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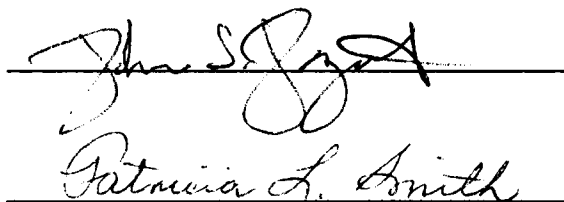
To the Graduate Council:

I am submitting herewith a thesis written by Denise H. Elliott entitled "Sources of Stress and Coping Mechanisms in Allied Health and Associate Degree Nursing Students." I have examined the final copy for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science in Nursing.



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SOURCES OF STRESS AND COPING
MECHANISMS IN ALLIED HEALTH
AND ASSOCIATE DEGREE
NURSING STUDENTS

A Thesis
Presented for the
Master of Science in Nursing Degree
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Denise H. Elliott

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ABSTRACT

Students from the Allied Health (AH) and Associate Degree Nursing (ADN) programs at an Alabama community college were studied to determine sources of stress and coping mechanisms. The sample of 134 students was divided into comparison groups according to program, gender, race, and level in program. Item-by-item analyses of the Stress Factor Scale and the Jalowiec Coping Scale were done to rank-order stressors and coping mechanisms according to group. The t -test was used to determine significant differences between groups.

The t -test showed that ADN students experienced significantly more stress than AH students. ADN students in all subgroups but one (Blacks) used more problem-solving coping mechanisms than their AH counterparts. There was no significant difference in the use of affective coping mechanisms among the subgroups.

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CHAPTER I

THE RESEARCH PROBLEM

Introduction

Hans Selye, an early pioneer and authority, defined stress as a non-specific response requiring adaptation (1976). Stressors were the events which precipitated adaptation. The degree of adaptation is dependent on the individual's perception of the stressor, and the person's ability to adapt.

Stress may result from both pleasant or unpleasant stimuli. Eustress, or the response to positive stress, results in adaptation as does distress, or the response to negative stress. Both are necessary for the well-being of the individual.

All stress exists on a continuum. The stress of daily life is generally sufficient to motivate the individual to adapt and function at optimal levels. However, stress in excess of the person's ability to cope can result in disorganization of both physical and psychosocial coping mechanisms.

Selye describes the body's attempt to adapt to stress as the General Adaptation Syndrome (GAS) which was divided into three stages. The alarm stage, or initial response to

the stressor, results in the stimulation of hormones, which mobilize the body's defense forces. The resistance stage enables the person to return to near-normal functioning. Exhaustion results when stress is not ameliorated. The three stages were accompanied by a myriad of symptoms including tachycardia, weakness, tremor, diaphoresis, vomiting, constipation, and headache (Frain & Valiga, 1979).

Everyone is subjected to stress in daily life. Adaptation to stress is an inherent quality of each individual's personality. As Frain and Valiga (1979, p. 44) state, "The human organism must either change itself to achieve harmony with its surroundings or alter the environment so it is synchronous with the organism."

Pollock (1984) stated that the way in which the individual perceived each stressor determined the response to the stressor. Perception of the stressor is affected by heredity, life experiences and personality. Other factors which affect the response are past experiences with the same or similar stressors, as well as the magnitude of the stressor as perceived by the individual. These factors have ameliorated or intensified the effects of the stressor on the person.

Self-esteem and environmental mastery were identified as psychological factors which affected the choice of coping strategy and its effectiveness (Pearlin & Schooler, 1978). Low levels of social support have been found to increase the

level of psychological distress (Andrews, Tennant, Hewson, & Vaillant, 1978). The quality of social support may also be a factor associated with functioning (Hilbert & Allen, 1985; Holahan & Moos, 1981; Kobasa & Pucetti, 1983).

Bailey (1985) stated that the "helping professions" have manifested increasing levels of stress. Doctors, nurses, radiographers, social workers, teachers and others who provided personal care to others were subjected to the same stresses as the general population. However, Bailey (1985, p. 3) asserted that doctors, nurses, and allied health professionals were at a much greater risk for stress because they were exposed to human pain and suffering at more intimate levels.

If it has been postulated that professional health care givers were at a greater risk for stress, what then were the implications for students preparing to enter the health professions? These students are exposed to the stress of in-depth clinical experiences and academic pressures as well. Many researchers have documented the high levels of stress for students in health professional programs.

Wexler (1978) found that high levels of stress impaired effective intellectual learning in dental students. Frances and Naftel (1983) surveyed physical therapy students to determine sources of stress and found the sources to be related to professional education rather

than personal factors. Coburn and Jovaisas (1975) found that among first-year medical students academic factors were much more stressful than social factors. The academic factors seen as the most stressful were those related to perceived failure. Sobol (1978) stated that the student nurse must adjust not only to a rigorous academic schedule but also to the clinical setting. In this setting, Sobol found that the new student nurse often felt unprepared to deal with client-nurse interactions.

It seems reasonable to assume that the way in which a student perceives stressors and utilizes coping mechanisms during the academic program influences the success he or she achieves. Continued investigation is necessary to identify specific stressors as perceived by students and effective and ineffective coping mechanisms.

Purpose

The purpose of this descriptive study was to identify sources of stress and coping mechanisms in students enrolled in allied health and nursing programs at the associate degree level. The study examined variables of gender, race, program level and program affiliation to determine effects, if any, these have on the sources of stress and on choice of coping strategies.

Definition of Terms

Lazarus defines psychological stress 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" (1984, p.19). Lazarus (1984) also states that stressors are environmental events which produce the psychological condition of stress. These stressors are of three types. They are: (1) major changes, affecting large numbers of people (l.e. hurricanes, war); (2) major changes affecting one person or a few people (l.e. divorce, loss of job); and (3) daily hassles (l.e. overdue bills, losing your keys).

Lazarus defines coping as "constantly changing cognitive and behavioral efforts to manage specific internal and/or external events that are appraised as taxing or exceeding the resources of the person" (1984, p. 24). He further differentiates coping into problem-focused and emotion-focused behavior. Problem-focused coping is aimed at managing or altering the problem. Emotion-focus coping is directed at regulating the emotion aroused by the stressor.

Scope of the Problem

This study dealt with identification of stressors and coping mechanisms in AH and ADN students. Other than

liberal arts students, the AH and ADN students comprised the largest single group enrolled at WSCC, approximately 32% of the enrollment. Business administration students were second, with 22% of enrollment (Diane Harris, Registrar, WSCC, personal communication, June 7, 1986).

In the last year, total enrollment has decreased by approximately 10% (Diane Harris, personal communication (August 7, 1986) The budget for the junior college division for the school year 1986-87 decreased by \$250,000 (Bob Guthery, Dean, Junior College Division, WSCC, personal communication, June 6, 1986). This was directly attributable to the drop in full-time enrollment (FTE). Attrition rates assume greater importance in the light of such data. It was postulated that identification of stressors and coping mechanisms will lead to more effective methods of intervention with the stressed or overwhelmed student.

Dates for the study were June 4 through June 18, 1986. The ADN, Radiologic Technology, Dental Assistant, Medical Laboratory Technician, and Mental Health Assistant students were selected for the study. All but the ADN students were grouped together as "Allied Health" students. There were 154 participants, which yielded 134 usable instruments. These students were chosen because the academic programs in

which they were enrolled included both theoretical and clinical experiences.

Research Questions

- 1) What are the factors which will influence the level of stress and coping mechanisms employed by students enrolled in health related programs at WSCC?

Subsidiary Questions

- 1) What effect does gender have on sources of stress and coping mechanisms employed?
- 2) What effect does race have on sources of stress and coping mechanisms employed?
- 3) What effect does level of the program have on sources of stress and coping mechanisms mechanisms employed?
- 4) What effect does program have on sources of stress and coping mechanisms employed?

Theoretical Framework

Rationale for the Study. Roy's adaptation model of nursing was chosen as the theoretical framework for the study. This model had many implications for all educators but especially for those in nursing and allied health education. Based on the work of Selye and Helson, along with many years of interaction with both clients and

students, this model was particularly appropriate to both the topic and the sample population.

Selye stated that stress was "the outcome of the struggle for self-preservation (homeostasis) of parts within a whole" (1956, p. 253). This initially referred to only the biological response of cells within the human body. However, it now referred also to the psychosocial response of people within a group.

Roy (1980, p. 180) stated that one of the basic assumptions underlying her model was that the "person is in constant interaction with a changing environment." The students in most ADN programs and AH programs were required to perform in both academic and clinical environments. Often the student attended classes for part of the week and then participated in the clinical component the rest of the week. In other programs, the student may have alternated quarters or semesters of theoretical classes with clinical practice. Although the combination of both types of experience is necessary, it is stressful to students when they try to adapt to accommodate to the situation. Given the nature of the academic experience one's environment becomes a stressor.

Roy (1980, p. 180) also stated that the individual used the adaptive mechanisms, i.e. biologic, psychologic, or social, to adjust to his or her changing world. These mechanisms may have been learned through interaction with

others, or they may have been innate. The strategies reportedly used by the student during the academic program were primarily psychological and social in nature. To adjust to the demands of the program of study, the student may have turned to significant others for moral and social support. Others may have looked inward for reserves of psychosocial strength from which they could draw. The adequacy of these mechanisms may have determined the student's adaptation to the situation.

Another assumption upon which Roy based her model is that the stimulus (stressor) to which the individual was exposed would affect adaptation levels. These included focal, contextual, and residual stimuli. Roy defines focal stimuli as those which immediately confront the person in a given situation. Contextual stimuli are background stimuli which are also present in a situation. Residual stimuli are beliefs, attitudes and traits developed over a period of time which have an indeterminant effect on the situation (1980, p. 181) Thus, the stressor will elicit varying responses based on the perception the individual has of the magnitude of the stressor and past experience with similar stressors.

