

To the Graduate Council

I am submitting herewith a dissertation written by Katie Ann Lamb entitled "Baccalaureate Nursing Students' Perception Of Empathy And Stress In Their Interactions With Clinical Instructors: Testing A Theory Of Optimal Student System Stability According To The Neuman Systems Model." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Nursing.

Martha R. Alligood
Martha R. Alligood, Major Professor

We have read this dissertation
and recommend its acceptance:

Johnie N. Mozingo
Lucia McClam

Mary Sue Jule
L. C. Utter

Accepted for the Council:

Leuminkel
Associate Vice Chancellor and
Dean of The Graduate School

**BACCALAUREATE NURSING STUDENTS' PERCEPTION OF
EMPATHY AND STRESS IN THEIR INTERACTIONS
WITH CLINICAL INSTRUCTORS: TESTING A THEORY OF
OPTIMAL STUDENT SYSTEM STABILITY ACCORDING TO
THE NEUMAN SYSTEMS MODEL**

A Dissertation
Presented for the
Doctor of Philosophy Degree
The University of Tennessee, Knoxville

Katie Ann Lamb
August, 1998

Empathy and Stress

Copyright © Katie Ann Lamb, 1998

All rights reserved

Empathy and Stress

DEDICATION

This dissertation is dedicated to my family. To my husband, Ed Lamb, who has continued to be the one constant in my life. It is with his encouragement, support, and love that this endeavor has been completed. To my children, John and Janet, for their belief that mom was up to the task and for providing a "home away from home" during those early years of graduate studies.

Especially to my parents, Mable R. Mackie Towerton and the late Wayne C. Towerton for the confidence they have always had in me, the many prayers, and timely encouragement.

Empathy and Stress

ACKNOWLEDGMENTS

It is with deep appreciation that I acknowledge those who have assisted and encouraged me throughout my education experience. Special tribute goes to Dr. Martha R. Alligood, chair of my committee, who has given guidance, support, wisdom, and encouragement to me since I embarked on this endeavor. I heartily thank other members of my committee, Dr. Mary Lue Jolly, Dr. Tricia McClam, Dr. Johnnie Mozingo, and Dr. Gerald Ubbens, for their patience, understanding, suggestions, and support.

Thanks also goes to the late Dr. Patricia Trussell who first encouraged me to seek post-master's studies in nursing.

A special thanks to Dr. Ella Mae Brooks and Linda Lou Marlowe whose friendships have sustained me during difficult times.

I also acknowledge the Administration of Southern Adventist University for their many words of encouragement and continued support. Finally, to my colleagues at SAU's School of Nursing, a big thank you for supporting me in this project.

Empathy and Stress

ABSTRACT

This study explored the relationship between baccalaureate nursing students' perception of empathy and stress experienced in student-instructor interactions. A midrange Theory of Optimal Student System Stability derived from Neuman's Systems Model was tested. A descriptive cross-section correlational design was used to test the hypothesis: The higher the levels of empathy baccalaureate nursing students perceive when interacting with clinical instructors, the less stressful students perceive the interaction to be. A convenience sample of 132, selected from two national League for Nursing accredited baccalaureate nursing programs, volunteered to complete the Perception of Empathy Inventory (PEI) and the Nursing Clinical Experience Subscale (NCES) along with a demographic data form. The scores of the PEI and NCES were correlated using Pearson's product-moment correlational coefficient. The hypothesis was not supported. Further examination of the instruments to determine their performance was done. Factor analysis revealed that four of the 24 items on the NCES specifically measured stress in student-instructor interactions. Use of the NCES scores was limited to these four items and the hypothesis was retested. The results

Empathy and Stress

supported the hypothesis and midrange Theory of Optimal Student System Stability.

Conclusions were from theoretical and methodological perspectives. The findings of this study support the use of empathy by clinical instructors during interactions with students to decrease students' perceived stress. The Theory of Optimal Student System Stability requires further testing using an instrument to measure stress specifically in the student-instructor interaction.

From a methods perspective, questions were raised regarding the instruments used and sample selection. Recommendations for further research were included.

Empathy and Stress

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	1
Purpose of the Study	7
Theoretical Framework	8
Optimal Student System Stability Theory	8
Student Subsystem	10
Clinical Instructor Subsystem	12
Assumptions	15
Propositions	17
Research Question	17
Hypothesis	17
Theoretical and Operational Definitions	18
Significance	18
Limitations	19
Chapter Summary	19
II. REVIEW OF LITERATURE	21
Introduction	21
Student-Instructor Interactions	21
Student-Instructor Interactions and Stress	26
Empathy	29
Empathy and Student-Instructor Interaction	31
Neuman's Systems Model Nursing Science	34

Empathy and Stress

CHAPTER	PAGE
Chapter Summary and Conclusions	37
III. METHOD	39
Introduction	39
Design	39
Research Question	39
Hypothesis	40
Sample and Setting	40
Human Subjects	42
Instruments	45
Perception of Empathy Inventory	46
Nursing Clinical Experience Subscale	47
Demographic Data Form	48
Procedure	49
Data Analysis	50
Chapter Summary	50
IV. RESULTS	51
Introduction	52
Hypothesis	52
Instrument Reliability	52
Perception of Empathy Inventory	52
Nursing Clinical Experience Subscale	53

Empathy and Stress

CHAPTER	PAGE
Post Analysis	54
PEI	54
NCES	54
Additional Findings	55
Chapter Summary	58
V. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS . . .	59
Introduction	59
Discussion	59
Theory	59
Method	63
Instrumentation	63
Sample Section	63
Conclusions	64
Recommendations	64
Theory	64
Method	65
REFERENCES	66
APPENDICES	79
Appendix A	80
Appendix B	82
Appendix C	85
VITA	87

