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Utilization of assessment as an intervention in nursing student stress: An exploratory project

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UTILIZATION OF ASSESSMENT AS AN INTERVENTION IN NURSING STUDENT STRESS: AN EXPLORATORY PROJECT

by

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A dissertation submitted to the Graduate Faculty in Social Welfare in partial fulfillment of the requirements for the degree of Doctor of Social Welfare, The City University of New York.

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Abstract

UTILIZATION OF ASSESSMENT AS AN INTERVENTION IN NURSING STUDENT STRESS: AN EXPLORATORY PROJECT

by

Barbara A. Backer

Advisor: Professor Mildred Mailick

The existing shortage of registered professional nurses in the United States coupled with a decreasing enrollment in baccaulaureate schools of nursing presents an increasing problem for the delivery of safe and humane nursing care to the people of this country. It is important that nurse educators address this problem in terms of retention of students already enrolled in schools of nursing. Working with students in coping with current stressors may assist them in their personal and academic lives and prepare them for future career related stressors.

The major purpose of this project was to explore the utilization of self-assessment of stress and coping as a stress management intervention with baccaulaureate nursing students. It was based on the investigator's premise that students' assessment of their own stress and coping strategies could serve as a stress mangagement function for themselves.

The project took place in the Division of Nursing at a college of an urban northeastern university. Through a nonrandom purposive sampling procedure, 55 students enrolled in the first clinical course in nursing consented to participate in the project. Data were collected through interviews, an evaluative coping scale, and an evaluation form. Data collection occurred at the beginning and at the end

of the semester. Both quantitative and qualitative data were collected and analyzed.

A project research associate conducted the assessment intervention with one group of students in a group interview situation and with a second group of students in individual interviews. A third group of students received no intervention other than taking the evaluative coping scale.

Quantitative and qualitative data results did not indicate significant increases in frequency and range of use of coping strategies pre- and postintervention but did show shifts in students' use of coping methods over the semester. Students in all three groups evaluated the assessment intervention as helping them to learn more about, and cope with, stress. The most significant finding of the project was that students are in need of focus on them as human beings. Faculty's role in responding to this need may be one of validation and legitimization of students' stress and coping experiences.

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CHAPTER I

NATURE AND SCOPE OF PROBLEM

That student stress exists on college campuses has been well documented (Gill, 1985; Smith & Kerry, 1968; Whitman, Spendlove, & Clark, 1984;) and that stress is experienced by students in the helping professions--medical, nursing, and social work--has also been reviewed in the literature (Kelly, Bradlyn, Dubbert, & St. Lawrence, 1982; Mckay, 1978; Munson, 1984). It is important that faculty in professional schools address the issue of stress in their students for a number of reasons: (a) there is a common belief now that all illness is, in part, stress related (Davison & Neale, 1982); (b) college students are at risk of failing to develop adequate solutions to the challenges of independent living and the increased responsibilities of adulthood (Drum, 1984); (c) there is indication that learning how to cope with stress as a student may reduce professional burnout (Wilder & Plutchik, 1982); (d) organizational theory indicates that the trends in planned change are toward addressing the increased concern about the quality of life and the quality of working life (Beckhard & Harris, 1977); and
(e) practitioners have an "ethical obligation to become actively involved in promoting an organizational environment that enhances the welfare of the agency's clients and staff" (Patti & Resnick, 1980, p. 217). According to Lewis (1982): "Institutional restrictions that limit opportunities, as well as the personal shortcomings of recipients that may curtail their options, are legitimate targets for change" (p. 100).

Students entering a nursing education program have many stressful demands made upon them. Anderson (1983) points out:

> By choosing nursing the student is opting for a field where danger will be experienced--from sickness or injury from the patients for whom they are responsible, from the danger of giving medications inaccurately, from the danger of insufficient resources to meet the needs of patients and from the danger of indecision in gray areas of ethics. The daily life of a nurse has on-going stressors...(pp. 312-313).

Students are expected to demonstrate a high level of responsibility and accountability in their work with seriously ill clients. They are often unable to avoid identification with their clients' illnesses. They are "usually perceived to be at the bottom of the hierarchy in health care institutions and consistently work in a milieu inhabited by illness-oriented workers and an environment that uses drugs as a solution to many problems" (Carter, 1982, p. 248). In addition, students must not only successfully meet the academic requirements of the nursing program, but many must also finance their education, make adjustments in the allocation of their time, and still meet family, personal, and social obligations. These demands could produce excessive stress that might result in impaired performance in one or more of these areas (Selye, 1974), and subsequently result in students dropping out of the program.

Taber and Finnegan (1980) suggest a careful yet pragmatic analysis of a social problem be done prior to program design. The two initial elements of this analysis, the problem for society and the problem for individuals, were used here to understand the nature and scope of nursing student stress and its implications for health care. Etzioni's (1977) model of mixed scanning was utilized as a part of this problem analysis: wide scanning allowed for covering all areas but not in great detail while a more narrow scanning allowed for a more in-depth examination of certain areas deemed important as a result of the initial scanning.

Problem for Society

A current nursing shortage exists in the United States and may indeed be escalating. The American Hospital Association reported registered nurse vacancy rates of 11% in 1986 and 11.3% in 1987 in hospitals responding to recent surveys ("Where have all the nurses gone?", 1988). "An 8.1% decrease in nursing school enrollments from 1984 to 1985 followed a 5.3% decrease in enrollment in the preceding year: these figures suggest that enrollments will continue to decline in schools of nursing in the coming years" (Rosenfeld, 1986, p. 1). Selby and Cizmek (1989) cited the 1989 report of the federal Commission on Nursing as stating that "...a critical nurse shortage currently exists and is expected to grow worse in the future" (p. 1).

The above statements convey the current and projected nursing shortage on a national level. In New York State, a similar trend is noted. The number of graduates from New York programs preparing for registered professional nurse licensure has declined steadily in the past six years: "There were 632 fewer graduates in 1983-1984 than in 1982-1983 and enrollment declines have been experienced by diploma as well as baccalaureate and associate degree programs" (University of the State of N. Y., 1986, pp. 6-7).

"The present shortage of nurses, coupled with declines in enrollment in nursing programs and the increased demand for registered nurses related to health care delivery systems changes and technology and demographic change in population provide the backdrop for predicting a major crisis in health and illness care in the near future" (Fagin, 1982, p. 24). Planning then needs to be initiated both in the nursing service and nursing education arenas to ensure an adequate and appropriate supply of nurses in the next two decades. As part of this planning, nurse educators need to address the retention of students already enrolled in schools of nursing.

Although data on national and state attrition rates of nursing students are not yet available, national retention rates compiled by the National League of Nursing (NLN) in their 1985-1986 annual survey of nursing education programs indicated that four year public BSN programs had a 76% retention rate (Rosenfeld, 1988). Methodologically it is important to note here that these rates were compiled from class-to-class data which did not distinguish first-time students from students who had transferred or were returning to school: therefore these were reported net retention rates rather than actual rates (Rosenfeld, 1988). The nursing program in which this project occurred has a 20 - 30% attrition rate in the sophomore and junior years (Dean of Nursing, personal communication, 1988). Commenting on the NLN retention survey, Rosenfeld (1988) wrote:

> Contemporary nursing students appear to be having more trouble with nursing curricula than before. Juggling family obligations and personal lives with the demands of school is also tough for students. Many BSN students are discouraged by high tuitions and fees...Still, the message is clear. Students need academic and emotional help to complete their educations. Students in BSN programs also need financial aid (p. 202).

Among the variables then that may influence students leaving a nursing program are the stressors associated with being a student nurse and coping strategies students employ to deal with their stress (Cohen & Zick, 1988).

Stress in nursing students may thus be a cost to society to the extent that it may interfere with completion of a course of study leading to professional nurse licensure. A shortage of nurses threatens the delivery of health care to members of society not only in acute care settings but in areas of health promotion and disease prevention such as well child care, home health care, and public health education where professional nurses are prepared to practice. Such a deficit of provision of necessary health care may be seen as a threat to the

value of distributive justice, that is, how, and/or will, all clients have access to nursing care.

Quality of client care may also be affected. Ineffective methods of coping with stress as a nursing student may carry over into graduate nurse performance, contributing to disillusionment, apathy, and less than effective (maximum) care provided for clients (Kramer, 1974). And lastly, students' stress may result in problems for their families and/or employers perhaps resulting in disturbances in interpersonal relationships and/or lost days of work.

Problem for Individuals

Narrow scanning provided for a more focused view of the effect of stress on individual students. As previously discussed, a great deal of stress is encountered by nursing students in the course of adjusting to a rigorous program of theory and clinical practice. The reality of nursing education is often far different from a prospective student's lay image of it (Olesen and Whittaker, 1968). Fiction, television, recruitment materials, and the applicant's self-expectations are not the most effective preparation for the inevitable conflicts and complexities of working with clients in varying stages of health or illness (Sobel, 1978).

A longitudinal study of undergraduate nursing students over a period of two years in a large midwestern university demonstrated that "students are at risk for stress-related disorders such as burnout, depression, and substance abuse: these problems may be implicated in or could lead to impairment of professional practice" (Haack, 1988, p. 132). Nurses are assumed to be particularly vulnerable to drug addiction because of easy access to drugs (Caroselli-Karinhja & Zboray, 1986).

In the course of developing an instrument to assess factors that impact on the health of students in baccalaureate nursing programs, Jones (1988) found that

health problems of the students were often stress related. "The students cited that their problems often developed from anxiety and their inability to cope with the resultant stress" (Jones, 1988, p. 228). Some of the generally accepted stress-related illnesses in the over-all population include peptic ulcers, ulcerative colitis, bronchial asthma, allergies, and cardiovascular, musculoskeletal, and skin disorders. Current research is exploring the possibility that excessive stress can exert a generalized immunosuppressive effect (Everly & Rosenfeld, 1981).

Hilbert's (1987) study of academic fraud among nursing students cited that student responses for deviant behaviors such as cheating and calling in sick for the clinical area when they were not sick included problems that may be viewed as stress related. These responses were: "pressure for good grades, lack of time, lack of self-confidence, and afraid of poor clinical evaluation", (Hilbert, 1987).

Similar results were noted in other research. In a study of short-term absence from work among a group of third year student nurses, Price (1984) investigated the amount of, reasons given for, and attitudes towards such absence. She suggested that her study findings indicate the probability that stress has some influence on absence behavior during the first two years of education, especially if a link is made with over-tiredness.

These studies indicate how stress can be problematic for nursing students. Whether or not students learn to cope with such stress may affect not only their own health but also their responses and delivery of nursing care to both their present and future clients. Management of student stress then becomes inexorably related once again to the quality and cost of health care to society since student nurses become graduate nurses who are vital members of the health care team, directly accountable to the consumer.

Need for Project

Despite these implications for individuals' and society's health, Sobel (1978) noted that the considerable stress involved in nursing education has not captured the interest of investigators. McKay (1978) stated that historically, nursing faculty members have exercised little foresight in planning learning experiences which will assist nursing students in coping with stress. In a recent study surveying stress management content in baccalaureate nursing curricula, Manderino, Ganong, and Darnell (1988) noted that while numerous descriptive and experimental reports related to stress management training have focused on practicing nurses, comparatively little attention has been paid to the teaching of coping skills during baccalaureate educational programs.

This investigator's personal experience as a nurse educator in a large urban university acted as a stimulus for learning more about nursing students' perceptions of stress and about student stress management programs. Students consistently talked about how stressed they felt and requested assistance with stress management, yet student attendance at stress management programs on campus was limited. In addition, a literature review revealed that most studies of preprofessional student stress have been done with medical students: few studies have been done with nursing students and even fewer with social work students.

Kahn (1969) notes that "in the real world, planning tends to begin because there is complaint, tension, disagreement, dissatisfaction, conflict, suffering, need for choice, a bill enacted by a legislative body with too little forethought, some combination of these--or a dream" (p. 60). Plannning instigators for this project included what has been discussed in the preceding introduction--quality of health care, shortage of nurses, attrition and stress in students, quality of student life--and a dream that the investigator has had for many years to formalize a program for nursing students which would acknowledge the challenges they face in nursing

school and assist them in recognizing and developing their strengths in meeting these.

Educational practice research needs indicated here were exploration of what the experience of stress is for nursing students, and how to plan and provide for policies, programs, and curriculum that assist students in develping their abilities to cope with stress. In light of the current national nursing shortage and decreased student enrollment in schools of nursing, such research seemed timely and appropriate. This project addressed the need for initiation of nursing student stress management within a curriculum context.

Purpose of Project

The overall purpose of the project was to explore the utilization of self-assessment of stress and coping as a stress management intervention with baccaulaureate nursing students.

Specifically, the project had four related purposes. The first purpose was to identify and describe the different experiences of school-related stress reported by beginning nursing students and the importance of these experiences to them.

The second purpose of the project was to develop and implement the utilization of student self-assessment as stress management within a course setting via two assessment methods: a focus group interview approach and an individual interview approach.

The third purpose of the project was to identify and describe the coping strategies reported by students at the beginning and end of the semester and to assess if any changes occurred in these reported coping strategies.

The fourth purpose of the project was to determine students' evaluation of assessment of stress and coping as a stress management method and as a learning experience.

Evaluation was determined by student participation in the project and by students' evaluation of their project participation. Coping was the dependent variable in this project.

Research Questions Guiding the Project

Major questions relating to the first purpose of the project were:

1. What did students perceive as current stressors in their nursing academic lives?

2. What did students perceive as current stressors in their non-nursing academic lives?

3. What meanings did students attach to these stressful experiences, that is, what was at stake for them here?

4. What changes occurred in students' perceptions of stress throughout the semester?

Questions guiding the second purpose of the project were:

1. What specific approaches for assisting students in self-asssessment of stress and coping could be included within a course structure?

2. What specific assessment content should be included in these approaches?

3. What were the required planning steps to be taken in order to implement the project?

Questions pertinent to the third purpose of the project were:

1. What changes occurred over the semester in students' use of coping strategies?

2. How did students evaluate the effectiveness of their coping strategies throughout the semester?

3. Did assisting students in assessing their stress and coping strategies facilitate their use and range of coping strategies?

Questions guiding the fourth purpose of the study were:

1. Did students evaluate that assessing their stress and coping strategies helped them to cope with their own stress?

2. Did students report that learning about personal stress and coping strategies helped them to assist their clients in stress management?

3. Did students recommend that self-assessment as a stress management intervention be continued in this course?

4. What further considerations, questions, and hypotheses about student stress management did the results of this practice research project suggest?

Basic Assumptions

This project was based on the following assumptions:

1. Data obtained by interview and self-report procedures are reliable and valid.

2. Intervention from a systems perspective can be helpful in stress management as well as the more traditional approach of helping one element (the student) to adapt to the other element (the setting) (Huebner, Royer, & Moore, 1981).

3. When people experience stress they are motivated to reduce or eliminate it (Mechanic, 1962).

4. Students have many strengths upon which to build coping strategies.

5. Students need to learn care of self in order to care for others: "Unless nurses are healthy, nurses cannot offer health care to others" (Hutchinson, 1987, p. 196).

6. Coping skills acquired as a student nurse through self-assessment are transferable to future professional practice situations.

Conceptualization of Variables

Independent Variable

The independent variable in this project was self-assessment of stress and coping strategies. In most stress management programs, assessment of an individual's stress and coping strategies is only the first step in gaining an accurate understanding of the nature of the problem; then numerous potential remedies are made available to deal with the problem(s). This investigator became interested in exploring the idea of the use of assessment itself as a stress intervention based on her experiences as a practitioner, an educator, and a doctoral student.

As a practitioner in a health care profession, it is often possible to see a client only once in such settings as hospital emergency rooms, ambulatory care facilities, mental health clinics, and if the client is a homeless person, on the street. This suggests the possibility that the practitioner's and client's mutual participation in assessment of the client's identified problem/need may be more than just data collection: it could also be the intervention if that client does not return for recommended follow-up care.

As an educator utilizing humanistic learning theory, teaching and learning experiences are planned to emphasize the whole person and the meaning of the experiences and resulting behaviors to each student. A major assumption of this learning model is that behavior is directed toward achieving increased self-efficacy and ability to cope with life (Hill, 1985). Students' assessment of their stress and coping strategies may facilitate not only self-understanding and stress management methods for themselves but also facilitate their understanding and care of clients.

While pursuing doctoral studies, the investigator conducted a pilot study of her classmates' perceptions of school-related stress and how they coped with this. In their evaluation of their experience as subjects in this study, some of these students indicated that their participation in the study, that is, assessing their stress and coping strategies, served as an intervention resulting in their experimentation with new coping methods. The pilot study acted as a catalyst for the investigator's conceptualiztion of assessment as an intervention and the development of this current project. Lewis (1982) notes: "On the assumption that the recipient has his own innate power to change and to use experience selectively to his own ends, one goal of the helping process is to assure him the opportunity to utilize his own experience in arriving at his own conclusions within the time available to him" (p. 216).

A full description of the conceptualization of self-assessment of stress and coping strategies as the independent variable is in Chapter III of this dissertation.

Dependent Variable

Coping was the dependent variable in this project. Coping is a very difficult term to accurately define and measure; the literature does not offer any one universally accepted definition. According to Folkman and Lazarus (1980), the conceptualization of coping has been approached from three perspectives; (a) as a set of defensive or ego processes, (b) as a personality trait rather than a process, and (c) as a special or unusual situation rather than a normative event. "Many investigators now recognize the importance of assessing coping from a multidimensional perspective, including the idea that coping is a dynamic process in which the person and environment are interdependent, each influencing and in turn being influenced by the other" (Whitman, et al., 1984, p. 13). This latter conceptualization of coping was utilized in this project.

More specifically, coping responses may be classified as either problem-focused or affective-focused (Lazarus & Folkman, 1984). Problem-focused coping strategies try to deal with the stressful situation itself. Affective-focused strategies try to manage the distressing emotions aroused by the situation. In general, affective-focused forms of coping are much more likely to occur when there has been an appraisal that nothing can be done to modify harmful, threatening, or challenging environmental conditions. Problem-focused forms of coping, on the other hand, are more probable when such conditions are appraised as amendable to change. The findings of a study done by Folkman and Lazarus (1980) on coping behaviors of 100 middle-aged community-residing adults indicated that people use both problem-and affective-focused coping strategies to manage the stress posed by real-life situations.

Defining and measuring coping effectiveness is also a difficult task. According to Monat and Lazarus (1985), the effects of coping can be measured on three different levels: physiological, psychological, and social. "Important information about a particular coping strategy may be lost if only one of these levels is assessed, since coping may result in positive outcomes on one level and negative outcomes on another" (Panzarine, 1985, p. 53). Points in time, that is, short-versus long-run, and particular situations may also influence coping effectiveness. In addition, "it is clear that what is considered to be an optimal or beneficial response is highly dependent upon one's perspecitve and judgment" (Monat & Lazarus, 1985, p. 6). Moos (1974) has concluded that a combination of complementary techniques may be needed to gather comprehensive information about such a complex theoretical construct. Pearlin and Schooler (1978) emphasize that in order to understand coping and to evaluate its effectiveness, it is necessary to examine it in the context of the problems with which people have to contend and the potential emotional impact of those problems.

Coping then becomes an individual matter and is related to the person's perception and evaluation of the stressful event as well as to the situation itself. In this project, coping was assessed by both qualitative and quantitative methodolgy. Students qualitatively described their own coping responses through self-assessment via interview. Quantitative measurement of coping strategies was done through use of a self-report coping scale. Project influence on coping was evaluated by students' reports via interview of coping strategies which indicated an increase in the frequency and range of use of these strategies and by a significant increase in the frequency and range of coping strategies used as measured by the coping scale. These procedures are explained in detail in Chapter III of this dissertation.

Definition of Terms

The terms used in this project were defined as follows:

1. Nursing student. An individual who, having met specific requirements, has been admitted to the baccalaureate program in nursing at the College and is presently enrolled as a sophomore nursing student in the beginning nursing clinical laboratory course.

2. Stress. Psychological stress was defined as a "particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). It was measured by student self-report via interview.

3. Self-assessment. Self-assessment was the process undertaken by students to identify and describe their stress and coping experiences and to evaluate their coping strategies. It was accomplished through students' interview participation, completion of the Jalowiec Coping Scale, and completion of the project Evaluation Form.

4. Coping. Coping was defined as "... efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Coping was measured by student self-report via interview and the Jalowiec Coping Scale.

5. Problem-focused coping strategies. See pages 12 - 13 of this chapter.

6. Affective-focused coping strategies. See pages 12 - 13 of this chapter.

Limitations of the Project

The limitations of this project included, but may not be limited to, the following:

1. Use of a small, non-randomized population of students from one college limits generalizing the results of the project beyond this population. Similarly, the demographic characteristics of a student population in a large, public, multi-ethnic, urban college may limit generalization of project results.

2. Replication of the project is necessary to determine if the results are related to the skills of the assessment facilitator rather than the effect of the intervention.

3. Students within the different groups may share their learning experiences with one another, thus diffusing the effects of the interventions.

4. It is not possible to conclude that the results of this project can only be caused by interaction with the independent variable.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

A definition of stress has not yet been established by investigators in the field. According to Appley and Trumbull (1967), "the developing interest in research about stress has resulted in the use of the term as a substitute for what might otherwise have been called anxiety, conflict, emotional distress, extreme environmental conditions, ego-threat, frustration, threat to security, tension, arousal, or by some other previously respectable terms" (p. 1). Dobson (1983) states that a search of the literature "reveals that there are over 300 definitions of stress and words which are semantically akin to it" (p. 2). In order then to begin the planning process of this stress intervention project, it was necessary to investigate what knowledge about stress and stress intervention was available (Kahn, 1977). Epstein and Tripodi (1977) note that "it is vital that program planners know which techniques are available to deal with a given problem, what evidence there is of their relative effectiveness and efficiency, and what would be the consequences of their implementation" (p. 30). A review of the literature was therefore undertaken in the following content areas; theories of stress, preprofessional students' perceptions of stress, and student stress management programs.

Stress Theory

Because the term stress is so frequently used in our current daily lives, we may tend to think of it as a modern day occurrence. However, Lazarus and Folkman (1984) observed that the term stress was "used as early as the 14th century to mean hardship, straits, adversity, or affliction" (p. 2). Hinkle (1973) noted that during the eighteenth century the use of the word stress evolved to denote "force, pressure, strain or strong effort, exerted upon a material object or

a person--or upon a person's organs or mental powers" (p. 32). The concept of stress survived over the centuries, but it was not until the twentieth century that more formal study of the stress phenomenon began.

Since that time a number of theories of stress have been proposed. Lazarus (1966) and others have noted that such theories of stress may be partitioned into three categories; (a) stimulus oriented theories, (b) response oriented theories, and (c) interactional or transactional theories. These categories were utilized here to review stress theory. The use of this categorization was not intended to minimize the complexity of the stress phenomenon but rather to assist in the conceptualization of its meaning: "The difficulty in defining stress is related to the fact that human beings interact with the environment in a complex, holistic manner" (Garbin, 1982, p. 302). Theories were discussed within these categories because of their major conceptual emphases. This did not necessarily negate their interrelationship with other categories and the fact that they may indeed share a degree of common ground. In the face of such diversity, complexity, and voluminous research about stress, the theories presented here were viewed as heuristic rather than as a final statement of what stress is.

Stimulus Oriented Theories

Stimulus oriented theories most commonly view stress as a potential residing within the stimulus properties of the organism's internal and/or external environment. According to this approach, those aspects of the environment that are demanding or disorganizing for the individual impose stress upon her/him (Derogatis, 1982, p. 372). These theories are based on models taken from the physical sciences, particularly engineering. "Forces are seen as exerting pressure upon the individual system, and it is suggested that these pressures will give rise to various categories of observable strain depending upon individual makeup, and

the severity and duration of the pressure" (Hingley & Cooper, 1986, p. 5). Thus, environments such as school and work may be stressful. In the physiological domain, cold or heat may be viewed as stress, as well as drive stimuli such as hunger or sex. Environmental events evoking changes may also be considered stress stimuli. These include such events as war, natural disasters, illness, divorce, and daily hassles such as train delays and arguments with a spouse.

The concept of stress as a stimulus has led to active research on the relationship between life events and body illness. Early work on the effects of stressful life events was done in the 1930's by Adolf Meyer, who advocated the keeping of a life events chart as a tool in medical diagnosis. Meyer described this technique as "one in which the individual's date and year of birth were to be recorded, followed by entering the periods of disorders of the various organs, and then noting the data concerning the situations and reactions of the patient" (Dohrenwend & Dohrenwend, 1974, p. 3). Life events he thought important to record included school entrance, graduations or changes, jobs, and important births and deaths. It is worthwhile to note here that Meyer's concept of stress included as important life events those which could have positive as well negative meanings to individuals. Thus a contribution that his early research offered to the developing theories of stress was that life events may be an important part of the etiology of a disorder and that they need not be bizarre or catastrophic to be pathogenic (Dohrenwend & Dohrenwend, 1974).

The pioneering measurement research that looked at the probability that stress as life change was associated with disease development was that done by Holmes and Rahe (1967). This research evolved from the psychobiology work generated by Adolf Meyer (Holmes & Masuda, 1974). In their development of the Social Readjustment Rating Scale (SRRS), the tool that is used to suggest relationships between stress, life change and disease, the researchers initially

systematically used the life-chart device in more than 5000 patients to study the quality and quantity of life events empirically observed to cluster at the time of disease onset. One theme common to all these life events was that the occurrence of each event usually evoked, or was associated with, some adaptive or coping behavior on the part of the involved individual. Each item on the scale thus was constructed to contain life events whose advent was either indicative of, or required, a significant change in the ongoing life pattern of the individual (Holmes & Rahe, 1967). Participants in the research tool development were asked to give a numerical value to each life event in terms of the magnitude of change it represented for them. The continued development of this research resulted in the SRRS, a tool that still is viewed as having promise as a predictive measure of life events leading to stress (Derogatis, 1982).

However, conceptualizing stress as life change offers a limited perspective. It has been more recently argued that the seemingly minor hassles of everyday life, such as filling out forms and too many things to do, which do not involve change, may be quite powerful predictors of health outcomes (Pearlin & Schooler, 1978). Kanner, Coyne, Schaefer, & Lazarus (1981) noted that assessment of daily hassles in regard to health outcomes should also consider their counterparts, daily uplifts, which include positive experiences such as giving and receiving love, relief at good news, and having a friend. Looking at daily hassles without looking at daily uplifts could produce a distorted conception of the hypothesized relationship between stress and illness.

In addition, within the stress research which focuses on the stress of life change, relatively little attention has been paid to sex differences or women's experiences of stress. Belle (1982) noted, "...being drafted or being promoted at work often appears on inventories of life events, while experiencing an abortion, a rape, or a change in child care arrangements generally does not" (p. 496).

Basowitz and his associates (1955) developed a theory of stress based upon a study of men in combat. These researchers were interested in exploring the relationship between severe and prolonged stresses in life situations and the behavior of normal individuals as they experienced these stressors. Key concepts in this theory were anxiety, stress, and stress situations (Basowitz, Persky, Korchin, & Grinker, 1955). Anxiety was defined as a conscious and reportable experience of intense dread and foreboding. It may be aroused by any condition which threatens the integrity of the organism. "In theory, any stimuli may threaten the integrity of an organism and thereby produce the experience of anxiety: empirically, some stimuli are more likely than others to produce anxiety" (Scott & Howard, 1970, p. 260). Basowitz et al. (1955) applied the term stress to this latter class of conditions. They conceived a continuum of stimuli based on differential meaning to the person and on their anxiety producing consequences. At one end of this continuum are stimuli which have meaning only to single or limited numbers of persons; at the other end of the continuum are such stimuli that, because of their intensity and their explicit threat to vital functioning, are likely to overload the capacity of most people's coping mechanisms. Basowitz et al. (1955) used this idea to conceptualize stress as certain kinds of stimulating conditions without regard for response. Such stimuli were called stress because of their assumed or potential effect, even though it was recognized that they may evoke differing responses. "By virtue of their assumed generality, these were referred to as stress situations" (Scott & Howard, 1970, p. 261). It is interesting to note that although Basowitz et al. (1955) started out with this situational definition of stress, they concluded their research study with the statement that "in future research...we should not consider stress as <u>imposed</u> upon the organism, but as a <u>response</u> to internal or external processes which reach those threshold

levels that strain its physiological and psychological integrative capacities close to or beyond their limits" (pp. 288-299).

There are concerns about use of stimulus oriented theories as a basis for definition of stress. Although a number of empirical studies have demonstrated correlations between life events and health status (Derogatis, 1982), this theory does not explain the variations of reactions that people will experience to a specific stressor, that is, one person may become ill while another person may simply shrug it off. Perkins (1982) pointed out that the relationship between life events' indices and health outcomes is small: "The average relationship between scores on life events' measures and health outcomes is typically .30 or less" (p. 321). The illness predictive value of these indices is therefore limited. Lazarus and Folkman (1984) stated that "it is not change itself, or its absence, that is necesarily stressful, but rather the personal significance of change or no-change to the person" (p. 309).

Similarly, Basowitz's theory implicitly assumes that what is stressful for one person must necessarily be stressful for another; this may be unjustified. Vulnerability, or predisposition of a person to a stressor, and her/his resistance, or psychosocial resources for coping with it, are not considered (Thoits, 1983).

Response Oriented Theories

Response oriented theory defines stress in a different light. It is the response of the individual to the events of the environment that is treated as defining the presence of stress (Derogatis, 1982). The pattern and degree of responses are used to evaluate presumptive levels of stress. Researchers utilizing response oriented theory tend to utilize psychological symptom inventories and scales that measure negative affect and mood as presumptive measures of stress (Derogatis, 1982).

Walter Cannon's (1932) writings and research on human physiology at the beginning of the twentieth century provided a foundation for the development of the concept of stress as a response to harmful and/or threatening stimuli. In his work, Cannon pursued his idea of the body's need for the fundamental condition of stability and used the term homeostasis to describe the adaptation of physiological processes to maintain this stability. According to Hinkle (1973), Cannon began to use the term stress in relation to some of his laboratory experiments on the fight or flight reaction. He observed evidence of reaction by the adrenal medulla and the sympathetic nervous system when humans or laboratory animals were exposed to threatening conditions or excitement and stated his subjects were "under stress". He also developed the concept of homeostasis by describing the animals' attempts to return to their original state of equilibrium when they were acted upon by a disturbing agent of any sort.

The concepts of coping and adaptation were also suggested here in this early research. Cannon's work showed that stimuli associated with emotional arousal caused changes in basic physiological processes and provided the background for further stress response theory development, notably that of Hans Selye.

Selye (1978) developed a theory of stress which was basically concerned with manifestations of stress at the biochemical and physiological levels of human functioning. He defined stress as "the nonspecific response of the body to any demand" (Selye, 1978, p. 55). He further expanded this definition to include the many bodily changes which were manifested as stress and called this syndrome the general adaptation syndrome (G.A.S.). The G.A.S. consists of three distinct stages; the alarm stage, the resistance stage, and the exhaustion stage.

In the alarm stage, the body reacts immediately to sudden stressors by lowered resistance. For example, reaction to an injury may result in lowered

blood pressure and increased pulse. However, this reaction is quickly followed by countershock, during which the individual's defense mechanisms become active. Continuing the above example of reaction to injury, blood pressure may now increase and pulse decrease.

Resistance, the second stage, is the stage of maximum adaptation and, hopefully, return to equilibrium for the individual. If, however, the stressor continues or the defense does not work, the individual will move on to the third stage, the exhaustion stage (Cooper, 1981).

In the exhaustion stage, resistance cannot go on indefinitely to long-continued exposure to the stressor. Eventually adaptation energy is exhausted, adaptation mechanisms collapse, and the individual dies.

Selye's theory emphasized the nonspecificity of the stress response. In other words, no matter what the stimulus or what kind of body adaptation occurs, the demand for readjustment increases. This demand is nonspecific; it requires adaptation to a problem, irrespective of what that problem may be. "The nonspecific demand for activity as such is the essence of stress" (Selye, 1974, p. 28).

The psychosomatic theory frequently utilized in medical practice is related to response theory. As developed by Alexander (1950), and Dunbar (1947), this theory was based on the premise that stressors --either physical, psychological, or both --which impinge upon an individual can cause a variety of organic disorders. For example, fear, aggression, guilt, and frustrated wishes are emotions people may frequently experience in the course of everyday living. If people are able to cope with these effectively, tensions are minimized and dissipated; if people are not able to cope with these effectively, the resultant tensions remain internalized and act upon the body's vegetative functions, such as digestion, respiration, and circulation. Subsequent results of these sustained alterations of organic processes

may be a variety of psychosomatic symptoms and illnesses. Alexander (1950) offered an interesting analogy to represent this process: "Just as countries thwarted in their external political ambitions often experience internal social upheavals, so the human organism too may show a disturbance of its internal politics, of its vegetative functions, if its relation to the world is disturbed" (p. 47).