It appears that student, like the patient to whom Roy referred in her model, came to the program with many residual stimuli in place. These stimuli affect the way the students respond to the other two types of stimuli. For the student,

focal stimuli could include, among other examples, examinations, interactions with instructors and/or clients, and clinical experiences. Contextual stimuli could include the setting (i.e. classroom, laboratory or clinical unit), home environment or family and job responsibilities.

Roy defined the physiologic response through neural-endocrine-chemical processes the "regulator". The "cognator" was the sensory response that includes judgement, learning and emotion (1984, p. 28). The interaction of the regulator and cognator through the process of perception would allow the student to receive and process input and determine a response. These responses were then manifested through behavior in the four adaptive modes (Fawcett, 1984).

Roy's four modes of adaptation may also be applied to the AH or ADN students. Roy views coping as dependent on the interaction of the physiologic, self-concept, role-function, and interdependence modes. The physiologic mode includes the physical parameters such as sleep, appetite, and temperature. Often, the physiologic mode in the student may be compromised by such long factors as long study hours, the necessity for working while attending school, snacking rather than taking time to eat nutritious meals, or sensory overload due to conflicting demands on time. Self-concept relates to the student's perception of himself or herself and how he or she is functioning in all realms. Often, the demands of school that students saw as

unattainable may have impinged on other areas of functioning, thus lowering self-concept; however, in some individuals, academic excellence may have fostered self esteem.

The role-function mode relates to those duties the individual performs based on his or her position in society. Priorities must be established. The student often has to forego roles which were previously enjoyed (e.g. PTA president, membership in civic clubs) to allow time for study and preparation for class.

Finally, Roy's interdependence mode as explained by McIntier (1976, p. 291), is a "...balance between dependence and independence in relationship with others." The student may have entered a field of study in which the knowledge was difficult to assimilate. As a result, the student may have shifted from independence to dependence on an instructor for clarification of theories and concepts.

Because of the interwoven characteristics of the four modes, alterations in one may have also been manifested in another. For example, the student who was previously successful but who has had some problems adjusting to a new field of study may have become dependent on instructors and significant others. This change may have had extensive ramifications for the role-function and self-concept modes.

Previous application of the Roy model has primarily been to patient care within the clinical setting. Fawcett

(1984) documented the numerous times that the model has been used by schools of nursing as a basis for the curriculum in both graduate and undergraduate programs. However, only one study was found in which the model had been applied to the student role in any type of health-related education. Camooso, Greene, and Reilly (1981) applied the model to their own adjustment to graduate school. They described adaptations in each of the four modes.

While all the components of Roy's adaptation model have not been addressed, the ones which were especially appropriate have been related to the student role. Fawcett (1984) has stated that one of the implied assumptions of the model is that promotion of patient adaptation is a goal of nursing. It followed then that promotion of student adaptation to the new role of care-giver must be a focus of the educator. Effective adaptation of the care-giver may enhance patient well-being.

CHAPTER II

REVIEW OF LITERATURE

The review of literature will be organized into three sections. The first section will examine theories of stress. The second section will examine attribute characteristics which affect stress. The third section will examine coping strategies.

Theories of Stress

Selye described the manifestations of stress in his original work in 1956. The General Adaptation Syndrome (GAS) as the response to stress consisted of three stages. The alarm stage was defined as the initial reaction to a stressor and involved neural-hormonal-chemical reactions which prepared the person for response to the threat. The second stage, resistance, was one in which adaptation had occurred and the body had returned to normal functioning. Finally, when reserves had been depleted, the organism was described as exhausted. All three stages required "adaptation energy" to either resist or adapt defensively (Selye, 1973). Thus Selye's description of the GAS focused on the biological response.

One important factor to consider in the individual's reaction to stress was what Folkman and Lazarus (1980)

referred to as "cognitive appraisal." They interviewed many subjects in various situations who were experiencing stress. From these studies, the authors found that each person evaluated a particular situation from his or her own perspective. The person then determined what the personal consequences were, and which avenues existed for dealing with the stressor. This added a psychosocial component to Selye's concept of physical reaction to stress.

Another facet of the psychosocial component dealt with past experience which was a major determinant of effective handling of a stressor (Pollock, 1984). The person who had successfully dealt with the same or a similar stressor in the past will have perceived the threat as having much less magnitude than the person who had had difficulty in adapting to the stressor. In contrast, new experiences or situations aroused stress for which there was no ameliorating past experience.

Attribute Characteristics

Gender. Griffith (1983a) believed that because of changes in roles, responsibilities and expectations, American women were displaying more and more stress in daily life. In times past, women left the work world when they married and had children and pursued a "career" of homemaking and child-rearing. With the changing economy and new perceptions of self-actualization, many women have

returned to the job-market to resume former occupations and also to educational institutions to develop the skills needed for new careers.

Because of the multiple roles with which many women tried to cope, such as wife, mother, homemaker, career woman, or student, the stress they experienced was often out of proportion to their ability to adapt. (Beutell & Greenhaus, 1983). Rabkin and Streuning (1976) believed that stress was mediated by many personal factors including age, marital status, and past experiences. Marriage and adulthood were not always seen as ameliorating factors. Rather, these factors were often the proverbial "double edged sword," and served to intensify stress.

Cooke and Rousseau (1984) described "interrole conflict" and believed that it was a major factor in the stress women experienced when trying to maintain dual or multiple roles. Because the wife had traditionally assumed responsibility for household management and child-rearing, these responsibilities were maintained even after she entered school or returned to work. There were numerous studies which supported the concept that women who assumed multiple roles were subject to more physical ailments (Gove & Geerken, 1977; Haynes & Feinleib, 1980). At best, dual-career wives often felt exhausted from the many demands on their time and energy, which led to decreased productivity and efficiency.

These demands led to stress both in the home and in the workplace or at school. Beutell and Greenhaus (1983) explored the types of coping mechanisms utilized by women who tried to combine home roles and non-home roles. They found that in 69% of the cases studied there was at least one stressful episode caused by the two roles. The attitude of the husband, while not directly precipitating the episode, was seen to be a buffering force if the husband espoused non-traditional beliefs related to sharing of home responsibilities.

Griffith (1983b) stated that common ailments reported by women in her 1980 survey of women in Dayton, Ohio, included such complaints as restlessness, backache, colds/flu, headache, upset stomach/diarrhea, and trouble sleeping. Emotional symptoms of stress reported by these women included feeling sad and depressed, anxious or angry. A feeling of not being able to cope and feeling lonely and bored were also listed.

Literature supporting the stress felt by men in the workplace was also abundant. Work stress and certain personality traits may have been used as predictors for various health disorders, e.g. stroke, myocardial infarction, and mental health disorders (Cooper, 1983). Considerable attention has been devoted to "Type A" behavior pattern, which is a constellation of impatient, competitive and hostile behaviors associated with risk for coronary

artery disease (Rosenman & Friedman, 1974). The Type A pattern is thought to be more prevalent in men than in women.

Mulvey (1983) studied 104 men and women to determine occurrence of life events, perception of control over stressors, and focus of stressors, i.e. family or work-related. The author hypothesized that women would have more stressful life events while men would perceive a greater sense of control. The control aspect would be derived from greater participation by men in decision making at work. The results were surprising in that young unmarried men reported significantly more stressful life events. Two of the three groups of men reported perceptions of less control than female counterparts. Although the results did not reach statistical significance, the trend was evident.

Verbrugge (1982) reviewed statistics from the National Health Interview Survey (NHIS) of the National Center for Health Statistics. Review of the data revealed women became sick more often and got less exercise. Men, however, had a higher incidence of chronic diseases which were considered more serious (e.g. ischemic heart disease). Verbrugge (1982) stated that men were more exposed to environmental stress than women because of job differences. The author also asserted that men engaged in leisure activities which predisposed to injury as well.

However, women have entered the job market in increasing numbers, leading to a change in their lifestyles. As a result, it is difficult to state definitively that gender is significant to determining stress levels.

Stress has thus been documented as a distinct health entity, particularly in the workplace. Both men and women are affected by stress. Manifestations of stress ranged from gastrointestinal disorders to acute mental illness (Cooper, 1983; McEntee & Rankin, 1983).

Student Role. To relate this data to the study of stress in the ADN student and the AH student one must look at enrollment statistics in institutions of higher learning. The National Center for Education Statistics (NCES) Report in 1977 stated that the enrollment for women in all institutions of higher learning (4- and 2-year colleges) increased from 39% in 1965 to 45% in 1975. They predicted that by 1985 the percentage of women enrolled would be 49%. The enrollment for men has declined slightly overall, presumably due to economic conditions. In addition, the enrollment in two year institutions, where most AH and ADN students were educated, rose from 20% in 1965 to 35% in 1975. By 1985, the NCES estimated that 43% of all students enrolled in institutions of higher learning would be enrolled in 2-year institutions (junior and/or community colleges).

These statistics were supported by the current student profile at Wallace State Community College (WSCC) in Hanceville, Alabama, from which the sample was drawn. Women comprised 55% of the overall population of the school. The average age of the student was 27, with 34% over 30 and 14% over 40. In the AH programs, the overall enrollment was 78% female, while in the ADN program the female enrollment was 90% (Diane Harris, Registrar, WSCC, personal communication, June 6, 1986).

There has been a rapidly growing volume of literature that support the concept that those in health and related fields suffer a great deal of stress as a result of professional encounters with clients. That stress is also found in every facet of health education is not surprising. It has been documented at all levels of health education (Bailey, 1984).