Empathy and Stress

LIST OF TABLES

TABLE	PAGE
2.1 Sampling of Research Studies using the Neuman's System Model	36
3.1 Demographic Characteristics of the Sample	43
4.1 Comparison of Means, Standard Deviations, and Cronbach's Alpha for PEI Scores for Current And Wheeler's Studies	53
4.2 Comparison of Means, Standard Deviations, and Cronbach's Alpha for NCES Scores for Current And Cohen's Studies	54
4.3 NCES Items Related to Student-Instructor Interactions and Their Correlations	55
4.4 Correlation of PEI and NCES Scores and Length Of Time With Instructors	56
4.5 Correlation of PEI Scores and Modified NCES Scores for Education Levels and Length of Time with the Instructor in the Clinical Setting	57

CHAPTER I

INTRODUCTION

Many nursing graduates have shared the impact their interactions with their instructors have had on their ability to deal with stress they encountered in the student role. While some speak of their confidence in dealing with stress and how their instructors have been helpful, others report how the teacher's influence left them feeling less capable of dealing effectively with stressful situations.

Coping with stress is an everyday requirement for normal human growth and development. Selye (1956) suggested that stress affects many aspects of life and that learning to cope with stress is essential for physical health and effective performance. In 1974, Selye coined the term "eustress" to describe the pleasant stress needed to maintain health. On the other hand, he described "distress" as the consequences of damaging stress, which can negatively influence health. Bevis (1989) applied Selye's ideas to education and suggested that learning requires some stress. She further proposes an inverse relationship between intense stress and the ability to learn. She describes mild stress as a precursor to the motivation required for learning to

occur; however, intense stress interferes with learning because the students use their energy to focus on coping with the stress. Therefore, Bevis recommends that teachers direct their activities toward stress reduction and strengthening coping mechanisms so that students can refocus their energy on learning.

Early studies examined the relationship among student stresses, teacher behavior, and student performance from varying perspectives. In the field of education, studies that focused on student stress and academic performances have produced inconsistent findings. For example, Clay (1984) reported that elementary and junior high age students experienced an increase in academic performance as their stress was diminished. Conversely, Aspy (1972) and Bonner and Aspy (1984) reported no significant differences in academic achievement following stress reduction. These studies focused solely on the student and did not include the effect teachers' behavior may have had on stress reduction.

Amoroso (1984) reported that adult learners were able to overcome the stress of joining literacy classes if the teachers were perceived to be empathic. Coffman (1981) studied the relationship between a student's perception of instructor empathy and learning outcomes in 615

undergraduates and concluded that empathic teacher interactions facilitated more meaningful learning experiences.

In the field of psychology, the relationship between counselor-client interactions and stress reduction has been examined. For example, Carkhuff (1969) reported empathy to have positive effects on reducing stress and improving student academic achievement. Lambert and DeJulio (1977) questioned Carkhuff's methodology and suggested that Carkhuff's claims could not be accepted as conclusive. In a critical review of Carkhuff's studies, they found (a) the components measured varied from one study to another; (b) control groups were not equivalent in expectation, motivation, and contact time; and (c) the scales used lacked published validity data to support the reported findings. Therefore, Lambert and DeJulio concluded the gains reported by Carkhuff could not be broadly generalized and have limited value.

Hall (1984) reported that stress between parents and adolescents decreased when empathy was used during their interactions. Similarly, Keefe (1984) described physiological responses indicative of stress reduction when counselors incorporated empathy in their interactions with clients.

Rosendahl (1973) reported that nursing students who rated the student-instructor relationship to be superior "perceived the relationship to be empathic, non possessively warm, and genuine" (p.256). Additionally, students also described a superior relationship as one that was warm, truthful, and student-centered. Conversely, students who rated the teachers' relationship as inferior described it as "authoritarian, strict, cold, and faculty-centered" (p.255).

In a phenomenological study about caring, Miller, Haber, and Byrne (1990) reported that an essential aspect of student-instructor interactions, as perceived by nursing students, was the instructor's wholistic concern for them personally and academically. These interactions were described as having mutual dimensions of intimacy, connectedness, sharing, and respect. Even though Miller et al. were using the concept of caring, the students' description parallels closely with previously identified dimensions of empathy (La Monica, Wolf, Madea, & Oberst, 1987; Williams, 1979). For example, the students in the Miller et al. study, said the teachers were nonjudgmental, respectful, dependable, supportive, open, warm, and genuine. The students perceived that the teachers reached out to them in an empathic way by "always being there for them. . . . enabling them to anticipate the reality of the situation and

cope beyond their own expectations" (p.129). Morgan (1984) also described empathic teachers as warm, dependable, and accepting.

Nursing student-instructor interactions can be a source of stress. In a study about student nurses' responses to stressful events during their academic experience, Zweig (1988) found that students' major sources of stress were not associated with the student performing patient care but were related directly to the student-instructor relationships in the educational process. She reported that student-instructor relationships emerged as both primary and secondary factors in inducing stress and cautioned that nurse educators be aware of the influence of interpersonal relationships on the learning experience.

Likewise, Craig (1991) investigated nursing students' perceptions of interpersonal relationships with clinical instructors. She reported that students perceived the clinical instructors to be a source of stress and suggested that further research was needed to evaluate interpersonal relationships between students and clinical instructors. These nursing studies are limited because they have been framed within general borrowed theories, i.e., social interaction, psychology, etc., rather than nursing theories. A limitation of these approaches is that the studies have

not had a wholistic view. The design of this study utilizes a nursing model and tests a specific theory within this world view to address these limitations.

