographic analysis was performed based upon location of residence. Of the rural participants in the study (n=28), the variable daily hassles was the only one which demonstrated statistical significance. The beta for daily hassles upon depression was 0.58 (p=0.007) with 30% of the depression in these rural nurses explained by this variable alone. For the urban participants (n=117), the variables of emotion-focused coping and social support revealed significant pathways with depression. Emotion-focused coping demonstrated a beta of 0.49 (p=0.0000) while social support revealed a beta of -0.40 (p=0.0000) together explaining 43% of the variance in urban nurses' level of depressive symptomology.

Economic status. The next demographic evaluation consisted of subgroups based upon economic status. For participants earning $50,000 annually or less (n=106), three variables were significantly related to depression.
Emotion-focused coping revealed a beta of .43 (.0000), social support demonstrated significance with a beta of -.29 (.0008), and daily hassles showed a relationship to depression with a beta of .22 (p=.02). These three variables together explained 50% of the variance in depression for this economic subgroup. For individuals earning $50,001 or more annually (n=38), only the variable daily hassles was significantly related to depression as depicted by a beta of .40 (p=.05), explaining 12% of the variance in depression for this population. The findings were very limited for this higher economic subgroup. This could have been due to the small sample size however other subgroups previously discussed have also been composed of a small sample with much more significant findings. Consequently, perhaps the limited findings of significant relationships between occupational stress, emotion-focused coping, problem-focused coping, and social support with depression can be explained by less depression in this higher socio-eco subgroup as might be expected per the literature.

Years worked. Finally, the demographic subgrouping based upon number of years employed as an RN was evaluated. For participants who had worked less than 20 years (n=108), the variables of social support and emotion-focused coping
were found to be statistically significant with depression. Social support depicted a beta of \(-.45\) (p=.0000) while emotion-focused coping revealed a beta of \(.42\) (p=.0000) together explaining 46% of the variance in depression for this subgroup. Unlike other subgroups, however, for those individuals who had been employed as an RN for 20 years or more (N=39), daily hassles and occupational stress were the only variables found to significantly related to depression. Daily hassles related to depression with a beta of \(.44\) (p=.02) while occupational stress demonstrated a significant relationship to depression with a beta of \(.41\) (p=.02). Together, daily hassles and occupational stress explained 43% of the depression for the nurses who had worked 20 or more years.

**Emotion-Focused Coping Subscales**

The Ways of Coping Scale can be divided up not only into the subscales of problem-focused coping and emotion-focused coping but also into the eight component subscales of confrontive coping, planful problem solving, distancing, self controlling, seeking social support, accepting responsibility, escape avoidance and positive reappraisal. The first two of the component subscales, confrontive coping and planful problem solving were classified as problem-focused coping strategies. The other six subscales of
distancing, self controlling, seeking social support, accepting responsibility, escape avoidance and positive reappraisal made up the emotion-focused coping strategies. Since the problem-focused coping approach did not prove to be statistically significant in any of the regressions analyzed so far, no further evaluation of this approach to coping was performed. On the other hand, because emotion-focused coping was statistically significant in most of the regression analyses, this approach to coping was evaluated based on the component subscales in attempt to identify any difference in the influence of these six strategies.

First of all, all of the emotion-focused component subscales were computed then run with daily hassles, occupational stress, social support and problem-focused coping on depression for the total sample of nurses. This regression revealed escape avoidance coping to have a beta of .36 \((p=.0002)\), daily hassles with a beta of .22 \((p=.006)\), distancing with a beta of .20 \((p=.02)\), and social support with a beta of -.17 \((p=.02)\) (see Table 3). Further, together, these four variables explained 51% of the depression measured for this total sample. Not only was more depression variance in this sample explained by analyzing these emotion-focused components separately but it was also interesting to note how influential the effect of
EMOTION-FOCUSED COPING

Table 3
escape avoidance coping strategies was upon this adverse mental health outcome of depression.

Age. The sample of nurses was then broken up demographically and analyzed. For those nurses who were 39 or younger (n=56), only escape avoidance coping was significant with a beta of .62 (p=.0000), explaining 37% of the variance in depression. When the same analysis was performed on the subsample of nurses who were 40 years of age or older (n=90), escape avoidance coping demonstrated a beta of .37 (p=.0009), daily hassles revealed a beta of .31 (p=.002) and distancing showed a beta of .29 (p=.004). Further, this analysis revealed an R-square of .60, indicating that 60% of the variance in depression measured in this subgroup of older nurses can be explained by these three variables of escape avoidance coping, daily hassles and distancing.

Marital status. For the subsample of single nurses (n=19), escape avoidance coping revealed a beta of .82 (p=.0000) and seeking social support demonstrated a beta of .29 (p=.015). Together these two variables explained 86% of the variance in depression for this small subsample of single nurses. Certainly the small size of this sample
caused skewing of these results, consequently, these findings should be considered speculative.

For the subsample of married nurses (n=97), the independent variables which demonstrated significance were social support, distancing and daily hassles with betas of -0.30 (p=.001), .28 (p=.014), .21 (p=.03) respectively. These three variables explained 51% of the variance in depression for this subsample. Finally, when the subsample of divorced/widowed nurses (n=31) was analyzed, only escape avoidance coping was significant with a beta of .78 (p=.0000), explaining 59% of the variance in depression for this subsample.

Educational level. The sample was then partitioned according to educational preparation. For those nurses with ADN or Diploma preparation (n=77), three independent variables were significant: escape avoidance coping with a beta of .32 (p=.01), daily hassles with a beta of .29 (p=.01) and distancing with a beta of .28 (p=.02). These three variables explained 52% of the variance in this subsample of ADN/Diploma prepared nurses. For BSN or greater prepared nurses (n=69), escape avoidance coping was the only independent variable with significance as revealed by a beta of .67 (p=.0000), explaining 44% of the variance for this grouping of nurses.
Worksetting. An additional subgroup which was analyzed was that of the staff nurse occupational subgroup (n=98). For this subgroup, four variables were significantly related to depression: escape avoidance coping with a beta of .34 (p=.006), social support with a beta of -.36 (p=.001), seeking social support with a beta of .26 (p=.006) and distancing with a beta of .23 (p=.02). These four variables explained 56% of the variance in depression for these sample staff nurses.