As with stimulus oriented theories, questions have been raised about the unidimensional aspects of response oriented theories. Scott and Howard (1970) noted that Selye's theory deals almost entirely with traumatic stimuli and "although it does have the merit of taking into account certain less noxious stimuli, its concept is too closely equated with extreme trauma and duress" (p. 266). Froehlich (1978) pointed out that Selye did not explicitly include cognitve or emotional factors and their impact on the adaptive process.

One strength of the psychosomatic theory in terms of the development of the stress concept in overall research was that it introduced the idea "that many chronic disturbances may not only be caused by external, mechanical, or chemical factors or by microorganisms, but also by the continuous functional stress arising during the everyday lives of individuals in their struggles for existence" (Alexander, 1950, p. 46). However, Wertkin (1981) suggested that a limitation of the theory is that it fails to explain the variations of reactions that are manifested by specific stressors. Following through on this latter idea in terms of health, the theory does not provide a clear explanation of the relationship between the specificity of stress and related illnesses.

Lazarus and Folkman (1984) noted that to identify what is a stressful stimulus in the environment, one must examine the patterns of stress response. Similarly, a response cannot reliably be judged as a psychological stress reaction without reference to the stimulus. In short, the stimulus-response approaches are

circular and Lazarus and Folkman (1984) proposed "that it was the observed stimulus-response relationship, not stimulus or response, that defined stress" (p. 15). This definition leads to a more interactional view of the stress phenomenon.

Interactional or Transactional Theories

Theorists in this group emphasized the characteristics of the organism as major mediating mechanisms between stimulus characteristics of the environment and the response they evoke (Wesnes & Warburton, 1983). Many theorists here maintained that theirs is actually a transactional approach. They described a "dynamic cybernetic system in which reciprocal interactions occur between the individual's cognitive, perceptual, and emotional functions, on the one hand, and the characteristics of the external environment on the other hand" (Derogatis, 1982, pp. 272-273). Dynamic equilibrium (or homeostasis, as in Cannon's research referred to earlier) is maintained through feedback loops within this person-environment system. Thus, stress is not known apart from the ways people interact with it, and coping cannot be understood outside the context of the situational stress (Haan, 1982).

The growth of a more individualistic movement in the social sciences during the post-war period contributed to the development of the transactional approach.

> In sociology, symbolic interactionism and phenomenological explanations of human behaviour highlighted the importance of interaction and the individual's perceptions of his unique reality. Whilst in psychology a similar concern was evidenced in the work of Maslow, Lewin, and Carl Rogers, and in the growth of a "humanistic" school of psychology at odds with behaviourist traditions (Hingley & Cooper, 1986, p. 7).

George Kelly's (1955) work on Personal Construct Theory reflected the above social science trends and has also been influential in the building of transactional theory. Kelly's theory stated as a fundamental postulate that

people's processes are psychologically channelized by the way in which they anticipate events. Emphasis is on the individual as an active problem solver working to make sense of the world. Kelly made the basic assumption that all events are open to alternative constructions. Peck and Whitlow (1975) noted that in Personal Construct Theory there is no absolute truth or objective reality but only ways of interpreting events (constructs) which are more or less useful in advancing our understanding and ability to predict future events. Thus, people are seen as actively involved in cognitive appraisal of their experiences.

Eisdorfer (1985) defined stress as a "process that is multilevel, interactive, and dynamic, with input and output variables which may array in organizational hierarchy from the molecular to the behavioral-social" (p. 16). His theory of stress was an interactional one, composed of four sets of variables; activators, reactions, consequences, and mediators. A descriptive component of the theory further delineated these variables in terms of intensity, quantity, and temporal pattern.

Activators are internal or external events which change an individual's present state. Reactions are the biological or psychological responses of an individual to the activator. Activators and reactions are not qualified as either good or bad.

Consequences are prolonged effects of reactions. Consequences can be biological, such as stomach ulcers, or psychological, as in depression, or psychosocial, such as job-related difficulties or marital discord. Consequences may also be desirable, such as greater maturity, or an increased self-esteem.

Mediators filter and modify all of the above variables. Eisdorfer (1985) listed three classes of mediators; (a) process factors, including cognitive appraisal and coping strategies; (b) environment factors such as interpersonal supports, social climate, organizational factors, and physical setting; and (c) person factors

such as personality, personal resources, genetic variables, and sociodemographic variables. Mediators seem to hold the key to the interactional nature of this theory, for they are able to influence change among the hierarchical levels of the model. For example, an individual's coping strategies can affect physiological reactions to an activator, and social prejudice may affect that person's cognitive appraisal of an activator.

Lazarus (1984) has been a major developer of the transactional theory of stress. Using this theory, he emphasized stress as the relationship between the person and the environment, which takes into account characteristics of the person on the one hand, and the nature of the environmental event on the other. Stress threshold and tolerance levels differ with each person, and depend upon genetic and constitutional make-up, past experience, coping strategies, available resources, self-concept and other factors (Scott, Oberst, & Dropkin, 1982). The judgment that a particular person-environment relationship is stressful, i.e., "taxing or exceeding the individual's resources or endangering her/his well being, hinges on cognitive appraisal" (Lazarus & Folkman, 1984, p. 21).

Cognitive appraisal as used in this theory may be viewed as a process of categorizing an encounter with respect to its significance for well-being. It is similar to information processing in that the appraisal of a particular situation as threatening will depend upon the stimulus characteristics of the situation, the individual's past experience with similar situations, and the memories or thoughts that are evoked or reintegrated by the situation (Spielberger, Gonzalez, Taylor, Algaze, & Anton, 1978). It is different than information processing because it is primarily evaluative, focused on meaning and significance, and is a continuous process during waking life.

Lazarus and Folkman (1984) made a basic distinction in this theory between primary appraisal and secondary appraisal. Primary appraisal involves the

person's initial evaluation of the stress situation in terms of his or her well-being and answers the question, "what is at stake here?". There may be three possible appraisals of the stressor; (a) irrelevant; (b) benign, resulting in pleasurable emotions such as joy, love, and happiness; or (c) stressful, involving harm or loss already done, threat, involving anticipated trauma, or challenge, involving the potential for growth, mastery, or gain.

Secondary appraisal consists of evaluating what might and can be done to manage the situation, whether it be a threat or a challenge. It answers the question, "how can I cope?" Secondary appraisal involves not only an evaluation of what coping strategies are available but also if they will work and if the particular person can apply them effectively.

One form of appraisal does not take precedence over the other. Rather, primary and secondary appraisal interact with each other, shaping the degree of stress and the strength and quality (or content) of the emotional reaction. It is to be noted here also that Lazarus and Folkman (1984) argued that a person may be unaware of any or all of the basic elements of an appraisal: "This lack of awareness can result from the operation of defense mechanisms, or it can be based on nondefensive attentional processes" (p. 52).

In Lazarus and Folkman's (1984) transactional theory, there are specific person factors--commitments and beliefs--which influence appraisal, as well as situation characteristics. These person and situation variables are viewed as interdependent but are separated here for clarification.

Commitments are important person factors affecting cognitive appraisal because they are "an expression of what is important to people, and they underlie the choices people make" (Lazarus & Folkman, 1984, p. 80). Commitments determine what is at stake in a specific situation. An event is viewed as meaningful to the extent that the outcome is viewed as threatening or

harmful or challenging to the commitment. Commitment also is a factor in vulnerability in a situation. The greater the strength of a commitment, the more vulnerable the person is to psychological stress in the area of the commitment. However, a deep commitment may also be a motivating factor to develop coping strategies.

Beliefs are also person factors which affect cognitive appraisal in that they are preexisting notions about reality. "In appraisal, beliefs determine 'how things are' in the environment, and they shape the understanding of its meaning" (Lazarus & Folkman, 1984, p. 63). An important aspect of beliefs in most of the stress research concerns the relationship between control and stress and is based on the assumption that having control is stress-reducing. Rotter (1966) suggested that people with an internal locus of control are more likely to be more independent, effective, achieving, and dominant than people with external locus of control. Lazarus and Folkman (1984) emphasized the point that "it is one's belief in one's ability to control an event which influences how that event is appraised and, through appraisal, influences subsequent coping activity" (p. 77).

Situation factors also influence appraisal. One factor here is novelty: a person will appraise a novel situation as threatening or challenging based on related past experiences or on general knowledge. Nursing students' appraisal of their first clinical experience may be related to their own previous health care. Another situational factor is event uncertainty. One of the most important reasons why event uncertainty in real life can be stressful is that it has an immobilizing effect on anticipatory coping processes (Lazarus & Folkman, 1984). One cannot decide upon a course of action to take and anxiety and confusion may develop.

Temporal factors are situational factors which can influence cognitive appraisal. The imminence of a situation will generally make the appraisal more

urgent and intense. Duration of the stressor, also a temporal factor, affects appraisal. In contrast to Selye's theory, this transactional theory suggests that not all long term stress leads to exhaustion; people may adapt to such long term stress as chronic illness through use of coping strategies. The timing of stressful events over the life cycle can affect appraisal. It is possible that many normal life events may be stressful if they occur "off time". A woman returning to college for a nursing degree after raising a family may experience this event as more stressful than if she had done this immediately after completing high school. It is important to remember that situation and person factors are always interdependent and appraisal relates to their interaction.

Transactional theories represented a move forward in the development of the research on stress in that they demonstrated a shift from the conceptualization of stress as either primarily stimulus or response to one which delineated and appreciated more fully its complexity and its various dimensions. Transactional theory indicated that the impact of stress may be manifested on a number of different levels: physical, psychological, and social. "It presented a conceptual rubric of stress which contained several specific components: the nature of the stressor, its perception or meaning for the individual, her/his mode of coping with the stressor, and the resultant strain or deformation produced by the stress experience" (Levine & Scotch, 1970, p. 13). To the extent that transactional theories are so complex, they become problematic in terms of operationalizing the different concepts and in developing valid, reliable psychometric tools to measure a system in dynamic equilibrium.

Summary

There exists in the literature a proliferation of theory and research about stress and a variety of stress definitions. Lazarus (1966) suggested that rather than debate over terminology, it may be more productive to use the term stress

to represent the "whole area of problems that includes the stimulus producing stress reactions, the reactions themselves, and the various intervening processes" (p. 27). Researchers would then be able to use concrete and specific terms to portray whatever they are studying or describing at any given moment (Mason, 1975).

While at this time there does not yet seem to be one theory that fully encompasses the stress phenomenon in its entirety, Scott et al.,(1982) note the following:

> The trend in stress analysis research is heavily in favor of a cognitively based theory. Stress is a generic entity involving many variables working in concert rather than any one specific negative emotion, stimulus, or response. This idea has moved stress research from an emotion or arousal context to one in which the individual's interpretation and evaluation of a stimulus-filled environment becomes the basis for a response to the stress experience, and in which emotions and physiological responses are viewed as by-products of cognition (pp. 4-5).

Of all the theories of stress reviewed here, Lazarus and Folkman's (1984) transactional theory represents an approach that most completely encompasses the stressors that impact upon a person, the person's appraisal of, and coping with, the stressors, and the many responses and behaviors that may occur as a result of stress. Because cognitive appraisal is based on the person's subjective interpretation of a transaction, it is phenomenological in nature and as such, directs the understanding of the stress experience to the person herself/himself. This theoretical formulation is in keeping with the humanistic approach to effective helping in professional practice proposed by Goldstein (1986). It also is a part of other recently developed transactional theories (Cox, 1978; Benner & Wrubel, 1988).

This transactional theory is appropriate for understanding stress among nursing students. It includes the dynamic transaction between environment, response, and appraisal and encompasses the complex interdependency of stress

and coping. Because of this dynamic, transactive process, the theory supports a model of change which may include an environmental as well as an individual focus for stress management. Therefore, this transactional approach provided the conceptual framework for the model of stress used in this project. The emphasis of the model is on the person's cognitive appraisal of the potentially stressful situation and her/his perception of her/his ability to cope (Cox, 1978).

Preprofessional Students' Perceptions of Stress

A literature review (1967-1988) was done on stress research studies concerning medical, nursing, and social work students to assist in the conceptualization of what stress means to students in the helping professions and how they experience it. A continuation of the categorization scheme used in the previous discussion was utilized here in an attempt to correlate theoretical models with research findings. As in defining stress theories, some studies fell into more than one category. However, each study was reviewed in only one category.

Stimulus Oriented Studies

Studies in this category were of an exploratory design. Students were generally asked to describe stress in terms of the stimulus characteristics of disturbing environments.

In a study consisting of 288 medical students representing all four classes at the University of Colorado School of Medicine, Edwards and Zimet (1975) reviewed these students' self-report inventories relating to personal and academic concerns. Prevalent stressors identified in rank order from this researcher-developed inventory tool were lack of personal freedom (no time for friends, family, recreation), excessive academic pressures, feeling dehumanized, and school emphasis on memorization. Women reported more concern than men in feeling out of place at the medical center.

Levin and Franklin (1984) developed a self-report questionnaire to identify first and second year medical students' needs and problems at Emory University School of Medicine. A total of 77 first-year students and 65 second-year students responded. Lack of time for relaxation, recreation, family, and friends rated highest as a stressor. Other most frequently cited problems were academic concerns and anxiety. Women reported unsatisfied needs more often then men in the categories of time, faculty, academia, parking, and being treated as mature and responsible.

A self-report questionnaire was also developed by Lloyd and Gartrell (1983) to identify medical students' perceived sources of stress. A total of 285 medical students from all four classes at the University of Texas Medical School at Houston participated in the study. The amount of material to be learned was designated most stressful by the students, followed by stress attributed to exams and grades and lack of time for family and friends. Students also related high levels of stress to feelings of inadequacy and perceived lack of administrative responsiveness to student needs. Women reported greater stress due to loneliness and lack of interpersonal time.

Two recent studies on baccaulaureate nursing students' perceptions of stressful events indicated some similar results to those of the medical student studies. In their development of a student stress and coping inventory tool, Cohen and Zick (1988) administered a stress and coping scale to a volunteer sample of 298 nursing students in three baccalaureate nursing programs. There were students representative of each academic level in all the nursing programs. Rank order of stressors identified by these students were; (a) social/personal and nursing classroom actvities (both areas ranked equally high), (b) other non-nursing classes and laboratories, (c) nursing clinical experiences, and (d) college environment.

Utilizing the critical incident technique and Lazarus and Folkman's Ways of Coping checklist as methodology, Zweig (1988) analyzed 246 baccalaureate nursing students' responses regarding their perceptions of stress and how they coped in their first clinical nursing experience. Students reported the educational process in this experience as most stressful, not the actual provision of client care. They perceived faculty as threatening to their self-confidence and to their integrity. Students utilized problem-focused coping methods more than affective-focused coping strategies.

It is interesting to note here that in 1964, Fox and Diamond reported on a comprehensive study they had completed on the assessment of nursing students' perceptions of satisfying and stressful situations in their professional education. The study, involving students enrolled in 23 diploma nursing programs and six degree programs, utilized a critical incident methodology. One of the major findings was that the stresses of nursing for students came not from patient care, but from the educational aspects of the program, or the lack of such aspects, as the case may be (Fox & Diamond, 1964). The results of the latter two studies were similar although separated chronologically by 24 years and provide a challenge for nursing faculty to assess how and what content is being offered in nursing education programs.

This investigator conducted a pilot study of nine baccalaureate student nurses' perceptions of stress and coping. Qualitative methodology was utilized in the secondary analysis of data obtained from tape-recorded student interviews. Primary categories of stress which evolved from the data content analysis were; (a) socialization into nursing, which involved students' experiences in the development of professional values, knowledge, skills, and behaviors, and which also included students' expectations and goals both for themselves and for faculty, and (b) personal and family life, which involved stress as related to multiple

roles, lack of a personal/social life, time management, and family values and expectations. Students utilized a wide variety of both problem-focused and affective-focused coping strategies and seemed for the most part satisfied with these approaches. This investigator concluded from the study findings that student stress intervention could be initiated at a number of points in the academic system, that is, development of a student orientation program, enhancement of college support services, stress management within the curriculum, and organization of a different advisement/counseling system.

Mayer and Rosenblatt (1974) obtained autobiographical accounts from Columbia University School of Social Work students and from social work students in other colleges. A total of 233 documents were obtained which described practice-related situations that had caused the students considerable stress. The researchers prefaced the study's outcome by noting that all "social workers are confronted with enormous obstacles and stress in both trying to establish amicable relations with clients and in accomplishing their treatment objectives with the limited resources available" (p. 65). However, the study findings indicated that these stressors in all practice situations were heightened by the fact that students set high standards of performance for themselves and tended to blame themselves when they fell short of their goals.

Common stressors ranking highest in the medical student studies were lack of personal time for friends, family, relaxation and recreation, and academic pressures. The identification of lack of personal time could be indicative of the developmental needs of students as young adults for human closeness, sexual fulfillment, and acquisition of love, as well as for launching a career. Nursing student studies identified similar stressors and in addition noted the stress of socialization into the profession as well as of fulfilling multiple role responsibilities. Multiple role responsibilities may be identified more frequently as

stressful by nursing students who are predominantly women and who may have primary family responsibilities such as child care and care of aging and/or ill relatives in addition to their student role.

The perception of a learning environment as one that encouraged memorization rather than creativity (Edwards & Zimet, 1975), as one in which faculty were considered problematic (Levin & Franklin, 1984; Zweig, 1988), and as one in which administrative responsiveness was seen as lacking (Lloyd & Gartrell, 1983) indicated that an ecosystems approach, focusing on the institution as well as the student, might be a viable method for stress management.

Using a somewhat different focus than the medical student studies, Mayer and Rosenblatt's (1974) study concentrated on practice stressors defined by social work students. The nursing student studies by Cohen and Zick (1988) and Zweig (1988) also included this focus on the practice setting. Commonalities of identification of stressors from these latter three studies revolved around the themes of students' beliefs about what they thought they should be able to do, what was realistic to do in terms of personal, client, and institutional resources, and how incompetent students felt as a result of these perceptions and beliefs. This suggests that students' assessment of their roles during their socialization process into a helping profession may be stressful and could benefit from clarification.

From a methodological viewpoint, these studies presented some weaknesses internally and also demonstrated some of the "wicked" problems inherent in stress research. Three of the studies (Edwards & Zimet, 1975; Cohen & Zick, 1988; and Zweig, 1988) presented definitions of stress but these definitions differed between the studies. The other studies did not define how they were using the term stress, a problem that was consistent in many of the other studies considered in this literature review. Lack of data about the reliability

and validity of researcher-developed self-report questionnaires as well as the absence of definitions of stress detract from the results and conclusions of these studies. Findings from two of the studies (Edwards & Zimet, 1975; Lloyd & Gartrell, 1983) indicating that women students reported greater stress than men students in several affective stressor areas suggests that women may perceive/experience stressors in their lives differently than men and that current stress measurement tools, as discussed earlier, do not reflect these particular gender experiences. This area of research needs further investigation. To the extent that some of the studies included identification of both stimuli and response to stress, the difficulty of field testing one without including the other was evident.

Response Oriented Studies

As in the studies in the preceding discussion, some of these studies did include both stimulus and response variables but were discussed in this category for what appeared to be their major emphasis of response identification.

Munson (1984) conducted an exploratory survey via a self-administered questionnaire of 82 graduate social work students to determine their perceptions of practice performance, stress, and field instruction supervision. Physical and psychological symptoms were reported as responses to these perceptions. Students reported much lower levels of stress associated with field placement than with classroom activity. In the total sample, 34% of the students reported physical symptoms associated with classroom experiences and 13% reported these for the field experience. Psychological symptoms were reported by 32% of the students for the classroom experience while 23% reported these symptoms for the field experience.

Pagana (1988) conducted a study investigating the responses of 262 baccalaureate nursing students to an initial medical-surgical clinical experience.

Utilizing an instrument designed to describe the aspects of the experience that were challenging or threatening, Pagana found that students' qualitative responses focused on the threatening aspects of that experience and included themes of personal inadequacy, fear of making errors, uncertainty, the clinical instructor, being scared or frightened, and fear of failure.

The major purpose of a study conducted by Cushinberry (1986) with 247 student nurses at the University of Kansas was to determine the amount of stress experienced by students at all levels in the nursing program. Anxiety was the stress response measured by use of the State-Trait Anxiety Inventory. A self-report method of inquiry was also utilized to obtain additional data on students' subjective experiences of stress. Findings in the study indicated that almost all nursing students in the population experienced similar levels of stress.

Anxiety was also the stress response measured in two studies done with medical students. Notman, Salt, and Nadelson (1984) initiated an exploratory study with medical students from the freshmen classes at Harvard and Tufts medical schools. Results from a Recent Life Changes Questionnaire measuring stressful life events indicated that schoolwork was rated as the most stressful in life domains, followed by intimate relationships. Tools measuring responses to stressful experiences included the Zung Self-Rating Anxiety Scale and Self-Rating Depression Scale. In a sample of 245 students, significant correlations were found between perceived stress in medical school and responses of health problems ($p < .001$), depression ($p < .001$), anxiety ($p < .5$), and anger ($p < .001$). Minority students experienced more depression than non-minority students.

Anxiety as a response to stress was the dependent variable in an experimental study done by Mitchell, Matthews, Grandy, & Lupo (1983). Medical students in the freshman class at Creighton University's School of Medicine participated in a study design which involved a supportive counseling

experimental group, a stress lecture experimental group, and a control condition group in which no intervention was provided. All subjects completed the Minnesota Multiphasic Personality Inventory in the fourth and 14th weeks of the semester. No signficant group differences were found after stress management intervention. The study was replicated the next year with two additional measures, the Beck Depresssion Inventory and the State-Trait Anxiety Inventory. No significant group differences were found in the replication study.

The studies reviewed in this category emphasized students' experiences of stress in terms of responses such as physical reactions--headaches, colds, sleep disturbances, and psychological reactions--anxiety, depression, anger. They also presented some important questions about use of response as a primary parameter of the stress experience.

While Cushinberry's (1986) study supported the existence of stress in student nurses as measured by anxiety responses, Munson's (1984) study findings of a low level of stress in social work students challenged the assumptions of the literature and of this investigator that increased stress is a component of student education in the helping professions. Since only four studies were found in the literature review on this group of preprofessional students, additional stress research with this population would be helpful to pursue Munson's findings.

In contrast to Cushinberry's (1986) and Notman, Salt, and Nadelson's (1984) results of student anxiety as a response to stess, Mitchell et al. (1983) noted the lack of high levels of anxiety, or depression in any of the student groups at any point of data collection. However, the researchers did not define stress and it is possible that the wrong phenomena were measured as dependent variables. "Efforts should be extended to seek data on reactions to stress other than anxiety or depression" (Mitchell et al. 1983, p. 371). The latter recommendation lends support to use of self-report methodology to explore the lived experiences of

students' stress and coping. The use of such methodology provided insight into students' stress responses in Pagana's (1988) study.

Notman, Salt, and Nadelson's (1984) study findings reached similar conclusions to those of the stimulus oriented studies regarding academic demands as major stressors in students' lives. Their finding that minority students experienced depression as a response to stress significantly more than nonminority students indicates the need for more detailed research into the arena of minority student stress.

Interactional/Transactional Oriented Studies

All of the studies reviewed in this category attempted to identify stressors, responses, and coping in terms of students' experiences of stress.

Patchner (1983) utilized a self-report stress questionnaire to conduct an exploratory study of 37 students in traditional MSW programs and of 45 students in an alternative MSW program. All respondents found graduate social work education stressful and rank ordered stressors as financial, interpersonal, academic, personal, and family. Alternative program students experienced significantly more stress than traditional program students. A major recommendation of the study was for the school "to try to prevent or reduce the stresses of the students if the programs were to be successful and meet the educational objectives of the university and the professional community" (Patchner, 1983, p. 23).

Wertkin (1981) introduced a 10 week stress inoculation training course in the MSW program at the University of Utah to prepare social work students to cope more effectively with future work related stressors. Students identified their stressors and responses. Coping was the dependent variable measured as a response to stress and was evaluated by interviews and self-monitoring forms before and after stress management intervention. In the study population of nine

students, four reported marked increase in coping skills, three reported moderate change, and two reported only slight change.

In another stress intervention study utilizing response as a measure of stress, Mancini, Lavecchia, and Clegg (1983) specifically cited use of a transactional model as the basis of their experimental study design. Out of the four dependent variables--the A-State Anxiety Inventory, the Palmer Sweat Print, and systolic and diastolic blood pressure--only the Palmer Sweat Print showed a significant change postintervention. However, the experimental group's self-reports indicated experiencing less stress and using more coping strategies than the control group's reports.

In a three phase study implemented by Huebner et al. (1981) with medical students from all four classes at the School of Medicine at the University of Missouri, the most prevalent stressors identified via self-report questionnaire were shortage of time, information-input overload, and inadequate feedback regarding performance. Women reported lack of female role models as a major problem. The researchers used semistructured interviews with students to identify responses and coping strategies. Students reported that stressors induced anxiety, depression, and guilt. The most frequently reported coping mechanism was a passive acceptance that things simply are the way they are.

Parkes (1985), utilizing a critical incident methodology, asked 150 first and second year nursing students in two general hospitals in England to describe a recent stressful episode occurring in the course of their clinical work. Three major categories accounted for almost two-thirds of the total episodes: (a) care of dying patients, (b) interpersonal conflicts, and (c) insecurity about professional competance and fear of failure.

Two studies compared preprofessional student stress with that of other students. At the Medical University of South Carolina, Bjorksten, Sutherland,

Miller, and Stewart (1983) compared 585 first year medical students'identification of stressors and responses with those of 1,110 other health science students. A researcher-developed Student Problems Inventory tool was used to collect the data. Results indicated that medical students have the same spectrum of problems as other students. Medical students complained more intensely of problems with the learning situation, of feeling states such as loneliness, helplessness and feeling distant from others, and of behaviors such as shyness and dating.

Carter (1982) compared 103 women nursing students' responses on the measurement tools of the SCL-90-R (psychological stress), Index of Sociability (social network index), Duff Coping Scale, and the Shapiro Drug Use Survey (unpublished) with those of 103 women liberal arts students. The two groups were similar in symptom distress levels, (e.g., somatization, depression, and anxiety), except for the psychoticism dimension which was higher for liberal arts students. Nursing students depended more on family and friends outside of school for support while liberal arts students depended on school counselors and administrators. In general, reported drug use was low in both groups except that 39% of the nursing students and 47% of the liberal arts students reported using alcohol once a week or more.

The latter two studies, also supported by Munson's (1984) study previously reviewed, question once again the assumption that preprofessional students experience a great deal of stress. In addition, Carter's study showed that although liberal arts students utilized institutional support services more than nursing students, the extent to which students in both groups abandoned formal routes of assistance when faced with problems was noticeable. Again, it is possible to see from this latter finding that an ecosystems approach may be indicated for stress management. Faculties and administration may need to assess present systems of support services and include student input in

formulating new models of service. Interestingly however, Huebner et al.'s (1981) study finding of students' passive acceptance of their perceived stressful environment could indicate lack of involvement from this group in such an approach or perhaps the perception that their involvement would not make a difference.

Wertkin's (1981) study indicated that a cognitive approach to stress management may help to develop effective coping strategies. Mancini et al.'s (1983) study found that when stress management techniques were not practiced systematically, scientifically measured indicators showed no change but self-report measures indicated that the knowledge of such techniques did significantly effect stress response and coping. Both studies direct further investigation into the subjective appraisal of coping effectiveness.

Parkes' (1985) research reported that nursing students expected more of themselves than they could give. This finding corresponds to a similar result in the previously reviewed Mayer and Rosenblatt (1974) study of social work students. That students' expectations of their own capabilities and resources may be a source of stress suggests intervention directed toward development of more realistic appraisal of self.

Stress Management Programs

The results of the above literature review and of the investigator's pilot study on students' perceptions of stress directed inquiry to what approaches were available for student stress management programs. Stress management programs are based on the premise that individuals can recognize the effects of stress and thus use effective coping strategies to counteract the negative aspects of stress overload. When individuals are equipped with skills which enable them to recognize and deal effectively with stress, they are less likely to develop stress-related disorders and feelings of tension and pressure (Kelly, et al. 1982).

Research done on stress management programs in various settings offers some support of these assumptions and suggests that stress management techniques can produce significant positive change in stress levels (Land, 1984).

Selection of studies for this section of the literature review included stress management programs involving undergraduate college students as well as nursing and medical students and was based on the study author(s); (a) stating what the purpose or goal of the study was, and (b) operationalizing the intervention strategy. Again, as in the review of theories of stress, there was a voluminous number of stress management programs published in the literature. Therefore, categorization of the studies was attempted in order to clarify and analyze the various intervention approaches. The categorization schema used was that developed by Monat and Lazarus (1985) and consists of stress management techniques focusing on alterations of; (a) personality/perceptions, (b) biological responses, and (c) environment/lifestyle. The categories are general and it is possible that some of the studies could easily fit in more than one category. However, each study was only reviewed in one category.

Personality/Perceptions

Stress management techniques in this category may include assertiveness training, thought stopping, refuting irrational ideas, stress inoculation, and modifying Type A behavior.

Carlson (1976) studied 40 women nursing students in an experimental pre-post test design. The two experimental groups met weekly and participated in experiential assertiveness training. The control group also met weekly but in a classroom type learning situation. As measured by the College Self-Expressive Scale, the Tennessee Self-Concept Scale, the Assertiveness Inventory, and the Berger Acceptance of Self and Others Attitude Scale, the experimental groups rated significantly more assertive ($p < .05$) than control subjects and increased

significantly more ($p < .01$) in self-concept and self-acceptance. The researcher recommended long-term follow-up of the students to ascertain maintenance of assertiveness.

Bergman (1985) also studied assertiveness training with nursing students. In a descriptive study she incorporated assertiveness training into a clinical nursing course's objectives, assignments, and seminar content. As a result of her study, she proposed that inclusion of assertiveness training in a clinical course may increase students' self-confidence, competence, and communication with staff and clients. She suggested that assertiveness is one answer to the problem of job dissatisfaction of nurses and that this benefit could apply to the student experience as well.

Utilizing the curriculum to incorporate stress management was similarly studied by Allen (1980). He developed a three credit undergraduate course which offered stress management techniques including self-assessment, social engineering, cognitive reappraisal, and relaxation. The non-random sample consisted of 653 students in the experimental group and 264 in the control group. Significant changes ($p < .05$) in the response measures in the experimental group as compared to the control group included decreases in frontalis muscle tension, pulse amplitude, skin potential response, and manifest anxiety, and a shift to internal locus of control. Type A/B behavior did not show any significant change. Allen (1980) concluded that in relation to the measures of biological integrity and mental well-being utilized in this study, the course was impacting human health in a positive direction through stress management.

The above studies offered encouraging results about the effectiveness of stress management approaches within the curriculum. They highlighted the need for long-term follow-up of the continued effects of the interventions. A

limitation of the Allen (1980) study was that stress reactivity was determined from use of laboratory stressors, not life experiences.

Biological Responses

Interventions in this category may include stress management techniques of progressive relaxation, meditation, breathing exercises, and biofeedback.

A continuation of investigating the possibility of teaching stress management skills to students in an academic setting was done by Carnahan and Others (1981). These researchers conducted an undergraduate course on stress management for 41 undergraduate college students. Intervention strategies included didactic teaching about the psychophysiology of stress, student assessment of self-stress, and intensive training in relaxation as a method to reduce stress. The Symptom Evaluation Survey, State-Trait Anxiety Inventory, and Beck's Depression Inventory were used to assess before and after intervention stress levels in the students. Analysis of results showed overall stress reduction for the total sample and for women in particular.

Williams, Decker, and Libassi (1983) studied stress management programs for junior college students on academic probation. Both study groups of 11 students worked with the researchers in terms of self-assessment and goal setting throughout the 14 week program. During the latter half of the program the experimental group received additional instruction about causes and effects of stress and practice in diaphragmatic breathing and deep muscle relaxation. The Physiological and Behavioral Stress Inventory was administered post-training sessions and students in the experimental group exhibited significantly lower self-reported stress symptomatology than those in control group ($p < .01$).

Charlesworth, Murphy and Beutler (1981) studied stress management programs for student nurses. Ten women undergraduate nursing students in the experimental group received training in progressive relaxation, deep muscle

relaxation, modified systematic desensitization, visual imagery, and autogenic training as a component of one of their nursing courses. Eight students in the control group in another section of the same course received no stress management training. The A-State and A-Trait Anxiety measures were given to the students before the program began and before the midterm and final examinations. No significant differences were noted between groups in final grade scores or in the A-State measure but the experimental group showed a significant reduction ($p < .05$) in trait anxiety as compared with the control group. Student subjective reports were positive for stress management training.