Neuman (1995), a leading nurse theorist, has proposed a wholistic view of persons and suggested that the environment is critically important to the understanding of persons' responses to stressors. Specifically, she has indicated that a person and the environment experience a mutually interactive relationship. That is, the person influences and is influenced by forces in the environment. Therefore, understanding the nature of potential environmental stressors, such as student interactions with clinical instructors, would be useful for helping beginning nursing students cope with stressors in the clinical setting.

Using Neuman's Systems Model, Harbin (1989) studied the stressors experienced by adult female nursing students. She found that the major source of stress was academically related (i.e., papers, care plans, grades, deadlines, scheduling, and exams). Harbin concluded that it is essential to modify the educational environment in order to reduce as many stressors as possible for the nursing student.

In summary, studies have reported a relationship between stress and learning (Bevis, 1989; Clay, 1984; Seyle,

1956). In the field of education, studies document the influence teachers' empathy has on student stress (Amoroso, 1984; Coffman, 1981). Studies have documented the academic stresses that students experience while in nursing school (Clarke, 1992; Harbin, 1989). The influence of empathy within counselor-client interactions has been reported (Carkhuff, 1969; Hall, 1984; Keefe, 1984). Similarly, nursing student-instructor interaction has linked faculty caring with student behavior (Miller, Haber, & Byrne, 1990). The nursing students' perception that interactions with clinical instructors are stressful and the potential influence this perception has on the educational environment has been reported (Craig, 1991; Harbin, 1989). However, no studies have examined nursing students' perception of empathic interactions with their instructors in the clinical setting and how stressful they perceive the interaction. Therefore, this study builds on these previous studies and extends the study of empathy and stress in the nursing student-teacher interaction by using a wholistic approach.

Purpose of the Study

This study explores baccalaureate nursing students' perception of the level of empathy experienced in the student-instructor interaction and the degree to which students perceive the student-instructor interaction as

stressful. A theory of Optimal Student System Stability is proposed to explain the relationship between students' perception of empathy and perceived stress. The study tests this midrange theory derived from Neuman's System Model.

Theoretical Framework

A theory of Optimal Client System Stability has been derived by Neuman from the Neuman's system Model (Neuman, 1995). This theory is specific to clients in the health care setting. However, Neuman's theory is being suggested as a frame through which one can view the student. Thus, a middle range theory of Optimal Student System Stability is proposed as illustrated in Figure 1.

Optimal Student System Stability Theory

Neuman (1995) views nursing as a subsystem in the larger health care system. She describes the nursing system as having two additional subsystems, specifically, nursing practice and nursing education. The focus of the proposed study is the nursing education system with special emphasis on two parts, the student and the clinical instructor subsystems. The sharing relationship between these subsystems within the nursing education system is representative of the interdependency and accountability needed for optimal system stability.

Neuman's System Model

Theory of Optimal Client System Stability

$$\text{Concepts} \quad \text{Potential Stressors} \quad + \quad \text{Flexible Line of Defense} \quad = \quad \text{Client Stability (Health)}$$

Lamb's Midrange Theory

Optimal Student System Stability

Concepts :

Empathy + Low stress = Stability

Student/Instructor Interaction  or

Low Empathy + Stress = Instability

Student Perception of Empathy

Student Perception of Stress

Empirical Indicators:

Perception
of Empathy
Inventory

Nursing Clinical
Experiences Subscale

Measurement:

Student's
Perception
of Empathy
in S-I
Interaction

Student's
Perception
of stress
in S-I
Interaction

Figure 1. Optimal Student System Stability Theory

Student Subsystem. The student subsystem consists of five primary variables (physiological, psychological, sociocultural, developmental, and spiritual) that are interrelated. These five variables make up the core of the subsystem and function as a "whole" in their interaction with the internal and external environments. The student subsystem is an open one that interacts with the other systems within the larger organizational structure.

The environment of the student subsystem may also include what Neuman refers to as a "created environment." A created environment involves all five core variables and may manifest itself in a variety of ways ranging from physical illness to "sustaining hope" (Neuman, 1995, p. 31), thus affecting the student subsystem's response to academic stressors. Created environments are the patterns of response that a student develops to stressors. The outcome of the created environment may be either negative or positive. For example, a negative outcome may be that the student develops a physical illness whenever he or she is required to do a new procedure in a testing situation. A positive outcome may be the study habits a student develops to meet the stressor of passing an examination.

Stressors can occur within the student subsystem

(intra-), between the student subsystem and other systems (inter-), or from outside the student subsystem (extra-). For example, intra-student stressors could be perception of one's role, life cycle issues, values, attitudes toward being a student, and confidence levels; inter-student stressors could be classmate interactions, decrease socialization with friends due to school demands, and role/tasks within the family; and, extra-student stressors could be finances, job expectations, and academic issues. A person's response to the stressor(s) depends on the strength of the flexible line of defense, the normal line of defense, and the lines of resistance.

The flexible line of defense (FLD), which is the outer boundary of the student subsystem, acts as a buffer for the normal line of defense (NLD). Expansion away from the NLD allows for greater protection by the FLD; likewise, as the FLD draws closer toward the NLD, the system has less protection. The FLD dynamism is conditional upon the current situation and the events occurring at that point in time. The strength of the FLD determines how the student subsystem responds to a stressor(s). Thus, maintaining system stability depends on the coping behaviors used by the student subsystem. If effective coping behaviors are used in response to a stressor, there is a high output level of

energy and the stressor is prevented from penetrating the FLD. Similarly, if ineffective responses occur, the stressor may penetrate the FLD. The FLD is characterized by the protective behaviors found in all five core variables.

