

SITUATIONAL STRESSORS PERCEIVED AND
IDENTIFIED BY PEDIATRIC NURSES

by

Deborah Gail Campfield

A thesis submitted to the faculty of
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in partial fulfillment of the requirements for the degree of

Master of Science

College of Nursing
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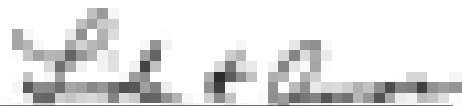
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ABSTRACT

Little is written in regard to the stresses encountered in pediatric nursing. The insufficiency of evidence confirming the belief that critical care nursing is more stressful than other types of nursing care, together with the limited knowledge of pediatric nursing stress, provided the impetus for this study. The purpose of the research was to investigate and compare the situational stressors perceived and identified by pediatric intensive and nonintensive care nurses in terms of degree, frequency of occurrence, and source of stress. Questionnaire surveys listing 51 items requiring a numerical response according to a graphic scale were distributed to full-time staff nurses in two intensive care and two nonintensive care units in a pediatric hospital. Respondents were instructed to evaluate each item according to its frequency of occurrence and degree of severity in the nursing unit. Acceptable questionnaires were received from 27 ICU nurses and 19 non-ICU nurses. Evidence was found supporting the belief that ICU and non-ICU nursing stressors were not comparable;

however, the non-ICU nurses reported more stresses, in general, both in frequency and degree. Several expected common stressors were identified, yet some differences particular to one group or the other were also recognized. Statistically significant differences were reported in higher frequencies and degrees of stress in the nonintensive care group. Eleven specific stressors were identified, most of which were in the general categories of physical work environment and interpersonal relationships. Five statistically significant stressors were reported in higher frequencies in the ICU group; three were in the category of patient care and the remainder fell within other categories. Most of the coping strategies reportedly practiced were mutually employed by both ICU and non-ICU nurses.

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CHAPTER I

INTRODUCTION

The existence of stress within clinical nursing is not new. In the course of a professional career, for whatever length of time, a nurse is constantly exposed to a variety of situational stressors. The moral and ethical dilemmas surrounding pain, illness, and death combine with the pressures of expanded nursing roles and rapidly changing personnel, procedures, and technology to create demands on the nurse which few other professionals face. Before critical care nursing was associated with stress, nursing in general was described as stressful. Tensions of hospital nursing cited included patient suffering and death, frightening tasks, heavy demands, and problematic relationships with patients and families (Menzies, 1960). Holsclaw (1965) described high emotional risk areas in nursing: inability to restore patients to optimal health and feelings of loss for patients with specific concerns such as critical illness, terminal illness, surgical risk, severe

physical disability, psychiatric difficulties, and rehabilitation problems. Awareness of nursing as stressful included realization of the need for support (Jones, 1962; Michaels, 1971).

More recently, increasing interest and attention have been given to the stresses inherent in critical care hospital environments. Initially focusing on patient stress (Downey, 1972; Volicer, 1973), authors are now emphasizing the work-related stress experienced by hospital personnel, specifically nurses (Bilodeau, 1973; Cassem & Hackett, 1975; Gardam, 1969; Hay & Oken, 1972; Kornfeld, 1971; Koumans, 1965; Vreeland & Ellis, 1969). This recent upsurge and interest in stress experienced by the critical/intensive care nurse has also pioneered development of the concept of "burnout" (Gribbins & Marshall, 1982; Marshall & Kasman, 1980, 1982; Patrick, 1979; Storlie, 1979).

While the sources of stress produced by the intensive care environment have been researched and identified in relation to effect on nursing personnel, a paucity of available information about the stresses of other types of nursing is discovered. Even less is written in regard to the stresses encountered in pediatric nursing. The insufficiency of evidence confirming the belief that critical care nursing is

more stressful than other types of nursing care warrants increased research efforts by nurses.

Problem Statement

The purpose of this research was to investigate and compare the situational stressors perceived and identified by pediatric intensive care and nonintensive care nurses, in terms of degree, frequency of occurrence, and source of stress.

Relevance to Nursing

Nursing is not simplistic. As a profession, nursing embodies a realm of diverse tasks, issues, and concerns. Over the years, many of these have been subject to close scrutiny in an attempt better to understand and relate these matters to the role of the nurse and to nurse-patient interactions. Stress in clinical nursing practice has been identified and examined only within the last two decades and continues to be a focus of interest in current literature, although insufficient comprehension of its many facets affirms that stress research, as it relates to nursing, is in its infancy. The importance and relevance of such research cannot be refuted.

A stress "syndrome" was first discovered by Selye (1979) in the late 1920s and, after years of research

with rats, was refined into the development of stress theory in 1936. Defined by Selye (1956) as "the rate of wear and tear on the body" (p. 3), stress was then categorized into stages. Three stages comprised the General Adaptation Syndrome (general -- produced only by agents that have a general effect on large portions of the body; adaptation -- stimulation of defenses, thereby helping insure the body to hardship; syndrome -- its individual manifestations are coordinated and partly dependent on each other), also known as G.A.S. (Selye, 1956, 1965). These stages are: a) the alarm reaction, the initial response and general mobilization of body defenses, b) the stage of resistance, when the defensive resources of the body hold their own against an invading stress, and c) the stage of exhaustion and decompensation, when the organism can no longer cope with stress (Selye, 1956) (see Figure 1).

Stress incorporates the concepts of perception, anxiety, and adaptation. The individual's perception is his/her awareness of objects, persons, and situations, and is more significant in recognizing stress (King, 1971). A situation or event perceived to be stressful for one individual may not be for another. Anxiety, involving a real or imagined threat

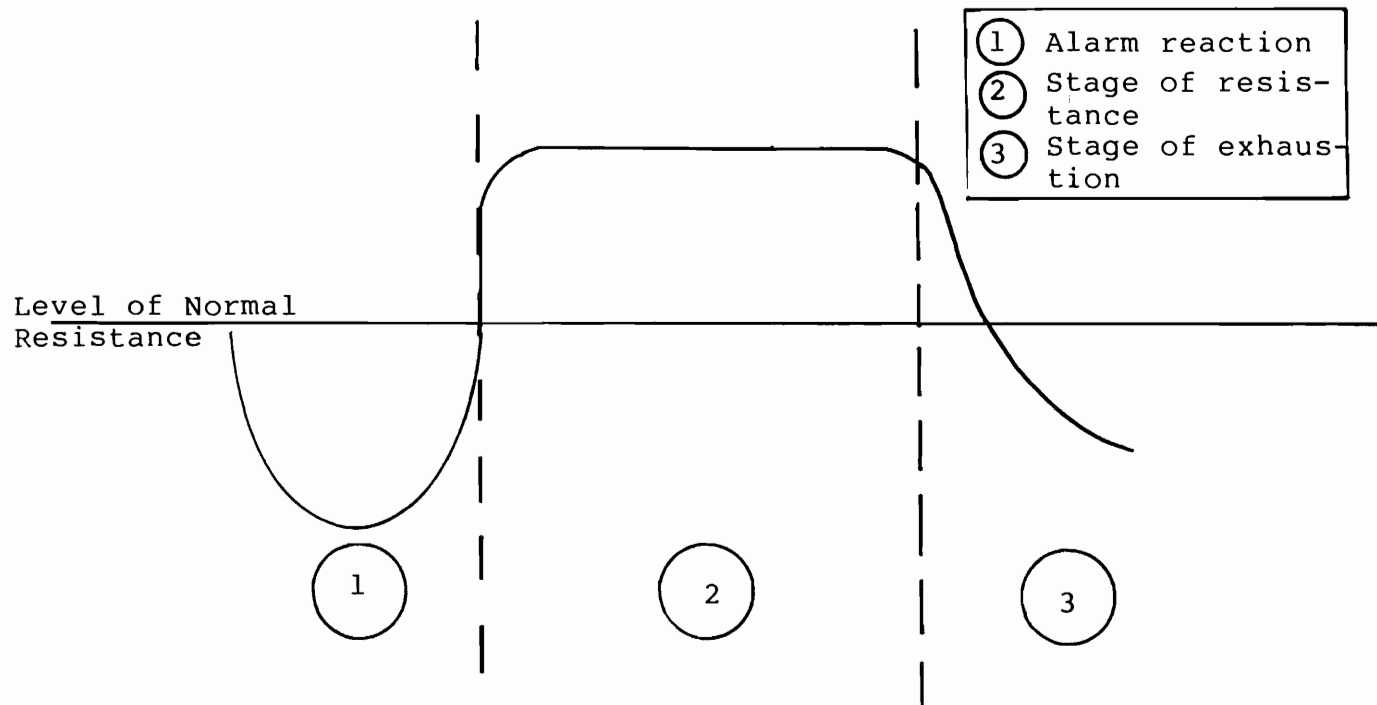


Figure 1. Representation of three stages of the general adaptation syndrome (adapted from Selye, 1956, p. 87).

to an individual's biological or emotional integrity, is one major response to stress (Perley, 1976; Roberts, 1978). Throughout life, an individual learns various ways of coping and adaptation -- adaptation being defined as the modification of an organism or its parts that fit it better for the conditions of its environment (Webster, 1967) (see Figure 2).

The physiological (Hopping, 1980) and psychological responses to stress (Janis, 1958; Lazarus, 1980) have received attention in the literature. Increased cognizance of the interrelationship between stress and disease, too, has been documented (Graham & Stevenson, 1963; Hurst, Jenkins, & Rose, 1979; Inglis 1958; Luckmann & Sorensen, 1974; Rahe, Meyer, Smith, Kjaer, & Holmes, 1964; Wolf, 1963). Responses to stress in nursing include decreases in motivation, productivity, efficiency, self-esteem, morale, quality of interpersonal relationships, and job satisfaction, while showing increases in competition, depersonalization of patients, anxiety, insecurity, unrealistic expectations, role conflict, personal illness, substance abuse, absenteeism, turnover, and burnout (Bates & Moore, 1975; Duxbury & Thiessen, 1979; Gentry, Foster & Froehling, 1972; Hopping, 1980; Jenkins, 1979; Maloney, 1982; Prien, 1979).

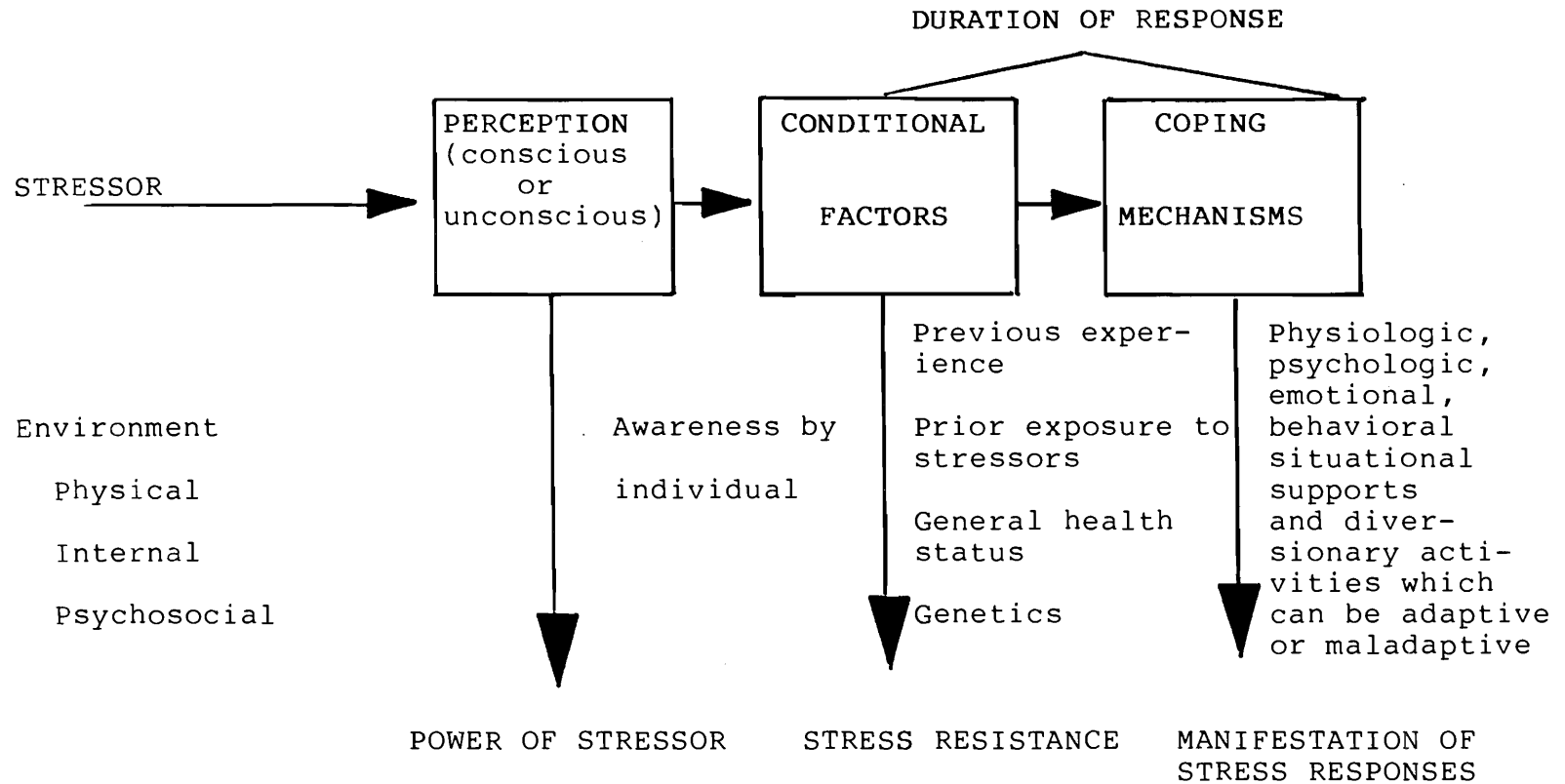


Figure 2. Variables that affect stress response and resistance (Adapted from Smith & Selye, 1979, p. 1954). The impact of a stressor depends on perception of its presence, the state of conditioning factors, and available coping mechanisms.

Increasing awareness serves to improve the individual nurse with regard to self, other members of the health care team, and administration. Emphasis on and identification of the specific stresses faced in clinical practice prove constructive and essential in the development of adequate and effective coping strategies. For the individual nurse, identifying stresses and acquiring coping skills may improve self-esteem, self-concept, interest, attitude, and professionalism. Alerting the nurse to the stresses encountered may lessen reality shock by decreasing unrealistic expectations and thereby clarifying role function (Kramer, 1974). Prior experience and warning are two variables mediating stress responses (Kahn & Quinn, 1970). Effective stress management may also result in promoting morale and an improvement of teamwork and interpersonal relationships with patients, peers, and other health care professionals and ancillary personnel. Nursing administration may benefit from the effects of stress identification and management; the ensuing decline in burnout signs and symptoms, specifically, reduced absenteeism, turnover rates, and nursing dropouts, will be of special interest (Gentry, et al., 1972; Gentry & Parkes, 1982). Examination and insight into stressful events may also

allow for extended staff support from administration,
and promote further stress reduction acts.

CHAPTER II

REVIEW OF LITERATURE

Development of Stress Theory

Stress is a complex and often misunderstood concept. When used by physicists and biologists, the fields in which the term was initially used, the meaning was fairly consistent. When the term was adopted by behavioral scientists, however, it assumed a variety of meanings. Usage of the term is sometimes unreliable due to the lack of consensus that prevails in stress research.

According to Selye (1956), a pioneer in the area of stress research, stress can be defined as "the nonspecific reaction of the body to a stressor as well as the highly specific reaction involved" (p. 215). Selye also provided one of the most practical definitions of stress:

We can look upon stress as the rate of wear and tear in the body. When so defined, the close relationship between aging and stress becomes particularly evident. Stress is the sum of all the wear and tear caused by any kind of vital reaction throughout the body at any one time. That is why it can act

as a common denomination of all the biological changes which go on in the body; it is a kind of "speedometer of life" (p. 274).

As a medical student in the 1920s, Selye was shown patients who were suffering from nonspecific (affecting all parts of the system without selectivity) symptoms which did not characterize any one particular disease. A decade later, while working with ovarian hormones in extracts of cattle ovaries, as well as rat subjects, the evolution and analysis of the stress syndrome occurred, with physiologic signs as objective measurable indicators of stress (such as adrenal enlargement, gastrointestinal ulcers, and thymicolymphatic shrinkage) (Selye, 1965). It gradually became evident that "any agent that demands an increased vital activity automatically elicits a nonspecific defense mechanism which raises resistance to stressful agents" (Selye, 1965, p. 98).

The whole stress syndrome, or "General Adaptation Syndrome" (G.A.S.), as developed by Selye, evolves in three stages: a) the "alarm reaction" during which defensive forces are mobilized; b) the "stage of resistance" which reflects full adaptation to the stressor; and c) the "stage of exhaustion" which inevitably follows as long as the stressor is severe enough and applied for a sufficient length of time,

since the adaptability of a living being is always finite (Selye, 1956, 1965, 1980). In order to meet stress, the body must adapt or cope. Adaptation is essential if the body is to maintain homeostasis.