Most health educational endeavors have been perceived as stressful to students because of the added clinical factor, an integral part of the curriculum in AH and ADN programs. It has been postulated that these types of programs were more stressful than other curricula (Garrett, Manuel, & Vincent, 1976). Dental school has received attention and has been referred to as a "highly pressurized, difficult environment for students" (Garbee, Zucker, & Selby, 1980, p. 853). It has been postulated that the pressure resulted from a curriculum which left little or no

time for outside interests, including family and friends. As a result, over half of the students who withdrew from dental school in 1976 withdrew because of personal rather than academic reasons according to the Council on Dental Education (cited in Garbee, et al, 1980). Garbee and his associates studied dental students to determine the source of stressors, and it was verified that academic and clinical training factors were more stressful than personal factors. The authors viewed this identification of factors was very important because depression and anxiety could "immobilize" the student leading to diminished performance (Garbee, et al., 1980).

Dowd (1984) recognized that role strain between the radiographic student's personal life and student or professional demands was a stressful circumstance for most students. He also identified the need for financial assistance while in school, which placed the adult student in a dependent role. Academic frustrations also surfaced as the high school graduate sought higher education with the necessary realignment of goals. The author also stated that many students in these health related fields found it difficult to relate didactic and clinical experience. Indeed, the student in most health fields questioned the necessity for certain portions of the theory when they felt they could spend their time more constructively in the clinical area.

Research also indicates that medical students are exposed to abnormally high levels of stress. Coburn and Jovaisis (1975) related this stress level to high academic expectations, social isolation that was a direct result of accomplishment of those expectations, and the anxiety that resulted when there was a significant difference between expectations and performance. Indeed, Grover and Tessier (1978, p. 134) have labeled this the Academic Frustration Syndrome (AFS). AFS often resulted in students blaming circumstances beyond their control for their failure to master the material or accomplish their goals. Students suffering from AFS often perpetuated these maladjustive behaviors leading eventually to failure in the academic program.

In 1983, Francis and Naftel surveyed students enrolled in the physical therapy program at University of Alabama in Birmingham (UAB). These students were asked to complete questionnaires related to sources of stress and coping strategies used to deal with this stress. The students reported academic pressures (examinations, long study hours, grades) to be more stressful than personal factors (child care, alcohol or drug use).

Some authors speculated that there was a difference in stress perceived by students at different levels of the program. Dowd (1983) stated that in the first year of the radiographic technician program the student must deal with

intellectual challenges, including goal- and limit-setting; establishing new social networks; and transition from adolescence to adulthood. In the second year, the student must move to higher educational levels, such as synthesis of material, and make the transition from student to professional. In contrast, physical therapy students had not exhibited significant differences in stress levels when examined by year (Francis & Naftel, 1983).

Stress in Nursing Students. The literature has documented stress in nursing programs more thoroughly than in allied health programs. Nursing educators for many years documented student complaints related to the overwhelming nature of the program. These studies have revealed a variety of factors to be stressful to the student.

Parkes (1985) interviewed 150 student nurses enrolled in a diploma-type program. The purpose of the study was to delineate stressful factors in the students' first year when attrition rates were highest. The author found that interpersonal conflict with staff, insecurity about clinical skills and dealing with dying patients were the three areas cited as most stressful by students. She also found that heavy workload was a factor. This study was done in England, where nurses' training is still very much like diploma schools of the 1950's in the United States.

Even final-semester baccalaureate students were found to have anxiety related to heavy workloads, faculty

expectations, and evaluations. Packard, Schwebel and Ganey (1978) interviewed 19 students just prior to graduation to determine if there was a shift from self-related to client-related concerns. Surprisingly, the shift had not occurred as hypothesized by the authors.

Mancini, Lavecchia and Clegg (1983) found that graduate nursing students identified both academic and clinical factors as stressful. Perry (1984) noted that role change is a significant stressor for graduate students. Stressors report were similar to those of first-year and final-semester nursing undergraduates.

Sobol (1978) studied self-actualization as it related to stress in the baccalaureate student. She found that there was a positive correlation between levels of self-actualization and a perceived ability to deal with stress. This was supported by the findings reported by Keller (1984) in her dissertation. She found that as self-actualization levels decreased, burnout increased. She also found that students whose self-actualization levels were increased had used long-term coping mechanisms rather than short term.

Liska (1975) examined the relationship of academic and personal stress with type of curriculum. There was a positive correlation between academic stress and open curricula, whereas students in programs with traditional curricula programs reported greater personal stress. There

were no significant differences in overall stress reported by students enrolled in the two types of programs.

Although clinical performance and academic pressures have been noted to be precipitators of stress in students, Malarkey (1979) believed there were other factors to consider. She stated that the "typical" nursing student was the older female who had returned to school. This student brought with her life experiences much different than the traditional new high school graduate who had just entered nursing school. As a result, the student had a different set of fears and anxieties with which to deal. Woolley (1973) agreed, stating that the nursing faculty must prepare themselves to assist students to succeed.

What personal factors have been found to be significant to the student's ability to deal with stress and complete the program of study? Nelson (1977) examined this issue in his study of an entering ADN class at a junior college. The personality factors the author identified as being significant predictors of successful completion of the program were: 1) reserved rather than outgoing; 2) emotionally stable rather than affected by feeling; 3) tender-minded rather than tough-minded; 4) imaginative rather than practical; and 5) group-dependent rather than self-dependent. Leadership abilities were also found to be predictors of perseverance.

Harwood (1982) found that students cited a variety of factors for attrition from an ADN program at Purdue University. The factors included: 1) marriage; 2) children; 3) employment; 4) other personal factors; 5) curriculum too demanding; 6) classes and clinical experiences which had not met the needs of the students.

Roediger (1983) also investigated attrition in nursing programs. There were significant negative relationships between stress and grades, and between grades and attrition. Positive relationships existed between grades and self-concept, and life-change and attrition.

What predisposed these students to such high stress levels? Farabaugh (1984) believed that it was partially faculty who caused high levels of stress with emphasis on high achievement and altruism. She believed that faculty did not allow the student to perceive the work day world with a measure of realism, which led to disillusionment and exiting from the profession quickly after graduation. She cited Kramer's Reality Shock (1974) as support for her theory and believed that educators should be more honest with students about their expectations of the "real world."

A factor which may facilitate coping with stress was social support. Bailey (1984, p. 7) called this social support a "buffer" to enable the person to cope. In 1984, Goodman interviewed first year students at the University of Massachusetts. He found that as students met peers and

established networks, they reported fewer incidences of stress and illness than those whose social orientation was found outside campus life. Hilbert and Allen (1985) hypothesized that social support would be correlated positively with grade point average (GPA), State Board of Nursing licensing examination scores, and self-esteem. The data supported a positive relation between social support and self-esteem, but did not support the hypothesis for a positive relationship between support and licensing scores or GPA.

Race. There was only one study found which examined race as an attribute variable and its effect on stress. Oliver (1985) studied the relationship of admission criteria to academic success in a nursing program. One hypothesis rejected was that the attribute variable of race would have no effect on successful completion of the program. Instead, all four of the black students who enrolled in the ADN program in which the study took place withdrew from the program.

There were other studies which were reviewed for relationships between such variables as gender, age, and marital status. However, none delineated race as a separate variable. Thus, specific information was lacking with which to identify stressors as perceived by different races in educational programs.

Coping Strategies

Coping was defined as "acquired or innate ways or responding to the changing environment" (Roy, 1984, p. 28). Frain and Valiga (1979) stated that coping with stress requires adaptation and flexibility on the part of the individual. Thus, the individual may use the same coping strategies for overwhelming stressors as he uses to adapt to stressors which arise on a daily basis. The efficacy of the coping mechanisms during maximal stress was predicted by its usefulness during minimal stress.

Lazarus and Folkman (1980) believed coping is a function of cognitive appraisal. The incident must be evaluated for the potential for amelioration. If the potential for change exist, the individual copes by using problem-solving behaviors. If it does not, the individual will use emotion-based or affective behaviors.

Janis (1976) divided coping mechanisms into five patterns. These were : 1) unconflicted adherence; 2) unconflicted change; 3) defensive avoidance; 4) hypervigilance; and 5) vigilance. He related the five categories of coping strategies to either high, medium, or low-level stress and studied these in relation to decision making. He stated that high and low level stress most often gave rise to defective patterns of coping while intermediate levels of stress precipitated the person to seek information upon which he or she could base an intelligent decision.

The first four of the strategies he enumerated were maladaptive to some extent. The fifth one, vigilance, was used by the individual who was seeking to adjust to stress after seeking valid information about the situation. Thus, vigilance was seen as a healthy, adaptive mechanism.

Coping has been perceived as essential in the control of stress. However, many authors argued that a hidden characteristic in many coping strategies was the distortion of the event so that psychic homeostasis could be attained or maintained. As a result, the stressor may have become so distorted that it was no longer recognizable from the original insult. Thus, there was poor performance on the part of the individual who was in the process of controlling the stress.

Locus of control was another concept studied by many researchers who attempted to show a relationship between stress and coping. Those with an external locus of control perceived environmental factors as having a controlling force over what happened to them. This was in contrast to those with an internal locus who perceived themselves as having control of the situation. Specifically, Anderson (1977) identified a relationship between an internal locus of control and coping strategies which were task-oriented rather than emotion based.

Folkman and Lazarus (1980) had a valid point when they stated generalizations are difficult to use because of the

complexity of the process of coping. Coping has been influenced by the environment in which the individual was found, the magnitude of the situation as perceived by the individual, and the resources at his or her disposal. Thus, they referred to coping as a "shifting" process (1983, p. 221).

From the review of the literature, it can be seen that the general term "coping" has been studied many times in a variety of settings. As with much of the work on personality type characteristics, the data revealed that the individual perception of stress led to the use of coping strategies which were sometimes unique and other times universal. To understand the use of coping strategies in the specific populations was the focus of the remainder of the literature review.