Kelly et al. (1982) conducted a stress management program for a volunteer sample of medical students. The experimental group of 34 students participated in six sessions over a period of three weeks. They learned such stress management techniques as self-relaxation training, leisure time planning, and priority setting. A-Trait anxiety in the experimental group was not significantly decreased postintervention when compared with the 14 students in the control group. Postintervention comparison with the control group did however show that students receiving the stress management training had a significant difference in improvement in knowledge about stress ($p < .001$) and in their evaluation of current stress ($p < .01$).

The studies reviewed had in common the use of some form of muscle relaxation as a stress management technique. The ease of teaching-learning this particular technique perhaps explains its wide application. Use of the
A-State and/or A-Trait Anxiety Scale tool was used in three of the four studies as an outcome measure. However, findings based on this tool varied considerably, perhaps once again raising the question posed earlier by the Mitchell et al. (1983) study regarding the efficacy of anxiety scales as a measurement of student stress. Review of student logs in the Kelly et al. (1982)

study showed positive improvement in relaxation as well as indicating the significance of student self-reports in stress measurement.

Environment/Lifestyle

Interventions reviewed here were those which involved some change(s) and/or innovations(s) in the learning/campus environment for the purpose of alleviating student stress. Stress management techniques which may also be considered in this category include time management, proper nutrition, exercise, finding alternatives to frustrated goals, and stopping smoking, drinking, etc.

In an effort to describe how nursing educators might be more helpful in assisting students with stress, Brown and Barnett (1985) utilized a detailed questionnaire to survey 78 nurse educators from 11 randomly selected schools of nursing in the U. S. The nursing faculty reported spending an average of 2.6 hours a week discussing personal problems with students. Student problems most frequently reported were school-related clinical and didactic issues, career reconsideration, faculty-student interaction, emotional health, and financial concerns. The most commonly reported helping behaviors of nursing faculty included listening, asking questions to draw the student out, offering support and sympathy, and suggesting alternatives. The researchers made a strong plea for nurse educators to improve their interpersonal skills in listening and their problem-solving skills in order to be able to respond to students'concerns.

Marshall (1978) developed a questionnaire, the Medical School Learning Environment Survey (MSLES), to assess those dimensions of the medical school learning environment which might be contributing to student stress. Results from administration of the tool to 93 first year medical students at the University of Chicago indicated students felt that the following aspects of the learning environment were important to consider in order to alleviate stress; emotional climate, meaningful learning experiences, breadth of interest, nurturance,

organization, flexibility, and student interaction (results rank-ordered). Marshall recommended use of the MSLES to determine possible interventions for improvement of the learning environment.

Intervention in medical student stress via improvement of the learning environment was explored by Weston and Paterson (1980) through the development of a medical student advisory system at the University of Colorado School of Medicine. Advisory teams of two faculty members and 24 students (six from each class) met regularly to supply faculty, peer, and class support and advice to students within each group. There were also three staff members available in the advisory office for counseling. Evaluation of the advisory system via questionnaire indicated that 85% of the students and 92% of the faculty thought that it was useful. The most important function of the system was felt to be distribution of information, followed by counseling and then advocacy. Role-modeling was not felt to be an important function.

Martucci (1968) utilized within-course learning tools to assist senior baccalaureate nursing students in identifying and coping with stressful clinical nursing experiences. Nursing students enrolled in a Seminar in Leadership course wrote weekly summarizations of clincal interpersonal relationships which were satisfying or stressful. They also wrote a final self-evaluation report noting and comparing their growth and development in interpersonal relationships throughout the course. While reports of satisfying experiences included building of confidence and skill in human relations, stressful experiences far out-numbered these in terms of reports of feeling helpless in leadership roles and feelings of frustration in not being able to meet self-expectations for providing client care. Students were able to individually discuss these written incidents with the nurse faculty member. Martucci (1968) concluded that the learning tools used here needed further refinement to elicit more significant data about student stress and

faculty interventions. She did recommend continued development of this approach so that students could be provided with an educational milieu which would assist them in achieving optimum growth.

The knowledge sought in these studies was descriptive in nature and indicated the researchers' conceptualization of student stress as relating to the individual's interaction with the learning environment via a continuous feedback loop. Such an ecosystems approach de-emphasizes a blame the victim approach and allows for both individual and system change.

Summary

This review of literature included theories of stress, preprofessional students' perceptions of stress, and student stress management programs. What became evident to this investigator was not only the sheer volume of research and publications about stress but also the many varied directions and approaches which were being utilized to define, explore, and intervene with, this variable. It is important then for researchers, educators, and practitioners to try as much as it is humanly possible to clearly describe what it is they are "doing" in the exceedingly complex arena of stress.

The transactional theory of stress as developed by Lazarus and Folkman (1984) was utilized as the conceptual framework for this project. Its emphasis on the individual's cognitive appraisal of stress is congruent with practice principles of clients participating in assessment and of learning new and possibly more productive ways of dealing with their problems. As a basis for stress intervention, it recognizes and supports the nature of the individual's subjective reality, allowing both client and practitioner to work together on the meaning of that reality and what the client might want to change.

The investigator's pilot project with nursing students and most of the studies reviewed in the literature confirmed that preprofessional students do

experience stress in the areas of academic demands, personal life, and professional issues. Researchers agreed upon the need for student stress intervention.

Student stress management studies reviewed differed widely in terms of many signficant factors, which made comparisons among studies and statements of general conclusions difficult. The variety of stress management techniques utilized and the numerous methodologies employed to evaluate outcomes reflected the wide diversity of the intervention arena. Monat and Lazarus (1985) suggested caution in this wide diversity and raised the question if, "by offering ready-made and overly simplistic cures, we trivialize distress" (p. 11). They urged the acknowledgement of individual differences and life agendas.

However, the interest and participation of students and faculty in stress management programs in academic settings indicated a need and concern for stress intervention. In terms of this project, the literature did support and suggest use of the curriculum for student stress management (Anderson, 1983; Cushinberry, 1986; Manderino, et. al. 1988). Thus, the stress literature became an addition to this investigator's planning instigators and directed action to the planning and design of assessment as an intervention in nursing student stress.

CHAPTER III

METHODOLOGY

"The network of positions and rules which define a formal organizational structure is occupied by people, and those people in varying degrees put their own personalities into getting their job done" (Schein, 1969, p. 11). Patterns thus develop of not only how people do their work but also of how they relate to each other. Out of such patterns develop the culture and traditions of the organization. It is important then that a project design include consideration of both the formal organizational structure and the culture, tradition, and processes which occur between people and groups in the setting where the project will occur. An investigator, whether initiating a project or a study within the organization as a member of that system, or entering the system to conduct research, influences and is influenced by organizational structure and processes as well as by the environment external to the organization.

This investigator selected use of the program management model developed by Patti (1983) for a basic project design framework. Its major components of program design, implementation, and evaluation provided a direction for planning and management as well as allowing for consideration of the interaction between people and structure. These design components are used as the major headings in this chapter to delineate project development, implementation and evaluation. The proposed project and the College were viewed here as open systems, interacting with both internal and external influences and thus changing, and being changed by, these influences.

Project Design

In keeping with the view of the project as an open system, Glisson's (1981) contingency model of program design, which conceptualizes the interrelationships of the organization's subsystems and the relationships between the organization and its environment was used to begin the design process. Glisson arranges five subsystems--environment, goals and values, technology, structure, and psychosocial system--in a hierarchical order and suggests that each system influences the system under it, thus creating a "domino" effect.

Environment

The project took place within the nursing program, whose significant publics within the College affecting this project and its design included students, administration, faculty, and other academic departments. External to the College, some of nursing's significant publics included agencies utilized for students' clinical learning, funding agencies such as the Department of Health and Human Services, other nursing schools in the area, and accrediting bodies such as the National League of Nursing. The importance of these significant publics to the design of the project may be seen in the consideration of the next subsystem, goals and values.

Goals and Values

Kahn (1969) described the importance of recognition of the expressive component of problem definition which includes our values, personal beliefs, interests, aspirations, culture and political pressures, and which greatly influences our planning.

One societal value that has perhaps influenced the identification and management of stress in nursing and nursing students is that of nursing being identified as "women's work" and that nurses have been expected to bear the same burdens as workers in other "women's" jobs: low salaries, obligatory

deference to male superiors, an association with menial or "dirty" work. The societal value placed on women's work may contribute to the paucity of stress studies of nursing and social work students noted in the literature review, suggesting that women's work has not been valued enough to research.

Because stress may be defined as a problem by different groups with different value systems, it was important to ask, "for whom is it a problem?" and to also consider what is justice for one may cause injustice for another. Inherent here is the ethical issue of including clients in problem assessment and definition and insuring that they have choices and options in the program plan. Our professional practice values of equality (including worth and uniqueness), reason (including knowing), and growth (including self-determination and actualization) uphold this action, as does our practice knowledge that a plan developed in conjunction with the client will more likely be adhered to by the client than one in which s/he does not participate. These practice values directed a conceptualization of stress intervention design to one that included the recognition of each student's individualized and unique experience of stress.

Problem setting, which includes naming and framing, was defined by Rein and Schon (1977) "as a judgment about the problematic situation placed within a frame of experience and which enables naming to call our attention to certain features within that frame" (pp. 238-239). Naming and framing tap into the values of our culture and to our cultural myths. The issue of concern here in project design was student stress. McGrath (1983) points out that: "In our culture for the most part stress is a 'bad' thing: everyone knows that if people are under too much stress they will perform poorly and suffer other negative consequences" (p. 1393). However, stress may also be positive in that there are circumstances in which it could be dysfunctional for the person (or organization) to not be sensitive to the presence and potential impact of stressor conditions

(Lazarus, 1966). In addition, stress may be framed as a challenge rather than a threat. It does not necessarily follow that stress becomes positive by renaming it as a challenge or an opportunity. However, the setting of stress in a positive framework points out possible value assumptions about stress always being bad, which may lead to value biases in policy and program design, that is, "improving" performance or making conditions "better". Project design thus considered recognition of students' values, cultures, and strengths as well as recognition of their choices to manage stress in ways that were comfortable for them.

Not only is it important to look at cultural and system values regarding a problem, but ultimately it is important for the program planner to ask, "why am I interested in this problem?" Regarding policy development, Orlans (1975) stated that "the vain search for objectivity should be replaced by an honest avowal of the interests being served" (p. 107). This investigator strongly believed, valued, and was committed to the idea that faculty and students could work together to ameliorate student stress in the nursing program. However, assuming that retaining students was of vital importance to the nursing program's viability, the investigator also believed that working with the problem of student attrition was a political necessity. These values were important to make explicit. In combination they served as motivating forces for this project's support and development.

Before establishing specific goals as related to the purposes of the project, it was helpful to review previous attempts at student stress management programs on campus and to analyze available resources. Allocation of resources to a specific problem or need may indicate the organization's values in meeting that need. In this way it is possible to appreciate the culture, values, and traditions of the system in which one is working and to recognize why constraints or limitations may be placed upon the project. "Simon's (1964) definition of goals as

a 'set of constraints' within which choices are made helps one to view goals and values as part of a system" (Glisson, 1981, p. 21).

In comparison with other programs in the College, the nursing program had been a bellwether for many years in terms of the number of students it attracted to the campus. It was recognized for its quality of education and for the respectable passing rate of its graduates on the state professional licensing examination, the latter being a shared value of students, faculty, administration, and the community.

When the program first began in the College, it was heavily funded for many types of student support services, that is, tutoring, academic advisement, academic skills, and individual counseling. As funding from federal grants became less available, the nursing faculty attempted to continue these support services as part of their commitment to the students and to the program. The college's Office of Student Affairs also worked at incorporating nursing students into the regular college support services. What happened was that nursing faculty found that they were not able to assume these additional support services because of the time and effort such services required. Fiscal crises within the University necessitated additional faculty teaching hours. Nursing faculty also were (are) involved in securing doctoral degrees and in obtaining tenure. The Office of Student Affairs continued its support services for nursing as well as all other students but their time and resources were limited. The recent history of decreasing student enrollment and difficulty in obtaining federal funding for undergraduate nursing students contributed to the present situation of faculty and counseling staff concerned about student stress but simultaneously working within the constraints of time, money, and in the instance of many nursing faculty, personal survival within the organization. Recent budget cuts further decreased allotted faculty time for academic counseling of students.

The nursing students themselves also impact on goals and values. The students in the program represent diverse cultural, socioeconomic and academic backgrounds. Many are young and middle-aged adults juggling classes, jobs, and children: many are single parents. While students' responses in this investigator's pilot study indicated interest in stress management programs, the multiplicity of their roles, (i.e., students, parents, employees) placed constraints on their time availability on campus for anything but classes and library work. Stress management programs offered through the Nursing Center over the past several years attracted a number of staff personnel but fewer students: A major reason for nonstudent attendance was lack of time.

Society's values, significant publics of the nursing program, the nursing program's own history, culture, and values, and this investigator's interests thus affected this project's design and goals in terms of resources and support as well as constraints and limitations. The stress management project design that emerged from consideration of these factors was one that allowed for student-faculty interaction, acknowledgment of student strengths and cultural differences, and recognition of time as a limited resource for both faculty and students.

Patti (1983) defined goals as "statements that express a program's long range intent to eliminate, reduce, or amelioate a problem or need in the community" (p. 78). As related to the general project purpose stated earlier, the overall project goal that evolved was to explore the use of self-assessment of stress and coping as a stress management intervention with baccaulaureate nursing students. Specific project goals were delineated after consideration of the remaining subsystems of technology, structure, and the psychosocial system.

Technology

Technology is what is done to achieve desired outputs, to accomplish goals. The technologies of the student stress management studies reviewed in this proposal differed widely in terms of many significant factors such as intervention techniques and evaluation methodologies, making conclusions as to the efficacy of any one approach quite tentative. Monat and Lazarus (1985) noted the lack of substantive research in stress management programs.

These factors contributed to the definition of an indeterminant technology for this stress intervention project. Hasenfeld and English (1974) suggested that human service organizations vary by the degree of the determinancy of their technologies. Determinancy is defined by the available knowledge of cause-effect relations in assessing and changing human attributes. Thus, many of the medical technologies are highly determinant, while many of the technologies for changing human behavior, such as those found in schools and stress programs, are highly indeterminant. Students, unlike inert material, have their own values, motivations, and self-activating dynamics which will interact with the technology being used. Design needed to include recognition of this interaction. The complexity and indeterminant nature of the stress knowledge base, and the variable characteristics of the students interacting with the technology, necessitated the adoption of nonroutine and nonprogrammed project procedures and a structure of faculty-student autonomy and independence (Hasenfeld and English, 1974). Project design thus also needed to be flexible and individuated for students, yet still maintain goal-directedness.

Based on the investigator's values, identified student needs, review of the stress intervention methodologies in the literature, and the necessary parameters for program design so far established, that is, interaction between students and faculty, recognition of students' strengths and uniqueness, development of

students' abilities to cope, and limitation of time as a resource, assessment as a stress intervention was the technology of choice for this project.

Assessment is usually the first step of the helping process in caring for people and most often is thought of as data collection from which a diagnosis may be formed and subsequent intervention initiated. However, the idea that assessment may also function as an intervention was explored in this project utilizing Lazarus's and Folkman's (1984) conceptualization of psychological stress as individual cognitive appraisal, a humanistic concept of learning which supports the student's personal development, and a "concept of holistic health in which health expresses the inherent capacity of individuals to grow and change and become more" (Weick, 1986, p. 555). These concepts of cognitive appraisal, humanistic learning, and holistic health encompass the client's active participation in intervention and serve as part of the practice knowledge base of the principle "clients should participate in assessment".

Assessment as an intervention in this project was based on the above practice principle. A review of personal, experiential, and practice knowledge in the literature supported the propositional component of this principle. But, if the commendation (should) is removed from the statement, one is left with the implied assumption that client participation in assessment can enhance development of personal and social resources. This may or may not be true. The following hypotheses suggested empirical investigation of this assumption: (a) if a student talks about her/his stressors, then s/he will recognize specific areas of stress and strategies used to cope with that stress; (b) if a student recognizes specific areas of stress and coping, s/he will identify additional strategies to cope with that stress; (c) if a student identifies additional strategies of coping with stress, s/he will develop her/his own strengths to implement these new strategies. The testing of this assumption in this exploratory project offered the possibility of

determining if it warranted acceptance as a 'truth' (Lewis, 1982). Such testing is necessary to build the knowledge base of a profession.

Change ideally focuses on various levels of the system involved (Taber & Finnegan, 1980). Technology affects not only what is to be done, but who is to do it and where it is to be done. An indeterminant technology as described here led to the choice of a staff of professional people who were academically prepared to provide the instruction and support required. These people were the nursing faculty. Consideration of student learning needs for self-care knowledge and of limited time resources placed the setting of this project within the curriculum. Assessment as an intervention was then further delineated into students' assessment of their own stress and coping strategies assisted by nursing faculty within a specific course structure. To the extent that this project looked at curriculum as well as student adaptation, there was a system focus as well as an individual focus in this innovation.

Support for assessment as a stress intervention within the curriculum was derived from learning theory and the nursing literature. One learning theorist, Ausubel (1968), wrote that students are likely to learn things that are meaningful to them and argued that new material must relate to information the student already possesses. Students already know about the existence of stress in their lives: The introduction of a systematic way of assessing this stress may provide a cognitive framework in which it is possible to locate that stress and develop additional coping abilities. Development of self-awareness in the nurse receives much emphasis in all nursing courses, as the need for self-assessment is paramount in the profession. According to King, (1984):

> Nursing professionals must be able to evaluate their own behavior objectively because, whether alone or in a team, as professionals they supervise themselves. Therefore they must understand the implications of their actions and accept the consequences of their decisions. They must be able to

> describe their present abilities accurately and identify areas that need further development (p. 181).

Students learning self-assessment of stress and coping could thus not only be learning about self-care but also be developing skills to function as ethical professionals within standards of practice.

Learning theorists Bandura and Walters (1963) supported this type of experiential learning. They stated that students are more likely to learn if they are actively involved in the instructional process and that active involvement is more effective than mere observation. Students participating in self-assessment of stress and coping would not simply be hearing/reading about it: they would be doing it. Wittich and Schuller (1973) reported that individuals experienced with self-assessment techniques tend to be more self-challenging, questioning, analytical, self-motivated, and curious.

Anderson (1983) suggested that the management of nursing stress can and should begin with the nursing student. She rejected the idea that the undergraduate nursing curriculum is already too crowded to add any content and stated that: "The degree of unrelieved stress currently experienced by students is taking curriculum time by preventing efficient learning and performance. The extent and cost of nurse burnout are personal and professional tragedies in need of prevention. Students, nurses, and patients are well worth the effort" (p. 314).

Reilly (1978) also was supportive of including the affective domain into nursing courses. She proposed that affective learning can no longer be primarily relegated to the instinctual field, with hopes that it will "just happen" to good people, but that it must be treated in the curriculum with the same emphasis as cognitive learning.

A major recommendation from the study done by Cushinberry (1986) on

identifying stress in nursing students associated with classroom and clinical experiences was that:

> Assisting students with stress management in an organized manner within the program of studies will prove valuable to the client, faculty and individual student who will be, in the future, a professional practitioner in nursing. There is a need to identify stressors and to try to reduce stress experiences via careful curriculum planning and by altering instructional strategies in the clinical area and classroom (pp. 102-103).

The literature thus offered support for the placement of this technology within the curriculum. Proceding then with Glisson's theory of the "domino effect", the environment, goals and values, and indeterminant technology of the project affected its structure.

Structure

Perrow (1967) observed that nonroutinized technologies required high worker discretion, and Glisson (1981) noted "that organizations delivering social welfare services would be expected to allow considerable line worker discretion through a noncentralized and nonformalized structure" (p. 24). The structure of this project design thus needed to be one of decentralization, which allows for some degree of power at the lower level of the organization and provides staff with planning and decision-making tasks which fit their professional and motivational needs. Therefore, while the Dean of Nursing and the course coordinator were consistently involved in the development of the project, nursing faculty members were the people who would eventually make the decision whether or not to integrate it into their teaching and the curriculum.

In formulating the project structure, the investigator drew upon the situational/contingency model described by Lorsch (1977) which is concerned with a program design that will create an appropriate fit between people, tasks, and the organization. The project structure corresponded to that of the overall college structure which is one that follows Weber's (1969) model of bureaucracy in

regard to following the principle of hierarchy, but which also follows the decentralization principle in regard to autonomy and academic freedom of faculty in deciding how they will teach. This was especially true in the Division of Nursing, where influence is derived more from referent power and expertise than from hierarchical authority and accomplishments are obtained through strength in the informal as well as in the formal organization.

There was a down-side to consider in this choice of a decentralized structure in this project. A group or committee of faculty members involved in planning and policy making will most likely arrive at decision-making through consultation, negotiation and compromise. This may be time-consuming and costly as well as difficult. In addition, this structure limited the role of this investigator as project manager to that of a facilitator and a motivator to eventually move the project into the curriculum, rather than supporting a role encompassing the influence and power necessary to ensure unanimity of objectives (Cleland, 1964).

However, policy is always about choice, trade-offs, and consequences, and here the choice was that a decentralized structure was the best fit given the college environment, the program technology, and a professional/faculty staff which highly valued communication and exchange of ideas. Choice of a more centralized structure ran the risk of faculty resisting what they might perceive as an infringement upon their academic freedom. The element of choice including consideration of both people and structure led to the involvement of the psychosocial subsystem in this project design.

Psychosocial Subsystem

Weick (1981) pointed out that those who view reality as consisting solely of things and structures, rather than as relations and processes, will have difficulty in administrative practice. The psychosocial subsystem involves the multiple,

dynamic interactions and relationships which occur between and among people within an organization. As noted previously, very little hierarchical structure existed within the Division of Nursing. Since the power structure within this group was primarily a horizontal one, the relationship of the faculty to it was that of their relationship to one another. Faculty thus may strive to influence each other through the use of normative power, described by Etzioni (1969) as "location of symbolic rewards, esteem and prestige symbols, and influence over distribution of acceptance as a response" (p. 61). In addition, faculty and staff also have professional expertise in different areas and may use this as a source of power. Professional competance is recognized as a basis for authority here: this is not usually recognized in traditional theories of organization (Blau, 1971).

These relationships of people to one another and to power were important to delineate at this point of project design in order to identify the sources of faculty motivation and interests which would influence their partcipation in this project and their subsequent support of its institutionalization into the curriculum. For nursing faculty members, such influencing factors may include:
(a) professional accountability for educational preparation of qualified practitioners, (b) professional interest and support in the development and use of research, (c) implementing human caring values of responding to students' expressed needs, and (d) divisional and faculty organizational survival in relation to student retention.

The flip side of exploring motivational and interest factors influencing project participation was to assess resistance forces (Brager, 1978). For faculty, these may include: (a) opinions that student stress is being managed adequately through existing programs, (b) ideas of introducing added content into an already full curriculum, (c) feelings of insufficient expertise in helping students assess

stress and coping, and (d) feelings of inadequacy in terms of coping with their own responses to students' stressors.

At this stage of project design, focusing on those factors which would motivate faculty to support the project were indicated. From the beginning of the project's conceptualization, the investigator had been talking with the Dean of Nursing, the course coordinator and the other faculty members teaching the course in which the project was to be introduced about its goals and its placement in the curriculum, providing both information and seeking refinement of ideas. A key concept here in planning for change is that the advocate must be "willing to enter a serious dialogue with both the formal and informal sources of organizational power with respect to innovation proposals, focusing not only on strengths of the emerging program, but also upon modifications that would improve the concept" (Delbecq, 1978, p. 323). From a personal perspective, this investigator experienced these dialogues as helpful not only in the actual development of the project, but also as supportive in the often lonely pursuit of moving a research idea into practice.

Individual discussions were held between the investigator and each faculty member whose students were being asked to participate in the project. The purposes of the project were reviewed, with emphasis being placed on the idea that many faculty were already involved in helping students with assessment of stress in their clinical courses, and that this project was being used as a pilot to provide experience and data for consideration of including stress assessment as intervention within the curriculum.

Consideration of the psychosocial subsystem in this academic setting also included the students who were integral participants within it. The project design needed to consider motivating factors for student as well as faculty participation. Patti (1983) pointed out that "too often one sees a seller's mentality in new

programs, a mentality that grows out of the belief that if quality programs are provided they will be utilized by those in need" (p. 114). Student motivation to participate in the project could well be related to use value. Human services have use value as well as exchange value (Lewis, 1982), and the use value here could be largely determined by the students' judgments of costs relative to the satisfactions obtained by participating in the project. Costs to students might include investment of time and possible additional stress from participating in a stress project. Satisfaction might be the development of enhanced potential for constructive choices in managing stress in self and with clients. Evaluation in the form of feedback from the students was an important factor during and after the project in determining its use value.

Ethical considerations were important to integrate in the project design and included assurance to students that participation was voluntary, that they had the right to withdraw from the project at any time and that this withdrawal would not affect their status in nursing, and that confidentiality and anonymity were assured (See Program Implementation).

Summary: Project Design

Glisson's (1981) contingency model was utilized to develop the key elements of project design necessary to begin project implementation. These elements included defining the environment, goals, technology, structure, and psychosocial subsystem of the project. Patti (1983) stated that "between the time programs emerge from the design stage and before they are in a full blown capacity for service delivery, there exists a time period called the implementation stage" (p. 106). That stage is a time for the program to be incrementally elaborated, refined, and adapted to internal and external realities.

Project Implementation

Mosher (1980) observed that the initial planning design often gives little attention to the requisite steps for implementation. Thus, it is possible to design a wonderful program and not be able to implement it or institutionalize it within the existing organization. Drawing upon Williams's (1976) implementation analysis schema, four important issues were considered in implementing this project: (a) technical capacity to implement, (b) political feasibility, (c) technical strategies for implementation, and (d) political strategies for implementation.

Technical Capacity to Implement

The conceptualization of the project as an exploratory pilot study was a key factor in implementation. In terms of research and the purposes of the study, this conceptualization was most useful to facilitate the early development of a beginning practice model. It was an attempt to make more systematic and rigorous those processes that were being utilized by nursing faculty to enhance their teaching of stress theory and their helping students cope with stress. Reid and Smith (1981) noted that "there is justification for arguing that the central product of an exploratory experiment--a practice model-- can be put to immediate use while further testing and development are being undertaken, if, of course, there is evidence to support the belief that the model is capable of achieving desired results" (p. 133).

The stress management literature did offer such support for stress and coping assessment as a signficant component of stress intervention. The fact that some nursing faculty were involved in doing this intervention in varying degrees in an informal, often crisis-oriented approach, gave credence to the assumption that faculty might acknowledge this as a method for assisting students in coping with stress. It also indicated, albeit in unknown and varying degrees, that many faculty had the skills to implement the project technology. This project then as

a pilot study was a beginning step in a program of developmental research which had its origins in the educational practice arena.

An assessment of available resources was crucial in implementation analysis. Wildavsky (1979) contended that "where one wishes to go depends on whether one is able to get there" (p. 9). Resources then considered for this pilot project included time--investigator's, students', and faculty's--, administrative structure and lines of communication, current curriculum content, and technology variables and faculty skills.

By starting small as a pilot study with a specific number of students in one course the project did not unduly tax the resource of time. The horizontal line of communication and power allocation within the Division of Nursing allowed for frequent access of dialogue among and between the investigator, faculty, students, and the Dean of Nursing. The course content in which the project was being introduced included development of self-awareness and assessment. Faculty often informally participated with students in self-assessment of stress and coping in this course, although as discussed earlier, the extent and quality of this were not known by the investigator at the time.

Technical capacity to implement this project was available. Trying it out on a small scale as a pilot project allowed for development of information on implementation problems and for faculty, students, and investigator collaboration in making changes. Project implementation now needed to focus on its acceptance within nursing and the College.

Political Feasibility

Essentially, all program designs initiate change and by doing so will almost invariably have implications for other parts of the organization. Issues of power, influence and resources are likely to arise at the design stage but such concerns become more urgent in the implementation stage (Patti, 1983). It was determined

that adequacy of resources existed within the Division of Nursing for this pilot project implementation. Location of power and influence also had to be determined and assessed for utilization and commitment.

As previously discussed, formal organizational power in the Division of Nursing lodged with its Dean. Her approval of this project was a key factor in implementation. Patti and Resnick (1980) noted that the change agent, who often has no legitimate authority for her/his activities, must identify the sources of power that may be available to her/him and utilize these sources for the change. The Dean had expert and legitimate power in her role as well as a cosmopolitan orientation, which enhanced her status within the Division and the College. The investigator worked closely with the Dean in project development and her approval for the project was obtained.

Informal power rested within the faculty psychosocial subsystem, of which the investigator was a member. Dalton (1969) suggested that because the informal structure can have such a significant effect upon policy implementation, it should more correctly be called unofficial than informal! The investigator's influence, if any, within this horizontal structure would be that arising from professional competance and expertise, negotiations, trade-offs, and from positive working relationships with colleagues.

Collaboration in project development with the course coordinator and faculty members teaching the course in which the project was to be implemented resulted in this group's very positive support of the study. The investigator had anticipated more opposition. Klein (1980) noted that "resistance to the innovation needs to be viewed in terms of the nature of the system which is being protected" (p. 155). This project was suggesting that faculty consider formal adoption of student stress assessment as a teaching approach. Since faculty strongly uphold their right of academic freedom to teach what and how they deem

necessary, the investigator thought that there would be more criticism of the project than acceptance. This did not prove to be so and the project received the support of both the formal and informal organizations of the Division of Nursing.

It was important also for the project to be approved by the college's Institutional Review Board for the Protection of Human Research Subjects (IRB). This college committee reviews faculty research proposals to ensure proposal compliance with the Department of Health and Human Sérvices regulations for the protection of human research subjects. The process of obtaining IRB approval for this project is discussed in this section in terms of the investigator's conceptualization of political feasibilty as including an understanding of how to negotiate within formal and informal systems in order to initiate change.

The initial project proposal submitted to the IRB consisted of a project design in which the investigator planned to initiate assessment of stress and coping with three different clinical laboratory groups, each group having ten students in it. She was to have been the faculty member as well as the investigator in two of the three groups. The IRB did not approve of this initial proposal, stating the following reasons: (a) two items on the coping scale which designated use of alcohol and drugs as coping strategies were too intrusive, and (b) project implementation involved too much class time. The IRB suggested that a revised proposal could be submitted for another review by the committee.

The investigator revised the proposal in accordance with the committee's suggestions and resubmitted it for review. These revisions were discussed with the Dean of Nursing, the course coordinator, and the investigator's dissertation committee. Although the IRB committee members were by then off campus for the summer vacation, the investigator did receive some feedback about the members' reactions to the project from the administrative officer of the

committee. Committee members were still expressing some concern about the project in terms of: (a) assurance of student anonymity and confidentiality, (b) stress of students being interviewed by a professor who may be a cause of stress, and (c) legitimacy of a faculty member conducting an exploratory project with her own students. It was suggested to the investigator that she could submit another revised proposal for review by the committee in the Fall.

It was important to assess and describe this process of moving the project through the IRB at this point for several reasons. First, it demonstrated the true meaning of assessing and understanding the process of initiating change in an organization. According to Garbin:

> Field research requires skill in persuasion and interpersonal relationships. This is especially true in the early stages of the project when administrators of an institution must be convinced that this research is important, safe and necessary. Much time and effort must be spent on these preliminaries in order to elicit the cooperation of key people needed to get the research accomplished (p. 305).

In this situation, there may have been a tension between the investigator's project to implement and evaluate an innovative teaching strategy and the IRB/institution's mission to protect students and maintain research protocal stability.

Secondly, a review of the process at this stage of securing IRB approval indicated that perhaps there was not a clear understanding by the committee of practice research. Traditional academic research pursuits differ a great deal from practice research. Kahn (1974), in assessing institutional constraints to interprofessional practice, posed the questions of: (a) "Why expect system alignment or need characteristic to coincide neatly with the domain or preoccupation of any profession or discipline?", and (b) "Yet why forego successful intervention and social provision because the boundaries are not quite right?" (p. 15). After discusssions with the Dean of Nursing, the course

coordinator, nursing faculty members in the course, and her dissertation committee, the investigator revised the project design in accordance with the committee's informally expressed concerns.

As part of this revision process, the investigator discussed with the IRB chairperson the goals and purposes of the project in order to clarify them and to seek possible suggestions that would facilitate the fit of these with college research guidelines. Negotiation is an important part of initiating internal organizational change. As Kerlinger (1973) pointed out, "the field researcher needs to be a salesperson, administrator and entrepreneur, as well as an investigator" (p. 408). Concerns of the committee regarding student comfort and anonymity were reviewed along with the investigator's clarification of the project's intent and benefit to student learning. The revised proposal was resubmitted to the committee chairperson and was approved by the IRB at its fall meeting.