Every individual experiences some degree of stress virtually all the time. "Stress is part of life. It is a natural by-product of all our activities" (Selye, 1956, p. 299), or as Hinkle (1973) stated:

The ordinary activities of daily life--the ingestion of food, or the failure to ingest food; muscular activity, or the absence of muscular activity; breathing, or not breathing; sleeping, or not sleeping--all affect the dynamic steady state. Their effects are not qualitatively different from those of the "stressors," that are used in the laboratory. It has been aptly said that "to be alive is to be under stress!" (p. 43).

Stress is not unique to any individual. What constitutes stress is not perceived in a universal manner. Two individuals confronted with the same task or situation may react with varying degrees of stress. Therefore, an individual's perception of stress is more significant (Lazarus, 1980; Roberts, 1978). Factors affecting the perception and severity of a stressful experience are the degree and duration of the stress (biological or psychological), an individual's previous experience, and resources available to that person (assessed according to internal

or external availability) (Roberts, 1978). Likewise, an individual learns various ways, which are unique to that person, of coping and adapting to a stressful state.

Responses to Stress

As an extreme or noxious stimulus, stress causes certain physiological (including hormonal), psychological, and behavioral responses. One of the primary hormonal responses is secretion and release of corticotropin (ACTH) by the pituitary gland which, in turn, stimulates the production of corticoids by the adrenal cortex (Hopping, 1980; Makara, 1980; Pelletier, 1977; Selye, 1979). Physical reactions to stress include those rooted in early revolutionary needs for a "fight or flight" response to danger: deeper breathing, tachycardia, hypertension, increased blood supply to the skeletal muscles, decreased blood supply and activity to the skin, gastrointestinal system, and kidneys, activation of the nervous system, and the release of sugar and fats into the bloodstream to produce quick energy (Hartl, 1979; Jenkins, 1979; Stellman & Daum, 1971).

Janis (1958) has defined psychological stress as "those changes in the environment which typically-- i.e., in the average person--induce a high degree of

emotional tension and interfere with normal patterns of response" (p. 13). Janis (1958) further delineated three stages of psychological stress: the threat phase, danger impact phase, and postimpact victimization phase. In the threat phase, the person perceives signs of oncoming danger and/or receives communications of warning likely to arouse anticipatory fear. The danger impact phase involves the person's perception that physical danger is imminent and that chances of escape depend partly on protective actions by self or others. In the postimpact victimization phase, the individual perceives the losses sustained (Janis, 1958).

Behaviorally, stress represents a variety of responses manifested as anger, anxiety, emotional tension or frustration, inability to adjust to a situation, a disturbed effect, or difficulty with judgment and decision-making processes (Roberts, 1978). Stress, as an experience, can be temporary, recurrent, or continual and can vary in intensity.

Stress and Illness

During recent years, numerous researchers have investigated relationships between stress and the susceptibility to physical and psychological disorders. The health team, too, is becoming more cognizant of

the interrelationship between stress and disease. The balance between health and disease can be disrupted by stress. A change in a life situation is a frequent stressor (Graham & Stevenson, 1963). Coleman (1973) discussed the role of life stress as a cause or exacerbating agent in such physical and mental problems as hypertension, obesity, coronary heart disease, cancer, alcoholism, criminal offenses, schizophrenia, and suicide. Psychosomatic disorders appear to involve both sustained emotional arousal in response to stress and a stereotypic response in which the damaging effects of chronic emotional arousal are concentrated in a specific organ system (Coleman, 1973). Widely considered to be linked with (or caused by) emotional stress are certain skin disorders, stomach ulcers, and asthma (Inglis, 1958). Stress was implicated as causal to the onset of illnesses such as tuberculosis, cardiac disease, and skin disease in a 1964 study (Rahe et al., 1964). In subsequent research, however, life-change patterns (stressful life events) surrounding illness experience were examined; retrospective data were collected not only on life-change patterns occurring prior to illness, but also on life-changes reported concomitant with and following illness experience. Life-change data seen prior to illness

experience confirmed the previous research findings of life stress increase prior to illness onset. Interestingly, however, the life-change data observed following illness experience provided a reversed and nearly symmetrical picture of its counterpart prior to illness, placing equal validity on a causal or resultant relationship between stress and illness onset (Rahe & Arthur, 1968). Although difficult to support conclusively, stress disorders are expected to reveal themselves most commonly and obviously in everyday illnesses--coughs, colds, headaches, miscellaneous pains and twinges, flu, and backaches (Inglis, 1958).

Influential in the course of stress-related illnesses is the presence of a social support system (such as a caring family and/or friends); social supports seem to be an important protective factor against the effects of stress (Haggerty, 1980). Psychological coping patterns also were found to be important in modifying physiological stress responses. In studies of rats, Weiss (1972) found that those able to perform effective coping responses usually developed fewer ulcers than the helpless animals. Aspects of the interaction of stress and the organism, as associated with health and disease, are summarized

in Table 1.

Stress and Personality

Individual personalities are significant in some stress-related illnesses. Evidence suggests, for example, that individuals with specific personality variables identified have been placed at high risk for developing coronary artery disease; these have been classified as Type A persons (Friedman & Rosenman, 1974; O'Flynn-Comiskey, 1979). According to Friedman and Rosenman (1974), Type A individuals are extroverted, aggressive, domineering, compulsive, competitive, preoccupied with time and success, ambitious, achievement-oriented, and deal constantly in high-level stress, whereas a Type B person is less effective in a job, although is free of a frantic time urgency, values leisure time, works for personal satisfaction, allows time for quiet contemplation, and operates on a low-stress mode of behavior. These personality variables seem to influence an individual's ability to confront and cope with stress effectively.

Occupational Stress

Job stress is an often-unlisted occupational hazard. The hypothesis that job stress may contribute to poor health should not be dismissed lightly. There

Table 1
Five Aspects of the Interaction of Stress
and the Organism

| Class of Variable | Example Associated with Health | Example Associated with Disease |
|---|--|--|
| Adaptive Capacity (Host Resistance) | Problem-solving skills | Inexperience Copelessness |
| Stimulus Input ("Stressor") | Mild, superficial Brief | Intense, Invasive Prolonged |
| Alarm Reaction (Immediate Distress) | Appropriate to stimulus Used as a cue to action | Inappropriate in amount, kind, or interpretation |
| Defensive Reaction (Resistance, Adjustment) | Adaptive defense reduces stressor | Maladaptive defense fails to reduce stressor or creates (side effect" |
| Pathological End-State (Disease, Decompensation) | Prevented by Adaptive Capacity or Adequate Defense | Reduced level of function or structural change |

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is evidence that stress induced in the experimental laboratory setting produces affective or physiological states that, if prolonged, are possible precursors of health disorders (Kahn & Quinn, 1970). Various investigators who have researched occupational stress support the plausibility that it is a causal factor in disease. For example, Cobb and Rose (1973) found that occupants of the highly stressed job of air traffic controller had four times the rate of hypertension and twice the rate of peptic ulcers and diabetes mellitus as a comparison group of second class airmen who had taken the same medical and physical examination. More useful than knowing that a particular job is stressful, however, is to understand the effects of job strain of general classes of stresses so that the stresses can be combated in whatever jobs they occur. Using personal interview and self-report techniques with persons employed in various occupational situations, Margolis, Kroes, and Quinn (1974) found that increased job stress reported was associated with poorer physical or mental health. Especially significant was an inverse relationship between job stress and two specific mental health indicators: self-esteem and motivation to work (Margolis, et al., 1974).

Causes of stress at work are numerous and varied. Poulton (1978) discussed several environmental influences: poor visibility, noise, uncomfortable temperatures, vibration and motion, harmful atmospheric pollution, heavy work and physical fitness level, work overload and underload, and a combination of these environmental stresses. Other stresses are mentioned in the literature. These include role in the organization (role ambiguity, role conflict, role overload), interpersonal relationships at work (with superiors, subordinates, and peers), lack of job security, organizational structure and hierarchy, increased responsibility, shift work, unrealistic individual or organizational expectations, wage and promotion conflicts, and other emotional and psychological pressures (Applebaum, 1981; Cooper & Marshall, 1978; Goodwin, 1976; Stellman & Daum, 1971). Personal difficulties (life stresses) also affect job functioning and job satisfaction. Interestingly, Sarason and Johnson (1979) discovered that negative life changes experiences within one's personal life are related to lower levels of job satisfaction while both positive and negative changes experienced within the work environment are correlated with satisfaction, positive changes being related to higher levels and negative

changes being related to lower levels of satisfaction. McMichael (1978) presented a model summarizing the interrelationships of conditions, variables, perceptions, responses, and outcomes of stress (refer to Figure 3).

Perceptions by patients of stressful events associated with hospitalization have received attention in the literature (Volicer, 1973, 1974). Beyond this, stress levels in various hospital personnel, including nurses, hospital administrators and public service administrators have been examined (Bates & Moore, 1975). Of particular importance are the stresses perceived by nurses.

Stress in Nursing (General)

The stressful situations faced by nurses, and recognition of the need for emotional support to be given, as well as received by nurses has been provided consideration in the last two decades (Jones, 1962; Michaels, 1971). Certain barriers in the nurse's search for support may exist; nurses traditionally seem to feel that they have no right to feel anger, fear, sadness, anxiety, or despair. Yet, as Jones (1962) pointed out, to give support to patients, the nurse must receive support.

Holsclaw (1965) believed that for the nurse to

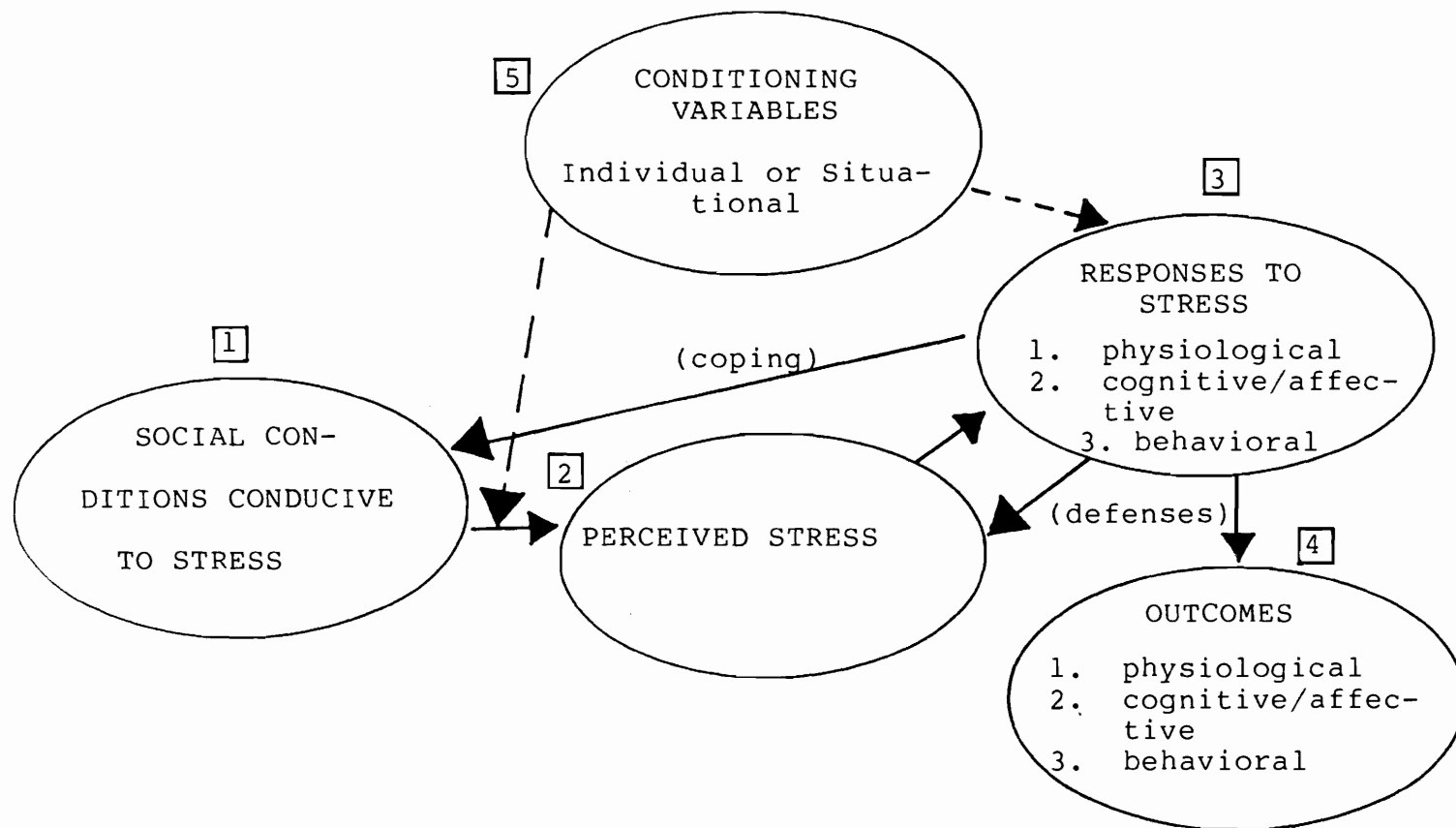


Figure 3. Interrelationships of conditions, variables, perceptions and outcomes of stress (Adapted from McMichael, 1978, p. 132). Solid arrows between ovals indicate presumed causal relationship among variables. Dotted arrows from oval [5] intersect solid arrows, indicating an interaction between the conditioning variables in ovals [1], [2], and [3] in predicting variables in oval [4].

give compassionate patient care in an area of "high emotional risk" (p. 37) (such as areas with patients undergoing kidney transplantation, surgical procedures with relatively high mortality rates, new and experimental therapies, and persons with severe physical, psychiatric, or rehabilitative disorders, terminal or critical illnesses). The initial step is to recognize that the risk exists and, then, to identify the stress factors in these areas so that coping mechanisms can be planned. Sources of stress are often found to be role-related (self, administration, subordinates, peers) or task-related (related to patients and/or physicians) (Brief, vanSell, Aldag & Melone, 1979; Leatt & Schneck, 1980). General nursing stressors include: sickness, injury, and death among patients, insufficient time, knowledge or skill to provide quality patient care, changing technological demands, changes in physicians, supervisors, and peers, setting priorities, unclear or unrealistic expectations, environmental stimuli, facing moral and ethical dilemmas, interpersonal relationships, lack of support, professional hierarchy with complex accountability lines, and personal life outside of the job (Applebaum, 1981; Hartl, 1979). Kinzel (1982), in developing a rudimentary tool for determining stress level, categorized

the stresses into five broad areas: inadequate knowledge, inadequate support from peers and supervisors, dealing with death, poor communication, and salary and staffing problems.

In examining responses of the individual to stress, one finds such physiological indicators as anorexia or uncontrolled eating, urinary frequency, insomnia or lethargy, muscular tension and aches, rashes, diarrhea, headaches, tachycardia, palpitations, tightness in chest, hypertension, nausea, increased perspiration, and hyperactivity (Scully, 1980). Psychologically, one may feel disoriented and disorganized, angry, frustrated, depressed, apathetic, helpless, indecisive, fearful, irritable, withdrawn, or unable to concentrate (Scully, 1980).

Stress in Intensive Care Nursing

Much has been written about the stressful psychological experience of being a patient in an intensive care unit (ICU) or other special care unit (DeMeyer, 1967; Downey, 1972; Kornfeld, 1971; Volicer, 1973, 1974). Less well recognized, however, are the problems and stresses faced by those primary caregivers who work in an ICU that provides the complex nursing care required by critically ill patients. The nurse and his/her reactions to working in these units are beginning

to receive increased amounts of attention. The role of the professional nurse is undergoing a dramatic expansion in relation to the delivery of health care services. Nurses in the ICU are assuming greater responsibility for managing patient care in the acute health care settings. Experienced by these nurses daily are stressful events related directly to individual patient needs and indirectly to pressures within a highly technical environment (Oskins, 1979; Vreeland & Ellis, 1969).

Stehle (1981) reviewed investigations of critical care nursing stress (including the intensive care unit, coronary care unit, pediatric intensive care unit, and neonatal intensive care unit), and called attention to the fact that none of the authors attempted to classify stressors according to applicable theories, and that improvement was needed in the types of measurements utilized. Nevertheless, these studies are valuable in identifying the specific stressors placed on the ICU nurse. Many of the stresses imposed upon ICU nurses are common to those faced by nurses, in general.

General categories which reflect ICU stressors can be identified. Included are: environmental, patient care, training and skills, interpersonal

communication and relationships, and unit management problems (Bailey, Steffan, & Grout, 1980; Huckabay & Jagla, 1979). Multiple impacts of the unit environment, itself, make the work intrinsically stressful, such as sensory stimuli (noise level, lighting, action, mechanization), complex technical machinery and equipment, insufficient space and privacy, and multiple hospital personnel engaged in various activities (Bentley, Murphy, & Dudley, 1977; Bilodeau, 1973; Hay & Oken, 1972; Kryter, 1972). Often the staff is faced with a strenuous workload, including heavy lifting, checking machinery, monitoring numerous physical parameters, meticulous recording of data, and assisting in research activity. The demand for quick and accurate decisions and faultless judgment is ever-present. Furthermore, the atmosphere and work pace of the unit may be highly unpredictable— at times, hectic and chaotic, while slow and boring at others (Bilodeau, 1973; Gardner, Parzen, & Stewart, 1980).