The normal line of defense (NLD), which is within the FLD, evolves over time and determines the "health" of the student subsystem. Morale, motivation, intelligence, attitudes toward life, problem solving, and coping abilities characterize this solid line which encircles the core.

The lines of resistance (LOR), which are between the and the core, assist in restoring the steady state of the student subsystem if a stressor(s) penetrates the NLD. The student's normal coping mechanisms are located within these lines.

Clinical Instructor Subsystem. The clinical instructor subsystem parallels the nurse subsystem in Neuman's theory. The clinical instructor subsystem is composed of five primary interrelating variables (physiological, psychological, sociocultural, developmental, and spiritual) that make up the core of the system. The response of the subsystem as it interacts with internal and external environments are influenced by these interrelating variables. Maintenance of the system core depends on three levels of protection: the LOR, NLD, and FLD.

The primary concern of the clinical instructor is to identify appropriate actions in stress-related situations or in possible responses of the student system; choosing actions that will create an environment within which effective learning can take place. The actions taken are known as prevention interventions. These interventions are categorized as primary (health promotion), secondary (protects basic structure), and tertiary (restoration, reeducation, maintenance).

The "prevention-as-intervention format or modality" (Neuman, 1995, p. 25) serves as an intervention typology indicating the type of intervention or action the student subsystem requires to remain or return to optimal stability. Primary prevention intervention is considered as health promotion or wellness retention. That is to say, any action that prevents the invasion of a stressor through the FLD or that strengthens the FLD is primary prevention intervention. Therefore, empathy is proposed in this study as a dimension of primary prevention intervention; that is to say, if the clinical instructor chooses to use empathic skills while interacting with the student, the student system will experience greater protection through the expansion of the FLD.

Empathy is viewed as a process within a system that is

influenced by the five basic core variables. In its broadest sense, empathy can be described as how a subsystem responds to the feelings of another subsystem (Iannotti, 1975). The responding system is influenced by its current developmental stage, past social experiences, and what the system values. A mental connectedness between subsystems occurs and is manifested through verbal and nonverbal communication. Empathy is proposed as a factor that influences the dynamism of the FLD. Thus, empathy becomes a very important factor in the clinical instructor subsystem's interaction with the student subsystem. Through the use of empathy, the clinical instructor establishes a relationship with the student. If this relationship is perceived by the student to be positive and supportive, there is an increase in the amount of energy stored within the system causing the FLD to expand and providing increased protection; that energy can be used by the FLD of the student subsystem in response to potential stressors. This extra energy enables the student subsystem to remain in a steady state and to maintain the NLD and system health. As the clinical instructor subsystem assesses the response(s) or the lack of response(s) of the student subsystem toward an academic stressor(s), the clinical instructor, through empathic interactions, can assist the student in developing an accurate perception of the

stressor(s).

This study proposes that empathy is health promoting when used in subsystem interactions. That is to say that empathy creates supportive environments which in turn could be considered as health promotion. This supportive environment promotes system wellness by reducing potential stressors, reducing risk factors, and thus strengthening the FLD. This proposed idea of a supportive environment correlates with Neuman's primary prevention. Neuman states health promotion is "subsumed within the area of primary prevention" (p. 36) and is related to activities that optimize the client wellness potential and system stability (Neuman, 1995). Likewise, perception of empathy in the student-instructor interaction is proposed as primary prevention of stress for the nursing student in a clinical situation.

Assumptions

The Optimal Student System Stability Theory builds on the following assumptions.

1. The student subsystem is in constant energy exchange with the environment.
2. The student subsystem over time has evolved a normal range of response to the environment known as the normal line of defense.

3. Many known, unknown, and universal environmental stressors exist.
4. Each stressor differs in its potential for disturbing the student's usual stability level.
5. The student subsystem is unique and will respond differently to stressors.
6. The student subsystem's perception of an event or situation will influence the response or lack of response to potential stressor(s).
7. The interrelationships of variables--physiological, psychological, sociocultural, developmental, and spiritual--determine the nature and degree of the student subsystem's reaction or possible reaction to the stressor(s).
8. When the FLD is no longer capable of protecting the student subsystem against an environmental stressor, the stressor breaks through the NLD and disequilibrium occurs.
9. Any interaction with another subsystem is a potential stressor.
10. The clinical instructor subsystem has the capability to assess the student subsystem's response to a stressor.
11. The clinical instructor subsystem has the capability to initiate the appropriate prevention intervention

(empathy) that influences the student subsystem stability.

12. The student subsystem has the capability to respond to empathy as a prevention intervention.

Propositions

1. If empathy is perceived by the student subsystem when interacting with clinical instructors, AND
2. If the student subsystem's perception of student-instructor interaction influences the student's stress response to the interaction, THEN
4. The student subsystem will perceive the interaction to be less stressful when a higher level of empathy is perceived.

Research Question

How do nursing students' perception of instructor empathy during student-instructor interactions in the clinical setting relate to how stressful they perceive the interaction to be?

Hypothesis

The higher the levels of instructor empathy baccalaureate nursing students perceive while interacting with clinical instructors, the less stressful students perceive the interaction to be.

Theoretical and Operational Definitions

Student subsystems. Baccalaureate student nurses enrolled in a clinical nursing course.