Technical Strategies for Implementation

It was now possible for the investigator to delineate design specifications for a project proposal that would meet both nursing's and the college's implementation criteria as well as still adhere to the original project purposes. The specific project implementation methodologies developed were: (a) population sample, (b) project protocol, (c) supervision of assistants, and (d) evaluation instruments.

Population sample. Taber and Finnegan's (1980) model of a population funnel of specifying who will be served in a program was utilized here.

Step 1: general population. The characteristics of the general student body were similar to those of the nursing student population previously described.

Step 2: at-risk population. These were the students enrolled in the nursing program at the College. They were dealing with the rigorous academic demands

of nursing and liberal arts courses as well as the multiplicities of their nonstudent roles.

Step 3: target population. Taber and Finnegan (1980) noted that "it may be that the program must be tailored and limited to only certain members of the at-risk population" (p. 15). Because of the exploratory nature of this project design and because of limitations of financial, staff, and time resources, this project included sophomore nursing students who were enrolled in the first clinical nursing course on Tuesdays, Wednesdays, and Fridays. This population was selected rather than other levels of students in the nursing program based on the investigator's value assumptions and pilot study findings that: (a) beginning students were experiencing increased stress related to the process of socialization into nursing; (b) developing coping skills in the first semester of nursing enhances application and supports a health care model of prevention, both of which may facilitate student learning in subsequent semesters; and (c) students may benefit personally and academically from experiential learning of assessment, the first step of the nursing process, in their initial nursing course.

Step 4: client population. This was the group of people who were actually asked to participate in the program and included 59 sophomore nursing students. Not all students eligible for the service received it. To minimize the possibility that students might have felt they had to participate in the project, and in keeping with the IRB's recommendations for assurance of student confidentiality and anonymity, students enrolled in the investigator's classes were not involved in the study. Limitations of this selection process included consideration that not all students might want to be involved, students who elected to participate in the project might not have needed it as much as those who did not participate, and students own restrictions on time involvement could limit their participation. To the extent that students registered for these clinical sections at the regular

college registration period and that specific sections from the total course enrollment were asked to participate, the sample population was a purposive, non-randomized one. Of the 59 students asked to participate in the project, 55 students volunteered.

The demographic data of the student population volunteering to participate in the study are illustrated in Table 1. The three project groups overall did not show significant differences in their background characteristics. Crosstabulation analysis and the chi-square statistic were used to determine any significant difference between groups ($p < .05$).

Table 1

Demographic Data by Group

Variable	Individual interview (n = 25) n	%	Group interview (n = 15) n	%	Contrast group (n = 15) n	%
Age						
Under 21	5	20.0	1	6.7	3	20.0
21-29	14	56.0	5	33.3	11	73.3
30-39	2	8.0	7	46.7	1	6.7
40-49	3	12.0	2	13.3	0	0.0
50-59	1	4.0	0	0.0	0	0.0
60-69	0	0.0	0	0.0	0	0.0
Gender						
Female	23	92.0	14	93.3	15	100.0
Male	2	8.0	1	6.7	0	0.0
Ethncity (Optional)						
American Indian	0	0.0	0	0.0	0	0.0
Asian	1	4.5	0	0.0	1	7.1
Black	9	40.9	5	33.3	4	28.6
Caucasian	0	0.0	6	40.0	5	35.7
Hispanic	11	50.0	4	26.7	4	28.6
Other	1	4.5	0	0.0	0	0.0

(table continues)

Variable	Individual interview (n = 25) n	%	Group interview (n = 15) n	%	Contrast group (n = 15) n	%
Primary Language						
English	15	60.0	12	80.0	12	80.0
Spanish	9	36.0	1	6.7	1	6.7
Bilingual	2	13.3	2	13.3	0	0.0
Other	1	4.0	0	0.0	0	0.0
Marital Status						
Single	17	68.0	9	60.0	12	80.0
Married	2	8.0	4	26.7	2	13.3
Widowed	0	0.0	0	0.0	0	0.0
Divorced	3	12.0	2	13.3	1	6.7
Separated	3	12.0	0	0.0	0	0.0
Number of own children in household under 21 years						
1	1	16.7	6	40.0	4	26.7
2	2	8.3	4	26.7	1	6.7
3	1	4.2	0	0.0	1	6.7
4	1	4.2	0	0.0	0	0.0
5	1	4.2	0	0.0	0	0.0
none	15	62.5	5	33.3	7	46.7

(table continues)

Variable	Individual interview (n = 25) n	%	Group interview (n = 15) n	%	Contrast group (n = 15) n	%
Responsibility for own child care						
Yes	6	27.3	9	60.0	2	15.4
No	16	72.7	6	40.0	11	84.6
Responsibility for care of parent and/or relative						
Yes	3	12.5	1	6.7	3	20.0
No	21	87.5	14	93.3	12	80.0
Are you employed now?						
Yes, full time	1	4.2	1	6.7	2	13.3
Yes, part time	11	45.8	7	46.7	4	26.7
No	12	50.0	7	46.7	4	26.7
Gross household income (Optional)						
Less than $5,000	3	15.8	2	18.2	2	15.4
$5,001-$10,000	5	26.3	3	27.3	4	30.8
$10,001-$15,000	6	31.6	1	9.1	1	7.7
$15,001-$25,000	2	10.5	1	9.1	2	15.4
$25,001 or more	3	15.8	4	36.4	4	30.8

The data in Table 1 reflect responses from all the students initially participating in the project (N = 55). Fifteen of the 25 students in the individual interview sample completed both interviews. Thirteen of the 15 students in the group interview sample completed both interviews. Because the data collection forms were anonymous, it was not possible to match specific background characteristics with students completing or not completing the project.

The modal age category in the contrast and individual interview group was 20-29 and in the group interview group it was 30-39. Only six students in the sample population were over 40. The students were predominently women. Ethnicity was distributed among Blacks, Caucasians, and Hispanics in the contrast and group interview groups. In the individual interview group, only Black and Hispanic ethnicities were reported. The majority of students in all groups noted English as their first language although nine students (36%) in the individual interview group indicated Spanish as their first language.

Most of the students in each group were single although there were some married and divorced students in each group. The groups were fairly evenly divided as to whether or not the respondents had children: at least one third of the students in each group had one or more children. With respect for responsibility of their own child care, 85% of the contrast group said no, as did 73% of the individual interview situation. In contrast, among those in the group interview, 60% said they were responsible for their own child care. The three groups did differ significantly on this variable (χ^2 = 6.97, df = 2, p = <.031). The students were also asked if they had responsibility for the care of a parent and/or relative. The great majority in each of the three groups did not indicate this as a responsibility.

Very few of the students were employed full time. Sixty percent of the contrast group, 46% of the group interview group, and 46% of the individual

interview group were employed part-time. Considerable variability in terms of income was reported from the respondents in the three groups. Within each group there were students who fell into each of the income categories on the questionnaire.

Thus in general, the students participating in the project were young, single women of various ethnic groups representing a broad range of income. The great majority were either unemployed or employed part-time. At least one third of the students in each group had one or more children. The three groups differed only in responsibility for child care. The majority of students in the group interview group indicated they were responsible for child care while in the other two groups, the majority of students indicated they were not.

Project protocol. The overall purpose of this project was to explore the utilization of self-assessment and coping as a stress management intervention with baccaulaureate nursing students within a curriculum context. In order to assure confidentiality and anonymity for students participating in the project a research associate, rather than the faculty investigator, was the person who interviewed students, collected all project data, and assigned study numbers to that data.

After the students in the population sample had completed their second clinical laboratory experience, the investigator and research associate met with each clinical laboratory section and discussed the project with them. The discussion included the students' option of participating or not participating in the project, signing of a consent form, assignment of a study number to questionnaires by the research associate, and assurance of anonymity and confidentiality (see Appendix A). Explanations of the project interview and evaluation processes were given and questions about them answered. After this discussion, the investigator left the room and the research associate obtained

consent forms from students who decided to participate in the project (see Appendix B). Confidentiality of all responses was again emphasized.

After this initial meeting with the students, the investigator had no further project contact with them. Faculty teaching the clinical sections agreed to have the research associate administer the evaluation tools in their classes. This took no more than 25 minutes of class time. Since this was a laboratory course, students not participating in the study could be involved in practicing nursing skills at that time. The research associate arranged for a time with the participating students independent of the clinical experience when she could see them for individual or group interviews. Data received by the investigator for analysis from the research associate was identified with a project study number translated from the last four digits of the students' social security numbers: student anonymity was therefore assured since there was no way to identify any one response with any one student.

With group #1, (students in the clinical laboratory on Tuesdays), the research associate utilized a semistructured interview tool (see Appendix C), and during the fifth and 11th week of the semester, assessed with the students as a group their stress and coping responses. This took approximately 40 minutes for each of the two meetings. The group data did not have any individualized names associated with any responses.

The group approach utilized here was based on the focus group interview, an exploratory research technique which can be extremely valuable in developing hypotheses regarding problems and opportunities, facilitating a clear statement of the problem, and stimulating the creative process designed to formulate alternate courses of action (Kinnear and Taylor, 1979). Hess (1968) noted that when compared with other data collection techniques, the focus group interview has these specific advantages:

> 1. Synergism: The combined effect of the group will produce a wider range of information, insight, and ideas than will the cumulation of the responses of a number of individuals when these replies are secured privately.
> 2. Snowballing: A bandwagon effect often operates in a group interview situation in that a comment by one individual often triggers a chain of responses from the other participants.
> 3. Security: The participants can usually find comfort in the group in that their feelings are not greatly different from other participants and they are more willing to express their ideas and feelings (p. 194).

In keeping with the exploratory purposes of the project, the type of focus group sessions was phenomenological: understanding was sought regarding students' perceptions of their stress and coping.

With group #2, (students in the clinical laboratory on Wednesdays), the research associate met individually with each participating student during the fifth and the 11th week of the semester, and utilizing the same semistructured interview tool (Appendix C), assessed with each student her/his stress and coping responses. The research associate assigned study numbers to the interview data.

Groups #1 and #2 were given the Jalowiec Coping Scale (see Appendix D) the fourth and 14th week of the semester. Students in these two groups also were asked to write their evaluation of their experience and learning as participants in the assessment intervention (see Appendix E) during the 14th week of the semester. Evaluation data were not assigned study numbers and were completely anonymous.

Student evaluation of learning experiences was in keeping with nursing division policy as an integral part of encouraging students to take an active role in their education (Brown, 1983). In addition, client feedback is important in the design, implementation, and evaluation of human service programs. One of the major premises of Friedman's (1973) transactive approach to planning was that the process of societal guidance is too important to be left entirely to experts. Feedback from clients can "aid the project director in assessing whether programs

adequately meet the needs of clients, in uncovering areas where needs are not met, in determining specific remedies for improving services, and in providing ideas and potential solutions previously overlooked by program personnel" (Warfel, Maloney & Blase, 1981, p. 155).

Group #3, (students in the clinical laboratory on Fridays), were given the Jalowiec Coping Scale the third and 13th week of the semester: these weeks differed from the other two groups' because of the college's holiday calendar. No other intervention was utilized with this contrast group. Students in this group were informed of available resources on campus for stress management such as peer counseling, Dean of Students office, and faculty resources. Students however, were asked to evaluate their participation in the project using the same tool as the other two groups (see Appendix E). This was done to evaluate if the testing effect of taking the coping scale could serve as an intervention in and of itself.

Along with the initial administration of the Jalowiec Coping Scale, all groups were given a brief demographic data form to complete (see Appendix F). This form was anonymous.

Supervision of assistants. The research associate who worked with the investigator was a registered professional nurse with a master's degree in nursing. She was experienced in interviewing students as part of a research project in an academic setting and was very much aware of the need for student anonymity and confidentiality. Her current professional practice was in nursing research. In preparation for this project, the investigator and the research associate thoroughly reviewed the project purposes and methodology. To arrive at consensus of the interview process, anonymous tape recordings of student stress interviews from another study were reviewed together. There was agreement here in identifying appropriate interview process as well as coding of content. At the

completion of each of the two rounds of project interviews, the investigator and the research associate reviewed together the content and process of those interviews. All data continued to remain anonymous for the investigator.

Evaluation instruments. The Semistructured Interview Questionnaire was developed by the researcher based on the conceptual framework of the project, a review of categories of student stress cited in the literature, and the results of a qualitative pilot study she completed the previous year on students' perceptions of stress. Content validity of the categories was established by a review of the questionnaire by two nurse educators, one nurse researcher, and one social work educator.

The Jalowiec Coping Scale was used to assess coping responses to stress. In the initial development of this scale, Jalowiec and Powers (1981) reported classification of 40 coping strategies for stress, which were then further classified into 15 problem-focused and 25 affective-focused ways of coping with stress. Content validity of the Jalowiec Coping Scale was empirically supported based on an extensive and critical review of works of authors in the field of adaptation and coping (Jalowiec & Powers, 1981). Further psychometric assessment of the scale by Jalowiec, Murphy, and Powers (1984) concerning construct validity indicated that the initial problem-oriented classification of coping scale items was sufficiently supported by factor analysis but "that the affective-focused classification did not demonstrate cohesiveness when subjected to statistical examination" (p. 160). Exploration of the multidimensional aspect of coping behavior gave a reasonable conceptualization of the coping scale items according to a four factor solution. Jalowiec, Murphy, and Powers (1984) presented possible labels for each one of these four factors. For purposes of this project, this investigator selected the following factor titles from these suggested labels. Factor I was cognitive and related to problem-focused coping modes such as

trying alternative solutions and trying to change the situation. Factor II was palliative and related to affective-focused coping modes such as acceptance, humor, and optimism. Factor III was regressive and related to affective-focused coping modes such as swearing, crying, and eating. Factor IV was other-directed, relating to such affective-focused coping modes as blaming others, praying, and daydreaming. Jalowiec, Murphy, and Powers (1984) noted that drinking and drugs did not load significantly on any of the four factors and hypothesized that this might represent subjects' reluctance to report that they used these highly destructive methods to cope with stress. In this project, the coping modes of drinking and drugs were deleted from the scale as suggested by the IRB, who advised that questions dealing with illegal substance use were intrusive for students.

Reliability of the coping scale was ascertained by the test-retest method: "Spearman's rank ordering of the test-retest data yielded significant (p <.001) reliability coefficients of .79 for total coping scores, .85 for problem-focused scores, and .86 for affective scores" (Jalowiec, Murphy, & Powers, 1984, p. 158).

The Evaluation Form was developed by the investigator to assist students in assessing their learning experiences from participation in the project and to provide feedback for continued planning and redesign of the project. Warfel et al., (1981) noted that "in the long run, consumer satisfaction may largely determine whether a program will be accepted and supported" (p. 155).

A Demographic Data Form was adapted from several existing forms in the Division of Nursing for descriptive statistical purposes.

Political Strategies for Implementation

These strategies for implementation included the participation of the nursing faculty whose students would be involved in the project in design planning. Such participation utilized and acknowledged the resources and expertise of the faculty

as well as possibly serving to decrease resistance to change. In addition, the negotiations and compromises involved in working with the IRB in changing the original project design to the one developed here were important for implementation. It was significant to note that these processes were incremental for both the committee and the investigator. Each time the project was reviewed by the IRB and then subsequently revised by the investigator, another aspect of it was changed. In retrospect, this process of the project going back and forth with resulting incremental changes might be seen as a part of formative evaluation, that is, what was occurring in actuality was feedback on the program design stage. Lindbloom (1969) noted that a succession of such incremental changes in policy implementation allows for action on an issue to occur while still allowing time for development of a data base for future changes based on evaluation/research feedback of the current implementation. The process of feedback and incremental changes that occurred here in project design allowed time for both the committee and the investigator to think through an implementation strategy that would adhere to the project purposes as well as to institutional guidelines.

Program Evaluation

In recent years there has been increasing use of the term triangulation in the social science research methodology literature. Triangulation is the use of multiple methods in the study of the same phenomenon. Rossman and Wilson (1985) believed that a multiple methodology research design permits one type of data to elaborate the findings of another by providing richness and detail. They argued that qualitative and quantitative methods can work iteratively to derive a more complete understanding of the phenomenon under study, and neither necessarily takes precedence over the other. Triangulation rests on the underlying assumption that the weakness in each single method is compensated

for by the counterbalancing strengths of another (Rohner, 1977). In addition, Epstein (1985) noted that it is important to use as many different types of measurement as possible if elusive variables (such as stress) are to be evaluated.

Both qualitative and quantitative methods were used in this project evaluation. The study of the experiences of stress and coping based on the project's conceptual framework of cognitive appraisal led to the use of qualitative methodology to study the empirical world of the subject and not the researcher. To balance the subjectivity of this methodology, a quantitative measurement tool which could be applied in a standardized way was also used.

The choice of a program evaluation model, as of a planning and design model, will relate to its fit with what is being evaluated. The differential social program evaluation model (DSPEM) formulated by Tripodi, Fellin, and Epstein (1978) looks at evaluation objectives at different program stages, evaluates program process as well as outcome, and promotes systematic feedback of information to be used to improve programs. While this project involved all three stages of this model, (i.e., program initiation, program contact, and program implementation) its primary focus was a descriptive one to begin exploration of of use of assessment as an intervention.

Therefore the DSPEM's program initiation stage was of particular help in the investigator's conceptualization of project design and programming strategies. Included in this stage are dealing with the problems of obtaining or developing competent staff, financial and physical resources, and social legitimization. "Also included in this stage is the planning process: determining a need for the program, specifying program objectives and appropriate technologies for reaching those objectives, and identifying a target client population of individuals or organizations and establishing eligibility criteria..." (Tripodi et. al., 1978, p. 26).

The program contact stage of the model involves making contact with the potential program beneficiaries and the program implementation stage includes engaging the clients in the service and/or change technology of the program. It is in this last program stage that the outcomes of the program planning can be measured. Because of this project's exploratory nature and the model's emphasis on systematic feedback, it was anticipated that program outcomes in each stage would direct the investigator back to focus once again on the program initiation stage for refinement of planning and design and to consider further research areas. This indeed occurred and is discussed in Chapter VI.

The specific goals of the project could now be delineated as they related to the earlier stated general project goal and purposes and were operationalized here into measurable behavior objectives. Williams (1976) stated that "program objectives are often so illusive as to be difficult to determine at all, much less define rigorously" (p. 275). One consequence of such goal/objective uncertainty may be goal displacement, in which the means can become the end. Another consequence may be that staff develop its own goals and programming separate from that of the organization. Formulation of client outcome-oriented objectives may help staff keep goals in perspective. In addition, "they are the program's effectiveness measures and establish an important part of the reporting system" (Taber and Finnegan, 1980, p. 69).

As formulated earlier, the overall project goal was to explore the use of self-assessment of stress and coping as a stress management intervention with baccaulaureate nursing students. Specific goals and objectives were then delineated to evaluate this over-all project goal.

Goal #1

To identify and describe students' current stress experiences and the importance of these experiences to them.

Objective:

1. Eighty percent of the students in group #1 and 80% of the students in group #2 will identify and describe their stress experiences via interview.

Goal #2

To develop and implement the utilization of student self-assessment as stress management within a course setting via two assessment methods: (a) a focus group interview approach, and (b) an individual interview approach.

Objectives:

1. The investigator will finalize discussions about project design and implementation with the Dean of Nursing, the course coordinator, and faculty members whose students are being asked to participate in the project by September, 1988.
2. The investigator will submit the revised project proposal to the IRB by September 6, 1988.
3. The investigator will receive IRB approval for project implementation by September 20, 1988.
4. Implementation of the project will begin on September 23, 1988.

Goal #3

To identify and describe coping strategies reported by students and to assess if any changes occurred in these coping strategies throughout the semester.

Objectives:

1. Students in groups #1 and #2 will report an increased frequency of use and range of coping strategies in the second interview.
2. Students in groups #1 and #2 will indicate a significant increase ($p < .05$) in frequency of use and range of coping strategies after completion of the second interview as measured by the Jalowiec Coping Scale.

Goal #4

To determine students' evaluation of assessment of stress and coping as a method of stress intervention.

Objectives:

1. Eighty percent of the students in groups #1, 2, and 3 will provide project feedback via the Evaluation Form.
2. Fifty percent of the students in group #1 and 50% of the students in group #2 will state via the Evaluation Form that;
   (a) assessing their own stress and coping strategies has helped them to cope with their own stress;
   (b) their enhanced knowledge about their personal stress and coping strategies has helped them to assist their clients in stress management;
   (c) they would feel comfortable in assessing their stress and coping strategies with their faculty in this course;
   (d) they would recommend that this self-assessment approach to stress management be continued in this course.

Evaluation of the second project goal, to develop and implement the utilization of student self-assessment within a course setting occurred as an on-going process as described in this chapter. The project needed to fit within the time framework of a college semester and within a course which was only offered once a year. Therefore a goal and objectives which provided a timetable for evaluating the progress of project implementation were valuable. The second project goal was met.

The specification of measurable criteria for project goals directed the evaluation process then to the analysis of data.

Analysis of the Data

Interview questions were directed toward assisting students to assess their experiences of stress and coping in five general areas: (a) socialization into nursing, (b) nursing academic requirements, (c) non-nursing academic requirements, (d) clinical nursing experiences, and (e) negotiating the college system. The investigator reviewed all the interview data several times to begin to develop categories that related to these major stress areas outlined in the questionnaire. Contents of the interviews were examined for common themes, recurrent problems, and coping mechanisms/coping results. Data were initially coded into categories ranging from definitive descriptive content such as financial aid, registration, and course scheduling to more individualized categories such as those related to students' perceptions of faculty, their career aspirations, and their coping. These initial categories were then further collapsed and delineated to reflect the themes they represented.

In order to describe what students reported as stressful experiences, subcategories were developed specifically for each interview question in the five general areas of stress noted earlier. These subcategories are summarized in Table 2 under the column heading of the specific interview question/primary area

of stress they describe and are clarified more fully in the analysis of qualitative data in Chapter IV. The subcategories were not mutually exclusive between questions because recurrent themes emerged in several of the different general areas of stress.

Table 2

Subcategories of Stress

Different expectations	Nursing academic courses	Non-nursing academic courses	Clinical experiences	Negotiate college system
Program requirements	Program requirements	Level of difficulty	Program requirements	Financial aid
Technical vs. theory	Structure of learning environment	Structure of learning environment	Structure of learning environment	Lack of services
Functions of learning environment	Functions of learning environment	Functions of learning environment	Functions of learning environment	Academic advisement
Cultural shock		Not related to nursing	Client care	Registration
		Time management	Evaluation of student	

In developing coding categories to describe students' reports of the importance/meaning of stressful experiences to them, and also categories of their coping strategies to deal with these experiences, the investigator used only the first response that the students offered since most students only described one stressful experience and one coping strategy. This coding methodology was utilized by Lee (1988) and was used in this project to avoid the investigator's potential bias in selection and to maintain expediency and uniformity in the data analysis.

Responses dealing with the importance of the stressful experience were developed from Lazarus and Folkman's (1984) theory that commitments express what is important to the person and partially determine what will be appraised as challenging, harmful, threatening, or beneficial. These responses were coded into the following categories:

1. Importance related to self-needs. The experience is perceived as important to enhance self-esteem, self-satisfaction, and self-fulfillment, to meet altruistic goals and academic achievement, and to contribute to family well-being. Importance is also attached to fear of failure.

2. Importance related to career goals. The experience is perceived as important to obtain a professional nursing license and degree, to validate the choice of nursing as a career, and to learn necessary nursing competancies and accountability.

3. Importance related to liberal arts education. The experience is perceived as important to learn more about people and the world in which we live, and to comprehend material.

4. Importance related to loss. The experience is perceived as important as related to loss of time, money, and investment of self.

Coping strategies were delineated into two major categories, problem-focused methods and affective-focused methods, according to coping patterns identified by Jaloweic (1981) and Lazarus and Folkman (1984). Coping methods as developed by Jaloweic (1981) and Lee (1988) were utilized to delineate subcategories. Coping categories and subcategories were adapted for use in this study as follows:

1. Problem-focused methods. These coping strategies attempt to deal with the problem or stressful situation itself. They are directed at managing or altering the problem causing the distress. Coping strategies in this category include:

(a) Generating alternative choices. The person thinks through different ways to solve the problem or handle the situation.

(b) Networking. The person is able to talk about concerns to student peers, faculty, counselors.

(c) Acceptance. The person tolerates the situation as it is, for example, "puts up with it".

(d) Actively try to change the situation. The person takes action to control and/or conquer the problem, for example, study more, work harder.

(e) Avoidance. The person physically withdraws from the source of stress or procrastinates.

(f) Use of past experience. The person uses past experience experiences in dealing with a similar situation.

2. Affective-focused methods. These coping methods are directed at regulating emotional response to the problem: they are used to try to handle the emotions evoked by the situation. Coping strategies in this category include:

(a) Intrapsychic coping. The person uses psychological defense mechanisms (denial) or mental withdrawal from the source of (daydreaming, fantasizing).

(b) Somatic coping. The person uses interventions such as eating, smoking, meditation, relaxation, exercises, yoga.

(c) Verbal responses. The person uses laughing, crying, praying, cursing, getting mad.

(d) Social supports. The person seeks comfort or help from family or non-school related friends.

The computer software program FYI 3000P was used for qualitative data filing and cross-indexing of specific topics and categories. A similar process of qualitative methodology as described in the preceding paragraphs was utilized in data analysis of the project Evaluation Form.

A further step frequently taken in qualitative data analysis involves the validation of the understandings that the thematic exploration has provided (Polit & Hungler, 1987). This was accomplished in this project in two ways. First, the investigator utilized an iterative approach: as themes were derived from the narrative materials, she went back to the material to see if the themes really did fit, and then refined them as necessary. Secondly, interrater reliability was established for the coding process based on a random selection of 25% of each round of individual interviews ($\underline{n}$ = 20 for the first round of interviews; $\underline{n}$ = 15 for the second round of interviews). Utilizing the codes and categories established by the investigator, an independent coder, a nurse educator/practitioner, coded the data.

Category reliability was computed as a function of agreements, using the following equation (Polit and Hungler, 1987, p. 321):

$$\frac{\text{number of agreements}}{\text{number of agreements + disagreements}}$$

There was 92% agreement on all of the categories as applied to the first

round of assessment interviews and 95% agreement on all of the categories as applied to the second round of interviews.

Quantitative methodology was used to balance the qualitative analysis of participants' subjective reports of intervention outcomes through use of the Jalowiec Coping Scale. The scale was used to assess if there was a significant increase in the frequency of student reported use of coping strategies at the end of the semester, and a significant increase in the range of student reported coping strategies at the end of the semester. A .05 level of probability was established as the critical level of acceptance for statistical tests of significance. Correlated sample t-tests were used to compare the means of pre-and postintervention scores. Chapter IV analyzes qualitative data results in detail and Chapter V analyzes the results of the quantitative data.

CHAPTER IV

ANALYSIS OF QUALITATIVE DATA

The purposes of this project were to assist student nurses in assessing their stress and coping strategies, to explore and evaluate the results of this assessment as an intervention, and to develop hypotheses about how such an intervention might be utilized within the nursing curriculum and the college structure. This chapter discusses the qualitative data that were obtained from the initial and second interviews of the students participating in this stress/coping awareness project and from students' responses on the Evaluation Form.

The results of the analysis of the interview data have been organized as follows: the data derived from the initial interview are considered first, followed by the data derived from the second interview. Within each of these two sections, data from the individual interview situation are discussed first, followed by that from the group interview situation. And within each of these subsections, data are organized under headings corresponding to the five areas covered in the interview: (a) expectations of the nursing program, (b) nursing academic requirements, (c) non-nursing academic requirements, (d) clinical experiences, and (e) negotiating the college system.

As the qualitative data are presented, an effort is made within each section to identify specific stress experiences, the importance of the stress experience to the student, the coping strategies used, and the perceived effectiveness of the coping strategies employed. Indications of data for program implications are noted. Also, in considering the data derived from the second interviews, changes taking place in these dimensions over the course of the project are identified.

The data resulting from the analysis of the students' Evaluation Form responses have been organized under sections corresponding to the four areas

covered in that evaluation: (a) assessment of stress and coping facilitating own stress management, (b) assessment of stress and coping facilitating clients' stress management, (c) degree of comfort in assessing own stress and coping with a faculty member, and (d) continuation of assessment of stress and coping in the course. Within each of these four sections, data derived from the group interview situation are discussed first, followed by the data from the individual interview situation and the contrast group situation.

Direct quotations from student responses that exemplify overall themes in the data are presented in this analysis because the richness and strength of their content greatly enhance understanding of what the students were experiencing. Tables are used to clarify the number, types, and effectiveness of coping strategies used by the students. An x in a table designates a student who utilized a particular coping strategy. A (P) after a coping strategy in a table designates it as a problem-focused method and an (A) designates it as an affective-focused method. As discussed in Chapter III, problem-focused coping methods are attempts to deal with the problem or stressful situation itself; affective-focused coping methods are directed at regulating emotional responses to the stress or problem. All students participating in the interviews did not always answer all the questions: therefore the number of responses noted in the tables will not always correspond with the total number of students participating in the interview.

Nursing Students' Experiences with Stress and Coping: Initial Interview

Individual Interview

Expectations of the nursing program. Most of the students described the nursing program as being different than what they had expected it to be. Program requirements, including amount of reading and number of assignments, were viewed as major differences and perceived as stressful.

> I did not expect the reading to be so overwhelming and extensive. Nor did I expect as many papers as we have to do. I didn't expect to have a lot of reading as I do now. And sometimes you cannot find the time to complete all those chapters.

Closely related to this theme of program requirements was students' identification of expecting a more technical approach to nursing and wondering about the value of learning nursing theory.

> I thought it would be more practicing than theories. It's a lot of reading. I read a lot of things that I don't think they are useful.

> I thought it was going to be more technical but now I'm also involved in talking to people--the psychological. I was more interested in getting into the needles and everything biological. Now I don't mind it.

> I did not expect so much material to memorize. I expected more clinical. When I first started I thought I was studying for medicine. It is more difficult.

Several students compared what they were experiencing in the nursing program with their work in non-nursing courses, indicating stress related to a type of cultural shock and a need to readjust.

> Yes, the nursing program is different, for example, the reading. I read the material, I study hard, and I feel I'm prepared to take the exam. When I got the exam, I felt I didn't study at all, and for the amount of studying I did, I should have gotten an A but I only got a B. What happened to me?

> Yes, its different. It's not like a classroom. Most of the things you have to do, you do it yourself. It's not just the lecture you have to do. It's not like other classes.

Such differences between student expectations of the nursing program and what actually exists suggests consideration of providing some type of information-offering service to prenursing students about the focus and content of the nursing program as well as suggestions for how to cope with what in reality will be an extensive amount of reading and studying.

Most of the students described the importance of these differences and the significance of dealing with the associated stress in terms of reaching their career goals.

> It is everything. Everything depends on how well I do. This is going to be for the rest of my life--it depends on what I learn. It is everything for me--it's my future.

> I want my degree. I've been here four years and this is my first semester in the nursing program. I never thought it would take me so long!

> I have everything to gain--a good job, and there will always be a need for nurses. It is an interesting profession. I can do anything--teaching, research, army. I can't think of anything to lose.

Students at this beginning part of the semester primarily reported use of problem-focused coping strategies to deal with the differences between what they thought the nursing program would be like and what they currently were experiencing. The coping strategy most commonly described was that of actively trying to change the situation.

> I push myself in keeping up with the reading and in trying to understand how the papers are to be done.

> I try to understand it by getting to the books and taking the time to see it and to know it.

Several students stated use of affective-focused methods to cope with these differences.

> I use religion and prayer, and counseling at an agency. Just talking about it helps.

> I try to have more rest. I am sleeping a little more so that my body and mind are cleaned up.

The results of how students evaluated the effectiveness of their coping strategies are seen in Table 3. Although most students utilized the problem-focused coping strategy of change the situation, there was a split in the evaluation of its effectiveness from mimimally helpful to very helpful.

Table 3

Evaluation of Coping Effectiveness:

Differences in Expectations. Initial Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Change situation (P)		xxxx	xx	xx
Somatic coping (A)			x	
Verbal responses (A)				x
Acceptance (P)		x		

Nursing academic requirements. There were two major areas that students described as stressful in terms of the academic work in nursing. Recurring again was the content area of the program requirements, specifically the amount of reading and assignments in nursing.

> We just got into it. There is a lot of reading...if you could keep up with it you'd be better able to handle it.

> Yes, it is stressful...the fact that each nursing course has so many books (3 classes = 9 books). They expect us to read from each book. It is hard to get down all the material.

That program requirements were identified once again as stressful supports the earlier suggestion for some type of orientation for prenursing students which

could include information about the rigorous program content as well as possible coping strategies.