Patient care requirements and needs encompass a realm of concerns, such as the critical, unstable nature of the patients, frequent deaths, setbacks, emergencies, arrest situations, moral and ethical dilemmas, unnecessary prolongation of life, acuity

and chronicity, repetitive routines, need for constant intensive observation, emotional support and teaching, and dealing with family members who often are anxious, threatening, interfering, annoying, or uncooperative (Bailey et al., 1980; Bilodeau, 1973; Campbell, 1980; Cowper-Smith, 1978; Hay & Oken, 1972; Kornfeld, 1971; Vreeland & Ellis, 1969). The ICU nurse often is forced to serve as a functional link between the patient and his/her family; while this may benefit the parties involved, this type of triangulation can serve as another source of frustration and stress for the nurse.

The variety and complexity of disease states, treatments, regimens, and equipment require that the ICU nurse possess a wide knowledge base, numerous technical skills, quick recall, and the ability to apply his/her knowledge and skills appropriately. Fears of inadequacy and failure, consequences of errors, lack of orientation, unfamiliar equipment and situations, and heightened decision-making responsibilities are all factors which may produce strain (Asken, 1979; Bailey et al., 1980; Huckabay & Jagla, 1979; Lippincott, 1979; Oskins, 1979).

Bailey et al. (1980) discovered that the category of interpersonal relationships was rank-ordered by adult ICU nurses as the one which produced most stress.

This group of stressors is composed of such problems as lack of respect from physicians, disagreements with physicians over patient treatment, personality conflicts (with physicians, administration, staff, ancillary personnel), communication problems, and unresponsive or ineffective nursing leadership (Anderson & Basteyns, 1981; Bailey et al., 1980; Cassem & Hackett, 1975; Gardner et al., 1980; Melia, 1977; Stillman & Strasser, 1980). In addition, competition and scapegoating among peers, lack of positive feedback, reinforcement or gratification, and lack of teamwork among colleagues and with other health care providers are stressful, and contribute to decreased efficiency, morale, and work performance among ICU nursing personnel (Bailey et al., 1980; Bilodeau, 1973; Cowper-Smith, 1978; Hay & Oken, 1972; Huckabay & Jagla, 1979). The two most stressful aspects of one ICU were perceived by Koumans (1965) to be rapid turnover of staff (especially through rotation) and intensity of emotions in interpersonal situations. Another source of frustration is the lack of understanding and support from administration in such issues as staffing, compensatory times, and the need for nurses to have adequate time away from the unit, especially during their shifts (Gardam, 1969; Gardner et al., 1980).

Finally, cited in the literature are stressors involving management of the unit: inadequate staffing, apathetic and/or incompetent staff members, emergencies, transfers, admissions, patients not needing ICU care, lack of continuity in patient assignments, unavailability of physicians, shift and scheduling problems, charge positions, and problems with role delineation (Bailey et al., 1980; Gardner et al., 1980; Vreeland & Ellis, 1969). In a comparative research investigation, the findings of Anderson and Basteys (1981) coincided with those of Huckabay and Jagla (1979) to demonstrate that situations involving the death of a patient, staffing and workload problems, and communication difficulties with physicians ranked as the most common sources of stress.

Several researchers described the modes of psychological defense that are typically employed by nurses in ICUs to provide some protection from loss, guilt, grief, anger, anxiety, and overcommitment. One such method is to create an emotional distance by relating more fully to medical procedures and equipment rather than to the patient. A businesslike approach, or withdrawal, is sometimes used. Further defense modes such as joking or laughing, although often viewed as inappropriate behavior by the observer or patient,

serve an important function in assisting the nurse to cope with his/her environment. Close peer ties and relationships often develop in response to the interdependency of team members in providing patient care in the ICU. Group bonds can be solidified by the very structure of a hospital which places the intensive care unit in an isolated area (Asken, 1979).

Stress in Intensive Care and Nonintensive Care Nursing

A small body of literature has evolved concerning a comparison of the psychologic responses and consequences to situational stresses in intensive care and nonintensive care nursing. Gentry, Foster, and Froehling (1972) compared ICU and non-ICU respondents with respect to levels of depression, hostility and guilt, self-esteem, anxiety, and general personality patterns. The results indicated several things:

- a) generally, ICU nurses appeared to report more depression, hostility, and anxiety than non-ICU nurses,
- b) there were no differences in terms of guilt, self-esteem, and general personality patterns; the psychological strain seen in ICU nurses appeared to be a result of situational stressors rather than personality differences between ICU and non-ICU nurses. The findings supported the belief that the ICU nurse is

under considerable psychologic and emotional stress, to an extent greater than that of the non-ICU nurse.

The research team of Mohl, Denny, Mote, and Coldwater (1982) compared two ICUs and two general medical units (GMUs) and found that the nurses in the ICUs differed from those in the GMUs in some work attitudes, but not in levels of reported clinical distress. The findings suggested that primary task (the major patient care activity of a given unit, representative of the kinds of diseases treated in the unit) is an important element in determining stress levels, although social systems variables (peer relationships, group values and norms, authority relationships, division of labor) also contribute substantially.

A study was performed to investigate and compare the stress levels of intensive care and nonintensive care nurses (working with adults) as indicated by increased anxiety, psychosomatic problems, personal and family problems, and job dissatisfaction (Maloney, 1982). The results indicated that: a) anxiety scores in the nonintensive care nurses were higher (contrary to previous findings), possibly due to the fact that the closely knit group of ICU nurses functions as a support group which helps to decrease the anxiety-

provoking effects of the environment, b) nonintensive care nurses have a significantly greater number of somatic complaints than ICU nurses, c) non-ICU nurses reported more interpersonal difficulties with their family and friends, and d) non-ICU nurses reported a significantly higher level of workload dissatisfaction (Maloney, 1982). The investigator implied that perhaps researchers have overlooked the nonintensive care nurse. These recent findings suggest that some re-examination of the widely held view that ICU nursing is more stressful than non-ICU nursing is required. Stehle (1981) pointed out that "widely generalizable data have not yet been published confirming the belief that critical care is more stressful than other types of nursing care. Moreover, types of critical care which can be represented as more stressful than other types of critical care are yet unknown" (p. 186). No such comparative investigations have been found, to date, in the realm of pediatric nursing.

Stress in Pediatric Intensive Care Nursing

Tensions specific to those working in pediatric intensive care units (PICUs) were examined in several studies (Frader, 1979; Waller, Todres, Cassem, & Anderten, 1979). Coping with a poor prognosis in

the case of a child seems to be extremely difficult. Relationships between physician and family, and among other members of the pediatric ICU team, are extremely important; these relationships may influence medical decisions. Parents need much emotional support from medical and nursing staff. Unique to the PICU nurse is a sensitivity to the child's perception of the environment, familiarity with developmental theory, and a willingness to appreciate the parents' deep concerns and ability to afford the needed support (Vestal & Richardson, 1981). The highly specialized and sensitive nature of dealing with critically ill and dying children leaves nurses especially vulnerable and in need of considerable support, themselves.

Stress in Neonatal Intensive Care Nursing

More numerous studies have been conducted related to stress in the neonatal intensive care unit (NICU). Again, many of the stresses indicated are common to other areas of nursing, especially intensive care nursing. Recent advances in neonatology pose such moral, philosophical, and ethical dilemmas as withholding or withdrawing treatment from infants with congenital anomalies (and facing the finality of decisions versus the potential for error in prognosis),

quality of ethics, research on neonates, identification with the parents of sick newborns (since many NICU nurses are of childbearing age, themselves), sudden relapse, death or unexpected improvements in an infant, and fears of becoming too attached to a baby with an uncertain outcome (Astbury & Yu, 1982; Duff & Campbell, 1973; Jacobson, 1978; Strickland, Spector, Hamlin-Cook, Hanna, Moore, Bellig & Fiorato, 1980). Anxiety is created by the ambivalency of a role which dictates caring for a sick infant when there is no medical improvement or a known poor medical outcome (Sherman, 1980).

The type of patient admitted to an NICU is, in itself, stressful: a) the premature infant, whose course may be fairly predictable so that unforeseen complications produce tension, b) the immature baby of 24 to 26 weeks gestation and birth weight of less than 1000 grams, whose survival and long-term physical and mental health are questionable, c) the asphyxiated infant, usually a product of a full-term pregnancy having suffered questionably preventable insults during labor and delivery, and d) the infant with congenital anomalies (Drotar, 1976-77; Hale & Levy, 1982). Advanced technology is responsible for further problems, such as long-term use

of ventilators, which produce infants with chronic lung problems, use of total parenteral nutrition, potentially causing liver disease and infection, and the ability to resuscitate and support infants who are, essentially, viable abortions (Hale & Levy, 1982; Thompson & Thompson, 1981). Marshall and Cape (1982) reported that the situations causing most anxiety include withholding further support, working with a chronically ill infant, and facing a critically ill full-term baby with no external malformations. Interestingly, Gribbins and Marshall (1982) found a difference in stress and coping among NICU nurses dependent upon length of experience in the unit.

The Phenomenon of "Burnout"

The aforementioned stressors that are specific to the NICU, combined with those inherent in intensive care nursing and nursing, in general, may contribute to the development of an occupational hazard known as burnout. Burnout may be defined as "the loss of motivation for creative involvement" (Marshall & Kasman, 1980, p. 1161). Burnout occurs among physicians, nurses, and social workers (Frader, 1979; Huckabay & Jagla, 1979; Jacobson, 1978; Marshall & Kasman, 1980; Vreeland & Ellis, 1969). Nurses who work in critical care units or other specialty areas that

require intense contact with patients and families under highly stressful circumstances are particularly vulnerable. Likewise, those who work in settings which do not involve critical care but that do involve high levels of chronic work-related stress also frequently experience burnout (Patrick 1979; Storlie, 1979). Rather than being a terminal state, burnout is a way of feeling, thinking, and behaving, and is expressed differently by different people (Marshall & Kasman, 1982).

The symptoms of burnout are physical, emotional, and behavioral. Physically, one experiences a deteriorating sense of well being; feelings of chronic fatigue, exhaustion, sleep disturbances, low levels of energy, changes in appetite, and more frequently occurring minor ailments (colds, headaches, stomach upsets) are common (Marshall & Kasman, 1980, 1982; Patrick, 1979; Storlie, 1979).

The most frequent emotional reactions to burnout appear to be depression and disillusionment over the disparity between reality and the ideal (Marshall & Kasman, 1980; Storlie, 1979). These reactions lead to hostility and negativism towards colleagues, dread of new admissions, decreasing tolerance for the more demanding, ill, or difficult patients and families,

guilt over these feelings, helplessness, and a sense of isolation (Marshall & Kasman, 1980; Patrick, 1979).

Behaviorally, two more common reactions are detachment and underinvolvement. Nurses stop attending meetings and conferences and give the minimum of care to their patients (Marshall & Kasman, 1980, 1982). Individual burnout lowers group morale and may also have adverse effects on family or personal life (Marshall & Kasman, 1980; Maslach, 1979; Patrick, 1979; Storlie, 1979).

Burnout results from numerous causes, mainly a conglomerate of the many stresses inherent in clinical nursing practice. Burnout is not a terminal phenomenon, and may be prevented or reversed with adequate coping strategies. While it is impossible to remove the stresses, these stresses may be mediated so as to improve personal performance and satisfaction, group morale, and overall patient care provided.

Coping Strategies

Two factors are important in dealing with stress: knowing what to expect and having control over the outcome (Honeyfield & Lunka, 1980). Friedman (1982) mentioned a sense of mastery and self-confidence as an antidote to stress. Many specific adaptive coping strategies have been suggested and designed (Bailey,

1980; Bailey, Walker & Madsen, 1980). Work-site intervention strategies include adequate anticipatory guidance and orientation, debriefing, consultation (often a liaison psychiatrist can organize a support group for personnel), inservice education, and crisis intervention (Baldwin & Bailey, 1980; Friedman, 1982; Sherman, 1980; Skinner, 1980; Stillman & Strasser, 1980).

Individual strategies might include a decompen-sation routine after work (a run, a walk, listening to music), cultivation of outside interests, development of relationships with family and friends, physical exercise, and relaxation techniques (Marshall & Kasman, 1980; Patrick, 1979; Shubin, 1979; Zindler-Wernet & Bailey, 1980). Finding and utilizing support sources such as co-workers, managers, spouses, and friends is especially functional (Applebaum, 1981; Oskins, 1979). Hartl (1979) recognized that awareness and acknowledgment of feelings is of primary importance in understanding and dealing with stress. Knowledge about a stress-producing situation decreases the severity of stress (Janis, 1958). Education is instrumental in combating insecurity in personal knowledge and skill (Bilodeau, 1973; Gardam, 1969; Gardner et al., 1980; Vestal & Richardson, 1981). A development of congruent personal and organizational goals may

help (Lippincott, 1979). Weeks (1978) suggested that "identifying the stress particular to the individual unit and their dominance would appear to be necessary before one can decide how best to reduce overall stress" (p. 151). Hay and Oken (1972) recommended rotating ICU staff to other areas of hospital nursing practice. Adequate breaks, vacations, and time off should be considered in scheduling (Marshall & Kasman, 1980). Understanding the sources of stress, encouraging open communication, and clarification of role and interpersonal relationship difficulties are significant keys to adequate and effective stress management (Cooper & Marshall, 1978).

Research Questions

1. Is the overall degree of stress perceived and identified by pediatric intensive care nurses comparable to that of nonintensive care nurses?
2. Do specific stressors perceived occur with the same frequency in pediatric intensive care units and nonintensive care units?
3. Do specific stressors perceived present the same degree of stress in pediatric intensive care units and nonintensive care units?
4. Are there differences in the sources of stress perceived and identified by pediatric intensive care

nurses and nonintensive care nurses?

Definition of Terms

Stress

Physical or emotional factors that caused bodily or mental tension were defined as stress.

Situational Stressor

A situational stressor was defined as an agent or factor that challenged the adaptive capacity of the individual, thereby placing a strain upon that person. This adaptation was related directly to individual patient needs and/or indirectly to the pressures within the environment, as experienced by nurses in this investigation.

Perception

Perception was considered each individual's representation or image of reality; an awareness of objects, persons, or events. In this investigation, pediatric intensive and nonintensive care nurses were asked to report their perceptions of situational stressors in the work environment.

Nurses

Nurses were considered registered staff nurses over 20 years of age from all levels of educational

preparation and ethnic groups employed full-time in a pediatric setting of an acute-care hospital on any shift for at least six months.

Pediatric Intensive Care Unit

A pediatric intensive care unit was defined as a specified section of an acute-care hospital admitting and caring for critically ill infants and/or children under 18 years of age who require sophisticated knowledge, equipment, and skilled nursing care.

Pediatric Nonintensive Care Unit

A specified section of an acute-care hospital admitting and caring for infants and/or children under 18 years of age who were not critically ill and who had medical or surgical problems of a long or short-term nature was defined as a pediatric nonintensive care unit.

Coping

Coping was defined as strategies used by an individual to deal with stress in order to reduce his or her internal tension.

Frequency of Occurrence and Degree

Relative intensity or amount was defined as degree. The number of times a process or event repeated itself was considered frequency of occurrence. For the purposes of this study, pediatric intensive and nonintensive care nurses were asked to report how frequently, and at what degree, situational stressors were present in the work environment.

Assumptions

Throughout this investigation, the investigator operated under the following assumptions:

1. The nurses answering the questionnaire were representative of all the nurses employed in a specific unit.
2. Anonymity of questionnaire respondents allowed for candor and authenticity in the responses.
3. The stresses perceived and identified in the units sampled closely approximated those stresses found in other units of the same nature, although some differences specific to a particular unit were expected.
4. The specific stressors and the rank order

of impact on nursing personnel varied as influenced
by other environmental and situational circumstances.

CHAPTER III

METHODOLOGY

Research Design

The investigator utilized a nonexperimental descriptive survey design for this research. The study was cross-sectional, involving the collection of data at one time. A nonprobability sample of convenience, which entails the use of the most readily available persons for subjects was employed; subjects were not randomly assigned. A problem with using a sample of convenience (also referred to as accidental sampling) is that available subjects might be atypical of the population with regard to the variables being measured.

Sample

The sample was drawn from the total population of full-time registered staff nurses employed in the intensive care units and nonintensive care units at Primary Children's Medical Center in Salt Lake City, Utah. There are two intensive care units: the Pediatric Intensive Care Unit (PICU), which admits and treats

critically ill children and infants beyond the neonatal period (first month of life), and the Newborn Intensive Care Unit (NBICU), which admits and treats critically ill infants in the immediate newborn and neonatal periods. All admissions to the NBICU are outborn, that is, transported in from referring hospitals. Nonintensive care units are the nursery, where neonates and infants who are not critically ill are treated, and the general nursing units, where older infants and children with medical or surgical problems of a noncritical nature are treated.