Clinical Instructor subsystems. Nursing teachers whose responsibilities require interaction with baccalaureate nursing students in a clinical setting.

Student-Instructor Interaction. Any communication between a student nurse and a clinical instructor during a clinical experience.

Empathy. A student's perception of how a clinical instructor communicates understanding of the student's frame of reference as measured by the subjective responses of the student on the Perception of Empathy Inventory (PEI) (Wheeler, 1990).

Stress. Events or occurrences in a student subsystem's environment that are perceived to be upsetting, threatening, or endangering the system's stability as measured by the subjective responses of the student on the Nursing Clinical Experiences Subscale (NCES) of the Student Stress and Coping Inventory (Cohen, 1990).

Significance

This study explored baccalaureate nursing students' perception of the level of empathy experienced in the student-instructor interaction and whether the students

perceived the student-instructor interaction as stressful. Using Neuman's nursing model to frame a middle range theory of Optimal Student System Stability, it was proposed that perception of high empathy leads to perception of low stress. The study has the potential of (a) generating knowledge of the relationship of empathy and stress in the student-instructor interaction, and (b) contributing to nursing education knowledge that has implications for collegiate education in general.

Limitations

The study was not designed to investigate all the possible stressors nursing students may experience in their lives but was limited to perceptions of stressors associated with interactions with their clinical instructors. Intra-personal and inter-personal stressors are beyond the scope of this study. Also, the study was limited to the students' perception of empathy and stress in the interactions with their clinical instructors, as opposed to including the instructor's perception of empathy and stress while interacting with the student.

Summary

Nursing education is an intense and stress-filled experience. Education related stressors are reported to inhibit learning. Teaching methods viewed by nursing

students to be supportive can be potential interventions to decrease student stressors in the clinical setting.

Interactions with clinical instructors that nursing students perceive to be empathic may contribute to a clinical environment conducive to learning.

This study used a middle range theory derived from Neuman's Systems Model (1995) to explore baccalaureate nursing students' perception of empathy experienced in student-instructor interactions and whether the students perceive the interaction as stressful. The theory proposed that perceptions of high instructor empathy lead to perceived low student stress. The study was designed to test that theory.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This study explored baccalaureate nursing students' perception of empathy experienced in the student-instructor interaction and whether the students perceive the interactions as stressful. A midrange theory of Optimal Student System Stability was developed and tested. This chapter discusses related literature that supports the investigation of the proposed relationship. There are five main sections of literature in this chapter: (a) student-instructor interactions; (b) the relationship between student-instructor interactions and stress; (c) empathy; (d) empathy and student-instructor interactions; and (e) Neuman's System Model nursing science.

Student-Instructor Interactions

The interactions between a student and an instructor are a significant part of the nursing education process. Clinical teachers are expected to possess effectively Communication skills for questioning and assessing the learner (Schimpfhauser, Wittleman & Sachs, 1981). Several studies have been conducted to identify effective and

ineffective teacher behaviors (Brown, 1981; Jacobson, 1966; Knox & Morgan, 1985; Wong, 1978). These studies all reported that student-instructor interactions have a major impact on student learning while in the clinical setting. Jacobson (1966) and Wong (1978) examined students' perceptions of teacher behaviors which either facilitated or hindered student learning in the clinical setting. Using the clinical incident technique, students listed behaviors that were helpful to learning. How the teacher related to the students was frequently described as effective behavior conducive to learning.

Brown (1981) and Knox and Morgan (1985) included faculty perceptions in their study along with student perception of effective/ineffective teacher behavior. An interesting finding of these studies was that faculty perceived competence as more important than interpersonal relationships, whereas the students perceived interpersonal relationship to be more important than faculty competence. Even though these four studies (Jacobson, Wong, Brown, Knox and Morgan) contribute to the knowledge base of effective clinical teaching, they were not conducted from a nursing theoretical framework, thus supporting the argument for additional research using the framework proposed in this study.

In a more recent study, Bergman and Gaitskill (1990) reported that both students and faculties ranked relationship with students above professional competence. The difference in these findings from those previously reported has been explained as a possible trend among nursing educators to emphasize the importance of the student-instructor relationship. These emerging trends would appear to justify exploring further the various aspects of the student-instructor interactions to identify specific influences such as proposed in this study.

Windsor (1987) reported that the instructor is an important variable in the student nurse's clinical experience. Thirty-nine percent of the total number of responses received from nine senior nursing students focused on the clinical instructor. These students indicated that as they progressed through their nursing program, they became less dependent on their instructors while in the clinical setting. However, they still viewed their relationship with instructors as very important. The students believed that in addition to helping them learn, the instructor, along with the nursing staff, helped to create a pleasant environment in which to work. Windsor concluded "the close alliance between the nursing student and clinical instructor is an ideal opportunity for students to vent their thoughts and

feelings. Lack of understanding from the instructor may cause increased dissonance rather than provide the needed support for the troubled student" (p.154). She recommends further research in clinical nursing education to help develop optimum learning environments for the students. Windsor's study appears to support what this study proposes. That is to say, if the student perceives empathy from the clinical instructor during an interaction, the student may respond in kind and perhaps be more comfortable to "vent thoughts and feeling."

In a qualitative study, Wilson (1994) reported that students wanted to "look good" to the instructors because of the perception that the instructor is constantly collecting evidence for the student's grade. Because of this perception, the students either approached or avoided the instructor depending on how confident or competent they felt. Several students described student-instructor interactions as adversarial in nature. The interaction was like a contest; students tried to look good and perceived that the instructor was trying to make them look bad.