The second content area the students described as stressful related to functions of the learning environment involving faculty, including teaching methodologies and approachability of faculty.

> Yes, some of the professors do not break down procedures to follow them better. They say to look at the book. Maybe if they would break them down on the board it would be more helpful to students. For example, with the process recordings, the instructor should take it step by step, not just say to look at the handout.

> The teachers are not helpful. They tell us to find it in the book, and I guess we can't talk to them or we will be penalized later on. They are supposed to help us.

> The lecturing in nursing is stressful. The way they lecture, it's difficult to keep up with, they go so fast. They don't write things on the board. Its hard to keep up.

Identification by the students of functions of the learning environment as stressful suggests that current teaching approaches may differ from students' style of learning: faculty may wish to consider these possible differences. Faculty-student interactions could be reviewed by both faculty and students.

Succeeding in their nursing academic work was seen as vitally important to the students. For some, this importance was again described in relation to accomplishing career goals.

> I have wanted this for many years and I finally got the courage to get into the College and into the nursing program. I have to make it. I'm going to make it. If I don't make it, I don't know...

For other students, the importance of success in academic work was expressed in terms of self-needs.

> This means more income for my family. Also, I am doing something I want to do.

> I'll fail if I don't do it (the work). It's important to do it because I don't want to fail the course.

In dealing with stress in nursing academic work, most students again used the problem-focused method of actively trying to change the situation.

> I just don't let the work get too far ahead. I just catch up on my readings regardless of how I feel or what problem I have: I just put that aside. This is what I have to do for myself.

> I changed my study habits. I increased the length of time for studying.

Although networking was described by several students as a coping strategy, only one student described seeking help from a professor.

> I get together with friends in class. We review and compare notes.

> I ask questions of a friend or go to a book.

> I spoke with my professor about what our exams would be dealing with and what was expected.

As seen in Table 4, students described these coping strategies as moderately helpful to very helpful in dealing with stress associated with nursing academic requirements.

Table 4

Evaluation of Coping Effectiveness:

Nursing Academic Requirements. Initial Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Change situation (P)			xxxx	xx
Acceptance (P)				x
Verbal responses (A)			x	
Networking (P)		x	x	x
Use past experience (P)		x		

Non-nursing academic requirements. Students described four content areas as particularly stressful in non-nursing courses. The first area related to what students described as the nonapplicability of these courses to their nursing major.

> I found Logic and Psychology to be very stressful. Mandatory courses are a pain--they weren't related to your major.
>
> I'm not going to use them. They give you so many, History, Art. You should go into your field, and not take so many distribution courses. I enjoy them but some sciences are the worse. There are so many barriers.

If students do indeed see little connection between liberal arts courses and their nursing courses, both nursing and non-nursing faculty may wish to consider making that connection more explicit in their courses. Such connections might also be presented in the already suggested prenursing orientation.

The second identified stressful area was concerned with the structure of the learning environment, specifically selection and scheduling of courses.

> English and Spanish were very stressful, but I was the problem because I learned from a counselor that I should not be taking English and Spanish at the same time. It made me aggravated.
>
> The only thing I find stressful is I'm finished with my core courses and I need 3 distribution courses. I was not able to fit any in this term's schedule. They conflicted with my nursing courses.

Thirdly, the functions of the learning environment, specifically teaching methodologies and faculty-student interaction were described as stressful.

> An English course was stressful to me. The professor did not speak to me. I did not get anything out of this course. The professor told us one thing and expected something else.
>
> A particular professor in science does not know the answers to questions and expects us to. I don't think I'll get the mark I intended to.

As in the category of nursing academic requirements, the themes of faculty-student interaction and teaching methodologies continued here to be reported as significant areas of stress.

And finally, students expressed stress in terms of the level of difficulty of the courses.

> Some of the courses are stressful--Anatomy and Physiology and Chemistry--especially in trying to relate to the terms used.
>
> The amount of reading and the books are terrible. They are not self-explanatory and I'm only getting bits and pieces of everything. Every subject here is hard. I try to do the best I can. They put a lot of pressure on you: they make you take it without providing the proper material (I'm always running to the library to get material). It's terrible.

The students described the importance of the non-nursing courses primarily in terms of meeting their self-needs and their career goals. Some self-needs being met were:

> This is very important to me. I have my grades and my knowledge at stake.
>
> I want to pass the class with a good grade.

Closely related to self-needs for academic achievement was the contribution of the non-nursing courses towards the students' realization of career goals.

> If I fail, I lose--I won't graduate with a B. S. in Nursing. And its a goal I have set: I want to accomplish it in a certain amount of time.
>
> It is important because I want to stay in this nursing program. It will help me go to grad school.

Several of the students did discuss the importance of these courses in terms of gaining a liberal arts education.

> This is very important to me, learning different aspects of science and the humanities. I am gaining knowledge and it is self-fullfillment. I want to know more and more.
>
> It is important to learn about people and how they cope.

In coping with the stress of non-nursing courses, students again reported use of predominantly problem-focused methods, specifically actively trying to change the situation.

> I went to the writing center and was able to get a good tutor. She gave me support and I was able to pass the college writing exam. The classes did not relate to the exam. Prayers also worked.
>
> I am applying myself more. (Several students stated this.)

Students also utilized acceptance as a coping method, as exemplified in this comment:

> There is nothing to do about it. You have to take the classes. I didn't do anything.

I did not do anything except go to class.

Networking was another coping strategy described by several students.

I have studied with a couple of girls and that has helped.

I talk with other people in class and I study in groups with other people.

Only one student each expressed use of verbal responses and of somatic coping. The students' evaluation of their coping strategies' effectiveness is seen in Table 5. Students reporting using change the situation as a coping strategy found this to be more effective than students using acceptance.

Table 5

Evaluation of Coping Effectiveness:

Non-nursing Academic Requirements. Initial Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Change situation (P)		x	xx	xxx
Networking (P)		x	x	x
Avoidance (P)				x
Acceptance (P)	xx	x		
Somatic coping (A)				x
Verbal responses (A)			x	

Clinical experiences. The clinical laboratory experiences in the semester in which the intervention took place occurred in senior citizen centers and nursing homes where the students interacted with and may have provided nursing care to clients. The practice laboratory is a facility at the College which offers the students an opportunity to practice hands-on nursing care in a simulated client-care environment. Faculty expect students to practice in this laboratory any nursing skills they are to administer to a client prior to their seeing the client in clinical.

The students had experienced only two clinical laboratories at this point in the semester. The students therefore in general did not identify clinical experiences as being stressful but prefaced such statements by stating "no stress as of yet". However, students did note that the uncertainty of what to expect in the clinical experience was stressful.

> There are no special experiences that are stressful right now because this is just my second time in clinical. But not knowing what to expect is a stress.

> Not knowing what clinical was all about was stressful but once I learned about it, it wasn't as stressful.

These comments lend support as experiential data to the idea of preparing students for the realities of the nursing program.

Several students also commented on their lack of knowledge and preparation for clinical experience as stressful.

> Yes, it is stressful. The client I have now is blind. He can not see me and I have a deficiency in the language.

> Yes, it was stressful when I went in to see the client and when I saw him with an oxygen tube in his nose. I had to wake him up. I told him things so fast he looked confused. I just made an appointment with him for next week and I had to walk out.

> I find in the clinical the instructors don't know when I can use the practice lab. It is so very stressful because no one is there. There are no sterile gowns, no equipment. It would be helpful if we had the paper gowns to take home and practice.

The students very clearly described that what was of importance here in the clinical experience, what was at stake for them, was the opportunity to develop professional nursing competence in order to meet their career goals.

> It is important because it helps me to prepare for state boards and it helps me to deal with patients before I really get out there and make a fool of myself.

> I can make a difference the next time I go in, if I learn how to better communicate with a client. The practice lab is important because it enables me to practice a procedure until I can do it correctly. So I don't endanger the clients in any way.

The significance of the practice laboratory to students was reflected in their comments of it being both a stressful learning situation and important to their professional development and directs faculty consideration to its staffing and utilization.

Students did not discuss many coping strategies for clinical experiences, perhaps again because these experiences had just begun. Of the coping strategies described, problem-focused methods predominated, with actively trying to change the situation as the most frequently mentioned strategy.

> I have been looking for books so I can have more knowledge.

> I have been reading about how to communicate with my client.

> I just make sure I get to class and ask questions of what I don't know.

One student described use of affective-focused methods of coping.

> I exercise a lot. I try to sort things out and deal with one thing at a time. If I can't find an alternative, I'll leave it alone. Sometimes I scream and cry to get rid of the stress.

Another student described a rather unsatisfactory attempt at networking with faculty.

> I don't have any strategies to deal with this stress. I spoke to the instructor but this was of minimal help.

Table 6 indicates students' evaluation of the effectiveness of their coping strategies.

Table 6

Evaluation of Coping Effectiveness:

Clinical Experiences. Initial Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Change situation (P)		x	x	x
Acceptance (P)			x	
Networking (P)		x		
Intrapsychic coping (A)				x
Somatic coping (A)				x

Negotiating the college system. The students described the process of trying to get help within the College as stressful primarily in terms of the services they were seeking proving to be ineffective.

> I went to see about tutoring and there was no one there. They haven't gotten anyone over there to be tutors.
>
> Financial Aid. They took away most of my financial aid this semester. I had trouble buying books.
>
> The counselors are no help. I came here from another country, no English. I came to the College and failed my English test but I tried. No one told me I was supposed to take prerequisites, or sciences. I told the counselor I wanted to become a nurse. He gave me the wrong Bio and not the History I could use. I took over 10 credits I didn't need. They gave me the wrong English. It was going to take me 3 more courses to finish. Then I decided to look at a book to help myself. Then I took Eng, Bio, and the core courses. It was harder. Everything has been so hard. I've been fighting for 3 years.

Students also expressed that not being able to find accurate information about availability of college services and program requirements was stressful.

> I find that they don't know. Information about these things are not related to students as far as things which are useful and can help you. For example, when the computers will be ready and the times they can be used.
>
> Yes, I am upset that students keep telling me I could be exempt from clinical and the nursing faculty don't tell you. I go to the nursing office and nobody knew. And a lot of things in the school, like peer counseling, the students are not aware of that.

In light of these responses, faculty and administration may want to evaluate the advisement system for students.

Use of college support services was seen as important by students in order to facilitate reaching their career goals.

> This is very important. I want to use all the things that are available to me in my skills.
>
> This is very important. There are things we should know about and they are supposed to tell us. How are they going to help us if they don't know what's going on?
>
> It's very important. It's my career. That's why I went to the counselors but they did me wrong. But the ones in nursing were more-or-less helpful, but they were my future.

The theme of loss (as defined in Chapter III in terms of loss of time, money, and investment of self) was expressed by several students as important in regard to what was perceived as ineffective college services.

> It was very important, getting all those distribution courses out of the way. At least I wouldn't have to be here all these extra years--one year is the limit but two is terrible.
>
> I wasted my parents' money.

The use of problem-focused methods as coping strategies were most frequently reported by students in negotiating the college system. Once again, actively trying to change the situation was a common coping strategy.

> I looked at courses in the green book "Curriculum Pattern for Nursing" and made up my own schedule.
>
> I don't finish the entire registration in one day or I just get my courses and pay another day.

Several students utilized networking here to cope with stress in negotiating the college system.

I went to a counselor for help.

I met the President of the Nursing Society and he's been helping me. He introduced me to some seniors and they have been helping.

Affective-focused methods of intrapsychic coping were described by two students.

I just shrug it off and forget about it. I try to do the best I can.

I look to myself for coping: whatever it takes you have to do it.

Students' evaluations of the effectiveness of these coping strategies are seen in Table 7.

Table 7

Evaluation of Coping Effectiveness:

Negotiating the College System. Initial Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Change situation (P)			xx	xx
Networking (P)		x		x
Intrapsychic coping (A)	x		x	
Use past experience (P)			x	

The last three questions in the interview were concerned with asking students to describe; (a) how the college and/or the nursing program might help

them in coping with stress, (b) their experience in the interview, and (c) what they might like to add to the interview.

Some of the students were uncertain as to how the College or nursing program might help them with stress, simply stating, "I don't know". However, the major theme that evolved from most of the students' responses was that of changing the structure of the learning environment to include a counselor specifically for nursing students and to provide for faculty dialogue and interaction with students.

> Just be there when I need help.
>
> I think that they should help with stress. They should make it mandatory to talk with the nursing professor to make sure they all understand you know what is going on.
>
> In nursing, have information needed for students beforehand and not wait a month. Faculty should have themselves prepared and take time to explain things to students and not just refer them to a book.
>
> Have a nursing counselor here to help you know about the nursing program. The others help but are not specific to nursing.

Students described their participation in the interview as positive. Interview questions were directed toward assisting the student describe their experiences of stress and coping as nursing students in the academic and clinical areas, the importance of these experiences to them, and the effectiveness of their coping strategies. The themes that evolved from their responses, that is, of the interview providing recognition of students, facilitating expression of feelings, and assisting in learning about self-coping indicated that it was serving a function of stress management.

> This explains things for you, or shows you how to deal with stressful situations. It is helpful for me to talk with someone who is a nurse.
>
> Interesting. This is the first time I got to voice anything, except with my classmates, and it makes you feel better that someone in a higher position knows how you feel about some things.
>
> It is very important. It is helping my feelings come out of my mouth.

> It's hard when you don't understand what coping mechanisms are. It's hard to know what you do. The questions bring out things you don't generally think about. It's been a good experience.

Most of the students did not have any additional comments to add to the interview. However, two students further discussed how stressed they felt in two very different ways.

> I must manifest stress a lot--my left eye twitches...I feel ok but inside I am worried to death. I've tried so many ways to improve my studying--a tape recorder, a blackboard.

> My instructors are a bunch of liars. They promise you something and they don't give it to you.

Group Interview

Responses of the students in the group interview were recorded by the research associate in terms of what one student might say and with which other group members would agree. Therefore the responses recorded here to illustrate common themes represent a consensus of group thinking unless otherwise delineated. The schema for categorization of responses were identical to those utilized in the individual interviews. After group discussion of each interview question, each student was asked to rate her/his use effectiveness of the overall coping strategies discussed by the group for that question. The mean coping scores for the question were then obtained from the coping rating scales in the interview questionnaire (See Appendix C).

Expectations of the nursing program. The students commented on program requirements being different than they had expected:

> I knew it was going to be a lot of reading, but it is a lot of work.

> The terminology is difficult.

They also discussed the differences between a technical and theoretical approach to what nursing is, agreeing that "there are more lectures in a college nursing

program". These responses correspond to those of the students in the individual interview situation.

Students exchanged thoughts and feelings about grappling with the realities of the work of the nursing program and dealing with their other roles and responsibilities in their personal lives. The demographic data in this project indicated that this group of students reported the highest percentage of responsibility (60%) for child care.

> I'm not sure that the stress comes from nursing school per se: we all have families and work and other responsibililties.
>
> I'm not sure what is expected of you by the faculty and on top of all that you have kids at home.

Perhaps though, one student's comment of "I've heard A students crying" suggests the intensity of the stress that students may be describing in regard to their socialization into nursing. All of the students related to the idea that melding their expectations of nursing with the program they were now in was very important in order for them to gain knowledge and to reach career goals.

Students described utilizing problem-focused methods of coping as well as affective-focused methods. Problem-focused methods included: avoidance- "I procrastinate", networking- "I talk with my other classmates", and actively trying to change the situation- "I overwork myself, then go to bed". Affective-focused methods included: intrapsychic coping (denial)- "I really don't have to read this now", and somatic coping- "I try and relax".

The effectiveness of these coping methods was evaluated as minimal to moderate by the group (2.7 mean on the rating scale). Students commented that "talking about stress with peers helps". They noted that "denial is only just pushing it away for now and only makes it stressful in the end". Procrastination was also noted as ineffective: "it doesn't work, you still have to do it".

That students reported the problem-focused coping strategy of networking as effective suggests consideration of use of peer support groups for helping students deal with stress.

Nursing academic requirements. Group members discussed the nursing academic requirements as stressful, specifically the amount of required papers and readings. However, most of the discussion was directed toward what was experienced as stress in the structure and functions of the learning environment.

Comments about stress in the structure of the learning environment included:

> There are very big groups in lecture and we discuss very little in the class.
>
> With the large lecture groups many people are talking in the back and the instructor does not have control of the class.
>
> The lectures are very long.

Functions of the learning environment seen as stressful included:

> The fact that the professors in the lecture and the lab courses don't coordinate their material is stressful.
>
> We are having a test in 1-2 weeks and we haven't covered anything in class.

As with the students in the individual interview situation, these students' discussion about their learning experiences as stressful indicates a need for a review of current teaching methodologies by faculty.

Students verbalized the significance of these stressful experiences to them in terms of both career goals and loss. They wondered if the material they were currently being required to learn was going to be helpful or significant to them as graduate nurses: "What are we going to use in three years when we graduate? Will we use this?" They also expressed a theme of loss in that: "We are spending a lot of time in class and not getting any answers. They (professors) should tell us what is going to be on the test".

Affective-focused methods were the primary strategies described by group members to cope with the nursing academic requirements. Somatic coping methods utilized were exercise, relaxation, taking study breaks, watching T.V., yoga, and smoking. These strategies were evaluated as effective in that students felt less stressed but in terms of goal accomplishment students concluded:

> Doing relaxing things has been working but I've been pushing off a lot of work (not getting work done).

> I feel guilty because I say to myself that I should be reading.

Students rated these affective-focused coping methods as minimally to moderately helpful (2.4 mean on the rating scale).

Non-nursing academic requirements. The major content area described as particularly stressful here was the students' perceptions of non-nursing courses as being nonapplicable to their nursing major.

> They are a waste of time. We could be doing other things, like nursing.

> Why do we have to have core courses? It's a waste--they are crazy.

> You need your English and writing but you don't need music.

The importance of this experience of stress was expressed in in terms of loss, that is, "they are a waste of time when you don't learn anything from courses you take". However, several students did express the significance of taking liberal arts courses.

> What's hard is depending on where people are in their life...once you get out you don't have the chance to do this and it may help you in your life.

> I think I can come out with at least a piece of knowledge.

These latter comments perhaps reflect more the needs and goals of adult learners.

Coping strategies students described to cope with stress associated with non-nursing courses were problem-focused in nature and primarily involved actively

trying to change the situation. Students tried to schedule non-nursing courses so that "they didn't interfere too much with my main goal of nursing".

> Taking the more difficult courses and getting them out of the way before getting into nursing was helpful.

> Get all required courses out of the way before nursing.

These strategies were evaluated as moderately to very helpful (3.2 on the rating scale).

Clinical experiences. The students expressed their experiences in the nursing arts practice laboratory as stressful. In the content area of the structure of the learning environment, they described stress related to lack of equipment and availability of the laboratory.

> There is not enough material to practice...the lab is not well equipped.

> We don't have any time to practice because there is no one there to watch us.

In the content area of functions of the learning environment, students described stress related to teaching methodologies used.

> It wasn't very well organized. The professors should do the demonstrations, not the students.

> We're expected to do preparation for the lab, and there is not adequate preparation by the faculty.

Students in the group interview were much more verbal and intense than students in the individual interview situation in their identification of experiences in the practice laboratory as stressful. Perhaps the context and process of a group modality may have provided the security for more affective responses to occur than in an individual interview situation.

The importance to the students of learning in the practice laboratory was conveyed both in terms of self-needs and in reaching career goals.

> If the faculty are unprepared, you feel, how important am I?

> Who are we going to model if the faculty are running around disorganized?

Coping strategies utilized by the students were affective-focused methods of verbal responses.

I went home and yelled.

I bitched like hell at lunch.

These coping methods were evaluated as not-at-all helpful to minimally helpful, (1.8 on the rating scale), and students expressed on-going stress related to the clinical experience.

Every night before clinical I feel the stress coming up.

I don't want to get up in the morning.

I stay up all night worrying: it just doesn't work.

Negotiating the college system. There was agreement in the group that the process of getting help on campus was stressful. Students felt that a major area of stress was related to their not receiving adequate, straightforward and accurate information when they sought help.

You go to someone and ask about nursing and no one knows.

You have to be in the offices to talk to them to make sure they are up on everything (not on the phone).

You never get the right responses.

Students thought that being adequately able to negotiate the college system was very important to their success and reaching their career goals. They described affective-focused methods as major coping strategies here.

I've used a bit of anger that has come out as assertiveness.

It is important not to be meek and mild.

You need to make them give you an answer now.

However, the results of such assertiveness were seen as minimally effective (2.2 on the rating scale) and were summarized by the comment "you can't get

through". These responses once again suggest the importance of student support groups.

A summary of the students' evaluation of their coping strategies' effectiveness is depicted in Table 8.

Table 8

Mean Scores of Coping Effectiveness: Initial Group Interview

	Primary Categories of Stress				
Primary coping method	Different expectations	Nursing academic courses	Non-nursing academic courses	Clinical experiences	Negotiate college system
	M	M	M	M	M
Problem-focused	2.7		3.2		
Affective-focused		2.4		1.8	2.2

In responding to the last three questions of the interview, students thought that at the moment, there was nothing the college and/or the nursing program could do to help them cope with stress. Students' comments on their experience in the interview expressed the positive aspect of sharing their experiences with one another and also interest as to whether the information shared would make a difference.

It's good to know we're all in the same boat.

> Are you going to speak to the nursing professors about this? They are the ones who should know our gripes. So we could learn from them, not from our books. We need them to show us how to do things.

One student expressed feelings that the interview experience was not helpful.

> I don't think it's helping me. I could be sleeping. Who has to gain? What is this teaching me?

While several other people agreed, most of the group said the interview experience was a positive one.

Nursing Students' Experiences with Stress and Coping: Second Interview

Individual Interview

Expectations of the nursing program. As noted in the initial interview, students continued to describe the program requirements as different than they had expected and perceived them as stressful.

> I guess I didn't expect all the reading in the books you have to do at one time. There are so many papers in one class.

> I'm beginning to see that there is a lot of reading and papers to do. I am trying to stay up-to-date with courses from Nursing, Chemistry, and Biology. I try to manage my time. During the day, at home, at night, between classes, and in the library I try to read and study.

Students in this interview commented on exams being very different than they expected.

> Yes, the exams are different. I study so much for them and the questions are not related to the lectures. All the people who do well on the tests are those people who work in hospitals (who have experience).

> The exams are different. It seems that the exams have nothing to do with the material in the book nor the material in the class. I do not know how to sort it out. After you read the book for five weeks you should know something.

Several students commented on the functions of the learning environment as being different than they had expected, specifically teaching methodologies.

> The teaching is not what I had expected, because I was looking for examples of process recordings. There was nothing but steps for you to

> follow. I was looking for orientation in some areas, (i.e., doing all those papers).

However, one student described her/his expectations of faculty/student interaction as being met.

> It has been so far what I heard from my other friends, that some teachers don't like you. I found this also. Some show concern and others don't care.

These responses suggest again the importance of support groups which also might serve as study groups, and the students' need for clear, explicit help from faculty in understanding and meeting course requirements.

The importance of these differences in expectations and their related stress to the students was expressed somewhat more in this interview in terms of meeting self-needs of academic achievement than in the first interview, where the emphasis of importance was more directly on achieving career goals.

> Passing is what I have to gain. Not passing will put me behind a year and I might possibly lose my scholarship.

> This is very important, because how well I do on the test is my grade. If I don't get good grades I'll fail the course.

Most of the students discusssed problem-focused strategies for coping with these different expectations. Actively trying to change the situation was one of the two most commonly reported strategies.

> I have to read to keep up-to-date. I don't want to develop bad habits of putting things off.

> I study very hard. I have no social life.

Networking, the other most frequently mentioned coping strategy here, was not described in this area of stress in the initial interview. That it was used more frequently in the latter part of the semester suggests that students may perceive some faculty as more approachable at this point in time.

> I talk to instructors and see where they can guide me. I also talk to students.

> I spoke to the professor to see if she could get a tutor to teach me how to take multiple choice exams. If the person is not available the professor will help me out.

Two students discussed very different responses in coping with their expectations of nursing.

> I do not find it stressful. I find it exciting and I enjoy it.

> I don't have any coping strategies. I'm all used up. I just seem not to feel anything any more. I just pray and hope I pass the next exam.

Such diversity of response to a common experience highlights the function of cognitive appraisal in dealing with stress and coping.

Table 9 shows how students evaluated the results of their coping strategies. Actively trying to change the situation was used less frequently as a coping strategy than in the initial interview.

Table 9

Evaluation of Coping Effectiveness:

Differences in Expectations. Second Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Change situation (P)			xxx	
Networking (P)		x	xx	
Alternative (P) choices			x	
Avoidance (P)			x	
Verbal res-ponse s (A)	x	x		

Nursing academic requirements. Program requirements, as in the initial interview, were perceived as the most stressful experiences. Exams were the most frequently mentioned stressful experience in this second interview, followed by written assignments.

> I have to study a lot and when I take the test I feel I didn't study anything.
>
> In the classroom everyone has the same complaint--the exams. They say it gets better. I sure hope so.

Students also continued to comment on the stress area of functions of the learning environment identified in the initial interview, specifically classroom teaching.

> The lecture is very stressful. The teacher goes too fast. I can't write everything she is saying. The professor talks too fast and I don't take notes that good.

Several students described beginning to feel less stressed with academic requirements.

> At first I found it stressful--that everything was beginning to pile up--but then I began to regulate my time.
>
> I don't feel that stressed anymore. It's less stressful than it originally was in the beginning.

That exams and lectures were viewed as so stressful by students indicates a need to investigate these teaching methodologies as well as to consider students' need for skills in these areas. That some students were able to report feeling less stressed at this time lends support to use of networking and peer groups so students may share strengths as well as problems.

The majority of students expressed the importance of meeting program requirements in terms of academic achievement.

> This is very important. I want to do well.
>
> If I don't pass, then I fail. I want to learn the technique of taking exams.

This is important. My grade depends on it.

Career goals were identified as being at stake here also and indicated commitment to nursing as a career.

> This is very important to me. I want to graduate and get my degree and go to work. I've been a nurse's aid for years. If I don't do it I can't go back to being a nurse's aid. I like what I am doing. I'v tried business; it's not for me.

Problem-focused strategies continued to predominate as coping methods for nursing academic requirements. However, in comparison with the first interview where students reported use of actively trying to change the situation as the primary coping strategy, students in this interview described use of generating alternative choices as the most frequently used strategy.

> I try to review paragraphs and chapters. I compose my own questions to make them complex to find the right answers.

> I tape the lectures and I go home and rewrite them. While I'm taping it I take notes and what I missed I put in from the tape.

Several students mentioned networking with peers as a coping strategy but no one mentioned use of faculty to cope with stress related to nursing academic requirements.

> I talk to friends to see if they have the same problems.

> I talk to my friends.

Only one student described use of an affective-focused coping strategy.

> I haven't used any; if I do I'm not aware of it. I was doing yoga; now, I don't do anything anymore. I just don't care...oh God!

Students evaluated their coping strategies overall as moderately to very helpful. These evaluations are seen in Table 10.

Table 10

Evaluation of Coping Effectiveness:

Nursing Academic Requirements. Second Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Alternative (P) choices			x	xxx
Change situation (P)		x	x	
Networking (P)		x	x	
Acceptance (P)			x	
Verbal responses (A)	x			

Non-nursing academic requirements. In contrast to responses in the initial interview, students reported non-nursing courses as less stressful in this interview. Two content areas, however, were perceived as stressful. The first area was level of difficulty of the courses.

> Yes, taking one particular course which is required is stressful. The professor is giving outrageous exams which are too, too hard. He is too specific.

> Yes, I am having problems with one course. On an exam, which I barely passed, I did poorly. I did not feel comfortable.

The other area of identified stress was that of functions of the learning environment.

> Yes, an English class was stressful. I don't think I got anything out of that

> class. Maybe it was me, or maybe it was the professor, but I didn't get anything out of it.

While many students in the initial interview commented on the nonapplicability of these courses to nursing, only one student in this interview identified this as a source of stress.

> Yes, these are stressful because you are not going to use them in the future. When you get your grade, your GPA (grade point average) goes down.

The importance of these courses to the students was divided almost equally in terms of meeting self-needs, career goals, and obtaining a liberal arts education. Academic achievement was expressed as a major self-need.

> This is important to me only to pass the course.

> It is important. If I don't do well it effects my index. I give this course too much time because of the professor and I find this stressful.

Some students commented on not only the importance of these courses to satisfy degree requirements for nursing but also that the courses provide a structure for learning professional behavior.

> It was important. I needed it for nursing.

> When I think about it, I know I'll be doing things at work that I don't want to do. So I just do the best I can.

The importance of the courses in terms of learning more about people and the world in which we live was noted by one student.

> These courses are very important. For one thing, I'm learning about things I knew nothing about. Also, in nursing you cover all aspects of life.

The students' comments which reflected their perceiving these courses as more applicable to not only their careers but to life in general may offer one explanation of why they reported less stress in relation to non-nursing academic requirements.

Similar to the initial interview responses, students continued to most

frequently describe the problem-focused method of actively trying to change the situation as a coping strategy.

> I am trying to prepare myself better but I'm not going to give the professor more than I can; but he is so demanding that I find myself giving him too much.

> I am trying harder with studying in this course but there are days when I take an attitude of "I don't care".

Several students indicated use of acceptance as a coping strategy although they described this as not using any coping method.

> I have no coping strategies, really. I go over my notes. I basically don't know anyone in the class.

> I don't think I've used any coping strategies. I just do the material I'm assigned to do.

The above responses suggest that students may need help in identifying their own strengths and coping abilities.

Affective-focused coping strategies of intrapsychic coping and use of social supports were described by two students.

> I push the whole thing out of my mind. I read before I go to class and I study for the exam the same day of the exam. This is one class that if I had the option, I would not take it.

> I talked about it with my sister and I tried to read more.

As seen in Table 11, students generally rated their coping strategies as minimally to moderately helpful. These ratings are generally low compared to their coping ratings in the other stress areas.

Table 11

Evaluation of Coping Effectiveness:

Non-nursing Academic Requirements, Second Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Change situation (P)	x	x	x	
Acceptance (P)	x	x		
Intrapsychic (A) coping			x	
Social supports (A)	x			

Clinical experiences. The area within this category that students identified most frequently as stressful was client care, specifically communicating with clients. Communicating with staff, as part of indirect client care, was also viewed as stressful.

> Yes, a couple of experiences are stressful. Getting along with the staff nurses is one; maybe they just feel threatened. And being able to relate to a client who doesn't speak. A lot of the clients don't talk back; it's a one-sided conversation.

> Yes, communicating with clients was very stressful. At first this made me very anxious.

Providing actual hands-on care was also described as stressful.

> I had to give a bed bath; that was very stressful. The professor put us in pairs (to work together) and said that would be helpful. Doing a bed bath with a woman would have been easier. I was really anxious and shaking in doing this bath.

Related to the stress of communicating with clients were several students' comments regarding the experiences of communicating with peers as stressful.

> When I first did my interview, I didn't know if the client was going to communicate with me. I'm still nervous about doing demonstrations in clinical and about communicating within the group. The first couple of times I went to my agency it was stressful and I just felt drained. You just don't know if everything is going right.

> The only thing is the group. I don't like to talk in group--it makes me nervous. At first I have everything planned what I have to say, and when it reaches me, I have everything gone, I can't remember.

Some students were able to compare their current perceptions of clinical experiences with their earlier perceptions in the beginning of the semester.

> In the beginning I did not like the idea of a nursing home because I thought the hospital would give me more experience. But now I'm finding out that the nursing home is giving me experiences of bed baths, range of motion, blood pressures, etc.

Students' identification of communication with clients, staff, and in seminar peer groups as stressful was not apparent in the first series of interviews and offers thought for further curriculum consideration in this area.

The importance of the clinical experience and communication skills was emphasized in relation to the students achieving their career goals.

> It is very important to me to gain knowledge and communication skills and to learn my skills so I do not make silly mistakes and cause me my license, or my client's life.

> It is very important, because it's important to communicate as far as the nurse-client relationship is concerned. I need to feel more comfortable with the clients because I'm going to have to do that in my nursing career.

> It's important because if I can tell the professor what I did or did not do then she can correct me and help me understand what I did wrong.

Meeting self-needs of self-esteem and academic achievement were also seen as important in clinical experiences.

> It is important. I want to bring my grades up this semester.

> I lost my anxiety of giving a bed bath to a client. I gained confidence.

Strategies most frequently reported to cope with stress in clinical experiences were problem-focused but in contrast to the initial interview responses of actively trying to change the situation, students here identified generating alternative choices as the primary strategy used.

> I have been practicing talking with people and I'm taking a course in conversation.

> When I'm at the nursing home I write down what I want to say on a piece of paper so I won't forget when I come in to the conference.