On the other hand, the occupational subgroup of charge nurse/clinical specialist (n=27) continued to demonstrate different sources of psychological distress than the total sample or other subgroups. This analysis demonstrated a beta of .51 (p=.007) for escape avoidance coping and a beta of .39 (p=.03) for occupational stress. Together these two variables explained 52% of the variance in measured depression for this occupational subgroup as revealed by the R-square of .52. Certainly, this was a small sample which calls into question the significance of the findings; nevertheless, such different findings for a small sample may indicate a large effect of occupational stress upon this occupationally different subgroup of nurses and thereby may warrant further study.
EMOTION-FOCUSED COPING

BETAS - DV: DEPRESSION

Table 3 (cont.)
Residence. Next, this study sample of nurses was divided up based upon location of residence. For those nurses who resided in an area of 20,000 population or less (n=28), four variables were found to significantly relate to depression. The emotion-focused coping subscale variables of distancing revealed a beta of .76 (p=.0004) and of escape avoidance showed a beta of .35 (p=.02). Oddly enough, the variable of problem-focused coping which had not revealed significance in any of the other analyses was significant for this subgroup as demonstrated by a beta of .42 (p=.02). Together these four variables explained 76% of the variance in depression for this subsample of rural nurses. For the subsample of urban nurses (n=117), escape avoidance coping showed a beta of .46 (p=.0000), daily hassles revealed a beta of .22 (p=.01) and social support demonstrated a beta of -.18 (p=.04). These three variables explained 46% of the variance in the dependent variable of depression for this urban subsample of nurses.

Years worked. The final subgroup analyzed according to the emotion-focused component subscales was that of years employed as a nurse. For the subsample of nurses employed less than 20 years (n=108), escape avoidance coping showed a beta of .40 (p=.0001), social support demonstrated a beta of -.25 (p=.01) and daily hassles revealed a beta of .22
(p=.01). These variables explained 48% of the variance in depression for this subsample of nurses.

The nurses who had been employed as nurses for 20 years or greater (n=39), as with the charge nurse/clinical specialist subgroup, revealed a beta of .61 (p=.001) for escape avoidance coping and a beta of .39 (p=.007) for occupational stress. For this subgroup, these two variables explained 63% of the variance of measured depression. Once again, the sample was small calling into question the significance of these findings; nevertheless, occupational stress had dropped out completely for the regressions of the total sample and all the other subgroups except the charge nurse/clinical specialist one. This finding of significance for the variable of occupational stress upon depression for these two subgroups may indicate some different experience or appraisal of the work setting for these two groups when compared with the total sample and with the other subgroups which might warrant further study.

Daily Hassles Subscales

The Daily Hassles Scale is composed of eight subscales: future security, time pressures, work, household responsibilities, health, inner concerns, financial responsibilities and neighborhood/environmental concerns. As noted in the discussion of each individual scale, a high
level of correlation was identified between the Daily Hassles Scale, the Daily Hassles subscales and the Health Professions Stress Inventory. As a result, the researcher decided to evaluate the regressions of the Daily Hassles subscales to see if those subscales which tapped into work hassles might stand out as significant for the total sample or for some of the subgroups thereby explaining some of the loss of power for the occupational stress measure.

Depression was regressed upon the eight daily hassles subscales and upon the variables of occupational stress, emotion-focused coping, problem-focused coping and social support for the total sample first. This analysis revealed that emotion-focused coping had a beta of .34 (p=.0000) and social support had a beta of -.30 (p=.0001) while the daily hassles subscales of inner concerns had a beta of .16 (P=.05) and of work had a beta of .18 (p=.03). Together these four variables explained 46% of the variance in measured depression for this sample of nurses (see Table 4). The fact that the daily hassles subscale of work was statistically significant with the outcome of depression may indicate that occupational stress was indeed a contributing factor to this adverse mental health outcome and was either not being measured accurately by the Health Professions Stress Inventory, was overwhelmed by the Daily Hassles Scale or that multicollinearity was present between occupational
DAILY HASSLES SUBSCALES

BETAS - DV: DEPRESSION

Table 4
stress and the work subscale of the Daily Hassles Scale which was masking the effect of occupational stress.

**Educational level.** The daily hassles subscale analysis was next performed on the educational level subgroups. For those nurses who were ADN/Diploma prepared (n=77), emotion-focused coping demonstrated a beta of .42 (p=.0000), social support revealed a beta of -.44 (p=.0000) and the daily hassles subscale of time pressures showed a beta of .25 (p=.01). For this subgroup, these three variables explained 49% of the variance in measured depression. For those nurses in this sample who had attained an educational level of BSN or greater (n=69), the daily hassles subscale of inner concerns had the highest beta of .43 (p=.001), with emotion-focused coping showing a beta of .27 (p=.02) and social support revealing a beta of -.24 (p=.04). The variance in depression explained by these three variables for this subgroup was 43%.

**Marital status.** The sample of nurses who responded to the questionnaire were subdivided based on marital status. For those nurses who represented themselves as single (n=19), emotion-focused coping was the only significant independent variable with a beta of .60 (p=.01), explaining 32% of variance in depression for this subsample. For the
marital subsample of married nurses (n=97), inner concerns demonstrated a beta of .28 (p=.006), social support revealed a beta of -.42 (p=.0000) and emotion-focused coping showed a beta of .33 (p=.0006). These three variables explained 50% of the variance in depression for this subsample. Lastly, for those nurses who represented themselves as divorced or widowed, the daily hassles subscales of work and future security revealed betas of .59 (p=.0005) and .37 (p=.02) respectively. These two variables explained 59% of the variance in depression for these divorced or widowed nurses.