Wilson suggested that the student's perspective can serve as a precipitating element for clinical instructors to view their approach to the learner in a new light. These findings would seem to serve as a link between teacher

characteristics and educational outcomes and lend support to the importance of nurse educators having a better understanding of student responses to student-instructor interactions.

Craig (1991) investigated nursing students' perceptions of interpersonal relationships with clinical instructors. She asked 179 junior and senior nursing students to indicate the degree of agreement with 23 statements about their clinical instructors' interpersonal characteristics. She held follow-up interviews with 13 of the students. Craig reported that the students perceived their clinical instructors to be more respectful to and genuine with them than empathic toward them. The students also perceived the clinical instructors to be a source of stress. She suggested that further research was needed to evaluate interpersonal relationships between students and clinical instructors and determine their effect on learning. This lends support to the testing of the proposed theory that if students perceive empathy in their interactions with the clinical instructor, they may also perceive these interactions to be less stressful resulting in an enhanced learning environment.

In summary, student-instructor interactions have been reported by nursing students to be an important influence on their learning while in the clinical area. Faculties have

not always viewed their interactions with students to be as important as the student has, seeing competence to be a more significant dimension of effective teaching. The studies did not express the findings from a nursing perspective. Neither did the researchers analyze the findings for specific concepts, such as empathy, but reported the behaviors in general aggregates. This study addressed this weakness by identifying a possible factor of influence and testing the idea.

Student-Instructor Interactions and Stress

A factor affecting student stability is the student's perception of stressful events while in the clinical setting. Davitz (1972), Zweig (1988), and Harbin (1989) has reported that the clinical experiences provided the dominant theme for nursing students in their study of stressful experiences.

Garrett, Manuel, and Vincent (1976) also reported on stressful experiences as identified by student nurses. Taking part in this study was 133 female nursing students between the ages of 18 and 23 who were completing their sophomore, junior, and senior years. The subjects were asked to describe two stressful experiences which had occurred during the past school year, using the critical incident format. Four categories were developed--academic, social,

personal, and clinical--from the data. In the clinical category, the more stressful experiences involved physical care of the patient and interpersonal relations with clinical instructors.

Pagana (1988) reported similar results in her study of 262 nursing students. Using the Clinical Stress Questionnaire, a 20-item inventory designed to assess the threatening and challenging aspects of the clinical experience, 68 students (26%) viewed the clinical instructor as a threat. The level of stress experienced by this group of 68 subjects (mean=3.0) was higher than the mean for the entire group (mean =2.7). The instructor was frequently seen as intimidating, threatening, demeaning, impatient, strict, and demanding. The students indicated that they would like the instructor to be more supportive and to be able to spend more time with them. Pagana (1988) identified the self-report indices and external validity concerns as limitations in her study. She suggests that the student-perceived threats described in the study could provide the instructor with some insights into understanding the stressful nature of the clinical experience. This study points out the need for further investigation into the stress felt by students during the interactions they have with their instructors.

Kleehammer, Hart, and Keck (1990) examined potentially

anxiety-producing clinical experiences among nursing students. Using a convenience sample of 39 junior and 53 seniors nursing students from a small baccalaureate program, they collected data over a 4-year period. The 16-item "Clinical Experience Assessment Form" asked the student to rate their experiences on a likert scale regarding communication and procedural aspects of client care, interpersonal relationship with health care providers, and interactions with a faculty. The highest level of anxiety expressed by students concerned the initial clinical experience on a unit and the fear of making a mistake. The second highest category was interaction with a faculty. Fifty-nine of the students were asked the open-ended question, "What has been the most anxiety producing aspect of your clinical experiences?" Content analysis revealed that the student's anxiety was increased by what they perceived as non supportive faculty. The researchers suggest the interventions that can contribute to decreased student anxiety and allow the student to feel a higher level of support from the instructor need to be examined and would seem to support the proposed study of empathy as a potential primary prevention intervention on a student perceived stress.

In summary, studies have reported findings which

indicate that having an interaction with a clinical instructor can be a stressful event for many nursing students. Further research is needed to determine effective methods an instructor can use to reduce the stress experienced by the student during student-instructor interactions in the clinical setting.

Empathy

Empathy has been conceptualized by psychologists, philosophers, social scientists, and nurses as an ability, a process, a condition, an attitude, a feeling, and a form of identification (Katz, 1963; Reik, 1948; Rogers, 1975; Stein, 1970; Zderad, 1969). Empathy is regarded both as a basic human endowment known as trait empathy, and as a learned phenomenon, known as state empathy (Alligood, 1992; Katz, 1963; Rogers, 1975).

In nursing, the conceptualization of empathy has closely followed that of the social scientists. Zderad (1969) considered empathy to be a means of knowing another person and of grasping his view of reality. She viewed empathy as having three dimensions--physiological, psychological, and social.

Williams (1990) conceptualizes a multidimensional model of cognitive, emotional, communicative, and relational empathy. She stresses the complexity of the model, but also

indicates that it is not inclusive. She views the model to be bidirectional as empathy always includes two individuals. The idea of empathy being multidimensional in nature supports the notion of conceptualizing empathy as a process influenced by the five core variables of the student subsystem as proposed in this study.

The dimensions of empathy are affected by the (a) the developmental influences of individuals involved in the empathic process, (b) the receptiveness of the "empathizer" to the situation and the individual requiring empathy, and (c) the arousal tendency in response to the environmental stimulus (Mebrabian, 1976; Williams, 1990; Zderad, 1969). Thus, the level of empathy experienced by an individual will vary from situation to situation. Using Alligood's (1992) classification of empathy as two types, trait and state, this is a study of state empathy.