Nurses excluded from the sample were those who were not registered nurses (licensed practical nurses or aides), were not full-time employees (employed part-time), were not staff nurses (hold administrative or leadership positions), were less than 20 years of age, or had not been employed at least six months in the institution.

Instrumentation

The tools utilized for data collection were developed by the researcher (Appendices B and C). These included a demographic data questionnaire and a fixed-alternative questionnaire for identification of stress factors in the intensive care and nonintensive care units. A modification of the Stress Audit designed

by Bailey, Steffan, and Grout (1980) was constructed to include items specific to pediatric and neonatal care. The identified stressors were compiled and grouped into five of the categories developed by Bailey et al. (1980). Order of the questions within each category was randomized.

Stressful items or events were presented, and the respondent was asked to answer according to presence or absence of these stresses in his/her unit, and to scale them according to a five-point bipolar graphic rating scale in relation to degree of stress and frequency of occurrence (very stressful to never stressful and occurring very frequently to never occurring).

The questionnaire was evaluated by a panel of four judges knowledgeable in pediatric and neonatal nursing care, among whom a majority agreement was obtained in terms of accuracy and comprehensiveness of the items included. Although similar to and closely adapted from a reliable instrument, this questionnaire's reliability was undetermined.

Procedure

Prior to data collection, contact was made with the director of nursing and with the head nurse of each nursing unit to obtain consent to explain the research, elicit participation, and distribute the

questionnaires to staff members. Permission was requested and granted to attend a staff meeting or other unit conference as opportunity to present the purpose, to distribute the questionnaires, and to be available for immediate questions or clarification. Some questionnaires were completed and returned at this time; others were returned through a centrally located return envelope posted in each participating nursing unit. Informed consent from staff nurses agreeing to participate was assumed from completion and return of the questionnaire.

Protection of Human Rights

Potential Risks

Invasion of privacy is a risk inherent in research utilizing demographic data and questionnaire responses as methods of data collection.

Confidentiality Safeguards

Invasion of privacy was controlled by the anonymity of the individual respondent. The respondent was not asked or required to include his/her name on the demographic data sheet or the questionnaire itself. The respondent was identified only by the type of unit in which he/she is employed. No individual was named in the report. Confidentiality of the data

evaluated was protected. The investigator was the only individual collecting data.

Informed Consent Procedure

A cover letter accompanying the questionnaire explained the general purpose of the research, and included statements addressing protection of anonymity, confidential handling of the data, voluntary participation, duration of the subject's participation, and an explanation of whom to contact for questions or concerns.

Potential Benefits

Results of the data analysis and interpretation were available to any participating individual or the institution upon request. Knowledge of the results may motivate the development or enhancement of stress reduction techniques or programs by individuals or groups. Investigation into coping strategies and adaptive mechanisms may promote the trial and evaluation of such programs for effectiveness in stress management. Awareness of the stresses encountered and described by nursing personnel may reveal to administration some areas for revisions in the nursing procedures and policies exercised. The eventual goal and desired outcome is a contribution to the delivery of quality

patient care in pediatric settings. The potential benefits outweighed the risks inherent in the design.

CHAPTER IV

PRESENTATION OF FINDINGS AND DISCUSSION

Ninety-six questionnaires were distributed to staff members of four different nursing units: the neonatal intensive care unit, pediatric intensive care unit, newborn nursery, and an older child medical/surgical unit. Fifty-five questionnaires were returned for a 57% return rate. Nine of the 55 were not usable: two were incomplete, four were from administrative nursing personnel, and three were from part-time staff nurses. The total number of acceptable questionnaires, therefore, was 46 -- 27 from intensive care units and 19 from nonintensive care units.

Twenty of the ICU respondents worked in the neonatal intensive care unit (45% of the 44 full-time staff nurses) and seven worked in the older child pediatric intensive care unit (25% of the 28 full-time staff nurses). Likewise, nine of the non-ICU respondents worked in the newborn nursery (56% of the 16 full-time staff nurses) and ten worked in the

older child medical/surgical unit (59% of the 17 full-time staff nurses). A nonprobability sample of convenience includes only the most available subjects, thus creating difficulty in speculation about the nature of the nonrespondents. Any number of reasons might account for the unavailability of staff members at unit meetings; the explanations may or may not be stress-related.

Demographic data were examined but not analyzed statistically. The majority of the nonintensive care nurses (Group A) were between 20 and 30 years of age ($\underline{n}=13$), had over five years of nursing experience ($\underline{n}=9$), had been employed at the institution between three and five years ($\underline{n}=6$), were employed in the unit of first choice ($\underline{n}=17$), held associate degrees ($\underline{n}=8$), and had taken no courses about death and dying ($\underline{n}=10$), one course about stress ($\underline{n}=10$), and no course about crisis intervention ($\underline{n}=14$).

Of the ICU group (Group B), the majority of nurses were between 20 and 30 years of age ($\underline{n}=20$), had over five years of nursing experience ($\underline{n}=14$), had been employed at the institution between three and five years ($\underline{n}=10$), were employed in the unit of first choice ($\underline{n}=26$), held baccalaureate degrees ($\underline{n}=18$), and had taken no courses about death and dying ($\underline{n}=14$), one

course about stress ($\underline{n}=13$), and no course about crisis intervention ($\underline{n}=16$).

Inspection and comparison of the demographic data demonstrated differences within each group, but a great similarity between the ICU and non-ICU nurses in terms of age, length of nursing experience, and courses about death and dying, stress, and crisis intervention. The one major difference between groups related to educational preparation. Results indicated only 37% of non-ICU nurses held bachelor's degrees (63% with diplomas or associate degrees), whereas 67% of ICU nurses were baccalaureate graduates (33% with diplomas or associate degrees). All respondents were full-time staff nurses. More detailed and complete percentage analyses of the demographic data are found in Table 2 (Group A) and Table 3 (Group B).

Descriptive statistics were employed for each of the 51 questionnaire items. Means, ranges, standard deviations, standard errors, and variances were calculated and are presented in Appendix D. The mean, as a measure of central tendency, was computed to determine those items which were frequent and infrequent stressors as well as those which presented mild and severe degrees of stress. The mean scores made it possible to identify, at a glance, lowest and highest

Table 2
Demographic Characteristics of Nonintensive
Care Unit Nurses (Group A)

| Variables | Frequency | Percentage |
|--|-----------|------------|
| <u>Age</u> | | |
| 20-25 years | 6 | 32 |
| 25-30 years | 7 | 37 |
| 30-34 years | 4 | 21 |
| Over 34 years | 2 | 11 |
| <u>Nursing Experience</u> | | |
| 1-3 years | 5 | 26 |
| 3-5 years | 5 | 26 |
| Over 5 years | 9 | 47 |
| <u>Length of Time Employed at PCMC</u> | | |
| 6 months-1 year | 3 | 16 |
| 1-3 years | 5 | 26 |
| 3-5 years | 6 | 32 |
| Over 5 years | 5 | 26 |
| <u>Educational Background</u> | | |
| Diploma | 4 | 21 |
| Associate degree | 8 | 42 |
| Baccalaureate | 7 | 37 |
| <u>Position</u> | | |
| Staff nurse (R.N.) | 19 | 100 |
| <u>Type of Unit</u> | | |
| Pediatric surgical/medical | 10 | 53 |
| Nursery | 9 | 47 |
| <u>Employment</u> | | |
| Full-time | 19 | 100 |
| <u>Unit Assignment</u> | | |
| 1st choice | 17 | 90 |
| Assigned (no choice) | 1 | 5 |
| Other (3rd choice) | 1 | 5 |

Table 2 Continued

| Variables | Frequency | Percentage |
|--|-----------|------------|
| <u>Courses about Death and Dying</u> | | |
| 0 courses | 10 | 53 |
| 1 course | 6 | 32 |
| 2-3 courses | 3 | 16 |
| <u>Courses about Stress</u> | | |
| 0 courses | 9 | 47 |
| 1 course | 10 | 53 |
| <u>Courses about Crisis Intervention</u> | | |
| 0 courses | 14 | 74 |
| 1 course | 5 | 26 |

Table 3
Demographic Characteristics of Intensive
Care Unit Nurses (Group B)

| Variables | Frequency | Percentage |
|--|-----------|------------|
| <u>Age</u> | | |
| 20-25 years | 9 | 33 |
| 26-30 years | 11 | 41 |
| 31-34 years | 4 | 15 |
| Over 34 years | 3 | 11 |
| <u>Nursing Experience</u> | | |
| 1-3 years | 4 | 15 |
| 3-5 years | 9 | 33 |
| Over 5 years | 14 | 52 |
| <u>Length of Time Employed at PCMC</u> | | |
| 0-6 months | 2 | 7 |
| 6 months-1 year | 2 | 7 |
| 1-3 years | 9 | 33 |
| 3-5 years | 10 | 37 |
| Over 5 years | 4 | 15 |
| <u>Educational Background</u> | | |
| Diploma | 3 | 11 |
| Associate degree | 6 | 22 |
| Baccalaureate | 18 | 67 |
| <u>Position</u> | | |
| Staff nurse (R.N.) | 27 | 100 |
| <u>Type of Unit</u> | | |
| Pediatric ICU | 7 | 26 |
| Neonatal ICU | 20 | 74 |
| <u>Employment</u> | | |
| Full-time | 27 | 100 |
| <u>Unit Assignment</u> | | |
| 1st choice | 26 | 96 |
| Assigned (no choice) | 1 | 4 |

Table 3 Continued

| Variables | Frequency | Percentage |
|--|-----------|------------|
| <u>Courses about Death and Dying</u> | | |
| 0 courses | 14 | 52 |
| 1 course | 6 | 22 |
| 2-3 courses | 5 | 19 |
| Over 3 courses | 2 | 7 |
| <u>Courses about Stress</u> | | |
| 0 courses | 10 | 37 |
| 1 course | 13 | 48 |
| 2-3 courses | 4 | 15 |
| Over 3 courses | 1 | 4 |
| <u>Courses about Crisis Intervention</u> | | |
| 0 courses | 16 | 59 |
| 1 course | 8 | 30 |
| 2-3 courses | 2 | 7 |
| Over 3 courses | 1 | 4 |

stressors in terms of frequency and degree and allowed a reasonably quick and rudimentary comparison between the two groups. A summary of the items scoring lowest ($\bar{x} < 2.5$) and those scoring highest ($\bar{x} > 3.5$) in frequency or degree of stress are presented in Appendix D.

Categories which showed significance in terms of mean score were patient care, which had more items scoring highly in both frequency and degree of stress in both ICU and non-ICU groups, and physical work environment, which had more items scoring highly in frequency of occurrence in the non-ICU group and in degree of stress in the ICU group. The ICU group reported slightly more items with low frequency scores in the category of interpersonal relationships than in other categories. Other items with low mean scores (in both groups) were from a variety of categories.

The range of scores was included as one indicator of the nature of the sample groups. Most items showed a broad range of response scores (1-5, 1-4, or 2-5), suggestive of two independent heterogeneous groups.

Standard deviation, standard error, and variance scores were measured as indices of the variability of the scores in the data sets. It was then possible to evaluate how the individual score varied from the mean score for each item. The standard error signified

the magnitude of the average error of the sample mean; the smaller the standard error (the less variable the sample means), the more accurate are those means as estimates of the population values.

Inferential statistics were employed to provide a means for drawing conclusions about a population, given the data actually obtained for the samples. A t-test, the basic parametric procedure for testing differences in group means, was performed on each item to determine differences between the intensive care and nonintensive care groups in degree of stress and frequency of occurrence. The decision-making criterion used was a probability (p) level of .05, for which the significant tabled t-value with 44 degrees of freedom was 2.02. This meant that the probability that the mean difference was the result of chance factors was less than five in 100 ($p < .05$).

Theoretically, the use of a t-test with noncontinuous data might be questioned. Utilizing a graphic rating scale, one is restricted to particular values such as the integers of the discrete scale. Moderate violations of this have little effect on the applicability of the t-test when comparing two independent means, therefore selection of this statistical test for the research seemed most appropriate.

Research Question One

Research question one stated:

Is the overall degree of stress perceived and identified by pediatric intensive care nurses comparable to that of nonintensive care nurses?

In examining means of overall degree and frequency of stress, it appeared that the nonintensive care group perceived stress, in general, more frequently ($\bar{x}_A=167.7$) and to a greater degree ($\bar{x}_A=158.8$) than that perceived by the intensive care counterpart ($\bar{x}_B=155.0$ for frequency and $\bar{x}_B=153.5$ for degree). The frequency and degree of stress between these two pediatric nursing groups, then, was not comparable. The first research question, therefore, was not supported. Interestingly, t-tests comparing overall frequency and degree of stress between the two groups did not show significance (t=0.05 for frequency, t=0.1 for degree with significant t-value for 44 df=2.02). The results are summarized in Table 4.

These findings appear contrary to those of the majority researchers who compared stress in adult intensive and nonintensive care nursing groups. Possible explanations for the findings are varied. According to Maloney (1982), anxiety scores in non-intensive care nurses were higher, possibly due to

Table 4
 Results of Mean Scores and t -Tests Comparing
 Overall Stress Between Groups A and B

| | Group A (Non-ICU) Mean | Group B (ICU) Mean | t -Test* |
|------------------------------------|------------------------------|--------------------------|------------|
| Frequency of Stress | $\bar{x}_A=167.7$ | $\bar{x}_B=155.0$ | $t=0.06$ |
| Degree of Severity of Stress | $\bar{x}_A=158.8$ | $\bar{x}_B=153.5$ | $t=0.1$ |

* $p < .05$, degrees of freedom=44, significant t -value=
 2.02 or greater.

the fact that the closely knit group of ICU nurses functions as a support group which helps to decrease the anxiety-provoking effects and perceived stress of the environment. This speculation is supported in this research by results of coping strategies identified as helpful by both groups: 81% of intensive care nurses and 84% of nonintensive care nurses indicated that peer support was especially beneficial in dealing with job-related stress. Haggerty (1980), too, found that social supports seem to be an important protective factor against the effects of stress.

Another explanation might also stem from Maloney's work (1982). He found that nonintensive care nurses reported a significantly greater number of somatic complaints than ICU nurses. This finding, together with the research of Rahe and Arthur (1968), in which they established life stress increase following illness experience, is another consideration in interpretation of the results.

Lastly, the other significant finding of Maloney (1982) was that non-ICU nurses, in addition, reported more interpersonal difficulties with their families and friends. Although not investigated or specifically addressed here, personal difficulties (life stresses) do affect job functioning and job satisfaction, as

discovered by Sarason and Johnson (1979).

In summary, the finding that pediatric nonintensive care nurses perceived stress more frequently and to a greater degree than the intensive care nurses, which is supported by some previously published research, signifies the need for reexamination of the widely held view that ICU nursing is more stressful than non-ICU nursing. As Stehle (1981) discovered, the belief that critical care nursing is more stressful than other types of nursing care has not yet been confirmed by published data; perhaps researchers have overlooked the nonintensive care nurse when studying nursing stress. Research focusing on a comparison between adult and pediatric nurses might also identify and clarify those stressors unique to pediatrics.

Research Question Two

Research question two stated:

Do specific perceived stressors occur with the same frequency in pediatric intensive care units and nonintensive care units?

There were many similarities, yet several differences in terms of specific stressors identified as occurring most often in the nonintensive and intensive care nursing units. In examining specific stressors (by mean scores), many of the same items

were identified by both groups as occurring frequently. These included items in the physical work environment (such as noise and fast pace) and those related to families or patient care (such as chronic patients, family members/parents, routine procedures, and caring for infants/children). Transfers and admissions were also viewed as occurring frequently by both groups.

Insufficient or crowded work space was noted to be a very frequent stressor in the non-ICU group, as were unpredictable work loads, interruptions and clerical duties, lack of continuity in patient assignments (perhaps stemming from the more rapid turnover in a non-ICU area), and providing patient or parent teaching. Not surprisingly, the ICU group identified the following stressors specific to their group in terms of frequency: too many people, unnecessary prolongation of life, and increased responsibility and decision-making. The more acute and autonomous nature of an intensive care unit would lead to these nursing stressors. Frequent stressors are listed in Table 5.

Items such as physical injury to nurse, "floating" out of unit, and lack of resources or consultation occurred infrequently in both groups. Deaths were infrequent (but presented considerable stress) in

Table 5
Frequent Stressors in Each Group

| Stressors | | |
|--|---------------|---------------|
| <u>(Common) Frequent Stressors in Both Groups ($\bar{x} > 3.5$):</u> | | |
| | <u>A</u> | <u>B</u> |
| Noise | $\bar{x}=3.6$ | 4.0 |
| Fast pace | $\bar{x}=3.7$ | 3.8 |
| Transfers, admissions | $\bar{x}=3.9$ | 3.6 |
| Chronic patients | $\bar{x}=3.8$ | 3.6 |
| Family members/parents | $\bar{x}=4.1$ | 3.7 |
| Routine procedures | $\bar{x}=4.4$ | 4.0 |
| Caring for infants/children | $\bar{x}=4.6$ | 4.2 |
| <u>Additional Frequent Stressors in Non-ICU Group (A):</u> | | |
| Insufficient/crowded work space | $\bar{x}=4.6$ | |
| Unpredictable work load | $\bar{x}=3.6$ | |
| Interruptions, clerical duties | $\bar{x}=4.1$ | |
| Lack of continuity in patient assignments | $\bar{x}=3.6$ | |
| Providing patient/parent teaching | $\bar{x}=4.0$ | |
| <u>Additional Frequent Stressors in ICU Group (B):</u> | | |
| Too many people | | $\bar{x}=3.7$ |
| Unnecessary prolongation of life | | $\bar{x}=3.6$ |
| Increased responsibility, decision making | | $\bar{x}=3.6$ |

non-ICUs. Additionally, lighting problems, lack of orientation, uncooperative patients, personality conflicts with administration, and unavailability of physician when needed were not common stressors for ICU nurses. An extensive and comprehensive orientation program is usually a priority for incoming ICU nurses due to the acuity of the patients and complexity of their problems, the machinery, knowledge, and technical skills needed to provide thorough nursing care. Furthermore, physicians are usually readily available or accessible to an ICU because of the critical and unstable nature of the patients. Infrequent stressors are listed in Table 6.