Worksetting. The subsample of nurses based upon occupational designation was evaluated next. For those nurses who represented themselves as staff nurses (n=98), social support revealed a beta of -.51 (p=.0000), emotion-focused coping demonstrated a beta of .38 (p=.0001) and time pressures showed a beta of .20 (p=.03). These three variables explained 47% of the variance in depression for this occupational subset. For those nurses who represented themselves as charge nurse/clinical specialists (n=27), inner concerns was significant with a beta of .39 (p=.02), occupational stress revealed significance with a beta of .39 (p=.01) and emotion-focused coping was significant with a beta of .37 (p=.02). These three variables explained 67% of
Table 4 (cont.)
the variance in depression for this subsample of charge nurse/clinical specialists.

The next subgroup to be evaluated was that related to worksite. For the sample represented as working in a hospital setting (n=73), emotion-focused coping showed a beta of .37 (p=.001), the daily hassles subscale of work demonstrated a beta of .34 (p=.003) and the variable of social support revealed a beta of -.25 (p=.01). The variables together explained 48% of the variance in depression for this worksite subgroup.

The worksite subgroup of individuals who worked in specialty areas (n=49) revealed somewhat different findings. For this subgroup, the effect of social support was strongest with a beta of -.39 (.004), followed by emotion-focused coping with a beta of .30 (p=.02) and then the daily hassles subscale variable of inner concerns with a beta of .27 (.05). These variables explained 45% of the variance in depression for this worksite subgroup of specialty nurses.

Residence. The next demographic subgrouping to be analyzed was that based upon location of residence. For those individuals residing in a setting with a population of 20,000 or less (n=28), the daily hassles subscale variable of financial responsibilities revealed a beta of .64 (p=.002) and was the only variable which was statistically
DAILY HASSLES SUBSCALES

BETAS - DV: DEPRESSION

Table 4 (cont.)
significant. This variable alone explained 38% of the variance in measured depression for this residential subgroup. Intuitively, when one considers the recent national trend of economic recession which has been worse for rural settings, this finding is quite understandable.

When the urban subgroup of nurses (n=117) was analyzed, the variable of social support revealed a beta of -.32 (p=.0003), emotion-focused coping demonstrated a beta of .34 (p=.0004) and the daily hassles subscale of inner concerns showed a beta of .25 (p=.01). These variables explained 44% of the variance in depression for this urban subgroup of nurses.

Yrars worked. Finally, the subgroups of nurses based on years employed as a nurse were evaluated. For those nurses who had worked as a nurse less than 20 years (n=108), social support showed a beta of -.36 (p=.001), emotion-focused coping demonstrated a beta of .33 (p=.0004) and the daily hassles subscale of inner concerns revealed a beta of .22 (p=.03). These three variables explained 48% of the variance in depression for this 20 years or less employed subgroup.

On the other hand, for those nurses employed as a nurse 20 years or more (n=39), the variable of occupational stress continued to have the strongest effect upon depression as
demonstrated by the beta of .46 (p=.003) for this analysis. The daily hassles subscale of work was also influential as revealed by its beta of .35 (p=.02) with emotion-focused coping showing a beta of .31 (p=.04). The variance in depression explained by these three variables was 56% for this relatively small subgroup. Although this subgroup was small, the impact of occupational and work stress was so influential upon the depression outcome that clearly this cohort was different from the total sample and from the other subgroupings.

Ultimately, emotion-focused coping and social support continued to reveal the strongest effect upon depression for the total group as well as for the subgroups. Nevertheless, because the analyses of the subscales of the measures explained a greater percentage of variance in depression, further evaluations based on subscales was pursued.

**Daily Hassles and Emotion-Focused Coping Subscales**

Since the subscales of the Daily Hassles Scale and of the Ways of Coping - Emotion-Focused Coping Scale provided clarification as to which variables contributed the most to the adverse mental health outcome of depression in this sample of nurses, the researcher determined that analyses of these two subscales together might provide more clarification. As a result, depression was regressed upon
all of the subscales of the Daily Hassles scale, future security, time pressures, work, household responsibilities, health, inner concerns, financial responsibilities and neighborhood/environmental concerns, and the most significant of the emotion-focused coping subscales, escape avoidance, distancing, self controlling, and seeking social support, as well as the variables of occupational stress, problem-focused coping and social support for the entire sample of nurses. This analysis resulted in a beta of .51 (p=.0000) for the emotion-focused subscale of escape avoidance coping, a beta of .22 (p=.01) for the daily hassles subscale of inner concerns and a beta of .16 (p=.04) for the daily hassles subscale of work (see Table 5). For this total sample, these three variables explained 50% of the variance in the outcome variable of depression.

Marital status. The sample was next evaluated based upon marital status. For those nurses who represented themselves as single (n=19), escape avoidance coping revealed significance with a beta of .86 (p=.0000) and seeking social support, another emotion-focused coping subscale, demonstrated significance with a beta of .27 (p=.01). These two variables explained 87% of the variance in this subsample of single nurses.
Table 5
On the other hand, when the subsample of married nurses (n=97) was evaluated, the emotion-focused coping subcales of escape avoidance and distancing were significant with betas of .23 (p=.04) and .22 (p=.05) respectively. The daily hassles subscale of inner concerns was also significant with a beta of .28 (p=.003) and the independent variable of social support demonstrated a beta of -.30 (p=.001). These four variables explain 53% of the variance in this subsample of married nurses.