Attribute Characteristics

Gender. Specific coping patterns were as varied as the individuals who used them. Griffith (1983b, p. 335) studied women in a two-part study which dealt first with sources of stress and then with coping styles. The disparity in use of coping strategies is apparent when the results were surveyed. The younger woman was more inclined to use "talking the problem out" than was the older person. In contrast, the older the woman was, the more likely she was to turn to religion and/or prayer to relieve her stress.

The use of alcohol was seen in the younger group more than the older group, while "ignoring the problem" was a strategy used by older women more than younger women.

In a study which assessed the integration of home and non-home roles and coping behaviors, Buetell and Greenhaus (1983) identified two concepts of interest. Active coping strategies used by women to deal with stress (i.e. those who strove to find alternatives or to change existing attitudes or circumstances) were more effective than passive behaviors. Nonetheless, women used passive behaviors (i.e. relying on existing behaviors rather than trying to change attitudes or approaches) more than active behaviors.

Statts (1983) found that women in managerial, professional, and executive positions reported more physical illness, work loss, medication use and physician consultation than did males. This was supported by the study of mortality and morbidity associated with gender conducted by Verbugge (1982). Verbugge also found that men tend to tolerate stress silently or use the unhealthy behaviors of smoking and drinking which may have predisposed them to higher levels of disease and injury.

In a study of coping responses conducted by Pearlin and Schooler (1978), men were found to use more effective coping strategies for long-term strain. They tended to use problem or task-oriented behaviors with which to cope. In contrast, women used more emotion-oriented behaviors.

Neal (1984) found that women consulted counseling centers at the college in which they were enrolled in greater numbers than male students. Calhoun (1980) concluded that females attempted to change the situation or its meaning while men either avoided the stressor or resigned themselves to it. Students interviewed at Boston University (Rassiga, 1980) said that establishment of a social network and involvement in extracurricular activities were ways of decreasing academic stress.

Krantz (1983) used an interesting device to determine if cognitive appraisal of various coping options to deal with academic failure would have an impact on coping behavior and academic performance. She found that there was a positive link between cognitive appraisal and coping behavior. Students, when aware of the options, exercised them to institute healthy coping behaviors such as increased study time. However, the relationship between appraisal and performance was not established. The conclusions were also limited to high-stress situations.

Folkman and Lazarus (1980) have cautioned about the use of the categories of problem-oriented and emotion-focused when applied to gender. They believed that the source of the stress would affect the use of the coping strategy more than gender. They found for health-related stressors there were no gender differences.

Students. Stress has been established as a concern among the student population. Therefore, it was necessary to examine what strategies students were using to cope with this stress. Bailey (1984) identified absence from work/class as a coping strategy. This was an unhealthy coping mechanism in most situations since the nurse was making no constructive effort to deal with the stressor, but was ignoring it. Indeed, if the pattern was established as a student, one could expect the pattern to continue uninterrupted as an employee, whatever the profession.

Francis and Naftel (1983) surveyed the physical therapy students at UAB for coping strategies. Most of these students reported that they used positive behaviors such as praying, elaborating the situation, and problem-solving. Allen (1981) was unable to identify specific coping mechanisms in black female freshman. She concluded that the process of coping was so complex that it could not be evaluated without examination of the environmental and personal variables as well.

Is there then a personality characteristic which enables some students to deal more easily with stress than others? Kobasa and Pucetti (1983) studied executives for stress levels. Their study supported Kobasa's earlier theory that personality "hardiness" is a factor in an individual's ability to cope. They felt that this characteristic facilitated coping mechanisms which led to

successful resolution of problems. This concept may be applied to the student role to identify those students who use effective coping strategies.

Tanck and Robbins (1979) studied undergraduates who reported recent stress in academic matters. Students holding internal locus of control beliefs were more inclined to meditate, which could be seen as healthy or constructive behavior. In contrast, externals turned to maladaptive behaviors such as alcohol use and fantasizing. They also sought professional help, which could be construed as a perception on their part that the situation was out of their control and needed outside intervention. Parkes (1984) supported those conclusions in her study of student nurses. She found that those who were reported as having an internal locus showed relatively more adaptive coping strategies than those who reported an external locus.

Bailey and Hailey (1983) sought to determine which individual coping strategies were used by a sample of undergraduate college students. However, they found that rather than a singular strategy, most students used patterns of coping. Thus, the individual coping strategy or the student's level of intelligence were not as important in predicting individual success on examination as was the determination of the primary coping pattern which was used by the student.

Studies of students with test anxiety were similar to this concept. Morris and Engle (1981) believed that students who were test anxious expended a tremendous amount of energy worrying, berating themselves and becoming increasingly tense. All of these nonproductive behaviors served to increase anxiety and lower self-esteem so that performance on the test was less than optimal, which perpetuated the cycle of self-recrimination.

Davidhizar and McBride (1985) also stated that students appeared to attribute both success and failure to the instructor. Success was explained on the basis of the instructor's style or personality. Failure was explained by the instructor's lack of skill or knowledge.

Race. There was only one specific study found that compared coping strategies with race as the independent variable. Allen's (1981) study of Black female freshmen was inconclusive in defining specific coping strategies used by the respondents. No other literature surveyed used race as an attribute variable.

Summary

The associate degree experience in AH and nursing may be viewed as a period when students attempt to deal with complex didactic material, and new and unfamiliar clinical experiences when family and possible job responsibilities are added this inevitably leads to high levels of stress.

The way in which the student deals with the stress should be of concern to faculty who must guide their progress through the academic program. Jones (1978) advocated a counseling service. Others have established retention programs designed to identify high-risk students in an effort to lower attrition (Reed & Hudepohl, 1985).

Lampkin, Cannon & Fairchild (1985) advocated developing counseling skills among nurse educators. This would improve the quality of counseling students received as well as facilitating identification of high-risk students. As a result students would have received interpersonal interaction before the crisis point in the stress cycle.

It thus seems imperative to identify stressors and coping mechanisms in students. If faculty were aware of problems the student is facing, they would be able to assist the student in utilizing healthy, coping strategies. The outcome is likely to be a healthier, better adjusted student who will be more able to accomplish life goals.

CHAPTER III

METHODOLOGY

Introduction

This chapter consists of four sections. The first section describes the subjects, how they were chosen, and where they were located. The second section describes the demographic data sheet, as well as the two questionnaires completed by the students. The third section deals with the procedure. The last section is a description of the statistical analysis of the data.

Subjects

The sample chosen for the descriptive study included 78 first- and second-year students in an associate degree nursing (ADN) program and 54 first- and second-year students in allied health (AH) programs. Two students did not report the program in which they were enrolled. The allied health students included those enrolled in Dental Assistant, Radiologic Technician, Mental Health Technician, Medical Laboratory Technician, and Respiratory Technician programs.

All students were enrolled at Wallace State Community College (WSCC) in Hanceville, Alabama. This community college had an enrollment of approximately 2800. It was located 50 miles northeast of Birmingham, Alabama, in

Cullman County. WSCC serves a primarily rural four county area with both associate degree and diploma/certificate programs in many areas.

Instruments

The demographic data sheet elicited information related to age; marital status; work status; number of hours per week if the subject worked; total family income; gender; race; ADN/AH status; freshman/sophomore status; number of children; their ages; whether a significant loss was the precipitating factor for enrollment; and number in the household dependent on the student for support (emotional, financial or other). Data utilized in this study were gender, race, freshman/sophomore status, and ADN or AH status (Appendix A).

The survey was conducted using two self-report, survey-type questionnaires. Stress was operationalized the subject's score on the Stress Factor Scale originally designed by Garbee, Zucker, and Selby (1980) to identify potential sources of stress among dental students. The authors stated that the instrument was field-tested for reliability and then revised to minimize administration time and subject confusion. The authors did not provide specific data to establish reliability. Therefore, to further establish face and content validity, the instrument was submitted to each department chairperson at WSCC with AH

students in the study, and to the first- and second-level coordinators in the ADN program. Items which obtained 60% agreement among the panel were retained.

The resulting questionnaire remained similar to that of Garbee, et al (1980) and contained 24 items. Minor revisions related to phrasing were incorporated to clarify statements. Each item was ranked on a Likert scale. The lowest value was 0 for "not applicable"; this was a modification of the original instrument. The highest score was 5 for "highly stressful." (Appendix B)

The Jalowiec Coping Instrument was developed in 1984. This is a 39 item questionnaire which was designed initially to measure coping mechanisms in emergency room and hemodialysis patients. To establish reliability the authors used the test-retest method at two and four weeks, yielding significant rhos of .79 and .78. Content validity was insured by the number of items, inclusion of a wide variety of coping mechanisms supported in the literature, and the development of the tool in a systematic manner (Jalowiec, 1984). She further stated that use of the instrument in a wide variety of settings will further validate the reliability and validity of the instrument. Therefore, "coping" was operationalized as the subject's score on the Jalowiec Coping Scale.

This instrument was also based on a Likert scale of 0-5. Again, zero represented never used or "not

applicable," while 5 represented frequently used. The use of zero for not applicable was a modification made by the researcher (Appendix C).

Design and Procedure

The procedures utilized in this study were reviewed and approved by the Office of Research Compliance at the University of Tennessee, Knoxville, and by Dr. James Van Horn, Dean of Instruction, WSCC. The study was conducted over a two week period from June 4 to June 18, 1986.

The researcher went to each select classroom to personally administer the instruments. This was with the consent of the instructor; specific times and dates were agreed upon by the researcher and instructor.

Prior to administration of the instruments, the researcher explained the purpose of the study. Students were informed that participation was voluntary. They were also informed that their responses would be confidential. The consent form was explained, as well as the coding system. Questions were answered related to the researcher's ability to match coded consent forms with coded questionnaires to supply participants with individual and group data at a later date.

The stress and coping questionnaires were explained. Participants were instructed to mark zero if the stress was not applicable or the coping strategy was not one which was

used. An answer of one was used for low levels of stress, or use of coping strategy; five was used for high level stress or coping strategies which were often used.