This change in use of coping strategies throughout the semester suggests not only the effects of learning, experience, and situational factors on coping methods, but also points out the need for research methodology to study coping longitudinally.

Actively trying to change the situation continued to be used as a prominent coping strategy.

> I am preparing myself better but not as much as I would like. I haven't been reading as much as I like.

> I study for the tests, I study for clinical practice.

Networking with both faculty and peers was described as a coping strategy by several students.

> I talk to the teacher, and sit down and relax for a while with my friends.

> Talking with the professor and students in pre-and postconference helps.

There were no affective-focused coping strategies mentioned in this category. Students evaluated the problem-focused methods they used in coping with the stress of clinical experiences as generally more helpful than those they used in the other areas of stress discussed in the interview. Table 12 summarizes coping methods used in the clinical experience.

Table 12

Evaluation of Coping Effectiveness:

Clinical Experiences. Second Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Alternative (P) choices		x	xx	xx
Change situation (P)		x	xx	
Networking (P)			x	x
Acceptance (P)				xx

Negotiating the college system. Students described less stress in this area than they did in the initial interview.

> No, it's not stressful anymore.

> I saw this as stressful at first but not now. But I'm able to get more help from professors and students help too.

Several students mentioned the process of seeking financial aid as continuing to be stressful.

> Everytime I go to Financial Aid they tell me I'm not qualified so I just leave them.

> Financial aid is a problem. After next semester I'll have problems. The help I get is practically gone and I don't know what I'll do for 89-90.

Lack of services and information was also described as contributing to stress.

> Yes, because when you talk to them, you have to read or you never know where to get help. They never tell you anything.

> I find it stressful when I have to wait on long lines and not get the results I want.

Financial aid was seen as important in terms of meeting both career goals and self-needs.

> This is very important. Financial aid is my only means of coming to school again, and if not, I'll get $200-$300 from somewhere.

> It is very important. I feel that I don't want to depend on my parents.

The importance of obtaining accurate information about the college system and about availability of services was expressed by several students in relation to academic achievement.

> It means better grades if I'm looking for help.

> I have a lot to gain. If I don't read the information, I'll never know.

The coping strategy most frequently reported in this interview was the problem-focused method of networking. This is in contrast to the initial interview where the most frequently reported strategy was actively trying to change the situation.

> I talked to a counselor at Financial Aid.

> I went to the counselors in Shuster Hall but they couldn't help me. Then I went to the nursing division and they did not know what I should do. Then my friend told me what to do. I'm glad I did not take the course because my semester is full.

This latter comment once again indicates the importance of networking with peers.

The problem-focused coping strategies less frequently mentioned were acceptance, generating alternative choices, and actively trying to change the situation. Affective-focused strategies were not reported in this category. Students' evaluations of the effectiveness of their coping strategies are seen in Table 13.

Table 13

Evaluation of Coping Effectiveness:

Negotiating the College System. Second Individual Interview

Coping strategy	Not at all helpful	Minimally helpful	Moderately helpful	Very helpful
Networking (P)			xx	xx
Acceptance (P)	x			
Alternative (P) choices		x		
Change situation (P)	x			

As noted in the earlier discussion of the initial interview, students were asked to respond to the last three interview questions in terms of; (a) how the college and/or the nursing program might help them in coping with stress, (b) their experience in the interview, and (c) what they might like to add to the interview.

Similar to the initial interview, some of the students said they were uncertain as to how the college or nursing program might help them with stress. However, two major themes emerged from their responses to this question. The first theme was identical to the one emerging from the initial interview and that was changing the structure of the learning environment to include a counselor specifically for nursing students and to provide for faculty dialogue and interaction with students.

> Implement study groups with professors in the beginning of the semester. Have information more readily available, like when we can use the computer lab.
>
> Professors are there for help...I'm not sure...I don't know. But are there counselors in this school? I need to talk with someone.
>
> I find that some professors will help you, that is, recommend a book in the book store. Also there should be people directing you to the proper place for help and anything that is beneficial.

The second theme that emerged was that of changing functions of the learning environment: comments were directed toward examinations. Responses here generally took the form of suggestions of how to improve the exams but also could be interpreted as requests for help in taking them.

> In the exams, fix the multiple choice questions. The use of words is confusing. And that one point on an exam can make a difference between a B and a B+.
>
> I don't know if the college could do or change anything. I'm still concerned about exams--you need to be precise, say what you want.
>
> Yes, offer a class on learning how to take multiple choice exams. The exams should be phrased better.

The majority of students noted that their participation in this interview was a positive experience for them. Their statements indicated that responding to the interview assessment questions concerning their own stress and coping strategies facilitated clarification of, and learning about, these experiences, and allowed for expression of feelings.

> It was more or less like the first time, but now I can tell you more. I've learned to cope with stress. It was a good experience, because some of the questions I would not think about. But, because you gave them to me I have to think about them.
>
> It's been a help to me this time. I get a chance to voice my opinion talking to you. Maybe changes will be made, hopefully.
>
> This is a very helpful experience in trying to get at what you have deep inside, in trying to talk about the nursing program and other courses you are taking.

As in the initial interview, very few students had any additional comments to add, but once again, two students presented two very different responses to their feelings of stress.

> This is supposed to be my last year, but since I have to spend two more years in the nursing program, it burns me up! I want to be a nurse so I have to do it.

> My Dad is in the hospital and I'm the only one for help. I just need to talk with someone... I guess I'll try to talk with someone.

Group Interview

The research associate met for the second time with students participating in the group interview situation and followed the same interview procedure as in the first meeting. Students' comments recorded here represent a general consensus of group thinking unless otherwise delineated.

Expectations of the nursing program. Students' expectations of a more technical approach to nursing as compared to what they perceived as the theoretical approach they were experiencing was a major theme in this interview as it was in the initial interview.

> I thought it would be more technical and less psychological.

> The theory is nothing to hang on to...it seems so abstract and so far removed from what we are doing in clinical.

> I don't think it is a total loss. I've learned a lot. It's very different. I didn't know that the whole communication area had so much to do with it.

Such responses occurring at the end of the semester suggest that students may be having difficulty applying classroom learning to clinical practice and that curriculum coordination might need review.

Students agreed upon the importance of recognizing the realities they were confronting in the nursing program in relation to their goals of "gaining knowledge and becoming registered professional nurses". However, there were some doubts expressed about accepting these realities, as succinctly expressed by

one student: "It's like when I was in labor, and I asked, 'can I get out of this or is it too late?' "

The primary coping strategies discussed by the students were problem-focused ones, including networking.

> It helps to talk with other students, to know that you are not alone. Your suffering is their suffering and that makes it more bearable. You are not the only sinking ship.

Acceptance and intrapsychic coping--trying not to focus on grades-- were other coping strategies discussed.

Students generally thought the primary coping strategies they reported using were moderately effective (2.8 mean on the rating scale).

> It's working, we're not nuts yet.

> You just seem to do it. You never know how much you can handle.

Nursing academic requirements. Students identified program requirements--papers, readings, and especially exams--as major stressful experiences at this point in the semester.

> Too many tests, papers, and readings.

> The tests don't pertain to class but to the readings, and you are overwhelmed with all the reading.

> Everything seems too vague, even the test questions.

The importance of exams to the students was expressed not only in terms of academic achievement but also in regard to their learning about their own abilities and gaining knowledge.

> We want to know what we are doing, and understand our weaknesses, and why.

> We are interested in our grades and we want to know why we did well.

Such expressed academic needs are characteristic of adult learners and suggest use of exams for teaching as well as grading purposes.

As in the initial group interview, affective-focused methods of coping were primary strategies discussed by the students. The following comments illustrate verbal responses and somatic coping strategies.

> We yelled in class, and made pains of ourselves in the classroom.

> When I make myself do it, what I do is keeping up with yoga, meditation, prayer.

Students less frequently used problem-focused coping methods of networking, actively trying to change the situation, and generating alternative choices.

Overall, students did not think they were coping that effectively with the stressful experiences of nursing academic requirements.

> My time is involved around school. I have no social or personal life.

> I'm having a hard time eating regular, decent meals. I'm always eating fast food on the run.

Coping methods were rated minimally to moderately helpful (2.3 mean on the rating scale).

Non-nursing academic requirements. Rather than focus as much on liberal arts courses being nonapplicable to nursing as in the initial interview, students commented on the stressful experience of not having enough time to study for these courses because of the demands of the nursing program.

> Yes, because test days for both nursing and these courses can fall on the same day.

> The other courses suffer because so much time is spent on nursing.

Students described the importance of these course in terms of needing them to graduate and accomplish their career goals of becoming nurses. The group disagreed as to whether or not the liberal arts courses should be required.

> If it was voluntary, I wouldn't take the core curriculum courses.

> If you only want to take nursing courses, you should be in a diploma program.

Coping strategies utilized here were similar to those described in the initial interview, with the problem-focused method of actively trying to change the situation being predominant. These strategies were rated as moderately to very helpful (3.4 mean on the rating scale).

Clinical experiences. Students continued to delineate these experiences as stressful primarily in terms of the learning environment. Concerning the structure of the learning environment, students felt that they needed more clinical and practice time.

> Time is wasted at the nursing home with preconference a discussion about nothing. We get to the floor and things are done already.

> There should be more days in the nursing home. A lot of time at the beginning of the practice lab we watched students demonstrate procedures which was a waste of time. Students shouldn't demonstrate.

Functions of the learning environment were viewed as stressful in terms of clarity and usefulness of course requirements.

> They (faculty) don't get their act together with coordinating the clinical skills and the textbook.

> With the nursing care plans, we don't even see what we implemented: we just have to make them up.

The importance of the clinical experiences to the students was described in relation to meeting both self-needs and career goals.

> We need the clinical experiences to get self-assurance to know we can do it.

> We want to be able to read the blood pressure the right way, to pass each clinical skill so we can go on to the next.

Students commented on the problem-focused method of networking as the coping strategy used to deal with stress in clinical experiences as opposed to the affective coping method of verbal responses they discussed in the initial interview. Students did note that professors "were reasonable in giving extensions on assignments".

> We talk and complain among ourselves.

We complain to our teachers.

Networking was viewed as minimally effective (2.1 mean on the rating scale) and students expressed concern about the need to learn additional coping strategies for the future.

This is only the beginning and it's going to get more stressful.

Negotiating the college system. Students in this interview, as in the initial interview, felt that a major area of stress continued to be about where and whom to go to for information and support services.

> Whom do you go to? They don't assign a counselor. When you get into the program they should assign you someone to help you to get help.

It was important to the students in terms of completing their degrees and reaching their career goals to "know what is going on and to talk to someone who knows what s/he is doing". The need for a specific nursing counselor is once more brought forth by these comments, and one student's response again suggests the need for student support groups: "I wish I knew some upper level students".

Rather than use the affective-focused coping methods described in the initial interview to manage stress in this area, students here discussed use of problem-focused coping methods, primarily that of generating alternative choices.

I am learning to get things in writing and to get people's names.

I go over to them sweet as pie even when they are rude.

Strategies were evaluated as moderately effective (2.9 mean on the rating scale).

I feel better than before.

> I also feel better in knowing that I have now to deal with the nursing department and not other departments.

Table 14 indicates how students in this second group interview evaluated the effectiveness of their coping strategies.

Table 14

Mean Scores of Coping Effectiveness: Second Group Interview

	Primary Categories Of Stress				
Primary coping method	Different expectations	Nursing academic courses	Non-nursing academic courses	Clinical experiences	Negotiate college system
	M	M	M	M	M
Problem focused	2.8		3.4	2.1	2.9
Affective-focused		2.3			

In contrast to the initial interview, students had a number of responses to the sixth interview question which asked if there was anything the College and/or the nursing program could do to help them cope with stress. A primary theme from these responses revolved around changes in the structure of the learning environment.

> The practice laboratory should be available at all different times.
>
> There should be someone here to help with our stress and to help keep the practice lab open.

> There needs to be coordination regarding all the nursing activities, regarding preregistration, registration, sending out of handbooks and requirements early so we know what to do.

Students' comments on their experiences in the interview were generally positive and reflected not only their feelings of some relief from stress but also their wanting to make changes in their learning experiences and their needing recognition of their own importance as students.

> When I first got here I was tired and irritable but now I feel better.

> We need to talk so we can get input into the system.

> We need to know from faculty that we are important.

The last interview question, which asked the students if there was anything they would like to add to the interview, drew several responses addressing the need for orientation prior to entering the program.

> I think that information needs to be sent to students regarding orientation.

> There needs to be a preorientation to the program.

Student Evaluation of Assessment as an Intervention

Students taking part in the individual and group interviews and students in the contrast group were asked to evaluate their participation in the assessment project by completing the Evaluation Form (Appendix E). Their responses are discussed under headings corresponding to the four areas covered by the evaluation form.

Assessement of Stress and Coping Facilitating Own Stress Management

Group interview. Some of the students in the group interview situation reported that participation in the project involved an increased awareness of their coping strategies.

> The assessment made me think about handling the stress and made my coping strategies more concrete.
>
> It showed me things I was doing or feeling about stress that I wasn't aware of before.

Other students commented that the project helped them to learn new ways of coping and that sharing these coping strategies in the group was helpful, for example:

> I learned that some of my strategies don't always help me. I learned new ways on how to cope with my stress. I also learned that I am not alone.
>
> Talking about the stressful situations helped me to see that almost everyone was "in the same boat". Talking helps me to vent and therefore feel less stressed.

Such evaluative comments support once again the group situation as an effective intervention modality. However, several students were undecided as to the helpfulness of the project.

> The interviews didn't help that much because I have always used the same coping mechanisms and most of the times they have worked. And then again maybe it helped me reevaluate these mechanisms.
>
> I haven't changed my strategies so I'm not dealing with my stress better, only recognizing <u>how</u> I deal with it.

One of the three students who responded that the project did not help them cope with stress stated that it added to her/his stress.

> Assessing my own stress and coping strategies did not help me deal with stress. I just became more aware of the situation, thereby becoming more stressed.

<u>Individual interview</u>. The theme of becoming more aware of stress and coping was again a predominant one reported by students in the individual interview situation.

> Sometimes you do not notice that you are using specific coping strategies. By talking about them and recognizing them we can decide which are helpful and which are not. In doing this we can try to stay away from using the coping mechanisms which are not helpful.
>
> I was able to find out which methods worked and which didn't. Now I don't have to worry as much if similar problems arise in the future.

The learning of new strategies, sometimes coupled with awareness, also continued as a major theme.

> Assessing my own stress helped me to view my problems in a different way. I tried to improve my coping strategies to handle my problems better and this helped alot.

> Assessing my own stress and coping strategies helped me to deal with them in a way that I could use other alternatives than I usually use.

Contrast group. This group did not receive any project intervention other than taking the Jalowiec Coping Scale at the beginning and the end of the semester. However, to explore the testing effects of the coping scale, the students were given the project Evaluation Form to complete at the end of the second coping scale administration. As with the other two groups, the themes of increased awareness and learning new ways of coping were the most common modalities reported as helpful.

> Just becoming more aware of my stress and some of the behaviors that accompany it made me see how I deal with stressful situations. This information will help me to make positive changes in either changing stressful stimuli or learning healthy ways to deal with stress.

> Assessing my own stress helped me to realize and see straight forwardly how I really go about dealing with stress.

Several students pointed out that they were helped in assessing their strengths as well as their problem areas.

> It made me realize how well I handled certain situations and what I needed improvement of. It helped me focus on my strong and weak points. I was able to focus on my weaknesses and strengths, and better them in any way possible.

One student observed that awareness of her coping strategies was only the beginning of trying to change some of them.

> I think this was helpful because sometimes you don't realize how you are dealing with situations until you sit down and think about it. However, this has not really helped me as of yet because my coping mechanisms are established and I know they will not improve overnight but hopefully will with time.

Assessment of Stress and Coping Facilitating

Clients' Stress Management

Group interview. Students reported that the assessment interviews facilitated their understanding of clients' efforts at stress management, although not all students were able to assist clients in this. A common theme emphasized here was the value and need to understand one's self in order to understand others.

> To think about and understand my stress and coping strategies made me realize that my client could also be experiencing some stress. It broadened my understanding of situations I may encounter.
>
> It helped me understand that coping with stress is not always easy. That I have to handle my stress first before I try to handle anyone else's.

Individual interview. In addition to the theme of self-understanding described by the students in the group interview situation, themes of development of empathy and of assisting clients in problem-solving emerged from students' responses here.

> Knowing how difficult it may be to find coping mechanisms to handle personal stress, I am more understanding and patient with clients who may be going through what I went through.
>
> When we are met by stressors we (meaning both client and oneself) will deal with stressors accordingly. You can empathize with your client. It helps you be patient.
>
> It does help one to see how one's client may be dealing with stress. Then if they are not dealing well one can try to help the client find new ways to deal with stress.
>
> I could teach the client that there are many ways to cope with stress.

Contrast group. Students' responses in this group reflected the similar themes of self-understanding, empathy and problem-solving noted in the other two groups.

> I noted in myself that in times of stress I sometimes take it out on others. By realizing this behavior, I am able to see that many times my client's irritability should not be taken personally, but for what it is, a

> coping mechanism. Realizing this, I can help her relieve the stress if possible.
>
> It helped me to understand and put myself in the client's place who was dealing with stress.
>
> I was able to help clients verbalize their feelings so that they too can pick up on potential as well as actual problems and work on them. Also, to help them see their strengths.

Degree of Comfort in Assessing own Stress

and Coping with a Faculty Member

Group interview. Most of the students reported that they would feel comfortable discussing their stress and coping experiences with their faculty in this course. A major theme that evolved from students' responses here was that they would welcome the chance to talk with faculty, with the expectations of faculty being able to help them.

> I would feel very comfortable because it would let her know how frustrated and concerned I really am with my course.
>
> I feel that if I had the opportunity to assess my stress and coping strategies with my instructor I would feel very comfortable and I feel that s/he could be of help to me in many ways.

One student expressed a concern that such interaction might not make much of a difference.

> It's not a question of how comfortable I would feel, but a sense that the system is what it is, and that nothing is going to be altered to decrease student stress.

Individual interview. Students in this interview situation also reported they would feel comfortable in discussing their stress and coping experiences with faculty. In addition to the theme of seeing this interaction as helpful to them, the theme of faculty being understanding of people was important to the students.

> I would feel comfortable because my instructor really cares about her students. She helps out her students as much as she possibly can.
>
> I would feel relieved, if the instructor is an understanding person.

> I would feel very comfortable talking to my instructor about my stress. After all, she has been through what I am going through.

Several students, although responding positively, attached some qualifying criteria to their comments.

> I would feel comfortable in assessing my stress and coping strategies with my instructor only if it did not change her thoughts or behaviors toward me if I were open and honest.

> I would feel comfortable discussing stress with my instructor as long as she is open to me. In other words I wouldn't discuss stress unless she brings up the subject.

Contrast group. Students in this group reported positive responses to discussing their stress and coping experiences with faculty in this course. Themes which emerged in the other two groups were also evident in these responses.

> I have learned verbalizing stress helps in dealing with it so I would feel very comfortable in talking with my instructor especially if she is down to earth.

> I would feel comfortable in assessing my stress and coping strategies with my instructor. It would be something to share.

> I would like my professor to know my stress level, my parents too for that matter!

Again, there was a qualifying comment to one student's response.

> This situation would be dependent on the course and what instructor is involved. If the instructor is in a course I would find very difficult, I would find this difficult. If the instructor teaches a class I enjoy, then the situation would not be as stressful.

Continuation of Assessment of Stress and Coping in this Course

Group interview. Most of the students recommended that this self-assessment approach be continued in the course. Themes representing the rationale for these recommendations included learning new coping skills and group support.

> Yes. It gives students the opportunity to air their views, realize they are not alone in their feelings, and possibly learn alternate methods of coping.
>
> Yes, it should be continued in this course because it is somewhat of a group support which helps students become more aware of their stress factors and how to deal with stress. It also makes you aware that many other students have similar problems.
>
> I think it should be continued because it made me think about the stress and coping. It brought it out in the open and helped me to experience it and understand its effect which made me handle it better.

Students also had some definite suggestions as to how this self-assessment approach might be improved.

> It is good to get all students in the group to talk about stress but it should start at the beginning of the semester.
>
> I feel that this assessment could have been more effective by not just listening to us, but giving us some feedback on how to handle these problems.
>
> This approach should not be continued without some concrete action taken: (a) provide stress management classes or group experiences to help students deal with the situation, (b) alter the environment to decrease the stress load on the students. Many of us have the impression that our complaints are not taken seriously--like we are just whining. Does the division care?

Individual interview. Continuation of assessment of stress and coping in the course was also recommended by the students in this situation. Students' responses reflected the previously identified theme of learning new coping skills as well as the additional theme of this approach providing them with an awareness and an opportunity to identify and discuss feelings of stress associated with being nursing students.

> I think it should continue because it makes students aware of stress, and the student will find a way to cope with it.
>
> Yes, it seems to be helpful. It let me speak my mind to the interviewer of about how I felt.
>
> Yes, because the students get to express their feelings, because maybe they never had a chance to do so in the past.

One student's comment reflected her/his knowledge of the diversity of people's stress management needs.

> This is hard to say but maybe because each person reacts differently to stress, maybe this might help one student when it might have no effect on the other.

Contrast group. Students in the contrast group reported support of the continuation of assessment of stress and coping in the course. A major theme of the responses in this group was that the assessment helped students to become aware of, and understand more fully, their coping strategies.

> I think it's a good approach. It brings out points that maybe we didn't realize and it might make us more able to handle stress better in the future.

> I feel that it should be continued. Like I said before, it made me visually realize how I go about dealing with stress. I think it is a good experience for everyone.

> Yes, it helped me to understand how I cope with stress.

Several students' comments reflected altruistic ideals, with an emphasis on helping others.

> Definitely, this should be continued--for the clients' purposes as well as the students' purposes. It may even decrease all the uncalled for actions in our society (i.e, child abuse, maltreatment, etc.).

> If it helps just one person, then that is enough reason for its continuance.

Summary

Initial Interview

Students participating in the initial individual interview and in the group interview described the nursing program to be different than their expectations. These differences, including program requirements and what was perceived as an emphasis of theory over technical skills, were viewed as stressful. Nursing academic requirements were reported as stressful in terms of the amount of readings and number of assignments. In relation to the learning environment in nursing and in non-nursing courses, students described teaching methodologies and faculty-student interactions as sources of stress. Students also reported non-

nursing courses as stressful because they did not think that these courses were relevant to their nursing majors. Several students did, however, perceive these courses as valuable.

Clinical experiences were generally not reported as stressful in this early part of the semester. However, students did comment on their stress while learning in the practice laboratory. Negotiating the college system was reported as stressful in that services students were seeking were either ineffective or not available.

The importance of these stressful experiences, or what was at stake was expressed by the students primarily in terms of meeting career goals. The coping strategies most frequently reported by students in the individual interview situation were problem-focused methods which they identified as being most used in the nursing and non-nursing academic areas and in negotiating the college system. The students in the group interview situation mainly discussed affective-focused coping methods which they evaluated as overall not being very effective.

Students in the individual interview situation recommended that the College and/or nursing program could help them cope with stress by providing a counselor specifically for nursing students and by encouraging faculty-student dialogue. Students in the group interview situation reported that at the moment there was nothing that the College and/or nursing program could do to help them cope with stress. Both groups of students reported participation in the assessment intervention as positive with a few exceptions in the group interview.

Second Interview

In the second interview, students in both the individual interview and group interview situations reported exams as very stressful in the areas of nursing academic requirements and what they thought was different in their expectations of nursing. Non-nursing academic requirements were not perceived as stressful as

compared to the initial interview by the individual interview students. Students in the group interview situation also indicated a difference from their initial perceptions, reporting not that these courses were a waste of time but that they did not have enough time to study for them.

Students in the individual interview situation identified that client care, especially communicating with clients, was most stressful in the area of clinical experience, while students in the group interview situation continued to report that the learning environment itself was stressful. The area of negotiating the college system continued to be reported as stressful by both groups in terms of ineffectiveness and nonavailability of services.

The importance of these stressful experiences to the students was again expressed in terms of meeting career goals but at this point there was also emphasis on academic achievement as being at stake. Problem-focused methods continued to be reported as the coping strategies of choice by students in the individual interview situation. These strategies were utilized in all the interview areas. Students in the group interview situation reported more use of problem-focused coping strategies than in the first interview, where they reported more use of affective-focused methods. Further delineation of the these changes is discussed in Chapter VI.

Students in both groups responded to the question of how the College and/or nursing program could help them cope with stress by suggestions for changing the structure and functions of the learning environment rather than asking for personal stress management interventions.

Student Evaluation of Project

In general, students in all three groups reported that their participation in the project assisted them in coping with stress. They commented on developing

an increased awareness of their coping strategies and on learning alternative ways of coping.

Many students in all groups reported that through developing this awareness of their own stress and coping experiences, they felt more able to understand and to assist clients' efforts in stress management.

Most students reported they would feel comfortable in discussing their stress and coping experiences with their instructor in the course. However, several students did note that it would be important that they felt assured that the instructor would not be influenced by this information in evaluating their course performance.

Students recommended the continuation of assessment of stress and coping in the course, accompanied by the recommendation that faculty do indeed listen and take heed of their stress experiences.

CHAPTER V

ANALYSIS OF QUANTITATIVE DATA

In addition to the qualitative data derived from the interviews with participants, the effects of the interventions were assessed quantitatively by the preintervention and postintervention administration of the Jalowiec Coping Scale (JCS). This measure was designed to assess coping responses to stress and delineated these responses into use of affective-focused coping modes and problem-focused modes (Jaloweic & Powers, 1980). There are 15 problem-focused and 25 affective-focused ways of coping on the scale. A factor analytic study of the scale by Jaloweic, Murphy, and Powers (1984) suggested that the scale actually tapped four different domains reflecting cognitive coping modes, palliative coping modes, regressive coping modes, and other-directed coping modes.

Frequency and Range of Coping Modes Employed

In this project preintervention and postintervention JCS protocols were scored for frequency of use of affective-focused coping modes and problem-focused modes, as well as for the four factors of cognitive, palliative, regressive, and other-directed coping. In addition, scale scores were developed to measure the range of use (as opposed to the frequency of use) of the affective and problem-focused coping modes. These scores were obtained by counting the number of modes of each type endorsed by each respondent, regardless of the level of use indicated in the response.

The significance of preintervention to postintervention changes on these measures was assessed by a series of correlated sample t-tests calculated for each of the three groups separately. These t-tests are presented in Tables 15 through 17. Participants in the contrast group and participants who completed the preintervention assessment, both interview interventions, and the postintervention assessment were included in these tests.

Table 15

Correlated Sample t-tests for Significance of Preintervention to Postintervention Changes on JCS among Contrast Group Subjects (n = 14)

Criterion Variable	Preintervention M	Preintervention SD	Postintervention M	Postintervention SD	t
Frequency of use of affective coping	61.5	9.8	62.5	10.1	0.53
Frequency of use of problem oriented coping	41.2	6.8	41.6	6.5	0.23
Frequency of use of cognitive coping modes	37.4	6.7	36.7	7.5	-0.44
Frequency of use of palliative coping modes	22.4	5.0	22.1	4.3	-0.19
Frequency of use of regressive coping modes	29.6	4.7	31.1	6.2	1.03
Frequency of use of other directed coping modes	13.4	3.8	14.1	2.6	1.14
Number of affective coping modes used	19.0	2.5	18.2	2.7	-0.84
Number of problem oriented coping modes used	11.7	1.4	12.6	3.4	-0.094

Note. No significant changes

Table 16

Correlated Sample t-tests for Significance of Preintervention to Postintervention Changes on JCS among Subjects in Group Interview Situation (n = 13)

Criterion Variable	Preintervention		Postintervention		
	M	SD	M	SD	t
Frequency of use of affective coping	55.8	6.4	54.1	5.2	-1.94
Frequency of use of problem oriented coping	42.1	8.3	41.4	9.3	-0.45
Frequency of use of cognitive coping modes	38.6	8.1	38.2	7.8	-0.37
Frequency of use of palliative coping modes	20.1	3.2	18.6	3.2	-1.87
Frequency of use of regressive coping modes	27.2	5.8	26.8	5.9	-0.36
Frequency of use of other directed coping modes	11.9	2.4	11.8	2.1	-0.18
Number of affective coping modes used	18.0	2.9	17.4	3.2	-0.57
Number of problem oriented coping modes used	11.6	1.4	11.5	2.0	-0.11

Note. No significant changes

Table 17

Correlated Sample t-tests for Significance of Preintervention to Postintervention Changes on JCS among Subjects in Individual Interview situation (n = 14)

Criterion Variable	Preintervention M	Preintervention SD	Postintervention M	Postintervention SD	t
Frequency of use of affective coping	57.8	11.1	57.1	9.0	-0.32
Frequency of use of problem oriented coping	42.7	8.5	42.0	8.3	-0.33
Frequency of use of cognitive coping modes	40.1	8.6	40.2	9.1	0.07
Frequency of use of palliative coping modes	21.6	4.4	20.8	5.3	-0.82
Frequency of use of regressive coping modes	27.4	8.5	27.5	6.9	0.05
Frequency of use of other directed coping modes	11.8	3.6	11.2	3.1	-1.47
Number of affective coping modes used	17.1	3.4	17.0	3.7	-0.11
Number of problem oriented coping modes used	11.8	1.5	12.1	1.7	-0.32

Note. No significant changes

The t-tests presented in Table 15 indicated no significant changes in any of the coping measures among the contrast group students, as would be expected. The t-tests presented in Tables 16 and 17 indicated no significant changes in any of the coping measures among students in either of the two groups of students participating in the assessment interventions. Thus, on the basis of the analysis of the quantitative data, it cannot be concluded that the assessment intervention had an effect on the self-reported frequency of use or range of coping behaviors as measured by the JCS.

Analysis of Changes in Individual Coping Items

In order to explore further any changes which occurred in individual coping modes, responses to each item of the JCS at preintervention were crosstabulated by responses to the corresponding postintervention item. These crosstabulations were constructed for each of the three project groups separately. Each crosstabulation was examined to determine: (a) the number of students who indicated greater frequency of use of the coping mode at postintervention than at preintervention, (b) the number of students who indicated lower frequency of use of the coping mode at postintervention than at preintervention, and (c) the number of students who indicated the same frequency of use of the coping mode at preintervention and postintervention. McNemar tests for the significance of changes were applied to each item in each group to determine whether there was any tendency for the frequency of use of a particular mode to increase or decrease. These data are presented in Tables 18 through 20.

Table 18

Number of Subjects in the Contrast Group Situation Who Indicated Greater Frequency of Use, the Same Frequency Of Use, or Lower Frequency of Use of Each Coping Mode on JCS from Preintervention to Postintervention (n = 14)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preinterrvention
1 Worry	3	10	1
2 Cry	4	10	0
3 Activity/ exercise	3	8	3
4 Optimism	4	6	4
5 Humor	3	9	2
6 Consider different solutions	2	6	6
7 Eat/Smoke	3	7	4
8 Put problem aside	4	5	5
9 Let others solve problem	3	9	2
10 Daydream	4	9	1
11 Try anything	6	7	1

(table continues)

Item	Number of respondents Who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
12 Discuss problem	5	5	4
13 Pessimism	5	6	3
14 Get mad/curse	4	7	3
15 Acceptance	4	4	6
16 View problem objectively	5	5	4
17 Maintain control	1	8	5
18 Seek purpose/ meaning	3	7	4
19 Pray/trust God	3	7	4
20 Get nervous	5	5	4
21 Situational withdrawal	3	4	7
22 Blame others	3	8	3
23 Try to change situation	2	6	6
24 Release tension on others	4	6	4
25 Isolation	6	6	2
26 Resignation/its hopeless	2	8	4
27 Let problem solve itself	6	7	1

(table continues)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
28 Get comfort/ help from others	6	4	4
29 Meditation/ mind over matter	0	14	0
30 Information-seeking	3	9	2
31 Try different solutions	4	5	5
32 Resignation/its fate	2	8	4
33 Use past experience	10	2	2 *
34 Handle problem piecemeal	2	9	3
35 Sleep	4	7	3
36 Set goals	5	4	5
37 Don't worry	2	5	7
38 Settle for next best thing	5	8	1

p * <.05. Significant increase in frequency of use of this mode.