Finally, the subsample of divorced or widowed nurses (n=31) was evaluated. This subsample had two independent variables which explained 71% of the variance in depression. Escape avoidance coping revealed a beta of .57 (p=.0005) and the daily hassles subscale of work demonstrated a beta of .40 (p=.008).

Educational level. The total sample was then broken down into educational level subgroups and analyzed as above. For those nurses with an educational preparation level of ADN/Diploma (n=77), escape avoidance coping revealed a beta of .56 (p=.0000) while the daily hassles subscale of work demonstrated a beta of .28 (p=.006). These two variables together explained 49% of the variance in depression for this subgroup.
On the other hand, those nurses who had attained an educational preparation level of BSN or greater (n=69), also revealed a strong effect from escape avoidance coping with a beta of .52 (p=.0000) but the daily hassles subscale of inner concerns was the only other variable which demonstrated significance with a beta of .38 (p=.0006). For this subgroup of educational level of BSN or greater, these two variables explained 56% of the variance in measured depressive symptomology.

Worksetting. The sample was also subdivided based upon occupational role. For the subsample which represented itself as staff nurses (n=98), the emotion-focused coping subscale variables of escape avoidance and seeking social support were significant with betas of .52 (p=.0000) and .20 (p=.03) respectively. The variable of social support was also significant with a beta of -.30 (p=.005) together explaining 53% of the variance in depression in this subsample.

The subsample of nurses who portrayed themselves as charge nurse/clinical specialists (n=27), when evaluated revealed three significant independent variables which explained 44% of the variance in depression for this group. Inner concerns demonstrated a beta of .40 (p=.02), escape
E-F COPING & DAILY HASSLES

Table 5 (cont.)
avoidance coping revealed a beta of .34 (p=.05) and occupational stress showed a beta of .32 (p=.05).

The demographic subgrouping of worksite was evaluated next. For those nurses who noted that they work in the hospital setting (n=73), escape avoidance coping demonstrated a beta of .59 (p=.0000) and the daily hassles subscale of work revealed a beta of .24 (p=.02). These two subscale variables together explained 54% of the variance in depression for this worksite subgroup.

Those nurses who depicted themselves as working in a specialty setting (n=49), were identified with betas of .48 (p=.0006) and .35 (p=.009) for the variables of escape avoidance coping and of inner concerns respectively. Forty seven percent of the variance in the outcome variable of depression was explained by these two variables for this subgroup of specialty nurses.

Residence. Nurses who lived in a residential setting of a population 20,000 or less (n=28) were evaluated according to these multiple subscales next. Interestingly enough, for these rural nurses, the emotion-focused coping subscale of distancing revealed a beta of .85 (p=.0002), the daily hassles subscale of work showed a beta of .40 (p=.008) and the emotion-focused coping subscale of self controlling demonstrated a beta of -.42 (p=.03). Further, these three
E-F COPING & DAILY HASSLES

BETAS - DV: DEPRESSION

Table 5 (cont.)
variables explained 70% of the variance in depression for this rural subgroup.

Those nurses who resided in an urban setting (n=117) showed the strong influence of escape avoidance coping with a beta of .50 (p=.0000) and of inner concerns with a beta of .30 (p=.001). These two variables explained 47% of the variance in depression for this urban subgroup of nurses.

Years worked. Finally, this same analysis was run on the sample of nurses based on number of years employed. For those nurses who had been employed as nurses for less than 20 years (n=108), escape avoidance coping revealed a beta of .47 (p=.0000) and inner concerns demonstrated a beta of .35 (p=.0001). These two variables explained 48% of the variance in depression for this subgroup.

As noted previously, however, the subgroup of nurses who had been employed as nurses for 20 years or longer (n=39) had different findings from the other groups. For this subgroup, escape avoidance coping demonstrated a beta of .60 (p=.0001) and the variable of occupational stress revealed a beta of .40 (p=.003). These two variables explained 65% of the variance in the outcome variable of depression for this subgroup.
Stress Appraisal Measure Subscales

The final scale to be evaluated based upon its subscales was the Stress Appraisal Measure. This scale is composed of a measure for overall stressfulness as well as six subscales: threat, challenge, centrality, controllable-by-self, controllable-by-others, uncontrollable and stressfulness.

The Stress Appraisal Measure subscales were each individually regressed upon the personality characteristic variables of repression and extraversion. The regression of stressfulness on these two variables resulted in a beta of .22 (p=.01) for repression explaining 4% of the variance in this variable of stressfulness (see Table 6). When these two personality variables were evaluated in relation to the appraisal variable of threat, a beta of .26 (p=.003) for repression was identified, explaining 6% of the variance in this threat appraisal. Further, the regression of the appraisal variable of centrality upon repression and extraversion resulted in a beta of .21 (p=.02) for repression explaining 4% of the variance in this appraisal of centrality. On the other hand, when a regression of these personality characteristics was run on the appraisal variable of challenge, extraversion demonstrated a beta of -.18 (p=.04), explaining 3% of the variance in this variable of challenge. None of the remaining three appraisal
STRESS APPRAISAL SUBSCALES

Table 6
variables of controllable-by-self, controllable-by-others and uncontrollable revealed any significant relationship with either of the personality characteristic variables of repression and extraversion.

Daily hassles and occupational stress. The next series of analyses consisted of evaluation of the personality characteristics of repression and extraversion as well as of all of the subscales of the Stress Appraisal Measure to the stress variables of occupational stress, daily hassles and the daily hassles subscales individually. When these antecedent variables were regressed with occupational stress, the appraisal variable of stressfulness revealed a beta of .30 (p=.0005) while the appraisal variable of uncontrollable demonstrated a beta of .18 (p=.005). Together these two appraisal variables of stressfulness and uncontrollable explained 18% of the variance in the stress variable of occupational stress.