Response rate in the AH programs was 100% for students present on the day of administration. In the ADN program, the response rate was 99%, with one student electing not to participate.

Statistical Analysis

The subjects were grouped in four general ways: 1) program, i.e. ADN/AH; 2) Level, i.e. freshman/sophomore; 3) gender, i.e. male/female; and 4) race, i.e. Black/Caucasian. For each grouping, mean scores were computed for each item by the summing the individual scores and dividing by the number of subjects who scored the item. Those who answered zero were deleted from the computations, which resulted in differing degrees of freedom on t -tests.

Each of the eight subgroups were analyzed separately. Mean scores for each item on the Stress Factor questionnaire were computed and displayed in tables to exhibit significant stressors in groups. Consistent with previous research (Francis & Naftel, 1983; Tanck & Robbins, 1979), a mean of > 3.00 was considered significant. The t -test was utilized to determine if there was a significant difference in overall stress level between the subgroups.

The Jalowiec Coping Scale was divided into problem oriented behaviors and affective behaviors according to Jaloweic's classification schema. (see Appendix D). Each group (i.e. Blacks, Caucasian, AH, ADN, et al) had a mean computed for problem-oriented behaviors and affective behaviors. The t-test was utilized to determine differences in specific types of coping mechanisms. An alpha level of .05 was selected as the criterion of statistical significance for the study.

CHAPTER IV

RESULTS

The sample studied was a convenience sample drawn from the Associate Degree Nursing Program (ADN) and Allied Health (AH) Programs at Wallace State Community College (WSCC) in Hanceville, Alabama. There were 78 ADN students and 54 AH students in the final tabulation. Twenty forms were not used due to insufficient data (less than 50% response on either the stress or coping instruments, or both.)

The typical student was a married, female Caucasian who worked at least part time and who was in her first year in her course of study. Her family income was \$10,000-19,999. Twenty of 134 students stated that a loss (job, death of a significant other) was the reason for the return to school (Table I). Data not tabulated for this study included average number of children at home and ages of children, and number of significant others at home.

Table II exhibits the source of stressors rank-ordered for the total sample. For the this group stress due to examination and grades was highest, followed by lack of free time, amount of classwork, long hours of study, fear of failure, financial responsibilities, research projects, and difficulty of classwork.

Table I. Demographic Data for Total Sample

Variable	Number	%
Gender		
Male	21	15 %
Female	111	82.8%
No response	2	1.5%
Race		
Caucasian	115	85.8%
Black	14	10.4%
No response	5	3.7%
Level		
1st year	82	61.2%
2nd year	52	38.2%
Type of Program		
Nursing	78	58.2%
Allied Health	54	40.3%
No response	2	1.5%
Marital Status		
Married	62	46.3%
Divorced	18	13.4%
Single	51	38.1%
Widowed	2	1.5%
No response	1	.7%
Work Status		
Does not work	51	38.1%
Does work	83	61.9%
Income		
Less than \$5000	14	10.4%
\$5000-9999	14	10.4%
\$10,000-19,999	48	35.9%
\$20,000-24,999	23	17.2%
more than \$25,000	30	22.4%
no response	5	3.7%
Significant Loss		
Yes	113	84.3%
No	20	14.9%
No response	1	0.7%

Note: Income reflects total household income.

Table II. Mean Stress Scores Rank-Ordered for Total Sample of Community College Students

Stress Factor	Mean
1. Stress due to examination and grades	4.02
2. Stress due to lack of free time	3.75
3. Stress due to amount of classwork	3.69
4. Stress due to long hours of study	3.56
5. Stress due to fear of failure	3.35
6. Stress due to financial responsibilities	3.34
7. Stress due to research project	3.27
8. Stress due to difficulty of classwork	3.13

Note: Responses range from 0 (not applicable) to 5 (highly stressful).

Major stressors for ADN students, in descending order, were: 1) examination and grades; 2) amount of classwork; 3) long hours of study; 4) lack of free time; 5) fear of failure; 6) research projects; 7) financial responsibilities; 8) difficulty of classwork (Table III). Significant stressors for AH students included: 1) examination and grades; 2) lack of free time; 3) financial responsibilities; 4) amount of classwork; and 5) dating relationships (Table IV).

Table V exhibits stressors rank-ordered by Black and Caucasian students. They identified in descending order: 1) examination and grades; 2) administrative response to needs; 3) child care needs; 5) lack of free time; 4)

Table III. Mean Stress Scores Rank-Ordered for Nursing Students

<u>Stress Factor</u>	<u>Mean</u>
1. Stress due to examination and grades	4.22
2. Stress due to amount of classwork	4.14
3. Stress due to long hours of study	3.96
4. Stress due to lack of free time	3.91
5. Stress due to fear of failure	3.63
6. Stress due to research project	3.57
7. Stress due to financial responsibilities	3.43
8. Stress due to difficulty of classwork	3.38

Note: Responses range from 0 (not applicable) to 5 (highly stressful).

Table IV. Mean Stress Scores Rank-Ordered for Allied Health Students

<u>Stress Factor</u>	<u>Mean</u>
1. Stress due to examination and grades	3.75
2. Stress due to lack of free time	3.56
3. Stress due to financial responsibilities	3.24
4. Stress due to amount of classwork	3.10
5. Stress due to dating relationships	3.00

Note: Responses range from 0 (not applicable) to 5 (highly stressful).

Table V. Mean Stress Scores Rank-Ordered for Black Students

<u>Stress Factor</u>	<u>Mean</u>
1. Stress due to examination and grades	4.36
2. Stress due to administrative response	4.31
3. Stress due to child care needs	4.25
4. Stress due to amount of classwork	4.15
5. Stress due to lack of free time	4.14
6. Stress due to personal physical health	3.86
7. Stress due to long hours of study	3.64
8. Stress due to competition with others	3.25
9. Stress due to roommate/spouse relationships	3.17
10. Stress due to parent- student relationships	3.125
11. Stress due to difficulty of classwork	3.07
12. Stress due to atmosphere created by lecture	3.00

Note: Responses range from 0 (not applicable) to 5 (highly stressful).

amount of classwork; 6) personal physical health; 7) long hours of study; 8) competition with other students; 9) roommate/spouse relationships; 10) parent/student relationships; 11) difficulty of classwork; and 12) atmosphere created by lecture faculty.

Caucasian students listed: 1) examination and grades; 3) lack of free time; 2) amount of classwork; 4) long hours of study; 5) financial responsibilities; 6) research projects; 7) fear of failure; 8) difficulty of classwork; and 9) reconsideration of career choice (Table VI).

Tables VII and VIII exhibit the data for gender differences. Females listed in descending order: 1) examination and grades; 2) amount of classwork; 3) lack of free time; 4) long hours of study; 5) fear of failure; 6) financial responsibilities; 7) research projects; and 8) difficulty in classwork (Table VII). Males reported: 1) lack of free time; 2) examination and grades; 3) amount of classwork; 4) atmosphere created by clinical faculty; 5) dating relationships and 6) parent/student relationships (Table VIII).

Level I students reported as most stressful: 1) stress due to examination and grades; 2) lack of free time; 3) amount of classwork; 4) long hours of study; 5) research projects; 6) fear of failure; 7) financial responsibilities; and 8) difficulty of classwork (Table IX). Level II students reported: 1) examination and

Table VI. Mean Stress Scores Rank-Ordered for Caucasian Students

<u>Stress Factor</u>	<u>Mean</u>
1. Stress due to amount of claswork	3.97
2. Stress due to amount of classwork	3.74
3. Stress due to lack of free time	3.68
4. Stress due to long hours of study	3.56
5. Stress due to research project	3.26
6. Stress due to research project	3.26
7. Stress due to fear of failure	3.24
8. Stress due to difficulty of classwork	3.14
9. Stress due to reconsideration of career	3.01
Note: Responses range from 0 (not applicable) to 5 (highly stressful).	

Table VII. Mean Stress Scores Rank-Ordered for Female Students

<u>Stress Factor</u>	<u>Mean</u>
1. Stress due to examination and grades	4.15
2. Stress due to amount of classwork	3.83
3. Stress due to lack of free time	3.80
4. Stress due to long hours of study	3.67
5. Stress due to fear of failure	3.45
6. Stress due to financial responsibilities	3.43
7. Stress due to research projects	3.36
8. Stress due to difficulty in classwork	3.21
Note: Responses range from 0 (not applicable) to 5 (highly stressful).	

Table VIII. Mean Stress Scores Rank-Ordered for Male Students

<u>Stress Factor</u>	<u>Mean</u>
1. Stress due to long hours of study	3.90
2. Stress due to examination and grades	3.45
3. Stress due to amount of classwork	3.19
4. Stress due to atmosphere created by clinical faculty	3.15
5. Stress due to dating relationships	3.07
6. Stress due to parent-student relationships	3.00

Note: Responses range from 0 (not applicable) to 5 (highly stressful).

Table IX. Mean Stress Scores Rank-Ordered for Level I Students

<u>Stress Factor</u>	<u>Mean</u>
1. Stress due to examination and grades	4.07
2. Stress due to lack of free time	3.97
3. Stress due to amount of classwork	3.83
4. Stress due to long hours of study	3.75
5. Stress due to research projects	3.64
6. Stress due to fear of failure	3.58
7. Stress due to financial responsibilities	3.39
8. Stress due to difficulty of classwork	3.15

Note: Responses range from 0 (not applicable) to 5 (highly stressful).

grades; 2) amount of classwork; 3) lack of free time; 4) financial responsibilities, 5) difficulty of classwork, and 6) dating relationships (Table X).

The t-test was used to determine significant differences in overall levels of stress within each of the groupings. Degrees of freedom varied due to missing responses. Those participants who responded "0" were not counted in N. The .05 level was established as the level of significance. When community college students were grouped according to type of program, nursing students reported significantly more stress than allied health students. There were no other significant differences. Table XI exhibits the results of the t-test procedures.