Table 19

Number of Subjects in Group Interview Situation Who Indicated Greater Frequency of Use, the Same Frequency of Use, or Lower Frequency of Use of Each Coping mode on JCS from Preintervention to Postintervention (n = 13)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
1 Worry	2	9	2
2 Cry	1	9	3
3 Activity/ exercise	3	8	2
4 Optimism	2	5	6
5 Humor	4	5	4
6 Consider different solutions	4	5	4
7 Eat/Smoke	3	9	1
8 Put problem aside	3	6	4
9 Let others solve problem	1	10	2
10 Daydream	2	6	5
11 Try anything	4	6	3

(table continues)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
12 Discuss problem	6	4	3
13 Pessimism	1	10	2
14 Get mad/curse	6	4	3
15 Acceptance	2	6	5
16 View problem objectively	3	3	7
17 Maintain control	3	6	4
18 Seek purpose/ meaning	2	9	2
19 Pray/trust God	2	6	5
20 Get nervous	2	9	2
21 Situational withdrawal	2	10	1
22 Blame others	0	9	4
23 Try to change situation	1	7	5
24 Release tension on others	3	6	4
25 Isolation	2	7	4

(table continues)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
26 Resignation/its hopeless	2	10	1
27 Let problem solve itself	2	6	5
28 Get comfort/help from others	2	6	5
29 Meditation/ mind over matter	2	9	2
30 Information-seeking	2	7	4
31 Try different solutions	5	5	3
32 Resignation/its fate	1	9	3
33 Use past experience	4	5	4
34 Handle problem piecemeal	5	7	1
35 Sleep	2	10	1
36 Set goals	6	4	3
37 Don't worry	1	11	1
38 Settle for next best thing	0	9	4

Note. No significant changes

Table 20

Number of Subjects in Individual Interview Situation Who Indicated Greater Frequency of Use, the Same Frequency of Use, or Lower Frequency of Use of Each Coping mode on JCS from Preintervention to Postintervention (n = 14)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
1 Worry	3	7	4
2 Cry	2	12	0
3 Activity/ exercise	4	8	2
4 Optimism	4	6	4
5 Humor	1	8	5
6 Consider different solutions	2	8	4
7 Eat/Smoke	2	8	4
8 Put problem aside	2	7	5
9 Let others solve problem	1	12	1
10 Daydream	1	8	5
11 Try anything	1	12	1

(table continues)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
12 Discuss problem	4	6	4
13 Pessimism	5	6	3
14 Get mad/curse	2	8	4
15 Acceptance	1	8	5
16 View problem objectively	4	6	4
17 Maintain control	7	7	0 **
18 Seek purpose/ meaning	6	3	5
19 Pray/trust God	4	7	10
20 Get nervous	5	6	3
21 Situational withdrawal	2	9	3
22 Blame others	0	9	5 *
23 Try to change situation	6	3	5
24 Release tension on others	3	7	4
25 Isolation	3	6	4
26 Resignation/its hopeless	5	5	4

(table continues)

Item	Number of respondents who: Indicated more frequent use of mode postintervention than preintervention	Indicated no change in frequency of use of mode	Indicated less frequent use of mode postintervention than preintervention
27 Let problem solve itself	4	5	5
28 Get comfort/ help from others	3	7	4
29 Meditation/ mind over matter	4	9	1
30 Information-seeking	3	6	5
31 Try different solutions	6	2	6
32 Resignation/its fate	4	9	1
33 Use past experience	2	6	6
34 Handle problem piecemeal	5	3	5
35 Sleep	4	9	1
36 Set goals	3	7	4
37 Don't worry	4	5	5
38 Settle for next best thing	4	10	0

** p <.01. Significant increase in frequency of use of this mode.

* p <.05. Significant decrease in frequency of use of this mode.

Of the 114 tests performed (3 groups x 38 items), only three significant results were obtained.

Among students in the contrast group situation, ten respondents reported increased use of past experience from preintervention to postintervention, while only two respondents reported decreased frequency of use of this mode. This shift was significant ($p < .05$). One possible explanation for this change may be that students in the contrast group utilized their learning of different coping skills obtained from taking the initial JCS and applied these new coping skills to their current situation. Among students in the group interview situation, no significant changes were observed on any of the 38 items of the JCS. Among those in the individual interview situation, there was a significant ($p < .01$) shift in the direction of more frequent use of "maintaining control" (item 17) and a significant ($p < .05$) shift in the direction of less frequent use of "blaming others" (item 22). It is possible to hypothesize here that as students developed successful coping mechanisms over the course of the semester, they felt they could maintain more control over the stressful situation and were less likely to blame others for that stress. Such a relationship between control and stress has been cited earlier in this dissertation (see Chapter II) and supports Lazarus' and Folkman's (1984) point that it is one's belief in one's ability to control an event that influences appraisal and subsequent coping activity.

Given the small number of significant results obtained from such a large number of tests, the findings noted above should be regarded with caution. Approximately six tests would be expected to be significant by chance. Therefore these three significant results may well be type I errors. Certainly the findings require replication.

However, while only three test results proved to be statistically significant, the analysis of the crosstabulation of frequency of use of coping methods pre-and

postintervention did indicate shifts in direction that may be useful to consider in understanding students' coping over the semester. Examples of some of these changes are discussed in the following paragraph.

Among students in the contrast group, seven students out of the 14 indicated less frequent use of the affective-focused response "situational withdrawal" (item 21) postintervention than preintervention. This again might indicate learning of new coping skills in this group, or a reappraisal of situations which subsequently then might require different coping skills. Among students in the group interview situation, six respondents out of 13 reported more frequent use of the affective-focused response "get mad/curse" (item 14) postintervention than preintervention. This is in contrast to the qualitative data findings in which in general, the group interview students utilized problem-focused coping methods more frequently than affective-focused coping methods at the end of the semester. This result does suggest that the assessment intervention utilized within a group modality may provide a context in which students can learn coping methods from one another. Six respondents out of 14 in the individual interview situation indicated more frequent use postintervention of the problem- focused methods of " try to change the situation" (item 23) and "try different solutions" (item 31). This is in keeping with the results of the qualitative data findings that this group of students utilized primarily problem-focused methods of coping throughout the semester.

Summary

The analysis of the preintervention and postintervention scores on the JCS provided little evidence indicating that either of the assessment interventions had a statistically significant effect on the frequency or range of use of the coping modes assessed by that scale. However, JCS scores did indicate shifts in students' use of coping methods pre-and postintervention: that these shifts were

not statistically significant may be an artifact of the small numbers of the sample population.

CHAPTER VI

EVALUATION AND IMPLICATIONS OF PROJECT

An evaluation and discussion of the data obtained in this stress/coping awareness project are presented in this chapter. The purposes and goals of the project are utilized as an organizing framework for the discussion and are reflected in the chapter subheadings as; (a) stressful experiences reported by nursing students, (b) coping strategies reported by nursing students, and (c) student evaluation of assessment as an intervention. Implications for further project development and/or policy implementation, and research are included in each of the discussion areas.

Stressful Experiences Reported by Nursing Students

The first project goal was to identify and describe students' current stress experiences and the importance of these experiences to them. The evaluation objective stated in connection with this goal was that 80% of the students in group #1 and 80% of the students in group #2 would identify and describe their stress experiences via interview.

All 15 of the students in the Tuesday clinical sections (group #1) who volunteered to be in the project participated in the initial group interview, and 13 students (86%) participated in the second interview. Of the 25 students in the Wednesday clinical sections (group #2) who volunteered to be in the project, 20 (80%) participated in the initial individual interview, but only 15 (60%) participated in the second interview. Thus the evaluation objective was partially met.

Several hypotheses may be offered here as to why there was a decrease in student participation in the individual interview situation. Scheduling individual times to meet with the research associate may have presented a difficulty for

many students whose time on campus is often limited to class time only. This did not present as great a difficulty to the students in the group situation since they were all able to meet with the research associate immediately before or after class. A decrease in student participation between the first and second individual interview may have also been related to students' feeling that the intervention was sufficiently helpful the first time around so they need not return: the flip side of that hypothesis could be that students did not find the intervention that helpful and therefore did not return.

The results of this project do support some of the previous research exploring preprofessional students' experiences of academic stress. Students entering the nursing program described the differences between what they expected the program would be and what it really was as stressful. One of these differences was that they expected a much more technical, hands-on approach compared to what they described they were currently experiencing as "so much theory". Another difference seen as stressful here in terms of expectations were program requirements, especially the amount of required readings, written assignments, and exams. As stated by one student, "I did not know it was going to be so much work; papers, tests, so many things to do at one time." Program academic requirements continued to be identified by students as stressful throughout the semester. This latter finding is consistent with the results of studies done by Cohen and Zick (1988), Levin and Franklin (1984), and Munson (1984) in which academic concerns were reported as priority stressors.

In addition to nursing academic requirements being identified as stressful in terms of differences in expectations and volume of work, students commented on the structure and functions of the learning environment as being stressful. Large lecture classes in which there was little student-faculty dialogue, where students reported they could not follow the rapid content presentation of the

professor, and where some students stated "there is no relationship between the class notes and what is on the exam" were the foci of what many students in both the individual and group situations reported as stressful. These descriptions of the learning environment as being stressful relate to similar findings in Edwards and Zimet's (1975) study in which medical students indicated that the learning environment was problematic in terms of emphasis on memorization rather than creativity.

Students identified what they perceived as lack of applicability of non-nursing academic requirements to their nursing major as stressful during the first interview. As one student stated, "I'm not going to use them. They give you so many, History, Art. You should go into your field and not take so many distribution courses." However, during the second interview, students commented on these requirements as being less strressful, wanting more time to spend on them, and viewing them as a way of learning more about the world. As with nursing academic requirements, students reported that absence of student-faculty dialogue was stressful in their distribution and core courses.

During the first interview, many students did not report particular stressful situations related to the clinical area, perhaps because they had only experienced two clinical days at that point. However, they did note that not knowing what to expect in clinical and their own feelings of lack of experience and knowledge did create stress for them. These findings of worries regarding personal inadequacy were consistent with the results of the studies by Pagana (1988) and Parkes (1985).

Students in both the individual and group interview situations reported the structure of the learning environment for clinical preparation was stressful. They specifically reported lack of faculty role models and not enough supervision and

time for practice in the practice laboratory as creating stress: "We don't have time to practice and there is no one at the lab to watch us".

During the second interview, when students had nearly completed their semester of clinical work, they identified communicating with clients as well as communicating with staff and peers as stressful. Actual provision of "hands on" care was also reported as a stressful experience. One student summarized this as follows: "I would say interviewing a patient is stressful, and when you have to get checked off on the clinical skills to make sure you are doing everything right". The finding of students beginning their first clinical experience and initially identifying the educational processes associated with learning clinical skills as stressful is consistent with that reported by Zweig (1988). However, when interviewed at the end of the semester, students identified direct client care as a priority stressor, which again indicates the importance of studying stress and coping responses over a period of time.

Many of the students in both the individual and group interview situations reported in the first interview that negotiating the college system was a stressful experience because of not being able to obtain the help they needed and/or services they were seeking: "The first time I went to the counselors they weren't helpful. And I just didn't know there was an outline of courses that was available, so I did things like take Psy 101 which I didn't need to do at the time". Studies by Lloyd and Gartrell (1983) and Carter (1982) corroborate these findings of student reports of perceived lack of admimistrative responsiveness to student needs.

During the second interview, students in both the individual and group interview situations reported less stress in negotiating the college system, suggesting that successful coping methods were being utilized and/or that there was less need for college support services at the end of the semester. Students

did report however, that obtaining financial aid was an on-going stressful experience: "Everytime I go to financial aid they tell me I'm not qualified, so I just leave them".

The importance of these stressful experiences to the students was expressed in all areas in terms of meeting career goals: "This is very important because this is the career I've chosen--this would affect me the rest of my life", and in meeting self-fullfillment needs: "This is very important, I want to know I am doing it the right way. I'll lose because I might lose credit for not doing it the right way".

The theoretical base for this project was Lazarus' transactional theory of stress, which includes cognitive appraisal as the determining factor in what situation is viewed as stressful. Using the definition of stress associated with this theory, the investigator anticipated both challenge and threat appraisals of students' academic situations, but the data focused almost entirely on the threatening aspects of these situations. Pagana (1988) suggested that Lazarus' theory "may ignore the reality that some situations may be more likely to trigger emotions indicative of threat than of challenge" (p. 424).

In this project, the strength of the students' commitments toward meeting their career goals may have been an influencing factor in their appraisals of situations as threatening. As discussed in Chapter II, the greater the strength of a commitment, the more vulnerable the person is to psychological stress in the area of the commitment. Students' responses in both the individual and group interview situations to the question "how is this important for you?" indicated the intensity of their commitments to entering the nursing profession.

Implications

The identification by the nursing students of their expectations of what the nursing program would be like as being different than the reality of what they

actually were experiencing supports the observations made by Olesen and Whittaker (1968) and Sobel (1978) concerning the incongruence between the prospective nursing student's lay image of nursing and the conflicts and complexities of nursing education. At the end of the second series of project interviews, several students in the group situation responded to the question of what they might like to add to the interview by suggesting that there needed to be a preorientation for students entering the nursing program.

Faculty and staff may well want to consider the development of this suggestion. A preorientation program, where entering students might meet and talk with faculty and students already in the program, could begin on both a formal and informal basis to introduce new students to the requirements and expectations of the nursing program. Students can become aware that the experience may be stressful, but positive. Use of a variety of coping mechanisms and support systems need to be introduced. Such a preorientation might well include the students' families and significant others, who often also must bear the rigors of the program as they try to support their family members in it. Children may need to realize that they will probably have to function more independently. Acknowledgment of family involvement by faculty may also serve as a recognition of the multidimensional roles of the student. Noel (1985) has defined a major theme in attrition to be limited and/or unrealistic expectations of college. It is important then to consider how to provide students entering the nursing program with an orientation of what to expect in that program and how to begin to cope with the realities of it. Further evaluation research of such a preorientation program is indicated.

Students' identification of nursing academic requirements as being stressful included categories of structure of the learning environment and functions of the learning environment. Large lecture classes, in which there was little opportunity

for students to ask questions or discuss material with the professor were reported as stressful in terms of structure of the learning environment. Further research is indicated as to the relationship of large versus small lecture classes and student learning. Large lecture classes may be cost-saving but perhaps not in terms of graduating students: small lecture classes may facilitate faculty-student dialogue. Students may be encouraged to form study groups and to utilize the interactive computer software programs available in the computer center. Faculty may wish to consider the use of their office hours to meet with study groups of students. Meeting with faculty outside of the classroom could facilitate faculty-student interaction and help to dispel such student beliefs about faculty as "...I guess we can't talk to them or we will be penalized later on...".

Since many students in this project reported the amount of nursing academic work to be stressful, faculty may want to review assignments in terms of number of readings, papers, exams, and how much is really important for a given course. An interesting idea to consider here is that faculty may be setting up students to not do readings by assigning too large a workload without addressing how to help them accomplish it.

Students' reporting of functions of the learning environment as stressful, specifically teaching methodologies, emphasizes their need for academic guidance at this point from faculty. Students' expectations of faculty teaching roles such as "tell us what to do" and "give us answers" and their uncertainty of their own roles as student nurses may be in conflict with faculty's expectations of students to learn problem-solving and accountability for their own learning.

If indeed faculty have these expectations, it is important that they clarify them. Such expectations and/or conflicts may be discussed at the beginning of the semester with the students. The basis of this discussion would be the fundamental idea that education is not something done to students, but that both

faculty and students have active roles to play. Expectations may also be conveyed experientially. Availability of faculty to answer questions, study groups in which faculty participate, and role-modeling by faculty as expert learners rather than as expert information-givers may be additional ways in which faculty can facilitate independent student learning.

More concretely, students' reports of stress in the area of teaching methodologies related to lectures and examinations. That content presentation in lectures was reported as stressful, particularly the rate at which it was delivered, suggests that faculty investigate the efficacy of the use of this method. Closely associated with the stress of lecture courses was the taking of examinations. Students' responses to the interview question of how the college/nursing program might help them deal with stress indicated that learning how to take examinations was a skill they wanted to learn. Faculty-sponsored group workshops for students in the beginning of the semester in which both study and exam skills are reviewed could be part of the overall orientation program to nursing which has previously been suggested. Faculty may also want to consider the students' requests for actual examples of written assignments such as process recordings in addition to verbal explanations and/or handouts.

Students' reports of non-nursing required academic courses as being stressful in relation to their lack of applicability to nursing, particularly in the initial round of interviews, perhaps reflects once again students' intense commitments to becoming graduate nurses. A curriculum implication for both nursing and liberal arts faculty to consider which might utilize students' professional commitments could be a more explicit focus on the connections between the core courses and nursing. This focus might include connections which according to Kampmeier (cited in "Staff", 1988), emphasize the arts of "expressing ideas with power and clarity, sorting and processing evidence of

different kinds, and coping with complexity, i.e., seeing problems in the round..." (p. 3).

The debate among the students in the second group interview situation as to whether or not the core courses should be required perhaps indicates that some students did appreciate the value of these courses by the end of the semester. Additional practice research is needed to determine what teaching methodologies and/or faculty-student interactions are successful in helping students see these connections and develop this appreciation.

The identification by students of lack of dialogue with faculty in non-nursing courses is similar to that lack also identified as stressful in nursing courses and once again points out the need for all faculty to consider how interactions with students may be facilitated both in and out of the classroom.

Clinical experiences were identified as stressful by students at the beginning of the semester primarily in the categories of structure and functions of the learning environment. Students reported lack of equipment in the practice laboratory and lack of faculty/staff to supervise student practice in that area as major stressors. Nursing faculty, students, and administration may want to consider collaboration here in determining what structural changes in the practice laboratory are indicated to facilitate that area as a learning environment. Huebner, Royer, and Moore (1981) described such an approach as an ecosystems one in which change in the structure/institution is seen as a focus for stress management as well as the student.

Students also identified the practice laboratory as a source of stress in relation to functions of the learning environment. Their reporting of what they perceived as faculty disorganization in teaching in the laboratory and wanting faculty to be more actively involved in demonstrating procedures directs faculty to consider utilization of their teaching not only to facilitate academic learning

but to serve as role models for the students. Pugh (1988) noted: "A teacher's relationship with students should serve as a model for nurse-patient relationships. The teacher's manner of relating to the student should, by example, help the student learn how to relate to patients" (p. 32). Students may also be requesting here more involvement and dialogue with faculty.

During the second interview, students in the group situation continued to identify the learning environment as stressful while students in the individual situation added that communication with clients, staff, and peers was stressful. Combining identification of communication in these areas as stressful with students' earlier identification of faculty-student interactions as stressful raises the question of actually how able, comfortable, and/or skillful do these beginning students feel while communicating in their roles as student nurses?

Implications for clinical teaching methodologies here include students role-playing communication skills with each other and having the opportunity to receive feedback on these skills from both faculty and peers. Recognition, support, and assistance if indicated may be offered to those students whose native language is not English. Faculty may also want to discuss with students on an on-going basis how cultural, gender, and racial differences may influence not only student-client interaction, but also faculty-student and student-student interactions. Discussion of current clinical situations encountered by faculty and students in these areas on a daily basis among each other and with clients can provide rich experiences for learning communication. These suggested clinicial teaching methodologies also provide implications for the utilization of this project within the curriculum in terms of a modality in which assessment as an intervention may be implemented.

The students in the group interview situation were more verbal than those in the individual interview situation in their identification of relating stress to

faculty and environmental factors. It is possible that the group support of peers who are experiencing similar stressors may facilitate assessment of stress as well as "give permission" for expression of affective feelings as suggested in Chapter IV. The group may provide a learning experience for students who do not have the words to describe their feelings and reactions: many students learn by listening. The flip side of this is that it is also possible the more verbal students in the group influenced the group's interview outcomes, especially in light of reported stress in communicating with peers identified by some students in the individual interview situation.

However, time resources may often determine policy in the academy, and faculty, taking into consideration students' multiple roles and limited time on campus as well as their own teaching, divisional, and practice commitments, may want to consider the use of a group modality for implementing assessment as an intervention. Further developmental research is indicated in this project to determine the effects of the context and modality in which assessment takes place, as well as its effects as an intervention, on student coping strategies.

Negotiating the college system was clearly identified as stressful by students in both interview situations in the beginning of the semester. The students' reporting of not being able to obtain adequate information about prerequisite courses for nursing and necessary courses for graduating and their requesting of a specific academic counselor for nursing has provided data for a policy which is already in the process of implementation. The investigator reported this data at a faculty meeting concerning student advisement and the Dean of Nursing volunteered to work with the Student Affairs Office to specifically utilize a counselor there for nursing advisement. On-going program evaluation is indicated here to determine how many students actually utilize this counselor, for what reasons, and student satisfaction with the service.

Implementation of an orientation program to nursing previously suggested may be helpful to those students who reported not knowing about student support services such as tutoring and where to go for these services, and negotiating for financial aid as stressful. Students meeting with upper level students at this orientation program could provide some of this information. A student-to-student "big sister" or "buddy" program might also be a way of sharing information as well as providing support. Weston and Patterson's (1980) research on the use of advisory teams of faculty members and students meeting regularly to provide information, support, and advice was successful in student stress intervention. Faculty may want to consider such an advisory system.

Many of the implications and recommendations discussed here mean additional involvement and work for faculty. What then might be the sources of faculty motivation to participate in student oriented services when external rewards in the academic system (tenure and promotion) are more likely to come from publication and research activities, and how can this motivation be enhanced?

As noted in Chapter III, faculty may derive internal personal satisfaction from caring values of responding to students' expressed needs and from professional accountability for educational preparation of qualified practitioners. Leithwood (1981) proposed that for many faculty, personal teaching rewards are based on perceptions of change in students during the teaching/learning process. Project evaluation tools may contribute to faculty's perceptions of change in students participating in stress assessment.

Perhaps less altruistic but very pragmatic is the motivating factor of institutional survival of the nursing program and faculty in relation to student recruitment and retention: these components of maintaining program viability may

be facilitated by the project's focus on enhancing faculty-student interaction and changing some aspects of the structure and functions of the learning environment.

Crucial to all aspects of project implementation is the on-going support of the Dean of Nursing. Faculty attempting to implement a curriculum innovation need to know they have leadership approval and recognition in doing so in order to make the effort and take the risk (Weissman, Epstein, & Savage, 1983).

From these perspectives of faculty incentive and reward, advantages of project implementation could be organized around providing students with improved affective and cognitive competancies and opportunities for developing self as well as recognizing the importance of a positive faculty-student environment to program viability. The assessment project's purposes and goals incorporate these advantages. And finally, "because change involves a cost to faculty, their payoff will be maximized to the extent that the perceived benefits of the program can be obtained with least possible change and without threatening the benefits obtained from current teaching practices" (Leithwood, 1981, p. 344). Since suggested project implementation is for within the existing curriculum, faculty may decide that benefits could equal or exceed the cost.

Coping Strategies Reported by Nursing Students

The third project goal was to assess whether any changes occurred in coping strategies throughout the semester in students participating in this stress and coping awareness project. Two evaluation objectives were written to address this goal. The first objective, to be assessed through qualitative analysis of interview data, was that students participating in the assessment interview groups would report increased frequency of use of coping strategies and report use of a greater variety of coping strategies in the second interview than in the first.

The second objective, to be assessed quantitatively, was that students participating in the assessment interview intervention would demonstrate significant ($p < .05$) increases in frequency and range of use of coping strategies as assessed by the Jalowiec Coping Scale (JCS).

The second of these two objectives was addressed in Chapter V, where the results of quantitative analyses were presented. As noted in Chapter V, neither group demonstrated statistically significant increases in the frequency or range of use of the coping strategies assessed by the JCS, but shifts in use of coping strategies were noted pre-and postintervention. It is possible that the tool utilized for the assessment of coping was not that applicable for evaluating changes in coping strategies. Also, students may not have had sufficient time within one semester to evaluate and change coping modalities. Consideration must similarly be given to recognizing that students are often tired and worn down by the end of the semester: such feelings could influence their responses to the coping scale which was given at that time.

In this section of Chapter VI, the qualitative data relevant to the first objective for goal three are considered. Student reports are considered for each group in turn.

Group #1: Group Interview

Overall, students in this situation reported greater use of affective-focused coping strategies than of problem-focused strategies in the initial group interview. As defined earlier, affective-focused coping strategies are directed at regulating emotional responses to the problem and may include such coping methods as denial, relaxation, cursing, and exercise. Problem-focused coping strategies are directed at managing or altering the problem causing the distress and may include such coping methods as trying to change the situation, networking, and generating alternative choices. In the second group interview students reported more use of

problem-focused strategies than of affective-focused strategies. Students rated problem-focused strategies as more effective than affective-focused strategies in both interviews.

Students reported use of problem-focused strategies in the areas of coping with different expectations of the nursing program and in non-nursing academic courses and use of primarily affective-focused strategies in coping with nursing academic requirements both at the beginning and the end of the semester. As in the Huebner, Royer, & Moore (1981) study, where students' acceptance of the academic situation "as is" was a primary response to that stress, students in this project may feel that there is not much they can do about nursing's academic requirements. However, acceptance as a coping strategy was generally verbally reported to be minimally successful by students in both the group and individual interview interventions. One possibility this suggests is that students may be beginning to develop some feelings of control over their own learning experiences and are no longer satisfied with acceptance as a coping modality. Such development would support the self-actualization philosophy of the nursing program and perhaps serve as an additional motivating factor for faculty to dialogue with students concerning their educational experiences. Dialogue as this may assist in implementing the program's philosophy and goals.

The areas where students' responses indicated a shift from using affective-focused strategies to problem-focused strategies were those of clinical experience and negotiating the college system. Coping strategies reported by these students are summarized in the following paragraphs.

Regarding coping with the stress of different expectations, students in the first interview reported using the affective-focused methods of intrapsychic coping, " I really don't have to read this now", and somatic coping, "I try and relax." They also reported use of problem-focused methods of networking, "I talk

with my other classmates", and actively trying to change the situation, "I overwork myself, then go to bed." In the second interview, students primarily discussed the use of the problem-focused method of networking, "It helps to ventilate your feelings with other students". In both interviews, students rated problem-focused methods as minimally to moderately helpful.

In the area of non-nursing academic requirements, the coping strategies reported by students in both interviews were problem-focused in nature and primarily involved the subcategory of actively trying to change the situation, "I make sure I pick the right anatomy instructor," and, "I take the hard courses first and leave the easy ones to the end". Students evaluated these strategies as moderately helpful.

In the area of nursing academic requirements, affective-focused methods of somatic coping, "I roller-skate for exercise," "What I make myself do is keep up with yoga, meditation, and praying", were most frequently discussed by students in both interviews. The students in both interviews also rated these strategies as minimally helpful.

Coping methods reported by students in the first group interview in the area of clinical experiences were primarily affective-focused strategies of verbal responses, "I went home and yelled". Coping effectiveness was evaluated here as not-at-all helpful to minimally helpful. In the second interview, students reported changing their strategies to more use of the problem-focused method of networking as a major coping modality: "We complain among ourselves". They rated this method as minimally helpful.

Students also reported changing their coping strategies in the area of negotiating the college system. In the first interview, students reported affective-focused methods of verbal responses, "I've used anger that comes out as assertiveness", as major coping strategies and rated these as minimally helpful.

In the second interview, students discussed use of problem-focused coping methods, primarily that of generating alternative choices, "I am learning to get things in writing and get peoples' names." These were rated as minimally to moderately helpful.

Thus, the qualitative data here did not suggest that students increased their frequency and range of use of both affective and problem-focused coping strategies but rather suggested that the use of problem-focused strategies increased, while the use of affective-focused strategies decreased. Although coping strategies of nursing students has not been extensively reported upon in the literature, studies by Lee (1988) and Zweig (1988) also found that students used problem-focused coping strategies more than affective-focused methods.

Several hypotheses may be offered for this suggested change. One is that problem-focused strategies coincide with the methodology of the nursing process, a core process of planning and implementing nursing care which the students are learning in this semester of the program. It is based on a rational, scientific approach to problem-solving. Students may be adapting, or buying into, this approach for use in their own lives. Secondly, coping strategies were verbally expressed in a group context by students' self-reports. Although it was suggested earlier that the group may "give permission" for expression of different coping strategies, it may also function as a monitor or standard-setter for what students may think is acceptable to discuss.

Group #2: Individual Interview

In the individual interview group, students reported using problem-focused coping methods more than affective-focused methods in both the initial and second interview situations. The problem-focused method of actively trying to change the situation, e.g., "I study hard, I study a lot", was the coping strategy most frequently used in all five content areas of the first interview. This method

was reported as being used less frequently in the second interview, with the problem-focused methods of networking, "I talk to students and teachers", and generating alternative solutions, "I bring a tape recorder to class", replacing it in frequency of use.

Within each question content area, it was possible to note changes in frequency of use and range of subcategory coping strategies over the course of the semester but the changes did not follow any consistent pattern of an increase. These changes are summarized in the following paragraphs.

The coping strategy reported most frequently by the students in the first interview in dealing with different expectations was the problem-focused method of actively trying to change the situation, "I try to read more". This was evaluated in a range from mimimally helpful to very helpful. Students in the second interview reported less use of this as a coping strategy, and described use of three different problem-focused coping methods; networking, "When I talk to my friends, I feel better"; generating alternative choices, "I try to go to other textbooks to see if I could find examples of process recordings"; and avoidance, "I move away from them (teachers)". An increase in range of use of problem-focused coping strategies occurred here. Networking was viewed as mimimally to moderately helpful, and actively trying to change the situation, although utilized less frequently, was evaluated as moderately helpful.

In coping with nursing academic requirements, the problem-focused method of actively trying to change the situation was again the strategy that the students reported using most frequently in the first interview, "I am trying to prepare myself better by hitting the books harder...". This was evaluated as moderately to very helpful. Only one affective-focused method, verbal responses (prayer) was described. In the second interview, the students continued to report the use of the problem-focused methods they described in the first interview but

added the problem-focused coping method of generating alternative choices: "I'm learning how to judge the amount of time that each subject requires and accomplishing what I want in that time." They indicated that they used this latter coping mode most frequently, and they evaluated it as moderately helpful to very helpful. The reported use of additional problem-focused strategies suggests that students found such methods helpful in this particular situation. Somatic coping was the only affective-focused method described in the second interview: "I've been doing yoga".

Once again, actively trying to change the situation was the coping strategy most frequently described by students in the first interview in response to stress related to non-nursing academic requirements: "I try to do my best and finish my work". This was generally viewed as moderately to very helpful. Other problem-focused methods described but used less frequently were networking, avoidance, and acceptance. Affective-focused methods included somatic coping, "I exercised, lifted weights, took Karate, went swimming", and verbal responses (crying). In the second interview, the reported range and use of problem-focused coping strategies decreased. Actively trying to change the situation was still the most frequent strategy described, but it was evaluated in the range of not at all helpful to moderately helpful. Acceptance was the other problem-focused method described: "I just do the material I'm assigned to do." Perhaps by the end of semester, students have resolved some stressful situations and/or recognize that some stress may not be alleviated. The reported frequency of use of affective-focused methods did not increase, but the specific reported affective strategies did change. In the second interview one student described using an intrapsychic coping mode (mental withdrawal from the source of stress) and another the use of social supports (talking with sister).

Students continued in the first interview to describe actively trying to change the situation, "I'm looking through the books", as the coping strategy most frequently used in the clinical experience area. It was evaluated in the range of minimally helpful to very helpful. Additional problem-focused methods reported here were acceptance, "I just went in and accepted what I was faced with", and networking. The affective-focused methods of intrapsychic coping, "I just tried to psych myself up" and somatic coping, "I exercise" were reported and both were evaluated as very helpful. In the second interview, the reporting of range and use of problem-focused methods increased. Generating alternative choices was added to use of problem-focused methods, "I limit my communication until I feel more comfortable to express myself with the client", was most frequently reported, and was evaluated in the range of minimally to moderately helpful. The range and use of affective-focused coping methods decreased: these strategies were not mentioned at all in the second interview.

Active attempts to change the situation were identified as the predominant coping strategy in the area of negotiating the college system in the first interview. Students evaluated this mode as moderately to very helpful. Other problem-focused methods included networking and use of past experience, "What I learned in one class helped me with another". Two affective-focused methods of intrapsychic coping (forgetting and looking to self for help) were reported. In the second interview, the range of reported problem-focused methods increased to include acceptance, "...I just left it alone", and generating alternative choices, "I talk myself into reading about the services...". Networking, "I talked to a counselor at financial aid", rather than attempts to change the situation, became the coping strategy of choice and was evaluated as moderately to very helpful. Such shifts in coping strategies perhaps indicate that over the semester students learn how to negotiate with and within the college system and to develop their

own skills in how to do this. There were no affective-focused methods reported in the second interview.

Objective #1 was not met, since the qualitative data did not suggest an overall increase in range and frequency of use of coping strategies in the second interview. However the data did suggest some shifts in students' coping strategies throughout the semester.

Implications

The findings from both the quantitative and the qualitative data, although suggesting that there were no increases in frequency and range of use in coping strategies reported by students and as measured in this project, have a number of implications for understanding the stress and coping experiences of students, and for the continued development of this project's focus of assessment as an intervention within the curriculum.