When the above delineated variables were regressed with the stress variable of daily hassles, the appraisal variable of stressfulness showed a beta of .26 (p=.002) while the appraisal variable of controllable-by-others revealed a beta of -.25 (p=.003) together explaining 13% of the variance in daily hassles. These variables were also run on each of the daily hassles subscale variables individually. When the
Table 6 (cont.)
daily hassles subscale variable of future security was the dependent variable, the appraisal variable of threat showed a beta of .33 (p=.0001) and the appraisal variable of controllable-by-self demonstrated a beta of -.24 (p=.004), together explaining 14% of the variance in this daily hassles variable of future security.

The daily hassles subscale variable of time pressures, on the other hand, was significantly impacted by the appraisal variable of stressfulness as identified by a beta of .27 (p=.002) with 7% of time pressures variance explained by this appraisal variable of stressfulness. The daily hassles variable of household responsibilities was also affected by the appraisal variable of stressfulness as revealed by a beta of .27 (p=.002) with the latter explaining 7% of the variance in this variable of household responsibilities.

The daily hassles subscale variable of work was next regressed with the antecedent variables and the appraisal variable of controllable-by-others revealed a beta of -.34 (.0001) explaining 11% of the variance in this hassle variable of work as revealed by an R-square of .11. The daily hassles variable of inner concerns which was significant with many of the regressions with depression was itself affected significantly by two of the appraisal variables. Threat revealed a beta of .34 (p=.0000) when
regressed and controllable-by-self demonstrated a beta of - .28 (p=.0001) when regressed with the daily hassles subscale variable of inner concerns. Together these two variables of threat and controllable-by-self explain 17% of the variance for this variable of inner concerns.

The daily hassles variable of health concerns when regressed with the antecedent variables was impacted by the appraisal variable of challenge with a beta of .20 (p=.02) and controllable-by-others with a beta of -.33 (p=.0003). These two variables explain 9% of the variance in this outcome variable of health concerns. When the daily hassles variable of financial responsibilities was dependent, the appraisal variables of stressfulness with a beta of .25 (p=.004) and of controllable-by-others with a beta of -.19 (p=.02) explain 9% of the variance in this variable. Finally, the daily hassles subscale variable of neighborhood/environmental concerns, when regressed with repression, extraversion and the appraisal subscale variables, was significantly affected by only the appraisal variable of uncontrollable with a beta of .19 (p=.03) explaining 3% of the variance in this daily hassles variable.

When the appraisal variable of stressfulness was the dependent variable, out of all of the other appraisal variables only the variable of threat which revealed a beta
of .59 (p=.0000) and the variable of centrality which demonstrated a beta of .23 (p=.003) were significant. Together these two variables of threat and centrality explained 55% of the variance in the variable of stressfulness.

**Final analysis.** The last set of regressions which were analyzed were those of the adverse mental health outcome variable of depression upon extraversion, repression, the Stress Appraisal Measure subscales, occupational stress, the Daily Hassles Scale subscales, problem-focused coping, all of the emotion-focused coping subscales and social support for the total sample of nurses and the demographic subgroups. Fifty four percent of the variance in the outcome variable of depression for the total sample can be explained by five of these variables (see Table 7). Escape avoidance coping revealed a beta of .38 (p=.0001), inner concerns demonstrated a beta of .16 (p=.05), threat showed a beta of .21 (p=.006), social support identified a beta of -.17 (p=.03) and distancing revealed a beta of .16 (p=.05).

**Age.** When the subgroup of nurses 39 years of age (n=56) and less was analyzed as noted above, escape avoidance coping demonstrated a beta of .52 (p=.0001) and threat revealed a beta of .37 (p=.003). These two variables
SAM SUBSCALES

Table 7
explained 47% of the variance in depression for this subgroup. On the other hand, for nurses aged 40 and older (n=90), four variables explained 64% of the variance in depression. The variable of escape avoidance coping revealed a beta of .49 (p=.0000), future security a beta of .26 (p=.003), stressfulness a beta of .21 (p=.01) and distancing a beta of .21 (p=.03).

Marital status. The subgroups based on marital status were evaluated next. Due to the small size of the sample of single nurses at 19 and a resultant beta of greater than one for one of the variables, this extensive run on this subgroup had been dropped from consideration. For those nurses who represented themselves as married (n=97), however, 57% of the variance in depression could be explained by the variables of distancing with a beta of .37 (p=.0001), social support with a beta of -.39 (p=.0000) and threat with a beta of .37 (p=.0001). Further, for those nurses classified as divorced or widowed (n=31), 74% of the variance in depression can be explained by the variables of escape avoidance coping with a beta of .56 (p=.002) and work with a beta of .41 (p=.02).

Educational level. Evaluation of the sample based on educational attainment was examined next. For those nurses
Table 7 (cont.)
with an ADN or Diploma level of preparation (n=77), 57% of the variance in depression could be explained by four variables. For this subgroup, escape avoidance coping revealed a beta of .39 (p=.0009), stressfulness demonstrated a beta of .30 (p=.003), social support showed a beta of -.33 (p=.003) and problem-focused coping strategies revealed a beta of .19 (p=.05). For those nurses who were BSN or higher in their educational preparation (n=69), five variables explained 69% of the variance in the dependent variable of depression. Escape avoidance coping revealed a beta of .42 (p=.0001), inner concerns a beta of .36 (p=.0009), threat a beta of .55 (p=.0003), stressfulness a beta of -.41 (p=.003) and financial responsibilities a beta of -.19 (p=.05).

Worksetting. The occupational and worksite subgroups were then analyzed. Those nurses who represented themselves as staff nurses (n=98) revealed significance with the variable of escape avoidance coping by a beta of .52 (p=.0000), social support with a beta of -.24 (p=.01), and threat with a beta of .22 (p=.01). Fifty five per cent of the variance in depression for this subgroup was explained by these three variables. On the other hand, for the subgroup of nurses who represented themselves as charge nurse/clinical specialists (n=27), 61% of the variance can
be explained by the two variables of escape avoidance coping with a beta of .63 (p=.0009) and threat with a beta of .45 (p=.01).