Data collected with the Jalowiec Coping Scale were analyzed in a manner similar to the Stress Factor Scale. Means were computed for the entire sample group, and for each grouping. Table XII exhibits the mean coping scores rank-ordered for the total sample.

Major coping strategies for this sample of community college students, listed in descending order were: 1) Pray/trust; 2) worry; 3) get nervous; 4) set goals; 5) use past experience; 6) humor; 7) seek purpose and meaning 8) eat/smoke; 9) discuss problem; 10) maintain control; 11) try to change situation; 12) try different solutions; 13) consider different solutions; 14) optimism; 15) get

Table X. Mean Stress Scores Rank-Ordered for Level II Students

Stress Factor	Mean
1. Stress due to examination and grades	3.76
2. Stress due to amount of classwork	3.41
3. Stress due to lack of free time	3.39
4. Stress due to financial responsibilities	3.26
5. Stress due to difficulty of classwork	3.10
6. Stress due to dating relationships	3.09

Note: Responses range from 0 (not applicable) to 5 (highly stressful).

Table XI. t -test for Stress Levels by Group and Program

Group	Mean	SD	df	t
Female	54.7570	18.001		
Males	48.3158	24.000	126	1.12
Black	57.5385	15.081		
Caucasian	53.3364	19.752	121	-.74
Level I	55.4872	17.233		
Level II	50.3600	21.424	126	1.49
AH	47.9057	22.162		
ADN	57.8904	15.363	124	-2.99*

Note: Those who answered "0" were deleted from computations. This resulted in varying df.

* $p < .05$

Table XII. Mean Coping Scores Rank-Ordered for Total Sample of Community College Students

<u>Coping Strategy</u>	<u>Mean</u>
1. Pray/trust	3.90
2. Worry	3.72
3. Get nervous	3.63
4. Set goals	3.59
5. Use past experiences	3.44
6. Humor	3.35
7. Seek purpose/meaning	3.35
8. Eat/smoke	3.32
9. Discuss problem	3.22
10. Maintain control	3.15
11. Try to change situation	3.11
12. Try different solutions	3.11
13. Consider different solutions	3.09
14. Optimism	3.07
15. Get comfort/help from others	3.06
16. Information seeking	3.04
17. View problems objectively	3.01

Note: Responses range from 0 (not applicable) to 5 (often used).

comfort/help from others; 16) information seeking; 17) view problem objectively.

The AH students listed: 1) pray/trust; 2) get nervous; 3) set goals; 4) worry; 5) humor; 6) try to change the situation; 7) seek purpose/meaning; 8) maintain control; 9) use past experiences; 10) view the problem objectively; 11) discuss the problem; and 12) optimism (Table XIII).

The ADN group listed: 1) pray/trust; 2) worry; 3) get nervous; 4) use past experiences; 5) set goals; 6) eat/smoke; 7) seek purpose/meaning; 8) information seeking; 9) discuss the problem; 10) try different solutions; 11) humor; 12) consider different solutions; 13) optimism; 14) maintain control; and 15) view the problem objectively; 16) try to change situation; 17) handle problem piece-meal (Table XIV).

When classified by gender the females rank-ordered coping mechanisms in descending order as: 1) get nervous; 2) worry; 3) situational withdrawal; 4) set goals; 5) blame others; 6) view problem objectively; 7) pray/trust; 8) use past experiences; 9) optimism; 10) eat/smoke; 11) discuss problem; 12) humor; 13) try different experiences; 14) seek purpose/meaning; 15) release tension on others; 16) consider different solutions; 17) meditation; and 18) maintain control (Table XV). Men listed the strategies as follows: 1) pessimism; 2) pray/trust; 3) humor; 4)

Table XIII. Mean Coping Scores Rank-Ordered for Allied Health Students

<u>Coping Strategy</u>	<u>Mean</u>
1. Pray/trust	3.65
2. Get Nervous	3.51
3. Set goals	3.49
4. Worry	3.46
5. Humor	3.42
6. Try to change situation	3.27
7. Seek purpose/meaning	3.22
8. Maintain control	3.08
9. Use past experiences	3.06
10. View problem objectively	3.04
11. Discuss problem	3.02
12. Optimism	3.00

Note: Responses range from 0 (not applicable) to 5 (often used).

Table XIV. Mean Coping Scores Rank-Ordered for Nursing Students

<u>Coping Strategy</u>	<u>Mean</u>
1. Pray/Trust	4.05
2. Worry	3.90
3. Get nervous	3.80
4. Use past experiences	3.62
5. Set goals	3.60
6. Eat/smoke	3.57
7. Seek purpose/meaning	3.42
8. Information-seeking	3.40
9. Discuss problem	3.36
10. Try different solutions	3.33
11. Humor	3.27
12. Consider different solutions	3.20
13. Optimism	3.14
14. Maintain control	3.14
15. View problem objectively	3.12
16. Try to change situation	3.09
<u>17. Handle problem piecemeal</u>	<u>3.00</u>

Note: Responses range from 0 (not applicable) to 5
(often used)

Table XV. Mean Coping Scores Rank-Ordered for Female Students

<u>Coping Strategy</u>	<u>Mean</u>
1. Get nervous	3.93
2. Worry	3.80
3. Situational withdrawal	3.69
4. Set goals	3.63
5. Blame others	3.63
6. View problem objectively	3.46
7. Use past experiences	3.43
8. Pray/trust	3.39
9. Optimism	3.37
10. Eat/smoke	3.30
11. Discuss problem	3.30
12. Humor	3.25
13. Try different solutions	3.19
14. Seek purpose/meaning	3.17
15. Release tension on others	3.13
16. Consider different solutions	3.13
17. Meditation	3.07
18. Maintain Control	3.03

Note: Responses range from 0 (not applicable) to 5 (often used).

blame others; 5) set goals; 6) worry; 7) eat/smoke; 8) sleep; 9) seek purpose/meaning; 10) use past experiences; 11) get nervous; 12) acceptance; 13) optimism; 14) view problem objectively; 15) maintain control; 16) isolation; and 17) try to change situation (Table XVI).

Table XVII exhibits coping mechanisms rank-ordered by blacks. They listed coping strategies in descending order as: 1) pray/trust; 2) pessimism; 3) consider different solutions; 4) worry; 5) seek purpose/meaning; 6) set goals; 7) get nervous; 8) information seeking; 9) optimism; 10) sleep; 11) acceptance; 12) humor; 13) try to change situation; 14) maintain control; 15) view problem objectively; and 16) try anything. Caucasians listed: 1) pray/trust; 2) worry; 3) handle problem piecemeal; 4) seek purpose/meaning; 5) humor; 6) eat/smoke; 7) discuss problem; 8) maintain control; 9) use past experiences; 10) try different solutions; 11) meditation; 12) optimism; 13) try to change the situation; 14) consider different solutions; and 15) view problem objectively (Table XVIII).

The final grouping is for Levels of program. Table XIX displays coping mechanisms for Level I students. They listed in descending order: 1) worry; 2) get nervous; 3) pray/trust; 4) use past experiences; 5) set goals; 6) eat/smoke; 7) view problem objectively; 8) seek purpose and meaning; 9) discuss problem; 10) try different solutions; 11) maintain control; 12) information-seeking;

Table XVI. Mean Coping Scores Rank-Ordered for Male Students

<u>Coping Strategy</u>	<u>Mean</u>
1. Pessimism	3.86
2. Pray/trust	3.81
3. Humor	3.81
4. Blame others	3.42
5. Set goals	3.42
6. Worry	3.39
7. Eat/smoke	3.29
8. Sleep	3.27
9. Seek purpose/meaning	3.24
10. Use past experiences	3.20
11. Get nervous	3.20
12. Acceptance	3.19
13. Optimism	3.14
14. View problem objectively	3.05
15. Maintain Control	3.00
16. Isolation	3.00
17. Try to change situation	3.00

Note: Responses range from 0 (not applicable) to 5 (often used).

Table XVII. Mean Coping Scores Rank Ordered for Black Students

Coping Strategy	Mean
1. Pray/trust	4.29
2. Pessimism	4.27
3. Consider different solutions	4.00
4. Worry	4.00
5. Seek purpose/meaning	3.93
6. Set goals	3.86
7. Get nervous	3.77
8. Information-seeking	3.71
9. Optimism	3.55
10. Sleep	3.43
11. Acceptance	3.42
12. Humor	3.31
13. Try to change situation	3.23
14. Maintain control	3.14
15. View problem objectively	3.07
16. Try anything	3.00

Note: Responses range from 0 (not applicable) to 5 (often used).

Table XVIII. Mean Coping Scores Rank-Ordered for
Caucasian Students

<u>Coping Strategy</u>	<u>Mean</u>
1. Pray/Trust	3.86
2. Worry	3.74
3. Handle problem piecemeal	3.55
4. Seek purpose/meaning	3.37
5. Humor	3.34
6. Eat/Smoke	3.33
7. Discuss problem	3.21
8. Maintain control	3.15
9. Use past experiences	3.13
10. Try different solutions	3.13
11. Meditation	3.12
12. Optimism	3.10
13. Try to change situation	3.09
14. Consider different solutions	3.07
15. View problem objectively	3.03

Note: Responses range from 0 (not applicable) to 5
(often used).

Table XIX. Mean Coping Scores Rank Ordered for Level I Students

<u>Coping Strategy</u>	<u>Mean</u>
1. Worry	3.96
2. Get nervous	3.87
3. Pray/trust	3.81
4. Use past experiences	3.80
5. Set goals	3.54
6. Eat/smoke	3.54
7. View problem objectively	3.51
8. Seek purpose/meaning	3.42
9. Discuss problem	3.25
10. Try different solutions	3.20
11. Maintain control	3.12
12. Information-seeking	3.10
13. Get comfort/help from others	3.04
14. Optimism	3.04
15. Consider different solutions	3.03

Note: Responses range from 0 (not applicable) to 5 (often used).