Verbal and nonverbal communication techniques are part of the empathic process. Verbal communication is the avenue through which one can enhance a relationship or interaction. Verbal skills used in a therapeutic manner can clarify observations, promote understanding, and validate the feelings of the client. Nonverbal traits, such as visual, auditory, and kinesthetic behaviors, play a major role in demonstrating the presence of empathy (Bradley & Edinberg,

1990; Clay, 1984; Forsyth, 1980; Ludemann, 1968). This description of empathy supports the operational definition used in this study. These behaviors, if observed by the student during an interaction with the clinical instructor, will influence the subjective responses of the student.

To summarize, empathy has been identified as important to a helping relationship (Carkhuff, 1969; Rogers, 1957). Nursing, seen as a helping profession (Henderson, 1966), has long considered empathy a central and important component in nursing practice and education. Empathic indicators are identified that can be used to observe whether empathy is present during a student-instructor interaction.

Empathy and Student-Instructor Interaction

A significant number of nursing studies have been conducted measuring the influence of empathy on the nurse-client relationship; however, there appear to be few studies that explore the perception of empathy in student-instructor interactions. In contrast, several studies have been conducted on empathy in nursing education. These studies focus on either the effect of nursing education on the students' level of empathy or various strategies of teaching empathy to nursing students rather than the inclusion of empathy in the instructors' interactions with students. Emphasis on empathy as an instructor attribute is found more

frequently in studies conducted in the field of education.

Bochner and Kelly (1974) and Macklin and Rossiter (1976) incorporated empathy in their conceptualization of interpersonal competence. Bochner and Yerby (1977) examined the literature relevant to classroom leadership and suggested that instructors' empathy played a substantial role in creating a psychologically safe environment for learning. They also suggested that the amount of caring, understanding, and respect shown by the instructor toward students was more important than the type of instruction used and classroom management behavior. Bochner and Yerby recommended that more emphasis be placed on the development of empathy rather than on classroom management or self-disclosure.

Coffman (1981), building upon the work of Bochner and Kelly (1974) and Bochner and Yerby (1977), hypothesized that there are positive relationships between student perception of instructor empathy and perceived learning outcomes. A 7-item questionnaire was administered to 615 college students and six faculty members. Two items measured instructor empathy. A factor analysis of the data produced one factor--empathic classroom environment--that accounted for 39% of the total variance. This finding suggests that an empathic classroom atmosphere may be an important factor in the

learning arena.

An additional finding, reported by Coffman, was that the perception of teacher empathy appeared to depend on the time in the quarter that the students were surveyed. In four classes, the instructors were perceived as becoming more empathic as the quarter progressed and in two classes, the instructors were perceived as decreasing in empathic understanding of students as the quarter progressed. Coffman's hypothesis that there is a positive relationship between student perception of instructor empathy and perceived learning outcomes was supported indicating that the perceived level of instructor empathy plays a role in students' estimations of their final grade and their perceptions of other classroom dimensions. Coffman's study supports the theory that empathy is an important part of the student-instructor interaction.

Morgan (1984) described the personality traits of teachers rated as highly empathic. She found that 10 of 24 teachers of emotionally disturbed children were judged as high-empathy teachers as measured by the Aspy Scale for Assessing Empathy. Traits identified as associated with high-empathy teachers were (a) sensitivity to others' needs, (b) having no difficulty in establishing warm interpersonal relationship, and (c) being relatively quick to establish

rapport and convey understanding. Morgan suggested that if educators can predict those individuals who are potentially high-empathic, revisions in preparatory curriculums could be implemented for growth and enhancement of desired facilitative behaviors in teachers. Again, the theoretical definition of empathy as proposed in this study is supported empirically.

Meisenholder (1987) suggests empathy as a teaching strategy. She reported that teachers who adopt an empathic attitude toward the student's concern allow the student to establish a safe relationship with the instructor. This supports the idea that empathy is an essential aspect of any student-instructor interaction occurring in the clinical setting.

In summary, there are few nursing studies that investigate the influence empathy may have on student-instructor interactions. Studies from the field of education indicate that empathy does have an impact on the student-teacher relationship. The lack of nursing studies on empathy supports the argument for further research, including the proposed study.

Neuman's Systems Model Nursing Science

The Neuman's Systems Model has been utilized in both nursing practice and education. According to Fawcett (1995),

the strengths of Neuman's Systems Model are its multidimensional nature and usefulness as a guide for nursing education and nursing practice internationally.

A search of current nursing literature indicates that Neuman's model is the framework for numerous studies in most areas of nursing practice, using subjects of all ages. Table 2.1 shows a sampling of the various areas in nursing and the multiple authors who have used Neuman's Systems Model.

Most clinical studies have supported Neuman's System Model. However, Gavigan, Kline-O'Sullivan, and Klumpp-Lybrand, (1990) suggests that Neuman's prevention-as-intervention concept lacks support. These authors tested turning as a primary prevention intervention for postoperative management of coronary artery bypass graft clients. They reported systematic turning made no difference in the incidences of respiratory complications. They suggested further investigation of common nursing practice proposed as primary prevention intervention.

In nursing education, Neuman's Systems Model is the framework for curricula programs as well as educational research. Louis and Koertvelyessy (1989) surveyed 500 schools of nursing in the United States, Canada, and Western Europe. They reported that 92% of the 191 returned responses used a nursing model to guide the curriculum.