As to the worksite subgroups, the sample of nurses who represented themselves as working in the hospital setting (n=73) revealed that 56% of the variance in depression could be explained by escape avoidance coping with a beta of .54 (p=.0000), by threat with a beta of .29 (p=.004) and by health with a beta of .22 (p=.04). Those nurses who worked in a specialty setting such as ED or ICU (n=49) had 87% of their variance in depression explained by six contributing variables. For this subgroup, escape avoidance coping revealed a beta of .42 (p=.0000), controllable-by-others a beta of -.34 (p=.0001), distancing a beta of .46 (p=.0000), threat a beta of .48 (p=.0000), centrality a beta of -.35 (p=.0002), and occupational stress a beta of -.18 (p=.02).

Residence. The rural/urban subgroups were examined next. For those nurses who represented themselves as members of a rural community (n=28), 71% of the variance in depression could be explained by distancing with a beta of .83 (p=.0004), by work with a beta of .42 (p=.007) and by controllable-by-self with a beta of -.40 (p=.04). Alternatively, for those nurses who reside in an urban setting of 20,001 inhabitants or more (n=117), 55% of the
Table 7 (cont.)
variance in depression could be explained by the four variables of escape avoidance coping with a beta of .52 (p=.0000), threat with a beta of .44 (p=.0000), health with a beta of .22 (p=.007) and centrality with a beta of -.23 (p=.02).

_Years worked_. The final analysis was performed on the subgroups based on years worked. Nurses in the sample who had worked less than 20 years (n=108), revealed significant findings with the variables of escape avoidance coping with a beta of .38 (p=.0001), threat with a beta of .22 (p=.01) and social support with a beta of -.26 (p=.01). These three variables explained 54% of the variance in the outcome of depression for this subsample. For those nurses who had worked 20 years or more (n=39), 71% of the variance in depression could be explained by the variables of escape avoidance coping with a beta of .69 (p=.0000), by occupational stress with a beta of .56 (p=.0004) and by centrality with a beta of -.31 (p=.04).
CHAPTER 5

DISCUSSION

Original Conceptualization

The purpose of this study was to evaluate the influence of multiple variables upon depression among nurses. The multiple influences evaluated as impacting upon this outcome of depression consisted of pre-existing personality characteristics of extraversion and repression, internal stress appraisal of external experiences, external stressors measured as daily hassles and as occupational stress, coping strategies for handling stressful experiences, specifically emotion-focused coping and problem-focused coping and, finally, social support.

Conclusions of findings. Upon analysis of these variables, it was identified that emotion-focused coping strategies especially escape avoidance strategies and distancing strategies adversely impacted upon the mental health outcome of the sample nurses and was significantly related to depression. This influence of emotion-focused coping strategies was consistently the most influential throughout all the levels of analyses of the various subscales and of the total sample and demographic subgroups.
Specifically, this adverse impact of emotion-focused coping, especially escape avoidance coping, which is an attempt to reinterpret a stressful event rather than to confront it directly, had been clearly documented in the literature as resulting in a maladaptive outcome (Fleishman, 1984; Mattlin, et al., 1990). Further, emotion-focused coping is implemented when an event has been appraised as threatening and is an attempt to maintain emotional equilibrium or to reduce psychological distress albeit unsuccessfully (Billings, & Moos, 1981; Fleishman, 1984; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; McCrae, 1984).

On the other hand, the stress appraisal measure when broken down into its various subscales revealed previously unidentified significance. In particular, the variable of threat demonstrated significance when regressed with depression for the total sample and for all of the subgroups except the divorced/widowed and the ADN/Diploma prepared subsamples. As noted previously, when an event is appraised as threatening, that individual not only is anticipating the possibility for harm or loss but also feels that the demands of the event exceed available coping resources (Fish, 1986; Peacock & Wong, 1990).

One other subscale of the Stress Appraisal Measure which was significant in these analyses was that measuring centrality. This centrality variable of stress appraisal
demonstrated an inverse relationship to the outcome of depression for those nurses who worked in specialty areas, for urban based nurses and for those nurses who had worked as a nurse 20 years or more. In addition, the stressfulness variable was identified as significant in contributing to the development of depression for two of the demographic subgroups.

The variable of social support when analyzed throughout all of the regressions was consistently significant for those individuals who were more likely to be involved in social relationships. Specifically, this inverse relationship between social support and depression demonstrated significance for the total sample, for the subgroup of married nurses, and for those nurses who were ADN/Diploma prepared, who worked as staff nurses and who had worked less than 20 years but was never significant for single nurses or divorced/widowed nurses in this sample. The three subgroups of ADN/Diploma prepared nurses, of staff nurses and of nurses who had worked less than 20 years may actually be the same sample since more than 70% of the ADN/Diploma prepared nurses and more than 70% of the nurses employed as a nurse less than 20 years functioned as staff nurses for this sample. Clearly, a stressful experience has a likelihood of resulting in psychologic distress whether social support is present or not. Nevertheless, the
distress effect is twice as great for unsupported individuals when compared with supported people. As a result, a lack of social support may enhance an individual's propensity for experiencing the adverse impact of undesirable events (Aneshensel, & Stone, 1982; Bell, et al., 1982; Thoits, 1982).

The daily hassles variables, particularly those of work, and inner concerns, both significantly influenced and increased the outcome of depression, that is, made it worse, as identified with a few of the subscale and demographic subgroup analyses. Specifically, the variable of work was significant for those nurses typified as divorced or widowed while inner concerns were significantly related to depression for those nurses in the total sample as well as the subgroup of BSN or higher educational preparation. Oddly enough, the daily hassle variable of health revealed significance to depression for the subgroups of hospital based nurses as well as nurses residing in an urban setting when the final analyses were run with all the subscales included. This variable of health had not been significant in any of the previous runs prior to the final one.