Statistically significant differences, determined by the computation of t -tests on each item, were discovered between the mean scores in frequency of 11 of the items. Six of these showed a mean score higher in the non-ICU group (insufficient/crowded work space, insufficient/malfunctioning equipment, amount of physical work, lack of orientation, interruptions/clerical duties, and unavailability of physician when needed), while five showed a mean score higher in the ICU group (too many people, orienting/precepting new employees, unnecessary prolongation of life, critical/unstable condition of patients,

Table 6
Infrequent Stressors in Each Group

| Stressors | | |
|--|---------------|---------------|
| <u>(Common) Infrequent Stressors</u> | | |
| <u>in Both Groups ($\bar{x} < 2.5$):</u> | | |
| Physical injury to nurse | $\bar{x}=1.9$ | $\bar{x}=1.8$ |
| "Floating" out of unit | $\bar{x}=1.5$ | $\bar{x}=1.3$ |
| Lack of resources/ consultation | $\bar{x}=2.4$ | $\bar{x}=2.3$ |
| <u>Additional Infrequent Stressors</u> | | |
| <u>in Non-ICU Group (a):</u> | | |
| Deaths | $\bar{x}=2.3$ | |
| <u>Additional Infrequent Stressors</u> | | |
| <u>in ICU Group (B):</u> | | |
| Lighting | | $\bar{x}=2.2$ |
| Lack of orientation | | $\bar{x}=2.3$ |
| Uncooperative patients | | $\bar{x}=2.3$ |
| Personality conflicts with administration | | $\bar{x}=2.3$ |
| Unavailability of physician when needed | | $\bar{x}=2.3$ |

and deaths.

As noted, many of the items showing statistically significant differences between groups supported the findings demonstrated by the mean scores. Of additional note, however, were lack of orientation and amount of physical work identified as frequent stressors in the non-ICU group, and orienting or precepting new employees as frequent stressors in the ICU group. These are items which might be addressed to a clinical educator, unit orientor or manager as concerns which might then require reexamination of areas for improvement.

The items common to both intensive and nonintensive groups are stresses common to nurses in general and support the findings of others (Applebaum, 1981; Brief et al., 1979; Hartl, 1979; Leatt & Schneck, 1980). Additional stressors reported by the nonintensive care nurses included lack of continuity in patient assignments, which might arise from the more rapid patient turnover in a non-ICU area, and providing patient or parent teaching. The latter stress might be more frequent in a non-ICU area for several reasons. The non-ICU nurses often have more exposure to the parents and also may have more nursing time allotted specifically for patient/parent teaching, as opposed

to ICU nursing where much time and emphasis is placed on the performance of highly technical skills and observational techniques in providing direct patient care. Furthermore, patients tend to be transferred out of intensive care units when the acute intensive care phase of illness is over and responsibility for providing care to the convalescing or chronic patient falls to the medical/surgical units from which discharge is usually expected. Hence there was a greater need and readiness for patient and parent teaching and homegoing instruction in the nonintensive care units.

Additional items listed by the ICU nurses were those expected because of the more acute and autonomous nature of an intensive care unit: too many people, unnecessary prolongation of life (in cases of poor prognosis), and increased responsibility and decision-making for the nurses.

Some perceived stressors, then, do occur with the same relative frequency in both pediatric intensive and nonintensive care units, yet several have differences between groups in terms of frequency. Statistically significant stressors (for frequency) are found in Table 7.

Research Question Three

Research question three stated:

Table 7

Statistically Significant Stressors* (Frequency)

| Stressors | |
|---|--------|
| <u>Higher Mean in Non-ICUs:</u> | |
| Insufficient/crowded work space | t=6.25 |
| Insufficient/malfunctioning equipment | t=2.40 |
| Amount of physical work | t=3.30 |
| Lack of orientation | t=2.08 |
| Interruptions, clerical duties | t=2.20 |
| Unavailability of physician when needed | t=3.33 |
| <u>Higher Mean in ICUs:</u> | |
| Too many people | t=2.31 |
| Orienting/precepting new employees | t=2.17 |
| Unnecessary prolongation of life | t=2.19 |
| Critical, unstable patients | t=2.76 |
| Deaths | t=4.35 |

* $p < .05$, degrees of freedom=44, significant t -value =2.02 or greater.

Do specific perceived stressors present the same degree of stress in pediatric intensive and nonintensive care units?

There also were several similarities and differences between units in terms of the perceived degree of stress presented by specific items. Although not necessarily perceived as occurring often, patient care-related items such as emergencies and cardiac or respiratory arrests, unnecessary prolongation of life, and critical or unstable patients afforded considerable stress to both ICU and non-ICU nurses. Noise was also a common stressor, by degree.

Too many people and fast pace seemed to most stress ICU nurses. Several items identified by non-ICU nurses as occurring most often in their units also provided the most stress (insufficient/crowded work space, interruptions/clerical duties, lack of continuity in patient assignments, chronic patients, and family members/parents). These items, especially those related to physical work environment and management of the unit, should be of special concern. In addition, these nurses acknowledged a high degree of several physician-related stresses: lack of respect from physicians, unavailability of a physician when needed, and inconsistencies in patient care approaches. These items were not mentioned as occurring frequently for

non-ICU nurses or as presenting any significant degree of stress for the intensive care nurses. One might speculate as to whether or not ICU and non-ICU nurses are viewed and treated differently by physicians and, if so, what might be the origin and explanation of this behavior. Again, these findings demonstrated several somewhat expected mutualities; however, the findings also included dissimilarities in terms of the degree of stress presented to pediatric ICU and non-ICU nurses by specific stressors. Items presenting high degrees of stress are listed in Table 8.

Items such as lighting, physical injury to nurse, and "floating" out of unit presented a low degree of stress in both groups. Additionally, ICU nurses perceived and identified lack of orientation, uncooperative patients, and lack of resources or consultation as items offering little stress, possibly because of their infrequent occurrences. Considering the nature of an intensive care unit, it was surprising that lack of orientation and lack of resources or consultation, although rare, should be such insignificant stressors when they do occur. Items presenting low degrees of stress are listed in Table 9.

In terms of degree of stress, statistically significant differences were discovered between the

Table 8
Items with High Degree of Stress
in Each Group

| Items | A | B |
|--|---------------|---------------|
| <u>(Common) Severe Stressors in Both Groups ($\bar{x} > 3.5$):</u> | | |
| Noise | $\bar{x}=3.6$ | $\bar{x}=3.7$ |
| Emergencies, arrests | $\bar{x}=3.8$ | $\bar{x}=3.6$ |
| Unnecessary prolongation of life | $\bar{x}=3.9$ | $\bar{x}=3.9$ |
| Critical, unstable patients | $\bar{x}=3.6$ | $\bar{x}=3.7$ |
| <u>Additional Severe Stressors in Non-ICU Group (A):</u> | | |
| Insufficient/crowded work space | $\bar{x}=4.2$ | |
| Interruptions, clerical duties | $\bar{x}=3.8$ | |
| Lack of continuity in patient assignments | $\bar{x}=3.6$ | |
| High acuity level of patients | $\bar{x}=3.6$ | |
| Chronic patients | $\bar{x}=3.6$ | |
| Family members/parents | $\bar{x}=4.1$ | |
| Lack of respect from physicians | $\bar{x}=3.6$ | |
| Unavailability of physician when needed | $\bar{x}=3.6$ | |
| Inconsistencies of patient care approaches | $\bar{x}=3.7$ | |
| <u>Additional Severe Stressors in ICU Group (B):</u> | | |
| Too many people | | $\bar{x}=3.7$ |
| Fast pace | | $\bar{x}=3.7$ |

Table 9
Items with Low Degree of Stress
in Each Group

| Items | | |
|--|---------------|---------------|
| <u>(Common) Insignificant Stressors</u> | | |
| <u>in Both Groups ($\bar{x} < 2.5$):</u> | | |
| Lighting | $\bar{x}=2.4$ | $\bar{x}=2.1$ |
| Physical injury to nurse | $\bar{x}=2.3$ | $\bar{x}=1.9$ |
| "Floating" out of unit | $\bar{x}=2.1$ | $\bar{x}=1.4$ |
| <u>Additional Insignificant Stressors</u> | | |
| <u>in ICU Group (B):</u> | | |
| Lack of orientation | $\bar{x}=2.4$ | |
| Uncooperative patients | $\bar{x}=2.4$ | |
| Lack of resources/ consultation | $\bar{x}=2.3$ | |

mean scores of five of the items -- all showing higher mean scores in the non-ICU group: insufficient/crowded work space, inadequate staffing, family members/parents, lack of resources/consultation, and lack of teamwork with other departments.

As evidenced, several of the items showing statistically significant differences between groups supported the findings demonstrated by mean scores. Included were insufficient/crowded work space and family members/parents, both of which were identified by non-ICU nurses as more severe than other stressors. These items were not specifically mentioned in other research about stress in nursing. Insufficient or crowded work space is one item which probably would vary across different units and different medical centers. Explanation of this stressor might include the fact that there are generally a greater number of nurses and patients in any particular nonintensive care area than in the comparable intensive care area. Additionally, the variety of medical and surgical problems seen in a non-ICU necessitates diverse amounts and types of miscellaneous machinery, materials, and equipment which account for much of the allotted space given for that unit. As previously mentioned, non-ICUs (especially pediatric) often permit more liberal

visitation hours and policies than ICUs, perhaps explaining the more constant and severe strain produced by parents or other family members of patients.

Inadequate staffing in non-ICUs is a problem to be addressed to administration; there seems to often be a discrepancy between views of staff nurses and those of administration in terms of adequacy of staffing. A time study might be an appropriate method of documenting evidence concerning staffing. Lack of resources or consultation and lack of teamwork with other departments, although indicating significant differences between non-ICUs and ICUs (with a higher mean score for non-ICU nurses), did not present considerable stress for either nursing group. Again, these concerns should be of interest to unit managers.

Noise, emergencies, unnecessary prolongation of life, and critical or unstable condition of patients, identified by both ICU and non-ICU nurses as presenting a high degree of stress, are items supported by the literature as stressful in all nursing groups and are inherent in the profession itself (Applebaum, 1981; Bailey et al., 1980; Hartl, 1979; Leatt & Schneck, 1980). The fast pace and multitude of personnel which are intrinsic parts of an ICU nevertheless create significant tension for involved nurses, as supported

by Bilodeau (1973), Hay and Oken (1972), and Gardner et al. (1980).

Non-ICU nurses specified both chronic patients and high acuity level of patients as notable stressors, indicating greater ease in caring for those patients with problems of a more short-term, recuperative nature.

Some perceived stressors, then, do present the same relative degree of stress in both pediatric intensive and nonintensive care units, yet several have differences between groups in terms of degree of stress. Statistically significant stressors (for degree of stress) are found in Table 10.

Research Question Four

Research question four stated:

Are there differences in the sources of stress perceived and identified by pediatric intensive and nonintensive care nurses?

As discovered when examining frequencies and degrees of stress presented by various items, the sources of stress perceived by pediatric intensive and nonintensive care nurses were similar but occurred in varying degrees between the two groups. There were no items which showed significantly low scores in frequency or degree in one group with simultaneous high scores in the other group. Therefore, it appeared

Table 10
 Statistically Significant Stressors*
 (Degree)

| Higher Mean in Non-ICUs | Degree |
|--|----------------|
| Insufficient/crowded work space | <u>t</u> =4.14 |
| Inadequate staffing | <u>t</u> =2.26 |
| Family members/parents | <u>t</u> =2.86 |
| Lack of resources/consultation | <u>t</u> =2.22 |
| Lack of teamwork with other departments | <u>t</u> =2.59 |

*p < .05, degrees of freedom=44, significant t-value =2.02 or greater.

that the same stresses occurred, in terms of source, in each nursing group, but that differences were found between groups in the frequency of occurrence and degree of stress afforded by each item. The means often varied considerably between groups (as seen in Appendix D) but only a few showed statistically significant differences. Comprehensive results of t-tests comparing means of Groups A and B are listed in Table 11.

Items identified by the pediatric intensive and nonintensive care nurses correlated closely with those found by researchers examining adult nursing stressors (Applebaum, 1981; Bailey et al., 1980; Bilodeau, 1973; Gardner et al., 1980; Hartl, 1979; Hay & Oken, 1972; Huckabay & Jagla, 1979; Kornfeld, 1971; Oskins, 1979; Vreeland & Ellis, 1969). As discovered by Vestal and Richardson (1981), the highly specialized and sensitive nature of dealing with acutely or chronically ill children presents situations unique to pediatric nurses. Specific stressors found in neonatal intensive care units were investigated by Hale and Levy (1982) and by Marshall and Cape (1982), but were not included here.

The range of mean scores in both frequency of occurrence and degree of stress indicated quite a

Table 11
Results of \bar{t} -Tests Comparing Mean Scores
of Groups A and B

| Item | Frequency | Degree |
|---|---------------------|------------------|
| Category I | | |
| Insufficient/crowded work space | $\bar{t}=6.25^*$ | $\bar{t}=4.14^*$ |
| Insufficient/malfunctioning equipment | $\bar{t}=2.40^*$ | $\bar{t}=1.03$ |
| Technology of equipment/procedures | $\bar{t}=1.00$ | $\bar{t}=0.69$ |
| Lack of supplies | $\bar{t}=0.42$ | $\bar{t}=0.33$ |
| Noise | $\bar{t}=1.29$ | $\bar{t}=0.34$ |
| Too many people | $\bar{t}=2.31^{**}$ | $\bar{T}=0.54$ |
| Lighting | $\bar{t}=1.00$ | $\bar{t}=0.94$ |
| Unpredictable work load | $\bar{t}=1.72$ | $\bar{t}=0.65$ |
| Amount of physical work | $\bar{t}=3.30^*$ | $\bar{t}=1.03$ |
| Physical injury to nurse | $\bar{t}=0.59$ | $\bar{t}=1.29$ |
| Fast pace | $\bar{t}=0.34\pm$ | $\bar{t}=0.69$ |
| Category II | | |
| Inadequate training | $\bar{t}=0.38$ | $\bar{t}=1.61$ |
| Unfamiliar equipment | $\bar{t}=0.53$ | $\bar{t}=0.74$ |
| Lack of experience | $\bar{t}=0.34$ | $\bar{t}=0.30$ |
| Lack of orientation | $\bar{t}=2.08^*$ | $\bar{t}=1.88$ |
| Category III | | |
| Inadequate staffing | $\bar{t}=1.85$ | $\bar{t}=2.26^*$ |
| Apathetic, incompetent staff | $\bar{t}=0.40$ | $\bar{t}=1.88$ |
| Transfers, admissions | $\bar{t}=0.97$ | $\bar{t}=0.61$ |
| Shifts, scheduling | $\bar{t}=0.30$ | $\bar{t}=0.31$ |
| Interruptions, clerical duties | $\bar{t}=2.20^*$ | $\bar{t}=1.60$ |
| Charge position | $\bar{t}=1.08$ | $\bar{t}=1.08$ |
| Patients (not) needing ICU care | $\bar{t}=1.10$ | $\bar{t}=0.91$ |
| High census | $\bar{t}=0.67$ | $\bar{t}=0$ |
| "Floating" out of unit | $\bar{t}=1.25$ | $\bar{t}=1.94$ |
| Lack of continuity in patient assignments | $\bar{t}=1.72$ | $\bar{t}=1.14$ |
| High acuity level of patients | $\bar{t}=0$ | $\bar{t}=0.74$ |
| Orienting/precepting new employees | $\bar{t}=2.17^{**}$ | $\bar{t}=0.32$ |

Table 11 Continued

| Item | Frequency | Degree |
|--|---------------------|------------------|
| Category IV | | |
| Emergencies, arrests | $\bar{t}=1.60$ | $\bar{t}=0.54$ |
| Unnecessary prolongation of life | $\bar{t}=2.19^{**}$ | $\bar{t}=0$ |
| Critical, unstable patients | $\bar{t}=2.76^{**}$ | $\bar{t}=0.30$ |
| Deaths | $\bar{t}=4.35^{**}$ | $\bar{t}=0.57$ |
| Inability to meet patient needs | $\bar{t}=0.32$ | $\bar{t}=0.30$ |
| Increased responsibility, decision making | $\bar{t}=0.38$ | $\bar{t}=0.34$ |
| Chronic patients | $\bar{t}=0.91$ | $\bar{t}=0.71$ |
| Uncooperative patients | $\bar{t}=1.61$ | $\bar{t}=1.94$ |
| Family members/parents | $\bar{t}=1.25$ | $\bar{t}=2.86^*$ |
| Providing patient/parent teaching | $\bar{t}=1.56$ | $\bar{t}=1.67$ |
| Routine procedures | $\bar{t}=1.29$ | $\bar{t}=1.43$ |
| Caring for infants/children | $\bar{t}=1.14$ | $\bar{t}=0.48$ |
| Category V | | |
| Personality conflicts with physicians | $\bar{t}=0.45$ | $\bar{t}=0$ |
| Personality conflicts with administration | $\bar{t}=0.53$ | $\bar{t}=0.24$ |
| Personality conflicts with peers | $\bar{t}=0.91$ | $\bar{t}=0$ |
| Disagreement with physicians over patients' treatment | $\bar{t}=0$ | $\bar{t}=0$ |
| Ineffective nursing leadership | $\bar{t}=0$ | $\bar{t}=0.97$ |
| Lack of resources/consultation | $\bar{t}=0.50$ | $\bar{t}=2.22^*$ |
| Lack of respect from physicians | $\bar{t}=1.67$ | $\bar{t}=1.47$ |
| Lack of teamwork among nursing staff | $\bar{t}=0.69$ | $\bar{t}=0.63$ |
| Lack of teamwork with other departments | $\bar{t}=1.25$ | $\bar{t}=2.59^*$ |
| Communication problems | $\bar{t}=0.88$ | $\bar{t}=1.03$ |
| Unavailability of physician when needed | $\bar{t}=3.33^*$ | $\bar{t}=1.62$ |
| Inconsistencies in patient care approaches | $\bar{t}=0.71$ | $\bar{t}=0.61$ |

$p < .05$, degrees of freedom=44, significant \bar{t} -value =2.02 or greater (Polit & Hungler, 1978, p. 647).