The transactional theory of stress utilized as a conceptual framework in this project includes an approach to stress and coping phenomena which encompasses the person, the stressors of the situation, the person's appraisal of, and coping with the stressors, and the many behaviors and responses that may result from the stress experiences. According to Lazarus and Folkman (1984) coping is determined by cognitive appraisal, which includes the evaluative components of primary appraisal and secondary appraisal, or the person in the situation asking," 'Am I in trouble or being benefitted, now or in the future, and in what way?' and 'What if anything can be done about it?' " (p. 31). Thus in transactional theory, appraisal includes the characteristics of the person as well as the environment that influence that something important is at stake in the situation.

In the first individual interview situation, students reported frequent use of the problem-focused coping method of actively trying to change the situation

(studying harder, reading more) but in the second individual interview situation, other problem-focused methods were reported as taking its place. Students in the initial group interview situation reported frequent use of affective-focused coping strategies (exercise, yelling) but in the second interview situation reported more frequent use of problem-focused methods (networking). Although quantitative data results on the JCS indicated no statistically significant changes in frequency and range of use of coping strategies pre-and postintervention, there was evidence of some shifts in coping methods. These examples of shifts in coping strategies both in the quantitative and qualitative data, viewed in juxtaposition with the students' identification of some stressors being more predominant than others at certain times in the semester, suggested several implications for faculty interaction with students in the area of stress management.

Students' appraisal of what situation is stressful, the degree of its threat/challenge, and of what coping resources are available may vary over time and hence result in utilization of different coping methods. The use of certain problem-focused methods to cope with beginning-of-the-semester stressors of lectures may not be that helpful to cope with the later-in-the-semester identified stressor of exams. The definitive statement of an exam grade at the end of the semester may be perceived as more threatening to achievement of a career goal than a lecture that is not clear in the first week of the semester. The person's coping resources are usually not constant over time, that is, "they are likely to expand and contract, some more erratically than others, as a function of experience, degree of stress, time of life, and the requirements of adaptation associated with different styles of life or periods in the life course" (Folkman, Schaefer, & Lazarus, 1979, p. 283).

Faculty may thus want to consider that students may need different kinds of assistance in managing stress at different times in the semester and

throughout their college experience. Coping responses may change in relation to all the complexities of a person's internal and external experiences of living. The on-going feedback cycle of stress appraisal, coping, and reappraisal includes adaptation, or the process of compensating or responding to stress. What may be a consequence at Time one may be appraised as a stressor at Time two. It is important then that faculty and students identify students' coping responses, resources, and needs together in on-going mutually reciprocal relationships. In addition, further research on the pattern of stressors evoked by the nursing program experience rather than students' strategies of coping might suggest modifications in the program.

The shift in the use of affective-focused coping methods initially reported by the students in the group situation to problem-focused methods at the end of the semester supports the understanding of coping within a time framework of cognitive appraisal and also suggests that such a change may be understood within a crisis theory approach. Aquilera and Messick (1982) defined crisis as a turning point where people face a problem or situation that cannot be handled or solved by using their usual coping mechanisms: "As a result, the person's tension and anxiety increase,...and he often feels unable to take action on his own to solve his problem" (p. 1). Students' reported use of affective-focused methods of coping, which have been described as being more likely to occur when there has been an appraisal that nothing can be done to modify the situation, may suggest a need for faculty to be available to listen to students, to assess their perceptions of what is stressful, to validate their cognitive and affective responses when realistic, and as crisis theory recommends, to assist students in looking at how they have coped in previous situations and at identifying their strengths and abilities in managing the current one. As in crisis situations, students may need

to express, and react with, affective-focused coping methods before they can problem-solve.

It was mentioned earlier that the findings of students reporting more frequent use of problem-focused coping methods than affective-focused methods could partially be a function of students reporting how they thought they "should" be coping in terms of faculty expectations, or in terms of adhering to tenets of the nursing process. In discussing stress and coping with students, faculty may want to consider that transactional theory regards both these coping functions as vitally important in almost every stressful encounter. Lazarus and Folkman (1984) noted that "a person who manages a problem effectively but at great emotional cost cannot be said to be coping effectively, ...similarly, a person who regulates his or her emotions successfully but does not deal with the source of the problem cannot be said to be coping effectively" (p. 188). However, equally important for faculty to consider are their own, as well as students' and clients' cultural and gender values and beliefs about the use of coping strategies such as crying, praying, acceptance, goal-setting, and assuming control. Theories of coping may still need to be developed that reflect gender and cultural differences in managing stress.

The quantitative and qualitative data findings suggest further exploration and development of assessment as an intervention. While the lack of statistically significant outcomes in the quantitative data analysis may be related to small numbers of the sample, it is possible also that the complexity of defining what coping really is makes quantitative measurement of this variable difficult. Haan (1982) noted: "In a way, interest in psychometric assessment at this time is premature because our debates have not yet resolved the basic questions of defintion: what is stress, coping, and defending?" (p. 267). Mancini et.al.'s (1983) study reported that the quantitative measures of stress responses indicated no

changes but self-report measures did. Given the exploratory basis of this project, psychometric assessment of coping may be more helpful at a later stage in project development when the study could be replicated with a larger and randomized sample. Such measurements may be utilized to answer further questions about students' efforts and processes of coping.

It is possible that evaluating the efficacy of the assessment intervention in terms of an increase in frequency of use and range of coping strategies did not address the complexity of coping and its relationship to time, situation, person, resources, learning, etc., and to outcomes. The literature suggests this complexity. Pearlin and Schooler (1978) reported a relationship between size of coping repertoire and reduction of distress. However, Coyne, Aldwin, and Lazurus (1981) reported that the use of a large number of strategies was associated with depression.

That both sets of data in this project indicated some shifts in coping strategies could suggest that efficacy of the intervention may need evaluation in terms of processes of coping strategy changes rather than increases or decreases in number of strategies. Measuring coping as an independent response to stress without consideration of the interactional processes involved may be another one of the current pitfalls and problems in psychometric measurement of this variable. Evaluation to further explore the effects of assessment as an intervention could include consideration of measuring outcomes other than coping. Perhaps coping is not an accurate phenomenon which reflects students' reactions to learning about their own stress and coping as stress management. Other parameters such as anxiety, self-concept, and locus of control might be considered. Again, replication of the project is indicated to evaluate reliability and validity of the initial findings.

The intervention itself must also be considered in evaluating its efficacy, that is, is assessment by itself a strong enough intervention to influence students' responses to stress? Further project development could investigate including stress management interventions such as assertiveness and relaxation which were positively reviewed in the literature (Carlson, 1976; Bergman, 1985; Charlesworth, Murphy, & Butler, 1981).

Finally, additional evaluation efforts could include meeting with students several months after completing the intervention project to assess and measure use of coping skills. Students may need time to integrate and apply new coping skills before such skills can be adequately assessed.

Although coping strategies did not increase in range and frequency of use, faculty may want to consider utilizing this intervention in their courses for several reasons. It provides a modality for focused and meaningful dialogue among faculty and students concerning stress and coping. The comments described in this project could facilitate this faculty-student interaction. Assessment of such dialogue may begin to develop a profile of nursing student stress and coping which may eventually influence curriculum content and technology and student support services on campus. That faculty might consider project implementation in their courses was indicated by their enthusiastic comments to the investigator's presentation of the project at a nursing faculty research seminar.

However, project implementation in the curriculum will also require continued planning, development, and evaluation. Faculty may want to coordinate in which specific courses the project could be implemented, and how much time could be allotted to that implementation. Inherent in this project which facilitates faculty-student dialogue are issues of confidentiality, trust and accountability of faculty in supporting a learning environment versus supporting

what could become a blurring of lines between learning and therapy. On-going dialogue among faculty implementing the project may help to clarify these issues and provide additional project evaluation.

Student Evaluation of Assessment as an Intervention

The fourth goal of the project was to determine students' evaluation of assessment of stress and coping as a method of stress intervention and as a learning experience. Evaluation was determined by student participation in the project and by students' evaluation of their project participation. Two objectives were written to reflect this goal.

The first objective stated that 80% of the students in each group would provide project feedback via the Evaluation Form. This objective was met in two of the three groups. In the group interview situation 14 of the 15 students (93%) completed the Evaluation Form. In the individual interview situation, 19 of the 25 students (76%) completed the Evaluation Form. In the contrast group situation, 14 of the 15 students (93%) completed the Evaluation Form.

The second objective was concerned with students' perceptions of the helpfulness of the assessment intervention. This objective had four subobjectives concerned with students' evaluation of: (a) assessment of stress and coping facilitating their own stress management, (b) assessment of stress and coping facilitating clients' stress management, (c) degree of comfort in assessing their own stress and coping with faculty, and (d) continuation of assessment of stress and coping in this course. Each of these subobjectives is considered below, in turn, followed by a discussion of their implications.

Objective 2(a)

Fifty percent of the students in group #1 and 50% of the students in group

#2 who completed the Evaluation Form would state that assessing their stress and coping strategies helped them to cope with their own stress.

Group #1: group interview.

Nine of the 14 students in the group interview situation (64%) reported that participating in the interviews had helped them to cope with stress. Some of the students reported this help in terms of increased self-awareness, "It made me think about handling the stress and made my coping strategies more concrete", while others related that participating in a group assessment helped them to learn new ways of coping, " Now I exercise more and try other methods that my classmates use". Several students noted that the process of sharing stress experiences in the group helped them to feel less alone.

Group #2: individual interview.

Fifteen of the 19 students in the individual interview situation (79%) reported that the assessment interviews helped them to cope with stress. The students reported similar themes of becoming more aware of stress and coping and learning alternative ways of coping as positive results of the assessment interviews. Responses such as "It made me more aware of the strategies that I use to cope with stress", and "It let me see that there are many other ways to handle stress", suggested that students were learning about managing their own stress experiences. However, several students reported that the assessment did not help them to cope with stress any differently, with one student commenting, "I've continued to deal with stress in the same manner as before...".

Group #3: contrast group.

Because this group did not receive any project intervention other than taking the Jalowiec Coping Scale at the beginning and the end of the semester, no specific project goal was directed to them. Their responses to the evaluation were included under this goal to explore the testing effects of the coping scale.

Eleven of the 14 students (79%) reported that taking the coping scale assessment was helpful in their dealing with their own stress. Their responses, as in the other two groups, indicated that the development of increased awareness of their own stress and coping strategies and learning new ways of coping were viewed as helpful results of the assessment. Students in this group also pointed out that the assessment helped them to evaluate their own strengths and weaknesses in stress management efforts, as well as to have patience with themselves as they tried out new coping mechanisms over time.

Objective 2(a) was met by all three groups.

Objective 2(b)

Fifty percent of the students in group #1 and 50% of the students in group #2 who completed the Evaluation Form would state that their enhanced knowledge about their personal stress and coping strategies helped them to understand clients' efforts at stress management and to assist clients with this.

Group #1: group interview.

Nine of the 14 students (64%) responded that the assessment interviews facilitated their understanding of clients' efforts at stress management, although not all students were able to assist clients in this. A significant theme which emerged from students' responses here was the importance of understanding one's self as a component of providing nursing care. As one student commented, "because I looked within myself and could see my own stress, I could recognize some signs of the client's stress and at least could empathize".

Group #2: individual interview.

Sixteen of the 19 students (84%) stated their enhanced knowledge of stress and coping helped them in understanding their clients' efforts at stress management. As in the group interview situation, the theme of self-understanding emerged from students' repsonses, as well as the development of

empathy, "It helped me to understand what clients are thinking and feeling", and of assisting clients in problem-solving, "It allowed me to help the client to identify the problem". One student noted that self-assessment facilitated her/his respect for diversity among people: "It has helped me to acknowledge that people have different strategies to cope with stress and that they should not be critized for being different".

Group #3: contrast group.

Eleven of the 14 students (79%) reported that their increased knowledge of stress and coping facilitated their work with clients. In addition to reporting similar learnings regarding self-understanding, empathy and problem-solving noted in the other two groups, some students in this group also acknowledged the importance of recognizing clients' strengths and of being nonjudgmental: " I can identify stress and coping strategies more easily in my clients and I allow them their space...it's important to be nonjudgmental about their mode of stress management".

Objective 2(b) was met by all three groups.

Objective 2(c)

Fifty percent of the students in group #1 and 50% of the students in group #2 who completed the Evaluation Form would state that they would feel comfortable in assessing their stress and coping strategies with their faculty in this course.

Group #1: group interview.

Thirteen out of the 14 students (93%) stated that they would feel comfortable discussing their stress and coping experiences with their faculty in this course. Students reported they would welcome a chance to talk with their faculty in the course, "I think it would be wonderful to be able to do so, because then my instructor would know how to help me", and thought faculty could be of

some help to them in dealing with their concerns, "Maybe she could give me an insight to what I am doing wrong or right".

Group #2: individual interview.

Eighteen of the 19 students (95%) reported that they would feel comfortable in discussing their stress and coping experiences with faculty. Students reported that they also thought such interactions would be helpful to them but added that it was important that faculty be able to listen and to get to know them: "I would feel comfortable if the instructor knew who I was". Several students noted that their being open with faculty in discussing their stress and coping experiences should not influence faculty's evaluation of them.

Group #3: contrast group.

Thirteen of the 14 students (93%) responded positively to discussing their stress and coping experiences with faculty in this course. Students in this group, although they did not experience the assessment interview intervention as the other two groups did, reported they thought such interaction would be helpful and that they could learn from it. As in the individual interview situation, there was a qualifying comment to one student's response: " With most of the instructors I would feel comfortable, but there is always a fear of someone hurting you when you trust in them, no matter who it is".

Objective 2(c) was met by all three groups.

Objective 2(d)

Fifty percent of the students in group #1 and 50% of the students in group #2 who completed the Evaluation Form would state that they would recommend that this self-assessment approach to stress management be continued in this course.

Group #1: group interview.

Twelve of the 14 students (86%) recommended that this self-assessment approach be continued in the course. Reasons students gave for recommending its continuation included learning new coping skills and group support. One student commented that "it should be continued because it helps one relate with other students and you don't feel alone". Students suggestions for improvement of the intervention included starting it earlier in the semester and making changes in the learning environment to reduce student stress.

Group #2: individual interview.

Eighteen of the 19 students (95%) recommended continued use of self-assessment in this course. Students particularly commented on the assessment intervention providing them with an opportunity to verbalize and discuss feelings of stress associated with being nursing students: "It seems to be helpful...it let me speak my mind to the interviewer of about how I felt". One student pointed out that people have different stress management needs and that assessment may be helpful to one student but have no effect on another.

Group #3: contrast group.

Thirteen of the 14 students (93%) stated they recommended that this student assessment approach to stress management be continued in this course. Students reported a major reason for recommending this continuation was that the assessment helped them to become aware of, and understand more fully, their coping strategies: "It helped me to understand how I cope with stress". That students were concerned about faculty's interest in them was reflected in one student's comment of continuing the project in hopes that "teachers will understand what their students are going through".

Objective 2(d) was met by all three groups.

Implications

The students in all three groups evaluated the project very positively and all evaluation objectives were met. Students in both the individual and group interview situations described their participation in the assessment interviews as helping them learn to cope with stress through an increased awareness of use of their own strategies as well as developing new ones. Contrast group students reported similar learnings but also reported need for more time to change their coping skills based on these new learnings. These latter comments point out again the need for further exploration of a longer time frame for evaluation of postintervention project effects. Positive evaluation by the students completing the project must also be viewed in light of ten students not completing the project and that the reasons for this discontinued participation were not available to the investigator because of constraints imposed by confidentiality.

That contrast group students reported such positive learnings even though their only project participation was taking the JCS at the beginning and end of the semester suggested that students may learn about their own stress and coping through many modalities, including an evaluative scale. The effects of faculty teaching styles and content focus, that is, certain faculty's emphasis on stress and coping and student-faculty interactions could also influence these positive results in all the groups. Replication of the study with a randomized sample might control for these effects.

In addition to these hypotheses, reports of positive learning results in the contrast group and perhaps in the other groups as well could be related to the Hawthorne effect, a psychological factor described by Homans (1969) in a research study which involved employees who were being tested reacting to a stimulus in the way they assumed that they were expected to react. Thus, students' awareness that their coping methods were being studied may have been enough to

bring about change in their use of these methods or in their response to the questions.

Students in the group interview mentioned learning about stress and coping through the sharing and validation of feelings with one another. This supported the suggestion discussed earlier that use of the assessment intervention within a group modality may be beneficial for students. However, the responses from the individual interview students as well as from the contrast group students also indicated equally positive learning experiences. Based on these data outcomes, faculty choices for an appropriate intervention modality may include individual interview, group interview, and/or use of evaluative scales.

The determining factor in the learning experience and the intervention may be not only that assessment of stress and coping provides a cognitive framework in which students may place their experiences, but that they may focus on themselves and their own experiences with the recognition by faculty that this is important. Again, it seems significant for faculty to consider use of this intervention as a modality which can support and enhance student-faculty dialogue.

The positive responses of students to this intervention as a way of learning about stress and developing new coping skills certainly suggest continued project development and evaluation within the curriculum. The responses also delineated a common theme that evolved throughout the analysis of all the data and which emerged even more in this final discussion of project evaluation, and that was the theme of the significance of the faculty's acknowledgement of the students as people.

Students in all three groups described how learning about their own stress and coping strategies helped them to better understand their clients efforts at stress management. Students in the group situation reported that they

recognized the need to understand their own coping strategies before they could help anyone else in developing such methods. Students in the individual interview situation commented on developing increased appreciation of, and empathy for, clients' efforts at stress management. Students in the contrast group reported similar learnings but also included the significance of developing their own strengths, as well as those of clients, in stress management.

These comments encompassed a theme of students recognizing and responding to the uniqueness, worth and dignity of every human being and suggested that a process of value development was occuring here as a part of what students were learning. To the extent that this hypothesis may be valid, it supports the use of assessment as an intervention as an appropriate strategy for teaching the affective domain in nursing. Both Reilly (1978) and King (1984) wrote about the interdependence of cognitive, psychomotor, and affective learning and the need for acknowledgement and teaching of this interdependence within professional education if health care delivery is to include humanistic caring.

In all three groups students reported that they would feel comfortable in assessing their stress and coping with their instructors in this beginning course. Students in the group interview situation wanted to let faculty know of their frustrations and concerns and thought faculty could be of help to them. Students in the individual interview situation and in the contrast group reported similar responses but also added that they wanted the faculty person to be understanding of what they were experiencing, to be "down to earth". Several students in these latter two groups also mentioned that they would feel comfortable in discussing their stress and coping with faculty only if it didn't influence faculty's opinion of them. It is possible that such comments could indicate that students were concerned that their grades might be affected in some way and faculty would need to examine their own responses in such interactions to avoid this occurring.

The theme of students' wanting faculty to focus on them as human beings once again emerged here as responses indicated a need for understanding and acknowledgement of their experiences as people as well as students. In the contrast group, even a questionnaire seemed helpful in this respect. Pagana (1988) noted in her study of nursing students' stress that many students found it therapeutic to describe their stresses and threats on a questionnaire administered to them by a stranger. The implication here is again for faculty-student dialogue, with consideration of the significance that faculty's validation and legitimization of these experiences may have for students.

The final evaluation objective addressed the issue of whether or not students thought assessment as an intervention should be continued in this course. Students in all three groups recommended that it be continued. The students in the group interview situation expressed the benefits of increased awareness of stress, the possibilities of learning new coping skills, and the positive experience of the group approach which provided support and "knowing that you are not alone". The improvements for the intervention recommended by these students were to provide more information on coping skills, to make changes in the learning environment to reduce stress, and to take students' complaints seriously. These recommendations not only coincided with those cited by the investigator in this final discussion but also demonstrated students' use of problem-focused coping strategies (generate alternative choices) and their need for acknowlegement, that is, "take us seriously".

Students in the individual interview situation and in the contrast group also reported project benefits of increased awareness of stress and coping skills. Students in the individual interview situation emphasized an important reason for continuing the intervention was that it provided an opportunity for them to express their feelings: they reported they had not experienced such opportunity

in the past. Faculty may want to evaluate this as an additional reason for considering utilization of this intervention.

Watson (1988) has written that nursing education has traditionally adopted a rationalist-objectivist educational model and Schon (1987) noted that the "professional schools of the modern research university are premised on technical rationality" (pp. 8-9). The students' reporting of what was stressful in their academic lives, of wanting additional learning experiences with faculty, and of wanting faculty to understand them suggests a response to these models which asks for an approach to learning that not only focuses on cognitive-technical outcomes but that can also include recognition of the whole person and that learning is subjective, contextual, dialogic, and values driven (Watson, 1988). Important curriculum and faculty policy issues which this project thus introduces are reconsiderations of ways things have traditionally been done, such as power roles of teachers and dependence roles of learners, teaching methods of faculty and learning styles of students, and values placed on the cognitive, psychomoter, and affective domains of learning.

Summary

Experiences identified as stressful by students in both the group and individual interview situations at the beginning of the semester included the:
(a) perceived differences between their expectations of what nursing would be like and what they were actually experiencing, that is, much more theory and reading than clinical work; (b) volume of nursing academic requirements including reading and written assignments; (c) structure of the learning environment, including too large lecture classes and an inadequately equipped and staffed practice laboratory; (d) functions of the learning environment, including wanting more opportunities for student-faculty interaction and for faculty to serve as role models; and

(e) lack of their own knowledge and experience in the clinical area. Students also reported non-nursing academic courses stressful in regard to what was perceived as their non-applicability to nursing, and identified negotiating the college system as stressful in terms of the unavailability and/or ineffectiveness of student support services.

At the end of the semester, students in both groups continued to report nursing academic requirements as stressful, but with more emphasis on the stress of exams. Clinical experiences were reported as stressful at this point in terms of communicating with clients and in providing direct client care. Non-nursing academic courses and negotiating the college system were reported less stressful in the second interview. The importance of all reported stress experiences was expressed in terms of meeting career goals.

The qualitative data indicated that a change occurred in use and range of coping strategies as reported by the students but this shift did not indicate an overall increase of frequency and range of use in these strategies. Students in the group interview reported more use of affective-focused coping strategies (exercise, yelling) than of problem-focused strategies (changing the situation), in the initial group interview situation, but in the second interview reversed that order, and reported more use of problem-focused strategies (networking) than of affective-focused strategies (mental withdrawal). Students in the individual interview situation utilized problem-focused coping methods more than affective-focused methods in both the initial and second interview situations.

The quantitative data provided little statistically significant evidence to indicate that either of the assessment interventions had an effect on the frequency or range of use of the coping methods assessed by the JCS but did indicate some shifts in students' coping strategies over the course of the semester.

Students in all three groups evaluated their participation in the project as positive, reporting benefits of increased awareness of stress and coping and of opportunities to develop coping skills. Their evaluative comments emphasized their need to have faculty understand and acknowledge them as people.

Implications and recommendations for change that evolved from these findings included initiation of a preorientation program for incoming nursing students and their families, access to an academic counselor for program advice, formation of student-faculty study/support/advisory groups, workshops on study and exam-taking skills, increased faculty-student dialogue (both formal and informal), adequate staffing and equipment in the practice laboratory, and a collaborative assessment of the nursing program by both students and faculty as to how teaching and learning may be developed to include humanistic caring.

The evaluation of the project suggested that assessment as an intervention may be helpful in assisting students to become aware of their stress and coping skills and to develop additional coping skills. The data provided a rich profile of students' stress and coping experiences which may be helpful for faculty's understanding of the realities of students' lives as well as for nurses and other caregivers in practice who may be caring for clients who are also student nurses. However, the most significant finding of the project was that students are in need of focus on them as human beings. Faculty's role in responding to this need may be one of validation and legitimization of students' stress and coping experiences.

And finally, a summary of a project exploring stress and coping should probably not conclude without a comment about the investigator, from the investigator, whose learning occurred on many levels. Within the cognitive domain, immense appreciation and respect developed for the depth of knowledge and clarity of thinking necessary to develop, implement, and evaluate research,

and for the multidimensional, interdependent complexities of stress and coping phenomena. Within the affective domain, the experience of immersion into the data of students' reports of stress and coping was an enriching albeit humbling one in the recognition of the meaning of this nursing education to these students and what they were prepared to do in order to accomplish their educational goals.

Perhaps what might be hoped to learn about stress is that it does not invariably lead to deterioration, and "It may facilitate growth by tempering arrogance and by enhancing our tenderness toward ourselves and others" (Haan, 1982, p. 255).

APPENDIX A

INFORMATION PROVIDED TO STUDENTS

Hello. As some of you know, my name is Barbara Backer. I am a faculty member in the Division of Nursing here at the College. I am also a doctoral student working on my dissertation project. My project involves looking at how faculty members can most effectively work with beginning nursing students in dealing with some of the stress that many of you may experience while you are in this program. Often the demands of school, family responsibilities, and a full time job can seem overwhelming. This project is designed to explore with you how you are managing these situations. Learning about your abilities to cope with stress may not only help you here at the College but may help you in the future.

I see this project as helpful for both students and faculty and ask you today for your cooperation in it. Participation is strictly voluntary and you may withdraw at anytime. Refusal to participate will not influence the way you are treated as a student nurse in the Division of Nursing. Assignment of a study number to your responses on questionnaires will be done by a research associate. She will translate the last four digits of your social security number into a study code number so your responses will remain completely anonymous. Social security numbers will be destroyed at the end of the project. There is no way that I as a faculty member can associate any response with any one student and there will be nothing in the project report which could be used to identify you. All data will be kept in a locked file drawer in my home for six years. No one but myself will have access to it.

Your participation in the study involves responding to two brief questionnaires during the fourth week of the semester and two brief

questionnaires during the 14th week of the semester. These questionnaires should take a maximum of twenty-five minutes to complete. Your participation may also involve discussing what your perceptions are of your current stress and coping strategies with the research associate, either in an individual interview or in your group, during the fifth and 11th week of the semester. My research associate in Ms._____ who is a registered professional nurse with a master's degree in nursing and who is in private practice as a nursing research consultant. She is not on the faculty or staff of the College.

I will share the results of the project with you next semester when I complete the data analysis.

Are there any questions you might have about the study? I appreciate your cooperation and really do feel that your participation will be beneficial to us both.

APPENDIX B

CONSENT FORM

I agree to participate in an evaluation research project conducted by Barbara A. Backer, R.N., M.A. I understand that the purposes of this project are to assist student nurses in coping with stress and to explore ways faculty can do this most effectively.

I understand that my participation in the study may involve the following:

1. responding to two questionnaires during the fourth week of the semester and two questionnaires during the 14th week of the semester. Responding to the questionnaires will take a maximum of twenty-five minutes to complete at each administration.

2. discussing either individually or in my clinical group what my current perceptions of stress and coping are during the fifth and 11th week of the semester. This should take approximately forty minutes to do.

I understand that participation in this project is completely voluntary and I have been informed that I may withdraw at any time without this influencing in any way how I am treated as a student nurse in the Division of Nursing. Everything I say and write will remain anonymous and confidential and there will be nothing in the final report which could be used to identify me.

Date:_____

Signature:_____

Study #_____

Date:_____

APPENDIX C

SEMISTRUCTURED INTERVIEW TOOL

PART I

INSTRUCTIONS

I am going to ask you some questions about your perceptions and experiences of stress, how you are coping with these, and how you think this coping is effective. HAND THE PARTICIPANT THE DEFINITIONS OF STRESS AND COPING AND READ THE DEFINITIONS WITH HER/HIM.

STRESS IS DEFINED AS SOMETHING IN YOUR ENVIRONMENT THAT YOU BELIEVE OR FEEL IS CHALLENGING, UPSETTING, THREATENING, OR ENDANGERING YOU (Cohen and Zick, 1988).

COPING IS DEFINED AS THE EFFORTS OR STRATEGIES YOU EMPLOY TO MANAGE, MINIMIZE, OR ALLEVIATE YOUR FEELINGS OR BELIEFS OF STRESS (Cohen and Zick, 1988).

You will be asked at the end of several questions to rate the extent to which you perceive your efforts to cope with stress were helpful. Please use the following rating scale as a guide in responding to those questions.

PART II

RATING SCALE

1. Not at all helpful

2. Minimally helpful

3. Moderately helpful

4. Very helpful

Occasionally people may feel that talking about stress may be "stressful" in itself. Are there any thoughts you might have about this? Are there any questions you would like to ask me about participating in this interview?

Please remember that you have the option not to answer any question.

PART III

QUESTIONS

1. Students entering a nursing program sometimes feel that it is very different than what they expected it to be. Have you found this to be so? Are there any experiences that you have had that are examples of this? For each experience named, ask:

How is this important for you? (What is there for you to gain or lose in this experience, or what difference does the outcome make?)

What coping strategies/actions have you used to deal with this stressful experience?

What are the results of these coping strategies/actions so far?

How would you rate your coping strategies/actions in dealing with this stress experience?

1....2....3....4

2. The academic work in a nursing program is often discussed among students. Are there any experiences you are finding to be stressful in your nursing classroom work? For each experience named, ask:

How is this important for you? (What is there for you to gain or lose in this experience, or what difference does the outcome make?)

What coping strategies/actions have you used to deal with this stressful experience?

What are the results of these coping strategies/actions so far?

How would you rate your coping strategies/actions in dealing with this stress experience?

1....2....3....4

3. Academic courses in the liberal arts and sciences are a part of your college degree in nursing. Are there any experiences you are finding to be stressful in these areas? For each experience named, ask:

How is this important for you? (What is there for you to gain or lose in this experience, or what difference does the outcome make?)

What coping strategies/actions have you used to deal with this stressful experience?

What are the results of these coping strategies/actions so far?

How would you rate your coping strategies/actions in dealing with this stress experience?

1....2....3....4

4. Clinical nursing experiences require preparation and practice as well as working with faculty, patients, and health care staff. Are there any experiences you are finding to be stressful in the clinical area? For each experience named, ask:

How is this important for you? (What is there for you to gain or lose in this experience, or what difference does the outcome make?)

What coping strategies/actions have you used to deal with this stressful experience?

What are the results of these coping strategies/actions so far?

How would you rate your coping strategies/actions in dealing with this stress experience?

1....2....3....4

5. One source of stress for student nurses may be in negotiating the college system, for example, where to go for academic or financial help, or how to know what courses to take. Does the process of trying to get help in this system create stress for you? Are there any experiences you are finding to be stressful in this area? For each experience named, ask:

How is this important for you? (What is there for you to gain or lose in this experience, or what difference does the outcome make?)

What coping strategies/actions have you used to deal with this stressful experience?

What are the results of these coping strategies/actions so far?

How would you rate your coping strategies/actions in dealing with this stress experience?

1....2....3....4

6. Is there anything the college and/or nursing program could do to help you cope with stress?

7. If you would like, please comment on your experience in this interview.

8. Is there anything you would like to add to, or suggest, for this interview?

Scheduled date and time for next interview (week of 11/11/88)

_____

Date:_____

APPENDIX E

EVALUATION FORM

INSTRUCTIONS: The purposes of this evaluation are to assist students in assessing what they have learned about their stress and coping strategies and to provide feedback to faculty about the continued use and/or modification of stress assessment as a stress management intervention. Your responses are anonymous and will be given careful consideration in the future planning of this course.

1. In what ways, if any, did assessing your own stress and coping strategies help you to deal with your own stress?

2. In what ways, if any, did assessing your own stress and coping strategies help you to understand your clients' efforts at stress management and to help them with this?

3. Please comment on how comfortable you would feel in assessing your stress and coping strategies with your instructor in the course.

4. Please comment on whether or not you think this student assessment approach to stress management should be continued in this course.

Date:_____

APPENDIX F

DEMOGRAPHIC DATA FORM

INSTRUCTIONS

Read each of the areas below and circle the one that is most applicable to you.

1. Age
    1. under 21
    2. 21-29
    3. 30-39
    4. 40-49
    5. 50-59
    6. 60-69

2. Sex
    1. Female
    2. Male

3. Ethnicity (Optional)
    1. American Indian
    2. Asian
    3. Black
    4. Caucasian
    5. Hispanic
    6. Other

4. Primary Language (Optional)
    1. English
    2. Spanish
    3. Bilingual
    4. Other

5. Marital Status
    1. Single
    2. Married
    3. Widowed
    4. Divorced
    5. Separated

6. Number of own children in household under 21 years
    1. 1
    2. 2
    3. 3
    4. 4
    5. 5
    6. none

7. Responsibility for own child care
   1. Yes
   2. No

8. Responsibility for care of parent and/or relative
   1. Yes
   2. No

9. Are you employed now?
   1. Yes, full time
   2. Yes, part time
   3. No

10. Gross Household Income (Optional)
   1. less than $5,000
   2. $5,001- $10,000
   3. $10,001- $15,000
   4. $15,001- $25,000
   5. $25,001 or more

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