Certainly, the highly significant work subscale was measuring stressors in the occupational setting. As addressed previously, this subscale, therefore, was also measuring at least some aspects of occupational stress and
may be masking the influence of the latter measure in these analyses.

The daily hassles subscale of inner concerns was less clear in its interpretation. When the individual items of which this scale is composed were evaluated, such as: 'being lonely', 'concern about meaning of life' and 'feel conflicted over what to do', the researcher contends that psychological distress was being measured, not daily hassles. This confounding measurement of daily hassles and psychological distress is an ongoing criticism and issue of discussion regarding this measure (Dohrenwend, et al., 1984; Lazarus, 1990). Consequently, this author recommends that further research using all of the daily hassles subscales except the one measuring inner concerns might result in a truer-to-life representation of daily hassles.

Finally, the variable of occupational stress was significant throughout all of the analyses for only one subgroup, those nurses who had been employed as nurses for 20 years or more. This variable had been statistically significant for the subgroup of charge nurse/clinical specialists up until the final run of the three subscales. Occupational stress has been typified as more analogous to chronic stressors than to acute stressors; consequently, perhaps it was the chronicity of this experienced stress which had finally caught up with these long-standing nurses.
(Ganster, & Victor, 1988; Marcelissen, et al., 1988). Whatever the case may be, this significance of occupational stress for this one subgroup is exceedingly provocative and warrants further analysis of this population.

Limitations. There are many limitations inherent to this study which need to be addressed. First of all, the response rate to the mailed questionnaire was only 27% indicating that a self-selection bias may very likely be in effect. Those individuals who sat down and answered this question booklet may be quite different from the average nurse thus making these findings far from generalizable to the nursing population at large much less to any population of occupationally stressed workers. Further, as identified early in the analyses, this sample appeared to be more extroverted, less repressed, more stressed and more depressed than the normative samples upon which the descriptives of these measures were developed. Additionally, the meaningfulness of the demographic subgroups, while at times interesting and provocative, can also not be readily generalized to a large population due to the small size of many of the subgroups.

General Systems Theory. In relation to General Systems Theory, many of the differences in the subgroups might be
related to the level of development or equifinality of the various individuals who made up these subgroups, as can be exemplified by the sample of nurses who had been employed 20 years or more. Individuals who have been employed in a field 20 years or more are going to be at least in their forties with many in this sample ranging in age into their sixties and seventies. For an individual in this stage of development, not only is the physical work of staff nursing going to be more demanding, but also issues of importance for life in general will vary from those of younger adults.

In regard to the issue of Cybernetics for this stress-coping-depression study, both levels of adaptation to change can be exemplified. An example of Cybernetics I, or self-regulation whereby negative feedback realigns movement away from the steady state back to the pre-existing state, could be typified by the impact of social support upon the nurse experiencing stress. In the experience of external stressors perceived as threatening and stressful, rather than deteriorating into depression the influence of social support informs and guides the individual back to the pre-existing condition of balance.

For Cybernetics II or evolution whereby the stressful experience results in positive feedback and movement away from the pre-existing state, a new state may result. This new state or condition can often be one of growth and
positive development but it also can be a maladaptive condition such as the state of professional depression, the outcome variable in this study. The consistent identification of emotion-focused coping throughout the analyses in this study is an example of a positive feedback mechanism which redirects energies away from problem solving thereby contributing to an evolution into a new state, that of depression. Ultimately, as was noted by Le Chatelier, under stress, an organism will move in the direction which minimizes stress, whether this move is self-stabilization or self-organization (Laszlo, 1972; Miller, 1978).

Respecification of Model

With all of these findings in mind, the proposed McCleave Occupational Stress Model can be respecified and eventually retested (see Figure 6). Since analyses of these data according to the subscales consistently increased the explained variance in depression for the total sample as well as for the demographic subgroups, those subscale components identified as most consistently significant were included in this respecified model.

The personality characteristic of extraversion had revealed an inverse relationship to the stress appraisal variable of challenge which may be a less than positive aspect of this personality characteristic since appraisal of
McCleave Occupational Stress Model - Respecified

Figure 6
an experience as challenging is believed to be less likely to lead to depression. The personality characteristic of repression, on the other hand, was positively related to the stress appraisal variables of stressfulness, threat and centrality with only centrality demonstrating an inverse relationship to depression.

The stress appraisal variable of stressfulness was positively related to the external stressor variables of time pressures and of work/occupational stress. Further, this stress appraisal variable of stressfulness was also positively related to the outcome variable of depression. On the other hand, the stress appraisal variable of controllable-by-others was inversely related to both work/occupational stress as well as to time pressures. Finally, in relation to stress appraisal, the variable threat was positively related to the outcome variable of depression while centrality was identified as inversely related to this outcome.

The two external stressor variables of work/occupational stress and time pressures were both positively related to the outcome of depression. Further, the coping strategies of escape avoidance coping, distancing and seeking social support, were all depicted as positively related to the outcome of depression among stressed
individuals. Finally, social support was inversely related to the outcome variable of depression.

Although at first glance this respecified model appears much different from the originally proposed McCleave Occupational Stress Model, the only variable dropped was that of problem-focused coping which was basically insignificant throughout all of the analyses. Additionally, the next major alteration in this respecified model was the breakdown of the stress appraisal variable into five facets of this process: stressfulness, threat, centrality, controllable-by-others, and challenge.

Within the respecified model, clear lines of influence for the personality characteristics of extraversion and repression were identified. In addition, the direct impact of the emotion-focused coping strategies of escape avoidance, distancing and seeking social support as well as of social support on depression was more clearly noted with these two variables now in the same stage.