13) get comfort/help from others; 14) optimism; 15) consider different solutions. Level II students listed coping mechanisms as; 1) pray/trust; 2) set goals; 3) humor; 4) view problem objectively; 5) use past experiences; 6) worry; 7) try to change situation; 8) seek purpose and meaning; 9) get nervous; 10) maintain control; 11) consider different solutions; 12) optimism; 13) discuss problem; 14) acceptance; and 15) get comfort from others (Table XX).

The Jaloweic Coping Scale was broken down into affective and problem-oriented coping behaviors using the same groupings determined by the author (Jaloweic, 1984; see Appendix D). Within each grouping, the t-test was used to determine if there was a significant difference in the use of affective or problem-oriented behaviors. There proved to be no difference at the .05 level of significance for any of the subgroupings for affective behaviors (Table XXI). However, there was a difference at the 0.10 level of significance for problem-solving behaviors in ADN and AH students (Table XXII). Nursing students reported greater use of problem-oriented strategies than did allied health students. This trend was also evident after the groups were further delineated into Caucasian, male and female allied health and nursing students.

Table XX. Mean Coping Scores Rank-Ordered for Level II Students.

<u>Coping Strategy</u>	<u>Mean</u>
1. Pray/trust	4.04
2. Set goals	3.60
3. Humor	3.46
4. View problem objectively	3.43
5. Use past experiences	3.40
6. Worry	3.35
7. Try to change situation	3.31
8. Seek purpose/meaning	3.24
9. Get nervous	3.24
10. Maintain Control	3.20
11. Consider different solutions	3.18
12. Optimism	3.18
13. Discuss problem	3.17
14. Acceptance	3.10
15. Get comfort/help from others	3.10

Note: Responses range from 0 (not applicable) to 5 (often used).

Table XXI. t -test for Affective Coping Mechanisms by Groups & Program

Group	Mean	SD	df	t
ADN	50.7067	10.658	122	.02
AH	50.7551	13.886		
Level I (AH)	48.6316	12.859	75	-.76
Level II (ADN)	50.8793	10.651		
Level I (AH)	52.1000	14.549	45	.49
Level II (ADN)	50.1176	10.988		
Cau (AH)	50.2000	14.183	106	-.24
Cau (ADN)	50.7778	10.337		
Males (AH)	52.3333	13.720	18	-.11
Males (ADN)	53.0000	12.410		
Females (AH)	50.1111	14.264	101	-.13
Females (ADN)	50.4328	10.503		

Note: Those who answered "0" were deleted from computations. This resulted in varying df.

* $p < .05$ ** $p < .10$

Table XXII. t-test for Problem-Solving Coping Mechanisms
by Group and Program

Group	Mean	SD	df	t
AH	39.0870	10.993	119	-1.65**
ADN	42.3067	10.087		
Level I (AH)	35.3750	11.129	72	-2.39*
Level I (ADN)	42.4138	10.214		
Level II (AH)	41.0667	10.573	45	-.28
Level II (ADN)	41.9412	9.940		
Cau (AH)	39.1667	11.216	104	-1.72*
Cau (ADN)	42.6875	9.680		
Males (AH)	37.0769	8.949	18	-1.55
Males (ADN)	43.5714	8.904		
Females (AH)	40.1875	11.781	98	-.86
Females (ADN)	42.1765	10.252		

Note: Those who answered "0" were deleted from
computations. This resulted in varying df.

*p<.05

**p<.10

CHAPTER V

DISCUSSION

Implications of the study

There have been numerous studies which examined the relationship between attribute variables such as age, sex, marital status and gender, and stress (Malarkey, 1979; Mulvey, 1983; Oliver, 1985; Statts, 1983; Verbugge, 1982). Other studies have examined the relationship between stress and the student role (Davidhizar, 1985; Dowd, 1983; Francis & Naftel, 1983; Harwood, 1982; Liska, 1975; Nelson, 1977; Packard, Schwebel, & Ganey, 1979; Parkes, 1985; Perry, 1983; Roediger, 1983). Finally, coping in various segments of the population has been the focus of many studies (Bailey & Hailey, 1983; Beutell & Greenhaus, 1983; Folkman & Lazarus, 1980; Krantz, 1983; Morris & Engle, 1981; Parkes, 1984; Tanck & Robbins, 1979).

Students have often entered the program of study in the health professions without realistic expectations of the demands with which they must cope. As a result, attrition rates have ranged from 7% for dental students to 25% for ADN students (Garbee, et al., 1980; Reed & Hudepohl, 1984). Many students who have withdrawn from school have done so not because of academic failure but

because of stress, both personal and academic (Coburn & Jovaisas, 1975).

Examination of the mean stress scores for the community college sample surveyed by this researcher revealed that of the eight factors which had a mean greater than three, six of them were academic. In fact, all of the subgroups, delineated for the purpose of comparisons,, rated examination and grades as the most stressful element, with the exception of males who ranked that factor as the second most stressful.

There was consistency among the subgroups. All ranked, in addition to examination and grades, lack of free time, long hours of study, amount of classwork, fear of failure, research projects, and difficulty of classwork as significant stressors (mean of 3 on a 5 point Likert scale). The only inconsistency in responses were indicated by Blacks. An interesting response by this group was the stress incurred by administrative response to needs. These students indicated that this was the second most intense source of stress, while other groups did not perceive it as a significant stressor. This is a rural Alabama county which is 98.8% white (Economic Abstracts, 1980, p. 293). Many of the Black students in the two programs commuted from Birmingham (personal communication, ADN and AH students, June 3, 1986). They may have perceived a lack of support from administration

due to the very low incidence of Blacks in Cullman County. The indication that administrative support is a stressor warranted further exploration; thus the results of the survey were forwarded to Dr. James Van Horn, Dean of Instruction, WSCC.

Black students perceived child care as a stressor, whereas Caucasian students did not. Since Blacks were commuting to school, perhaps their level of stress in this area was related to time commuting and time spent in class and clinical. Because of the time factor, it may have been more difficult to make child care arrangements.

The prevalence of academic factors as stressors was supported by use of the same Stress-Factor Scale in a study of dental students and physical therapy students. In both previous studies, the students indicated that examinations, classwork (both amount and difficulty), long hours of study with resultant lack of free time, and fear of failure were significant stressors. These factors were rank-ordered in both studies as one through nine (Francis & Naftel, 1983; Garbee, et al., 1980).

It was interesting to note that all of the subgroups except Blacks and males indicated stress due to financial responsibilities as highly significant. This is supported by the study by Coburn and Jovaisas which revealed that high academic stress was correlated with high personal stress (1975). A concept that must be considered was that

of a synergistic effect; i.e., one source of stress intensifying another. However, Hammes, in 1983, stated that students who worked while in school, did as well as those who did not as measured by the grade point average (GPA). Further studies to explore this issue were indicated by these conflicting reports.

A major difference in ADN and AH students was the stress felt due to fear of failure. ADN students ranked this as the fifth most intensely felt stressor. AH students ranked it lower (ninth) with a mean less than 3. This finding could be attributed to (a) more rigorous ADN academic program, (b) progression criteria to Level II in ADN program, or (c) clinical component of ADN program.

Stressors ranked according to student's level in the academic program exhibited only two significant differences. Level II students did not rank stress due to research projects, long hours of study, or fear of failure as high. The conclusion drawn was that time in program allows for adaptation to stress from these factors. Level II students may have readjusted priorities to deal with the academic factors. Also, successful completion of the first year may have alleviated the fear of failure.

Placement in the program did not reveal other clear differences in overall sources of stress. Both Level I and II students identified amount of classwork, difficulty of classwork, examination and grades, lack of free time,

and financial responsibilities to be very significant stressors. The instrument was administered one week prior to final examinations. In reviewing these stressors one might hypothesize that the time frame is a significant factor in stress level. A comparison of the instrument administered early in the quarter and again during final examination week would perhaps yield some significant data.

The t-test supported the conclusions drawn from item-by-item analysis. Only the ADN/AH groupings exhibited a significant difference at the .05 level. This supported the concept held by many faculty that ADN students have more stress in the academic program. Farabaugh (1984) believed that this stress was partially due to faculty imposing pressure on the student to succeed, and encouraging over-commitment and over-dedication by the student to the profession.

The Jaloweic Coping Scale was also subjected to an item-by-item analysis. All subgroups except women and Level I students ranked pray/trust as the most commonly used coping mechanism. Fourteen of the seventeen most frequently utilized coping mechanisms for the total sample were problem-oriented. This reflected an attitude of realism as opposed to emotionality. The trend to problem-oriented behavior was seen across the subgroupings as well.

Gender differences were significant. Women reported the use of such nonconstructive behaviors as getting nervous, worrying and situational withdrawal. This is supported by Griffith's (1983b) study of women. She concluded that they used more passive than active behavior.

Men reported strategies such as prayer, humor, and setting goals. Men had a lower total stress mean, and used more constructive strategies than women. Pearlin and Schooler (1978) also found that men used constructive coping mechanisms. However, Calhoun (1880) stated men tried to avoid stress by withdrawing and ignoring the problem.

There were fewer differences in the race delineations. Both Blacks and Caucasians used prayer and worry as well as problem solving behaviors such as changing the situation. There was little clear difference in use of problem-oriented behaviors or affective behaviors. Since there was little literature available with race as a variable, no conclusions were drawn.

When students were compared according to placement in their programs, it appeared that Level I students used affective behaviors more often. Level II students, used more problem-solving behaviors. This may indicate adaptation to the program of study.