* Higher mean score in non-ICU group.

** Higher mean score in ICU group.

variation within a given unit or group. These findings signified one of several things: each group was very heterogeneous in nature or perhaps the questionnaire directions or scales were not fully understood by the respondents. Evidence supporting the latter supposition was found in the responses to Question 12 of Category IV: caring for infants or children. Since the study was conducted in a pediatric hospital, all respondents should have answered this question with a 5 rating in frequency of occurrence, indicating that caring for infants or children occurred very frequently. Instead, some answered this question with a score of 1, supposedly indicating that caring for infants or children never occurred in the unit. Thus, there was speculation that the questionnaire directions might be ambiguous or the respondents lacked understanding.

Variances within each group differed considerably. Tables 12 and 13 contain those items showing high and low degrees of variance within each group. Although a comparison between groups yielded similarities in characteristics of the nurses, examination of those characteristics within each group showed diversities. These differences in age, level of experience, and educational background might explain some of the variances calculated. Any further explanations would

Table 12

Items with Low Variance ($< .05$) Within Groups

| Items | |
|--|--------|
| <u>Items with Low Variance for Frequency in Non-ICU Group (A):</u> | |
| Physical injury to nurse | 0.2106 |
| Lack of supplies | 0.3333 |
| "Floating" out of unit | 0.3750 |
| Orienting/precepting new employees | 0.4283 |
| Chronic patients | 0.4756 |
| Ineffective nursing leadership | 0.4800 |
| Personality conflicts with peers | 0.4861 |
| <u>Items with Low Variance for Frequency in ICU Group (B):</u> | |
| "Floating" out of unit | 0.2165 |
| Unavailability of physician when needed | 0.2319 |
| Unfamiliar equipment | 0.2431 |
| Lack of resources/consultation | 0.3704 |
| Physical injury to nurse | 0.4015 |
| Lack of teamwork with other departments | 0.4738 |
| Inadequate training | 0.4738 |
| Personality conflicts with physicians | 0.4815 |
| <u>Items with Low Variance for Degree in Non-ICU Group (A):</u> | |
| None < 0.5 | |
| <u>Items with Low Variance for Degree in ICU Group (B):</u> | |
| None < 0.5 | |

Table 13

Items with High Variance (> 1.5) Within Groups

| Items | |
|---|--------|
| <u>Items with High Variance for Frequency in Non-ICU Group (A):</u> | |
| Personality conflicts with administration | 2.3750 |
| Too many people | 2.0356 |
| <u>Items with High Variance for Frequency in ICU Group (B):</u> | |
| Caring for infants/children | 1.6415 |
| Charge position | 1.5385 |
| <u>Items with High Variance for Degree in Non-ICU Group (a):</u> | |
| Personality conflicts with administration | 2.7617 |
| Too many people | 2.3750 |
| "Floating" out of unit | 2.3217 |
| Caring for infants/children | 2.1422 |
| Deaths | 1.9839 |
| Patients needing ICU care | 1.9567 |
| Charge position | 1.9400 |
| Emergencies, arrests | 1.8178 |
| Physical injury to nurse | 1.7394 |
| Unavailability of physician when needed | 1.7022 |
| Uncooperative patients | 1.6322 |
| Personality conflicts with peers | 1.6111 |
| Critical, unstable patients | 1.5911 |
| Lack of respect from physicians | 1.5911 |
| Inability to meet patient needs | 1.5867 |
| Apathetic, incompetent staff | 1.5394 |
| <u>Items with High Variance for Degree in ICU Group (B):</u> | |
| Caring for infants/children | 1.8462 |

be of a speculative nature; future research could investigate and clarify these findings.

When considering heterogeneity of the groups as an explanation for the broad range of responses, it became important to review the demographic data. Surprisingly, the majority of both groups was homogeneous in nature: full-time staff nurses between 20 and 30 years of age with over five years of nursing experience, having been employed at the institution between three and five years, employed in the unit of first choice, and having similar backgrounds in death and dying, stress, and crisis intervention. The one divergent characteristic was in terms of educational preparation; more non-ICU nurses held associate degrees while most ICU nurses were baccalaureate graduates.

Within each group there did exist substantial diversity among age groups, nursing experience, length of time employed, educational preparation, and background in the subjects aforementioned. From these dissimilarities, speculation about response ranges was possible. All items required subjective answers in differing degrees, thus variables such as age, nursing experience (number of years, type), and level of educational preparation, and even personality type

could influence individual perceptions of stress. Controlling for these variables might produce interesting, informative, and significant results. By altering either the design of the study or the statistical test employed, variables could be controlled. For instance, an extension of this research using an analysis of covariance would effect the controls desired. Future research, designed differently, could accomplish similar results.

Several coping strategies were listed at the conclusion of the questionnaire, and respondents were instructed to indicate those which were applicable. The percentage results for both groups are enumerated in Table 14. Over 70% of the non-ICU nurses indicated that the following coping strategies were employed: laughing/joking, talking/spending time with friends, peer support, and teamwork. Over 50% of the non-ICU nurses also listed listening to music, hobbies, scheduling appropriately, and inservice education as helpful. Of the ICU group, over 70% showed physical exercise, laughing/joking, listening to music, hobbies, scheduling appropriately, and peer support to be beneficial. In addition, over 50% of this group also specified talking/spending time with friends, teamwork, adequate resources, and inservice education as useful

Table 14
Coping Strategies Practiced by Nonintensive and
Intensive Care Unit Nurses

| Strategy | Nonintensive Care Number | Nonintensive Care Percent- tage | Intensive Care Number | Intensive Care Percent- tage |
|---|-----------------------------|---------------------------------------|--------------------------|------------------------------------|
| Physical exercise | 9 | 47 | 20 | 74 |
| Laughing, joking | 15 | 79 | 20 | 74 |
| Listening to music | 11 | 58 | 21 | 78 |
| Talking/spending time with friends | 15 | 79 | 17 | 63 |
| Talking/spending time with family members | 6 | 32 | 11 | 41 |
| Hobbies | 11 | 58 | 23 | 85 |
| Relaxation techniques | 2 | 11 | 7 | 26 |
| Unit conferences | 7 | 37 | 13 | 48 |
| Scheduling appropriately | 11 | 58 | 20 | 74 |
| Peer support | 16 | 84 | 22 | 81 |
| Teamwork | 14 | 74 | 18 | 67 |
| Extensive orien- tation | 4 | 21 | 9 | 33 |
| Adequate resources | 5 | 26 | 15 | 56 |
| Inservice education | 11 | 58 | 18 | 67 |
| Support groups | 1 | 5 | 4 | 15 |
| Availability of social worker/ psychiatrist | 4 | 21 | 6 | 22 |

for coping with work stress.

These findings closely followed those of others describing coping strategies needed to counteract stress effectively, the ultimate goal being reduction of burnout signs and symptoms. Some authors described individual strategies such as physical exercise, listening to music, cultivation of outside interests, developing relationships with family and friends, and relaxation techniques (Marshall & Kasman, 1980; Patrick, 1979; Shubin, 1979; Zinder-Wernet & Bailey, 1980). Finding and utilizing support sources such as co-workers, managers, spouses, and friends were noted by Applebaum (1981) and Oskins (1979) as especially functional in combating work-related stress. According to several researchers, education is instrumental in opposing insecurity in personal knowledge and skill (Bilodeau, 1973; Gardam, 1969; Gardner et al., 1980; Vestal & Richardson, 1981). Marshall and Kasman (1980) noted the value of adequate breaks, vacations, and appropriate scheduling. Finally, Lippincott (1979) discussed the development of congruent personal and organizational goals as helpful.

Limitations of the Study

Several limitations of the study were present:

1. A nonprobability sample of convenience was

used, and was, therefore, not necessarily representative of the whole population, and caused difficulty in making generalizations.

2. No control was used for the effect on perceptions of stress of extraneous variables such as educational preparation, area and amount of clinical nursing experience, age, and use of coping strategies.

3. A questionnaire survey involving fixed answers may have overlooked and excluded some important stressors.

4. The possibility that earlier questions influenced replies to subsequent questions was a problem.

5. The sequence of questions, themselves, may have indirectly influenced responses.

6. Reliability of the instrument was undetermined.

These limitations could obviously have some effect on the applicability of the findings and were considered when the product of data analysis was obtained. These limitations need further research in terms of reliability of the instrument (questionnaire) before conclusive evidence may be significantly stated. This research was meant to assist in the building of a foundation from which other studies may be continued.

Nursing Implications

Although there were limitations associated with

this exploratory and descriptive survey study, several nursing implications may be considered. While the sources of stress produced by the intensive care environment have been researched and identified in relation to effect on nursing personnel, a paucity of available information about the stresses of other types of nursing was discovered. Even less has been published in regard to the stresses encountered in pediatric nursing. Increasing awareness of individual staff nurses as well as administrative personnel will help in identification of stressors within the pediatric hospital setting. By identifying the specific stressors, intervention to help alleviate them and to assist individuals in coping more effectively with existing stressors may begin. For the individual nurse, identifying stresses and acquiring coping skills may improve self-esteem, self-concept, interest, attitude, and professionalism. Effective stress management may also result in promoting morale and an improvement of teamwork and interpersonal relationships with patients, peers, and other health care professionals and ancillary personnel.

Examination and insight into stressful events may allow for extended staff support from administration, and promote further stress reduction acts.

Various workshops, classes, and informal teaching sessions could be designed to help staff nurses acquire effective coping skills. Such educational interventions should emphasize strategies for dealing with those stressors identified by nurses as most frequent or severe. Group or individual discussions surrounding the recognition and analysis of common work-related and personal life stresses may have a beneficial effect on staff nurses in regard to individual stress management and job satisfaction.

Especially significant was the finding that, despite the widely held view that ICU nursing is more stressful than other types of nursing (supported by literature comparing adult nursing groups), pediatric non-ICU nurses perceived and reported more overall stress than did the ICU nurses. Many of the same stressors were identified by both groups. Perhaps these findings will encourage some insight and re-examination of the nonintensive care nurses and the stresses they face; the major emphasis has long been focused on the intensive care nurses. Furthermore, identification of those coping strategies which nurses find most beneficial should provide a basis from which the development of further stress reduction techniques may ensue.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

Summary

Nursing, in general, has long been described as stressful. More recently, increasing interest and attention have been given to the stresses inherent in critical care hospital environments. Limited information is available researching the stresses of other types of nursing. The vast majority of the literature focusing on intensive care nursing stressors concentrates on adult care. Little is written in regard to the stresses encountered in pediatric nursing. The insufficiency of evidence confirming the belief that critical care nursing is more stressful than other types of nursing care, together with the limited knowledge of pediatric nursing stress, provided the impetus for this study. The purpose of the research was to investigate and compare the situational stressors perceived and identified by pediatric intensive care and nonintensive care nurses, in terms of degree, frequency of occurrence, and source of stress.

Questionnaire surveys listing 51 items requiring a numerical response according to a graphic scale were distributed to full-time staff nurses in two intensive care and two nonintensive care units in a pediatric hospital. Respondents were instructed to evaluate each item according to its frequency of occurrence and degree of severity in their nursing unit. Acceptable questionnaires were received from 27 intensive care nurses and 19 nonintensive care nurses.

Evidence was found supporting the belief that ICU and non-ICU nursing stressors are not comparable; however, the non-ICU nurses reported more stresses, in general, both in frequency and degree. In reviewing mean scores of the two groups, several expected common stressors were identified both in frequency and degree, yet some differences particular to one group or the other were also recognized. Statistically significant differences were found for higher frequencies and degrees of stress in the nonintensive care group. There were eleven specific stressors identified, most of which were in the general categories of physical work environment and interpersonal relationships. Only five statistically significant stressors were correlated with reports of higher frequencies in the

ICU group; three of these were in the category of patient care and the remaining two fell within other categories. Most of the coping strategies reportedly practiced were mutually employed both by individuals in the ICU group and by those in the non-ICU nursing group.

Identification of the stresses perceived by pediatric nurses is the first step and the key to better understanding and coping with the stresses in clinical nursing. It is hoped that this study may assist in the recognition that stress in pediatric nursing is significant and that, by discovering specific stressors perceived by nurses, steps towards alleviation may be initiated with the ultimate goal of contributing to individual stress management, employee job satisfaction, and improved quality of patient care.

Recommendations

Recommendations for further research stem, in part, from the limitations of the study indicated previously. The investigation could be replicated with the same population varying order of the items listed. This could help to determine if the sequence of items may have indirectly influenced responses. An identical study would also test reliability of the instrument. In addition, administering the same

questionnaire to the same population at a future date would identify changes in perceptions of stress which might result from circumstantial influences which change over time. Examples of these are staffing shortage or abundance, changes in census and/or acuity level of patients, administrative personnel changes, and policy or procedure revisions. Examining results of the same questionnaire given to a different population might lead to more generalizable results. In using the same questionnaire, however, a correction of the graphic rating scale should be made to provide exactly equal intervals between the integers so as to make the scale more precise and visually appropriate to the respondents.

No control was used for the possible effect on perceptions of stress of extraneous variables such as educational preparation, area and amount of clinical nursing experience, age, and use of coping strategies. Further research of interest might include consideration of the effect of these variables upon perception of stress, and correlation of the results. The variance within groups on certain items, too, should be more closely examined, with an attempt to discover a reasonable explanation.

No mention was made in this research of the effect

of personal life stresses experienced by the individual on those stresses perceived and experienced in the work environment. It is known that life stresses influence physical and mental health, behavioral manifestations, and job satisfaction. Future research could correlate personal life stresses or life change events with specific job-related stressors perceived at a given time.

Finally, another investigation might elaborate on particular findings of this research, such as those stressors with high frequencies and high degrees of stress. Dealing with family members and parents, for instance, proved to score high in both aforementioned categories. Since this and several other items were stated in general terms, the design of subsequent research might include ways to discover specifics about those general items which were perceived as stressful. These results might prove to be much more insightful and valuable.

Information gained from any of these suggested studies could assist health professionals to gain a better understanding of the stresses inherent in pediatric nursing and to identify factors influencing adaptation. With this information, health professionals could then determine appropriate intervention

to assist pediatric nurses in their coping and adaptation to job-related stresses with the ultimate goals of employee job satisfaction and improved quality of patient care.

APPENDIX A

COVER LETTER

Much has been written about the stresses of nursing. I would like to elicit your participation in completing a questionnaire to help identify the situational stressors perceived by pediatric/neonatal staff nurses.

This study is part of a master's degree thesis. The knowledge gained will, hopefully, contribute to individual stress management, employee job satisfaction, and improved quality of patient care. The questionnaires are to remain anonymous, and will be seen by only the researcher. The information given will be used only in the analysis of data performed and presented in the thesis. Completion of the questionnaire will be the extent of your involvement in this study. Participation is voluntary; willingness to participate is assumed by completion and return of the questionnaire.

Results of the study will be available to participating individuals upon request. If there are further questions or concerns, please do not hesitate to contact me at 485-0472 (home) or 521-1410 (work).

Thank you very much for your time, effort, and cooperation.

Deborah Campfield
Graduate Student,
College of Nursing
University of Utah

APPENDIX B

DEMOGRAPHIC DATA QUESTIONNAIRE

Instructions:

Please circle the appropriate response. Questionnaires are to remain anonymous.