The final major change in this respecified model when compared with the originally proposed model was that work/occupational stress and time pressures were depicted as the only external stressors influencing this process and were revealed to be positively related to the outcome variable of depression.
It is anticipated that this respecified model which was the result of the findings of this current study will provide even more explanation for the adverse mental health outcome of depression among workers experiencing occupational and daily stress. An additional variable that might be worth examining particularly in a population of nurses, is that of co-dependency. This is a common behavior pattern among members of the nursing profession and, intuitively, seems likely to impair healthy coping interventions when external stressors are impinging upon an individual (Chappell, & Sorrentino, 1993).

Significance of Study

Implications to clinical practice. As noted previously, depressive symptomology, at least in this sample, was clearly prevalent among nurses. Further, this condition of professional depression contributes to behaviors such as absenteeism, turnover and depersonalization among effected individuals (Firth, McKeown, McIntee, & Britton, 1987; Gray-Toft, & Anderson, 1985; Hipwell, Tyler, & Wilson, 1989; McGrath, Reid, & Boore, 1989; Ogus, 1990; Revicki, & May, 1989).

The contributing variables of greatest significance as identified in this study, however, were in most cases arenas in which changes can be made. In regard to the emotion-
focused coping strategies of escape avoidance and distancing behaviors, nurses can be instructed as to more healthful alternative approaches, ideally planful-problem solving or even positive reappraisal strategies.

For the significant variable of social support, settings can be provided for staff members to debrief with coworkers when necessary. This debriefing is occurring already among many nurses in the guise of regularly scheduled happy hour gatherings at local bars. Unfortunately, although the social support provided by the collegial gathering is healthful the consumption of alcohol which accompanies it in the bar setting is a concurrent escape avoidance coping strategy potentially predisposing the participants to an addictive disorder.

Alterations in the work environment which might lessen experienced depression among nurses might consist of including these individuals in the decision-making process which affects their day-to-day work experience. This participative approach could potentially change the appraisal of the occupational setting from one of uncontrollability to one in which the individual perceives many experiences controllable-by-self. Further, counseling or training as to appraisal of an event might be directed toward educating the nurse to interpret an experience as a
challenge rather than as a threat, the latter of which is significantly related to professional depression.

Finally, identification of individuals who are repressors might also prove to be advantageous. As noted above, these individuals in this study demonstrated a positive relationship to the appraisal variables of stressfulness and threat, both of which contribute to an ultimate outcome of depression. Again, as with retraining in appraisal for all individuals, focused counseling or retraining of repressors to appraise experiences as challenges or as controllable-by-self might help lessen the likelihood of the adverse mental health outcome of professional depression.

Applicability to alternative settings. Ultimately, these findings related to occupational stress-related depression in nurses can also be applied to individuals employed in other professions which are also stressful. The enhancement of coworker social support is particularly important since only those who experience the same stressors are truly capable of sharing and understanding the feelings related to these stressors. An example of an alternative professional setting with stressful experiences might be that of individuals who work at a nuclear energy plant. This setting is highly stressful not only due to the
complexity and demands of the work itself but also due to the nature of the materials worked with and the controversy surrounding them. For these individuals employed in this environment, only others employed in this industry can truly understand the experienced stressors and, as a result, constitute the most appropriate and probably most effective support system for each other.

Future Research

As exemplified by means of this study, the stress process is clearly a multi-factorial experience. The researcher believes that to study the stress experience without many if not most of the variables included in the respecified McCleave Occupational Stress Model does not provide adequate information for evaluating this process thoroughly. Further studies utilizing the respecified McCleave Occupational Stress Model on samples of other individuals experiencing occupational stress as well as on additional samples of nurses may function to identify mechanisms for improving the work experience for many employees. Ultimately, this improvement in the work experience may also improve these individuals lives, for where do we spend most of our lives in our society but work.
APPENDIX A

HUMAN SUBJECTS
February 15, 1993

Karen McCleave  
College of Nursing  
Arizona Health Sciences Center

RE: AN EXAMINATION OF THE RELATIONSHIP BETWEEN PERSONAL AND CONTEXTUAL VARIABLES AND OCCUPATIONAL STRESS RELATED DEPRESSION

Dear Ms. McCleave:

We received documents concerning your above cited project. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101(b)(2)] exempt this type of research from review by our Committee.

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely yours,

William F. Benny, M.D.  
Chairman  
Human Subjects Committee

WFD:sj

cc: Departmental/College Review Committee
Dear Study Participant:

You are being asked to participate in a study of stress in nurses entitled: An Examination of the Relationship Between Personal and Contextual Variables and Occupational Stress Related Depression in Nurses. This study is being performed in an attempt to better understand the factors which contribute to mental health and depression in nurses. Seven contributing variables and one outcome variable will be measured by paper-pencil questionnaires in this study. The contributing variables are: extraversion, repression, daily hassles, occupational stress, stress appraisal, coping strategies and social support. The outcome variable is depression. The goal of this research is to ultimately improve the occupational experience of nurses. This study is being conducted through the University of Arizona, College of Nursing as a part of my dissertation research.

The enclosed booklet of questionnaires consists of eight different measurement tools of approximately 350 questions altogether. It will require about thirty (30) to forty five (45) minutes of your time to complete this inventory. You are asked to not write your name on the booklet. At no point in this study, will your identity be revealed and there are no risks to participating in this study. Further, this study is entirely voluntary and you may decline to answer any or all the questions and to withdraw at any point if you so choose, although, I hope you will find the time to complete all of the questions. Completing and returning the questionnaire booklet to me in the enclosed envelope will function as an indication of your consent to participate.

Please feel free to contact me at any time if you have questions regarding this study. Thank you for your consideration and cooperation in this matter.

Sincerely,

Karen McCleave
APPENDIX B

INSTRUMENTS
PLEASE NOTE

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Appendix B

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References