The t-test for problem-solving behaviors resulted in some interesting comparisons. The groups were broken down into schools with subgroups within the schools. ADN students used problem-oriented behavior significantly more than AH students. This may reflect the use of the nursing process, a problem-oriented approach to patient care. Nursing students were exposed to this approach at the beginning of their education. The process was reinforced throughout the program of study. The use of problem-oriented behaviors by ADN students may relate to that exposure to the nursing process. While the t-test for this grouping only reached the 0.1 level of significance, it was strengthened when one examined Level I students.

Level I ADN students reported using the problem-solving behaviors more than Level I AH students. This t-test reached the .05 level of significance. By the second year, there were no significant differences within the groups. This may indicate that Level II students in the AH programs had learned, either didactically or instinctively, to use the problem-solving approach.

Limitations of the Study

Results of this study should not be generalized to the overall population of ADN and AH students. WSCC uses selective admission criteria for both programs. Other

programs use the open door policy, which provides for admission of all students who apply. These students may differ significantly from those at WSCC, both in stressors and utilization of coping strategies.

One major concern arises for future use of both instruments. The Likert scale contained 0 for "not applicable". An analysis of the responses shows that several items on each instrument had a 0 response rate greater than 50%. In the future, the tools may be revised to eliminate the factors which received less than 50% agreement by students as stress producing. By submitting the instrument to the department heads, and eliminating factors with less than 60% agreement, it was thought to avoid this problem. Further modifications must yet be made.

There were also several missing responses regarding race on the demographic sheet. While all respondents were Caucasian or Black, several times students asked what "Caucasian" meant. For future clarity, the term "White" would be more useful.

The coping form also needs further clarification. Items 13 ("Try anything") and 35 ("Handle the problem piecemeal") seemed to be confusing. In most classes where the instrument was administered, questions were asked related to the meaning of these items.

Nursing Implications

The focus of this project was to identify stressors and coping mechanisms in students in community college allied health and nursing students. A matter of great concern has been the enrollment rates for the last three years at WSCC (Diane Harris, Registrar, WSCC, personal communication, June 6, 1986). Not only are enrollment rates falling in both types of programs, attrition rates at WSCC have remained steady at 25% for the last few years (Hazel Outlaw, chairperson, ADN program, and Bob Guthery, Dean, Junior College, WSCC, personal communication, June 3, 1986).

Research has attempted to identify variables which are predictors of success in ADN programs. Yess (1980) found that placement math scores were the best predictor of success in nursing programs. WSCC, as do many others, used the Pre-Nursing Guidance test as part of the admission criteria. This test had a component which measures math knowledge. Students who scored well on the math component have done well in the program. Those who did not score well did not do as well (Hazel Outlaw, personal communication, June 3, 1986).

Review of the data from this study indicated that an in-depth interview with either the counseling service or the department chairperson would provide the student with an overview of the stressors one will be exposed to in the

academic program. Since academic factors were identified as the most stressful of the items listed, insight could be given to enable the student to prepare himself or herself for the pressures of academic life.

For students who are currently enrolled, recognition of the stressors which were most intense would enable faculty to intervene and counsel students who were at risk. Charlesworth, Murphy, and Buetter (1981) did a study in which nursing students were taught stress management techniques. The experimental group exhibited less anxiety than did the control group after the techniques were utilized. This study was not supported by the findings of Callahan, however (1982). Identification of the coping strategies might identify students who are using affective coping strategies in lieu of the more constructive, problem-oriented approaches. These students would benefit from a training program in the use of problem-solving skills.

Groups which were not identified specifically included in the demographic groups were students returning after having withdrawn due to academic failure or personal reasons, and students with previous health-related training (licensed practical nurses, emergency medical technicians). If such students were in the sample, have they adapted more quickly or better to the stress of the academic/clinical environment because of past experience?

Have they learned effective coping mechanisms from past experience? Or, do they feel greater pressure to perform better than generic students? These are concepts which should be explored by future researchers.

Conclusion

Results of the present investigation support previous studies indicating that students in health professions experience intense pressure from academic and other concerns. Faculty, if aware of the stressors and the need for intervention, could perhaps intervene more effectively. Students could be taught problem-solving skills at the outset of the program to deal with the stressors. As a result, students will be better adjusted and more prepared to finish the program of study and enter the professional world for which he or she has prepared.

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APPENDICES

Appendix A. Data Sheet.

Please check the appropriate line:

Age

☐ 18-28
☐ 29-38
☐ 39-48
☐ 49 and older

Marital Status

☐ Married
☐ Divorced
☐ Single
☐ Widowed

Do you work?

☐ Yes
☐ No

If yes, please indicate
number of hours/week

Please indicate your total
family income/year

☐ Less than \$5000
☐ 5000-9999
☐ 10,000-19,999
☐ 20,000-24,1999
☐ more than 25,000

Sex

☐ Male
☐ Female

Ethnic Status

☐ Caucasian
☐ Black
☐ Hispanic
☐ Asian
☐ Other (please specify)

Are you:

☐ 1st year student
☐ 2nd year student

Number of children

☐ 0
☐ 1-2
☐ 3-4
☐ More than 4

Please list ages

Did a recent loss (divorce, death in family, loss of job)
cause you to enter school?

_____ Yes _____ No

How many people are living with you now who depend on you
for support (emotional, financial or other). Please
include elderly or disabled/significant others, living at
home, children, spouse, etc.?

_____ 0

_____ 1-2

_____ 3-4

_____ more than 4

Appendix B. Stress Factor Scale.

1. Stress due to amount of classwork.
2. Stress due to difficulty of classwork.
3. Stress due to examination and grades.
4. Stress due to competition with other students.
5. Stress due to patient care responsibilities.
6. Stress due to difficulty in learning clinical procedures.
7. Stress due to the fear of patient attitudes toward me.
8. Stress due to patients' attitudes toward care given by me.
9. Stress due to research project.
10. Stress due to long hours of studying.
11. Stress due to lack of free time
12. Stress due to the administrative responses to student needs.
13. Stress due to roommate/spouse relationship.
14. Stress due dating relationships.
15. Stress due to reconsideration of career choice.
16. Stress due to fear of flunking out of school.
17. Stress due to child care.
18. Stress due to financial responsibilities.
19. Stress due to personal physical health.
20. Stress due to physical health of other family members.
21. Stress due to parent-student relationship.
22. Stress due to other personal problems.
23. Stress due to atmosphere created by lecture faculty.
24. Stress due to atmosphere created by clinical faculty.

Note: Responses were scored from 0 for not applicable to 5 for highly stressful.

Appendix C. Jaloweic Coping Scale.

1. Worry
2. Cry
3. Activity/Exercise
4. Optimism
5. Humor
6. Consider different solutions
7. Eat/smoke
8. Drink alcohol
9. Drugs
10. Put problem aside
11. Let others solve problem
12. Daydream
13. Try anything
14. Discuss problem
15. Pessimism
16. Get mad/curse
17. Acceptance
18. View problem objectively
19. Maintain control
20. Seek purpose/meaning
21. Pray/trust
22. Get nervous
23. Situational withdrawal
24. Blame others
25. Try to change situation
26. Release tension on others
27. Isolation
28. Resignation/it's hopeless
29. Let problem solve itself
30. Get comfort/help from others
31. Meditation/mind over matter
32. Information-seeking
33. Try different solutions
34. Use past experiences
35. Handle problem piecemeal
36. Sleep
37. Set goals
38. Don't worry
39. Settle for the next best thing

Note: Responses were scored from 0 for not applicable to 5 for never used.

Appendix D. Jaloweic Coping Scale Delineated for
Affective and Problem Solving Behaviors.

1. Pray/trust (a)
2. Worry (a)
3. Get nervous (a)
4. Set goals (p)
5. Use past experiences (p)
6. Humor (p)
7. Seek purpose/meaning (p)
8. Eat/smoke (a)
9. Discuss problem (p)
10. Maintain control (p)
11. Try different solutions (p)
12. Try to change situation (p)
13. Consider different solutions (p)
14. Optimism (p)
15. Get comfort/help from others (p)
16. Information-seeking (p)
17. View problem objectively (p)
18. Acceptance (p)
19. Sleep (a)
20. Handle problem piecemeal (p)
21. Release tension on others (a)
22. Activity/Exercise (p)
23. Get mad/curse (a)
24. Meditation/mind over matter (p)
25. Put problem aside (a)
26. Isolation (a)
27. Daydream (a)
28. Try Anything (p)
29. Drink Alcohol (a)
30. Settle for the next best thing (p)
31. Don't worry (a)
32. Cry (a)
33. Situational withdrawal (a)
34. Pessimism (a)
35. Let problem solve itself (a)
36. Resignation/it's hopeless (a)
37. Blame others (a)
38. Let others solve problems (a)
39. Drugs (a)

VITA

Denise H. Elliott was born July 21, 1948, in San Antonio, Texas. She was the daughter of Albert Woodrow Hooper, who retired from the United States Air Force in 1963. As a result, her elementary and secondary education was received at a variety of public schools across the United States. She graduated from Dickson High School in Dickson, Tennessee, in 1966. In the fall of 1966 she entered St. Thomas School of Nursing, Nashville, Tennessee, from which she graduated in 1969 with a diploma in nursing.

She worked in the intensive care unit at Carraway Methodist Hospital in Birmingham, Alabama, both as a staff nurse and in a supervisory position from 1969-1973. She returned to that position in 1975 after being inactive in nursing for two years due to the birth of her child.

In the fall of 1975 she accepted a position at Wallace State Community College in Hanceville, Alabama, as an instructor in the Practical Nursing Department. In 1980, she returned to school to pursue a Bachelor of Science in Nursing degree from Samford University which was completed in 1982.

In the fall of 1984 she began work toward a Master of Science in Nursing degree from the University of Tennessee, Knoxville. In August of 1986, requirements for

her MSN were completed. She continues to hold a faculty position at Wallace State Community College as an instructor in the Associate Degree Nursing Program.