- | | |
|--|--|
| <p>Age:</p> <ul style="list-style-type: none"> less than 20 years 20-25 years 26-30 years 31-34 years over 34 years | <p>Educational background:</p> <ul style="list-style-type: none"> Diploma Associate degree Baccalaureate Master's degree or more |
| <p>Nursing experience:</p> <ul style="list-style-type: none"> 0-6 months 6 months-1 year 1-3 years 3-5 years over 5 years | <p>Position:</p> <ul style="list-style-type: none"> Head nurse Assistant head nurse Staff nurse (R.N.) Other (specify) |
| <p>Length of time employed at PCMC:</p> <ul style="list-style-type: none"> 0-6 months 6 months-1 year 1-3 years 3-5 years over 5 years | <p>Type of unit:</p> <ul style="list-style-type: none"> Pediatric ICU Neonatal ICU Pediatric medical Pediatric surgical Nursery Other (specify) |
| <p>Continuing education courses:</p> <ul style="list-style-type: none"> Death and dying: <ul style="list-style-type: none"> 0 courses 1 course 2-3 courses over 3 courses Stress: <ul style="list-style-type: none"> 0 courses 1 course 2-3 courses over 3 courses | <p>Employment:</p> <ul style="list-style-type: none"> Full-time Part-time <p>Unit assignment:</p> <ul style="list-style-type: none"> 1st choice 2nd choice Last choice Assigned (no choice) Other (specify) |
| <p>Crisis intervention:</p> <ul style="list-style-type: none"> 0 courses 1 course 2-3 courses over 3 courses | |

APPENDIX C

QUESTIONNAIRE FOR IDENTIFICATION
OF STRESS FACTORS

Instructions:

Please evaluate the following items according to their frequency of occurrence and degree of severity in your nursing unit. Assign a numerical value into each column (Column 1-- frequency and Column 2--degree) using the scales given below.

Frequency
of Occur-
rence of
Item

| Very frequent | Frequent | Occasional | Rare | Never |
|---------------|----------|------------|------|-------|
| 5 | 4 | 3 | 2 | 1 |

Degree of
severity of
item

| Very high | High | Moderate | Low | Never |
|-----------|------|----------|-----|-------|
| 5 | 4 | 3 | 2 | 1 |

Category I: Physical Work Environment

| | <u>Frequency</u> | <u>Degree</u> |
|---------------------------------------|------------------|---------------|
| Insufficient/crowded work space | _____ | _____ |
| Insufficient/malfunctioning equipment | _____ | _____ |
| Technology of equipment/procedures | _____ | _____ |
| Lack of supplies | _____ | _____ |
| Noise | _____ | _____ |
| Too many people | _____ | _____ |
| Lighting | _____ | _____ |
| Unpredictable work load | _____ | _____ |
| Amount of physical work | _____ | _____ |
| Physical injury to nurse | _____ | _____ |
| Fast pace | _____ | _____ |

Category II: Training and Skills

| | <u>Frequency</u> | <u>Degree</u> |
|----------------------|------------------|---------------|
| Inadequate training | _____ | _____ |
| Unfamiliar equipment | _____ | _____ |
| Lack of experience | _____ | _____ |
| Lack of orientation | _____ | _____ |

Category III: Management of the Unit

| | <u>Frequency</u> | <u>Degree</u> |
|--|------------------|---------------|
| Inadequate staffing | _____ | _____ |
| Apathetic, incompetent staff | _____ | _____ |
| Transfers, admissions | _____ | _____ |
| Shifts, scheduling | _____ | _____ |
| Interruptions, clerical duties (paper work, answering telephones) | _____ | _____ |
| Charge position | _____ | _____ |
| (For ICU nurses only) Patients not needing ICU care | _____ | _____ |
| (For non-ICU nurses only) Patients needing ICU care | _____ | _____ |
| High census | _____ | _____ |
| "Floating" out of unit | _____ | _____ |
| Lack of continuity in patient assignments | _____ | _____ |
| High acuity level of patients | _____ | _____ |
| Orienting/precepting new employees | _____ | _____ |

Category IV: Patient Care

| | <u>Frequency</u> | <u>Degree</u> |
|--|------------------|---------------|
| Emergencies, arrests | _____ | _____ |
| Unnecessary prolongation of life | _____ | _____ |
| Critical, unstable patients | _____ | _____ |
| Deaths | _____ | _____ |
| Inability to meet patient needs (physical and/or emotional) | _____ | _____ |
| Increased responsibility, decision making | _____ | _____ |
| Chronic patients | _____ | _____ |
| Uncooperative patients | _____ | _____ |
| Family members/parents | _____ | _____ |
| Providing patient/parent teaching | _____ | _____ |
| Routine procedures | _____ | _____ |
| Caring for infants/children | _____ | _____ |

Category V: Interpersonal Relationships

| | <u>Frequency</u> | <u>Degree</u> |
|--|------------------|---------------|
| Personality conflicts with physicians | _____ | _____ |
| Personality conflicts with administration | _____ | _____ |

Category V: Interpersonal Relationships (continued)

| | <u>Frequency</u> | <u>Degree</u> |
|---|------------------|---------------|
| Personality conflicts with peers | _____ | _____ |
| Disagreement with physicians over patients' treatment | _____ | _____ |
| Ineffective nursing leadership | _____ | _____ |
| Lack of resources/consultation | _____ | _____ |
| Lack of respect from physicians | _____ | _____ |
| Lack of teamwork among nursing staff | _____ | _____ |
| Lack of teamwork with other departments | _____ | _____ |
| Communication problems | _____ | _____ |
| Unavailability of physician when needed | _____ | _____ |
| Inconsistencies in patient care approaches | _____ | _____ |

Please check marks by the following coping strategies which apply to you:

Individual:

Physical exercise
 Laughing, joking
 Listening to music
 Talking/spending time with friends
 Talking/spending time with family members
 Hobbies
 Relaxation techniques

Unit/hospital:

Unit conferences
 Scheduling appropriately
 Peer support
 Teamwork
 Extensive orientation
 Adequate resources
 Inservice education
 Support groups
 Availability of social worker/psychiatrist

APPENDIX D

DATA TABLES

Table 15
Frequency Scores for Nonintensive Care Unit Nurses (Group A)

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|---------------------------------------|------|-------|-----------------------|-------------------|----------|
| Category I | | | | | |
| Insufficient/crowded work space | 4.6 | 2-5 | 0.8380 | 0.1975 | 0.7022 |
| Insufficient/malfunctioning equipment | 3.4 | 2-5 | 0.8313 | 0.1959 | 0.6911 |
| Technology of equipment | 2.6 | 2-5 | 0.8472 | 0.1997 | 0.7178 |
| Lack of supplies | 3.0 | 2-4 | 0.5774 | 0.1361 | 0.3333 |
| Noise | 3.6 | 2-5 | 1.0121 | 0.2386 | 1.0244 |
| Too many people | 3.4 | 1-5 | 1.4267 | 0.3363 | 2.0356 |
| Lighting | 2.5 | 1-5 | 1.0138 | 0.2390 | 1.0278 |
| Unpredictable work load | 3.6 | 2-5 | 1.0176 | 0.2399 | 1.0356 |
| Amount of physical work | 3.5 | 2-5 | 0.9052 | 0.2134 | 0.8194 |
| Physical injury to nurse | 1.9 | 1-3 | 0.4589 | 0.1082 | 0.2106 |
| Fast pace | 3.7 | 2-5 | 0.8727 | 0.2057 | 0.7617 |
| Category II | | | | | |
| Inadequate training | 2.7 | 1-5 | 1.0858 | 0.2559 | 1.1789 |
| Unfamiliar equipment | 2.7 | 2-5 | 0.8202 | 0.1933 | 0.6728 |
| Lack of experience | 3.1 | 2-5 | 1.1301 | 0.2664 | 1.2772 |
| Lack of orientation | 2.8 | 2-5 | 0.8353 | 0.1969 | 0.6978 |

Table 15 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|------------------------------------|------|-------|--------------------|----------------|----------|
| Category III | | | | | |
| Inadequate staffing | 3.3 | 2-5 | 1.0464 | 0.2466 | 1.0950 |
| Apathetic, incompetent staff | 2.6 | 2-5 | 0.9333 | 0.2199 | 0.8711 |
| Transfers, admissions | 3.9 | 2-5 | 0.9336 | 0.2208 | 0.8772 |
| Shifts, scheduling | 3.3 | 2-5 | 0.9342 | 0.2202 | 0.8728 |
| Interruptions, clerical duties | 4.1 | 3-5 | 0.7376 | 0.1739 | 0.5439 |
| Charge position | 2.6 | 1-5 | 1.2229 | 0.2882 | 1.4956 |
| Patients needing ICU care | 2.8 | 2-5 | 0.9638 | 0.2272 | 0.9289 |
| High census | 3.2 | 2-5 | 0.8551 | 0.2015 | 0.7311 |
| "Floating" out of unit | 1.5 | 1-3 | 0.6124 | 0.1443 | 0.3750 |
| Lack of continuity in assignments | 3.6 | 2-5 | 0.9018 | 0.2126 | 0.8133 |
| High acuity level of patients | 3.5 | 2-5 | 0.7728 | 0.1822 | 0.5972 |
| Orienting/precepting new employees | 2.7 | 1-4 | 0.6545 | 0.1543 | 0.4283 |
| Category IV | | | | | |
| Emergencies, arrests | 2.6 | 2-5 | 0.7699 | 0.1815 | 0.5928 |
| Unnecessary prolongation of life | 2.9 | 1-5 | 1.1783 | 0.2777 | 1.3883 |
| Critical, unstable patients | 2.7 | 1-5 | 0.9509 | 0.2241 | 0.8950 |
| Deaths | 2.3 | 1-4 | 0.8066 | 0.1901 | 0.6506 |
| Inability to meet patient needs | 2.8 | 1-5 | 1.1681 | 0.2753 | 1.3644 |

Table 15 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|--|------|-------|--------------------|----------------|----------|
| Increased responsibility, decision making | 3.5 | 2-5 | 0.9647 | 0.2274 | 0.9306 |
| Chronic patients | 3.8 | 3-5 | 0.6896 | 0.1625 | 0.4756 |
| Uncooperative patients | 2.8 | 1-5 | 1.1719 | 0.2762 | 1.3733 |
| Family members/parents | 4.1 | 2-5 | 1.1401 | 0.2687 | 1.2772 |
| Providing patient/parent teaching | 4.0 | 2-5 | 1.1547 | 0.2722 | 1.3333 |
| Routine procedures | 4.4 | 2-5 | 1.0121 | 0.2386 | 1.0244 |
| Caring for infants/children | 4.6 | 1-5 | 1.0121 | 0.2386 | 1.0244 |
| Category V | | | | | |
| Personality conflicts with physicians | 2.5 | 1-4 | 0.7728 | 0.1822 | 0.5972 |
| Personality conflicts with administration | 2.5 | 1-5 | 1.5411 | 0.3632 | 2.3750 |
| Personality conflicts with peers | 2.5 | 1-4 | 0.6972 | 0.1643 | 0.4861 |
| Disagreement with physician over patients' treatment | 3.3 | 2-5 | 1.1573 | 0.2728 | 1.3394 |
| Ineffective nursing leadership | 2.6 | 1-4 | 0.6928 | 0.1633 | 0.4800 |
| Lack of resources/consultation | 2.4 | 1-4 | 0.7775 | 0.1833 | 0.6044 |
| Lack of respect from physicians | 3.2 | 1-5 | 1.1343 | 0.2674 | 1.2867 |
| Lack of teamwork among nursing staff | 2.6 | 1-4 | 0.8957 | 0.2111 | 0.8022 |
| Lack of teamwork with other departments | 2.9 | 2-5 | 0.9715 | 0.2290 | 0.9439 |
| Communication problems | 3.2 | 2-5 | 0.9592 | 0.2261 | 0.9200 |
| Unavailability of physician when needed | 3.1 | 1-5 | 1.0799 | 0.2545 | 1.1661 |
| Inconsistencies in patient care approaches | 3.4 | 2-5 | 0.7616 | 0.1795 | 0.5800 |

Table 16

Frequency Scores for Intensive Care Unit Nurses (Group B)

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|---------------------------------------|------|-------|--------------------|----------------|----------|
| Category I | | | | | |
| Insufficient/crowded work space | 3.1 | 2-5 | 0.7512 | 0.1473 | 0.5642 |
| Insufficient/malfunctioning equipment | 2.8 | 2-4 | 0.8199 | 0.1608 | 0.6723 |
| Technology of equipment | 2.9 | 2-5 | 1.0928 | 0.2143 | 1.1942 |
| Lack of supplies | 2.9 | 1-5 | 0.9171 | 0.1799 | 0.8412 |
| Noise | 4.0 | 2-5 | 1.0377 | 0.2035 | 1.0769 |
| Too many people | 3.7 | 1-5 | 1.0383 | 0.2036 | 1.0781 |
| Lighting | 2.2 | 1-4 | 1.0015 | 0.1964 | 1.0031 |
| Unpredictable work load | 3.1 | 2-5 | 0.9338 | 0.1831 | 0.8719 |
| Amount of physical work | 2.6 | 1-4 | 0.8840 | 0.1734 | 0.7815 |
| Physical injury to nurse | 1.8 | 1-3 | 0.6337 | 0.1243 | 0.4015 |
| Fast pace | 3.8 | 2-5 | 1.0130 | 0.1987 | 1.0262 |
| Category II | | | | | |
| Inadequate training | 2.6 | 2-4 | 0.6884 | 0.1350 | 0.4738 |
| Unfamiliar equipment | 2.6 | 2-3 | 0.4930 | 0.0967 | 0.2431 |
| Lack of experience | 3.0 | 1-4 | 0.9718 | 0.1906 | 0.9444 |
| Lack of orientation | 2.3 | 1-4 | 0.7736 | 0.1517 | 0.6012 |

Table 16 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|------------------------------------|------|-------|--------------------|----------------|----------|
| Category III | | | | | |
| Inadequate staffing | 2.8 | 1-4 | 0.7514 | 0.1474 | 0.5646 |
| Apathetic, incompetent staff | 2.5 | 1-4 | 0.7468 | 0.1465 | 0.5577 |
| Transfers, admissions | 3.6 | 1-5 | 1.1149 | 0.2187 | 1.2431 |
| Shifts, scheduling | 3.4 | 1-5 | 1.2203 | 0.2393 | 1.4892 |
| Interruptions, clerical duties | 3.5 | 2-5 | 0.9757 | 0.1913 | 0.9519 |
| Charge position | 3.0 | 1-5 | 1.2403 | 0.2433 | 1.5385 |
| Patients not needing ICU care | 3.1 | 1-4 | 0.8290 | 0.1626 | 0.6873 |
| High census | 3.4 | 1-5 | 1.0799 | 0.2118 | 1.1662 |
| "Floating" out of unit | 1.3 | 1-2 | 0.4653 | 0.0913 | 0.2165 |
| Lack of continuity in assignments | 3.1 | 1-5 | 1.0279 | 0.2016 | 1.0565 |
| High acuity level of patients | 3.5 | 2-5 | 0.9405 | 0.1845 | 0.8846 |
| Orienting/precepting new employees | 3.2 | 1-4 | 0.8339 | 0.1635 | 0.6954 |
| Category IV | | | | | |
| Emergencies, arrests | 3.0 | 1-5 | 0.8771 | 0.1720 | 0.7692 |
| Unnecessary prolongation of life | 3.6 | 1-5 | 0.9751 | 0.1912 | 0.9508 |
| Critical, unstable patients | 3.5 | 2-5 | 0.9757 | 0.1913 | 0.9519 |
| Deaths | 3.3 | 1-5 | 0.7182 | 0.1408 | 0.5158 |
| Inability to meet patient needs | 2.7 | 1-5 | 0.9036 | 0.1772 | 0.8165 |

Table 16 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|---|------|-------|--------------------|----------------|----------|
| Increased responsibility, decision making | 3.6 | 2-5 | 0.7971 | 0.1563 | 0.6354 |
| Chronic patients | 3.6 | 2-5 | 0.7524 | 0.1476 | 0.5662 |
| Uncooperative patients | 2.3 | 1-4 | 0.9452 | 0.1854 | 0.8935 |
| Family members/parents | 3.7 | 2-5 | 1.0309 | 0.2022 | 1.0627 |
| Providing patient/parent teaching | 3.5 | 2-5 | 0.9757 | 0.1913 | 0.9519 |
| Routine procedures | 4.0 | 2-5 | 1.0742 | 0.2107 | 1.1538 |
| Caring for infants/children | 4.2 | 1-5 | 1.2812 | 0.2513 | 1.6415 |
| Category V | | | | | |
| Personality conflicts with physicians | 2.6 | 1-4 | 0.6939 | 0.1361 | 0.4815 |
| Personality conflicts with administration | 2.3 | 1-5 | 1.0383 | 0.2036 | 1.0781 |
| Personality conflicts with peers | 2.7 | 2-4 | 0.7654 | 0.1501 | 0.5858 |
| Disagreement with physicians over patients' treatment | 3.3 | 2-5 | 0.8600 | 0.1687 | 0.7396 |
| Ineffective nursing leadership | 2.6 | 1-5 | 1.0735 | 0.2105 | 1.1523 |
| Lack of resources/consultation | 2.3 | 1-4 | 0.6086 | 0.1194 | 0.3704 |
| Lack of respect from physicians | 2.7 | 1-5 | 0.9121 | 0.1789 | 0.8319 |
| Lack of teamwork among nursing staff | 2.8 | 1-5 | 1.0130 | 0.1987 | 1.0262 |
| Lack of teamwork with other departments | 2.6 | 1-4 | 0.6884 | 0.1350 | 0.4738 |
| Communication problems | 2.9 | 2-5 | 0.9501 | 0.1863 | 0.9027 |
| Unavailability of physician when needed | 2.3 | 2-3 | 0.4816 | 0.0944 | 0.2319 |
| Inconsistencies in patient care approaches | 3.2 | 2-5 | 1.0503 | 0.2060 | 1.1031 |

Table 17

Degree of Stress Scores for Nonintensive Care Unit Nurses (Group A)

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|---------------------------------------|------|-------|--------------------|----------------|----------|
| Category I | | | | | |
| Insufficient/crowded work space | 4.2 | 1-5 | 1.1343 | 0.2674 | 1.2867 |
| Insufficient/malfunctioning equipment | 3.1 | 2-5 | 0.9366 | 0.2208 | 0.8772 |
| Technology of equipment | 2.7 | 2-5 | 0.9289 | 0.2189 | 0.8628 |
| Lack of supplies | 2.9 | 2-5 | 1.1301 | 0.2664 | 1.2772 |
| Noise | 3.6 | 2-5 | 1.0176 | 0.2399 | 1.0356 |
| Too many people | 3.5 | 1-5 | 1.5411 | 0.3632 | 2.3750 |
| Lighting | 2.4 | 1-5 | 1.0770 | 0.2539 | 1.1600 |
| Unpredictable work load | 3.3 | 2-5 | 1.0858 | 0.2129 | 1.1789 |
| Amount of physical work | 3.1 | 2-5 | 0.9941 | 0.2343 | 0.9883 |
| Physical injury to nurse | 2.3 | 1-5 | 1.3189 | 0.3109 | 1.7394 |
| Fast pace | 3.5 | 2-5 | 0.9052 | 0.2134 | 0.8194 |
| Category II | | | | | |
| Inadequate training | 3.3 | 2-5 | 1.2044 | 0.2839 | 1.4506 |
| Unfamiliar equipment | 2.9 | 2-5 | 1.0799 | 0.2545 | 1.1661 |
| Lack of experience | 3.2 | 2-5 | 1.2147 | 0.2863 | 1.4756 |
| Lack of orientation | 3.0 | 1-5 | 1.1547 | 0.2722 | 1.3333 |

Table 17 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|------------------------------------|------|-------|--------------------|----------------|----------|
| Category III | | | | | |
| Inadequate staffing | 3.5 | 2-5 | 1.2191 | 0.2873 | 1.4861 |
| Apathetic, incompetent staff | 3.3 | 2-5 | 1.2407 | 0.2924 | 1.5394 |
| Transfers, admissions | 3.5 | 2-5 | 1.0672 | 0.2515 | 1.1389 |
| Shifts, scheduling | 3.3 | 2-5 | 0.8854 | 0.2087 | 0.7839 |
| Interruptions, clerical duties | 3.8 | 2-5 | 0.9764 | 0.2301 | 0.9533 |
| Charge position | 2.6 | 1-5 | 1.3928 | 0.3283 | 1.9400 |
| Patients needing ICU care | 3.3 | 1-5 | 1.3989 | 0.3297 | 1.9567 |
| High census | 3.3 | 2-5 | 1.1477 | 0.2705 | 1.3172 |
| "Floating" out of unit | 2.1 | 1-5 | 1.5237 | 0.3591 | 2.3217 |
| Lack of continuity in assignments | 3.6 | 2-5 | 1.1700 | 0.2758 | 1.3689 |
| High acuity level of patients | 3.6 | 2-5 | 0.8957 | 0.2111 | 0.8022 |
| Orienting/precepting new employees | 2.9 | 1-5 | 1.1496 | 0.2710 | 1.3217 |
| Category IV | | | | | |
| Emergencies, arrests | 3.8 | 1-5 | 1.3482 | 0.3178 | 1.8178 |
| Unnecessary prolongation of life | 3.9 | 1-5 | 1.1970 | 0.2821 | 1.4328 |
| Critical, unstable patients | 3.6 | 1-5 | 1.2614 | 0.2073 | 1.5911 |
| Deaths | 3.7 | 1-5 | 1.4085 | 0.3320 | 1.9839 |
| Inability to meet patient needs | 3.2 | 1-5 | 1.2596 | 0.2969 | 1.5867 |

Table 17 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|---|------|-------|--------------------|----------------|----------|
| Increased responsibility, decision making | 3.4 | 2-5 | 1.0121 | 0.2386 | 1.0244 |
| Chronic patients | 3.6 | 2-5 | 0.9034 | 0.2129 | 0.8161 |
| Uncooperative patients | 3.1 | 1-5 | 1.2776 | 0.3011 | 1.6322 |
| Family members/parents | 4.1 | 2-5 | 1.0485 | 0.2471 | 1.0994 |
| Providing patient/parent teaching | 3.4 | 2-5 | 1.0279 | 0.2423 | 1.0567 |
| Routine procedures | 3.3 | 1-5 | 1.2044 | 0.2839 | 1.4506 |
| Caring for infants/children | 3.2 | 1-5 | 1.4636 | 0.3450 | 2.1422 |
| Category V | | | | | |
| Personality conflicts with physicians | 3.2 | 1-5 | 1.2147 | 0.2863 | 1.4756 |
| Personality conflicts with administration | 2.7 | 1-5 | 1.6618 | 0.3917 | 2.7617 |
| Personality conflicts with peers | 3.0 | 1-5 | 1.2693 | 0.2992 | 1.6111 |
| Disagreement with physicians over patients' treatment | 2.9 | 2-5 | 0.8807 | 0.2076 | 0.7756 |
| Ineffective nursing leadership | 3.0 | 1-5 | 1.1304 | 0.2664 | 1.2778 |
| Lack of resources/consultation | 2.9 | 1-5 | 1.0485 | 0.2471 | 1.0994 |
| Lack of respect from physician | 3.6 | 1-5 | 1.2614 | 0.2973 | 1.5911 |
| Lack of teamwork among nursing staff | 3.1 | 1-5 | 1.1970 | 0.2821 | 1.4328 |
| Lack of teamwork with other departments | 3.4 | 2-5 | 1.0121 | 0.2386 | 1.0244 |
| Communication problems | 3.3 | 2-5 | 1.0031 | 0.2364 | 1.0061 |
| Unavailability of physician when needed | 3.6 | 1-5 | 1.3047 | 0.3075 | 1.7022 |
| Inconsistencies in patient care approaches | 3.7 | 2-5 | 0.9460 | 0.2230 | 0.8950 |

Table 18

Degree of Stress Scores for Intensive Care Unit Nurses (Group B)

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|---------------------------------------|------|-------|--------------------|----------------|----------|
| Category I | | | | | |
| Insufficient/crowded work space | 3.0 | 2-5 | 0.8321 | 0.1632 | 0.6923 |
| Insufficient/malfunctioning equipment | 3.4 | 1-5 | 0.9679 | 0.1898 | 0.9369 |
| Technology of equipment | 2.9 | 1-5 | 1.0124 | 0.1986 | 1.0250 |
| Lack of supplies | 3.0 | 2-5 | 0.8771 | 0.1720 | 0.7692 |
| Noise | 3.7 | 2-5 | 0.9036 | 0.1772 | 0.8165 |
| Too many people | 3.7 | 1-5 | 1.0006 | 0.1962 | 1.0012 |
| Lighting | 2.1 | 1-5 | 1.0006 | 0.1962 | 1.0012 |
| Unpredictable work load | 3.1 | 2-5 | 0.9975 | 0.1956 | 0.9950 |
| Amount of physical work | 2.7 | 1-4 | 0.9533 | 0.1870 | 0.9088 |
| Physical injury to nurse | 1.9 | 1-4 | 0.7512 | 0.1473 | 0.5642 |
| Fast pace | 3.7 | 2-5 | 1.0234 | 0.2007 | 1.0473 |
| Category II | | | | | |
| Inadequate training | 2.8 | 2-4 | 0.8788 | 0.1723 | 0.7723 |
| Unfamiliar equipment | 2.7 | 2-4 | 0.7240 | 0.1420 | 0.5242 |
| Lack of experience | 3.1 | 1-5 | 1.0279 | 0.2016 | 1.0565 |
| Lack of orientation | 2.4 | 1-5 | 1.0145 | 0.1990 | 1.0292 |

Table 18 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|------------------------------------|------|-------|--------------------|----------------|----------|
| Category III | | | | | |
| Inadequate staffing | 2.8 | 1-4 | 0.8823 | 0.1730 | 0.7785 |
| Apathetic, incompetent staff | 2.7 | 1-5 | 0.9036 | 0.1772 | 0.8165 |
| Transfers, admissions | 3.3 | 1-5 | 1.0960 | 0.2149 | 1.2012 |
| Shifts, scheduling | 3.4 | 1-5 | 1.1556 | 0.2266 | 1.3354 |
| Interruptions, clerical duties | 3.3 | 2-5 | 1.0603 | 0.2079 | 1.1242 |
| Charge position | 3.0 | 1-5 | 1.1266 | 0.2209 | 1.2692 |
| Patients not needing ICU care | 3.0 | 1-4 | 0.9718 | 0.1906 | 0.9444 |
| High census | 3.3 | 1-5 | 1.1099 | 0.2177 | 1.2319 |
| "Floating" out of unit | 1.4 | 1-5 | 0.9307 | 0.1825 | 0.8662 |
| Lack of continuity in assignments | 3.2 | 1-5 | 1.1549 | 0.2265 | 1.3338 |
| High acuity level of patients | 3.4 | 2-5 | 0.8884 | 0.1742 | 0.7892 |
| Orienting/precepting new employees | 3.0 | 1-5 | 0.9405 | 0.1845 | 0.8846 |
| Category IV | | | | | |
| Emergencies, arrests | 3.6 | 2-5 | 1.1523 | 0.2260 | 1.3277 |
| Unnecessary prolongation of life | 3.9 | 1-5 | 1.0353 | 0.2030 | 1.0719 |
| Critical, unstable patients | 3.7 | 2-5 | 0.9851 | 0.1932 | 0.9704 |
| Deaths | 3.5 | 2-5 | 0.9757 | 0.1913 | 0.9519 |
| Inability to meet patient needs | 3.1 | 1-5 | 0.9975 | 0.1956 | 0.9950 |

Table 18 Continued

| Item | Mean | Range | Standard Deviation | Standard Error | Variance |
|---|------|-------|--------------------|----------------|----------|
| Increased responsibility, decision making | 3.3 | 2-5 | 0.9121 | 0.1789 | 0.8319 |
| Chronic patients | 3.4 | 2-5 | 0.9348 | 0.1833 | 0.8738 |
| Uncooperative patients | 2.4 | 1-5 | 1.1184 | 0.2193 | 1.2508 |
| Family members/parents | 3.3 | 2-5 | 0.8141 | 0.1597 | 0.6627 |
| Providing patient/parent teaching | 2.9 | 2-5 | 0.9741 | 0.1910 | 0.9488 |
| Routine procedures | 2.8 | 1-5 | 1.1108 | 0.2178 | 1.2338 |
| Caring for infants/children | 3.0 | 1-5 | 1.3587 | 0.2665 | 1.8462 |
| Category V | | | | | |
| Personality conflicts with physicians | 3.2 | 1-5 | 1.0015 | 0.1964 | 1.0031 |
| Personality conflicts with administration | 2.8 | 1-5 | 1.1878 | 0.2329 | 1.4108 |
| Personality conflicts with peers | 3.0 | 2-5 | 0.8987 | 0.1763 | 0.8077 |
| Disagreement with physicians over patients' treatment | 2.9 | 2-5 | 0.9371 | 0.1838 | 0.8781 |
| Ineffective nursing leadership | 2.7 | 1-5 | 0.9701 | 0.1903 | 0.9412 |
| Lack of resources/consultation | 2.3 | 1-5 | 0.7808 | 0.1531 | 0.6096 |
| Lack of respect from physicians | 3.1 | 1-5 | 1.0353 | 0.2030 | 1.0719 |
| Lack of teamwork among nursing staff | 2.9 | 1-5 | 0.9739 | 0.1910 | 0.9485 |
| Lack of teamwork with other departments | 2.7 | 1-5 | 0.8235 | 0.1615 | 0.6781 |
| Communication problems | 3.0 | 2-5 | 0.9405 | 0.1845 | 0.8846 |
| Unavailability of physician when needed | 3.0 | 2-5 | 1.1602 | 0.2275 | 1.3462 |
| Inconsistencies in patient care approaches | 3.5 | 2-5 | 1.1889 | 0.2332 | 1.4135 |

Table 19

Summary of Items with Lowest ($\bar{x} < 2.5$) and Highest ($\bar{x} > 3.5$)

Mean Scores in Frequency and Degree of Stress

| Frequency of Occurrence | Degree of Stress |
|--|--|
| Items Occurring Rarely in Non-ICU Group: | |
| Physical injury to nurse ($\bar{x}=1.9$) | Lighting ($\bar{x}=2.4$) |
| "Floating" out of unit ($\bar{x}=1.5$) | Physical injury to nurse ($\bar{x}=2.3$) |
| Deaths ($\bar{x}=2.3$) | "Floating" out of unit ($\bar{x}=2.1$) |
| Lack of resources/consultation ($\bar{x}=2.4$) | |
| Items Occurring Rarely in ICU Group: | |
| Lighting ($\bar{x}=2.2$) | Lighting ($\bar{x}=2.1$) |
| Physical injury to nurse ($\bar{x}=1.8$) | Physical injury to nurse ($\bar{x}=1.9$) |
| Lack of orientation ($\bar{x}=2.3$) | Lack of orientation ($\bar{x}=2.4$) |
| "Floating" out of unit ($\bar{x}=1.3$) | "Floating" out of unit ($\bar{x}=1.4$) |
| Uncooperative patients ($\bar{x}=2.3$) | Uncooperative patients ($\bar{x}=2.4$) |
| Personality conflicts with administration ($\bar{x}=2.3$) | Lack of resources/consultation ($\bar{x}=2.3$) |
| Lack of resources/consultation ($\bar{x}=2.3$) | |
| Unavailability of physician when needed ($\bar{x}=2.3$) | |

Table 19 Continued

| Frequency of Occurrence | Degree of Stress |
|--|---|
| Items Occurring Frequently in Non-ICU Group: | |
| Insufficient/crowded work space (\bar{x} =4.6) | Insufficient/crowded work space (\bar{x} =4.2) |
| Noise (\bar{x} =3.6) | Noise (\bar{x} =3.6) |
| Unpredictable work load (\bar{x} =3.6) | Interruptions, clerical duties (\bar{x} =3.8) |
| Fast pace (\bar{x} =3.7) | Lack of continuity in patient assignment (\bar{x} =3.6) |
| Transfers, admissions (\bar{x} =3.9) | High acuity level (\bar{x} =3.6) |
| Lack of continuity in patient assignments (\bar{x} =3.6) | Emergencies, arrests (\bar{x} =3.8) |
| Chronic patients (\bar{x} =3.8) | Unnecessary prolongation of life (\bar{x} =3.9) |
| Family members/parents (\bar{x} =4.1) | Critical, unstable patients (\bar{x} =3.6) |
| Providing patient/parent teaching (\bar{x} =4.0) | Deaths (\bar{x} =3.7) |
| Routine procedures (\bar{x} =4.4) | Chronic patients (\bar{x} =3.6) |
| Caring for infants/children (\bar{x} =4.6) | Family members/parents (\bar{x} =4.1) |
| | Lack of respect from physicians (\bar{x} =3.6) |
| | Unavailability of physician when needed (\bar{x} =3.6) |
| | Inconsistencies in patient care approaches (\bar{x} =3.7) |
| Items Occurring Frequently in ICU Group: | |
| Noise (\bar{x} =4.0) | Noise (\bar{x} =3.7) |
| Too many people (\bar{x} =3.7) | Too many people (\bar{x} =3.7) |
| Fast pace (\bar{x} =3.8) | Fast pace (\bar{x} =3.7) |

Table 19 Continued

| Frequency of Occurrence | Degree of Stress |
|---|---|
| Transfers, admissions (\bar{x} =3.6) Unnecessary prolongation of life (\bar{x} =3.6) Increased responsibility, decision-making (\bar{x} =3.6) Chronic patients (\bar{x} =3.6) Family members/parents (\bar{x} =3.7) Routine procedures (\bar{x} =4.0) Caring for infants/children (\bar{x} =4.2) | Emergencies, arrests (\bar{x} =3.6) Unnecessary prolongation of life (\bar{x} =3.9) Critical patients (\bar{x} =3.7) |

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