Table 2.1 Sampling of Research Studies using the Neuman's System Model.

Area of Practice	Authors
Community Health	Decker and Young, (1991); Gellner, Landers, O'Rourke, & Schelgel, (1994); Haggart, (1993); Herrick and Goodykoontz, (1989); Peoples, (1990)
Critical Care	Fawcett, et al., (1992); Bueno, Redeker, & Norman, (1992); Lowry & Anderson, (1993); Vincent, (1998); Williamson, (1989)
Mental Health	Mynatt & O'Brien, (1993); Herrick & Goodykoontz, (1989); Hinds, (1990); Reed, (1993); Webb, (1988)
Medical/Surgical	Brown, (1990); Foote, Piazza, & Schultz, (1990); Knight, (1990); Lile, (1990); Mann, Hazel, Geer, Hurley, & Podrapovic, (1993);
Maternal Child:	Poole, (1991); Tennyson, (1991).

Models most frequently cited included Neuman's Systems Model. Several recent research studies focus on curricular change and content (Edwards and Kittler, 1991; Sipple, 1989), and student stressors (Harbin, 1989).

In summary, a literature review indicates numerous studies have been done in various settings using the Neuman Systems Model as a frame; some studies have been supportive and some have not supported all aspects of the model.

Likewise, both qualitative and quantitative methodology has been utilized. Therefore, the use of the proposed midrange theory derived from Neuman's Systems Model in this study is

supported generally. Specifically, the present study addresses the recommendations by Craig (1991) to evaluate interpersonal relationships between students and clinical instructors and determine their effect on learning. The findings of this study will extend Neuman science.

Chapter Summary and Conclusions

A number of studies have examined aspects of student-instructor interactions (Bergman & Gaitskill, 1990; Brown, 1981; Jacobson, 1966; Knox & Morgan, 1985; Wilson, 1994; Windsor, 1987; Wong, 1978), the stress associated with the interactions (Davitz, 1972; Garret, et al., 1976; Kleehammer, et al., 1990; Pagana, 1988; Zweig, 1988), and the impact empathy has on the student-teacher relationship (Bochner & Kelly, 1974; Bochner & Yerby, 1977; Coffman, 1981; Macklin & Rossiter, 1976; Meisenholder, 1987; Morgan, 1984). However, studies have not viewed the relationship of these concepts from a nursing theoretical framework.

Numerous studies have reported the student-instructor relationship as a significant variable in education (Brown, 1981; Jacobson, 1966; Knox & Morgan, 1985; Wilson, 1994; Windsor, 1987; Wong, 1978). Likewise, sources of perceived student stress in the clinical area have been reported (Craig, 1991; Davitz, 1972, Garrett, et al., 1976; Harbin, 1989; Kleehammer, et al., 1990; Pagana, 1988; Zweig, 1988).

Studies originating in the field of education have established a link between learning and an empathic teacher (Bochner & Kelly, 1974; Bochner & Yerby, 1977; Coffman, 1981; Macklin & Rossiter, 1976; Morgan, 1984). Even though nursing has long considered empathy a central and important component (Alligood, 1992; Williams, 1990; Zderad, 1969), a clear understanding of the relationship between learning and empathic clinical instructors is lacking in nursing education studies.

The Optimal Student System Stability Theory is a nursing approach to study the relationship of the baccalaureate nursing students' perceived empathy and stress while interacting with their clinical instructor. Kleehammer, et al, (1990) recommend that interventions be examined that may contribute to decreased student stress and that allow the student to feel a higher level of support from the instructor. The findings of the proposed study testing the Optimal Student System Stability Theory provide a basis for future studies which address this recommendation.

CHAPTER III

METHOD

Introduction

The purpose of this study was to test an Optimal Student System Stability Theory, derived from Neuman's Systems Model (1995). This midrange theory guided the examination, from a wholistic perspective, of the relationship between baccalaureate nursing students' perception of empathy and stress experienced in the student-instructor interaction.

Design

A descriptive cross-section correlational design was used to examine the relationship between the baccalaureate nursing students' perception of empathy and stress experienced in their student-instructor interactions. This design provided an approach to investigate the student's perception of empathy and stress while interacting with the clinical instructor.

Research Question

How do nursing students' perception of instructor empathy during student-instructor interactions in the clinical setting relate to how stressful they perceive the

interaction to be?

Hypothesis

The higher the levels of instructor empathy baccalaureate nursing students perceive while interacting with clinical instructors, the less stressful students perceive the interaction to be.

Sample and Setting

The target population comprised baccalaureate nursing students. There were three criteria important to the sample and setting of this study: (a) participants were attending a National League for Nursing (NLN) accredited generic baccalaureate nursing program; (b) the subjects were currently enrolled in or had just completed a clinical course; (c) they were supervised by a nursing instructor while in the clinical setting.

The sample was a non probability convenience sample. Even though non probability sampling is less rigorous than probability sampling and limits generalizability, it does have the advantage of accessibility of large numbers of subjects (LoBiondo-Wood and Haber, 1998).

Access to potential subjects was gained through the cooperation of the faculty from two NLN accredited baccalaureate nursing programs located in two different geographic regions. Subjects were asked to voluntarily

complete two instruments and to provide demographic information. One hundred thirty-three forms were returned. Data were incomplete for one subject; therefore, the sample size was adjusted for a total of 132.

A demographic form was developed by the researcher, guided by Neuman's (1995) description of the "whole being," (physiological, psychological, sociocultural, developmental, spiritual) to describe the sample (refer to Appendix C).

The sample was considered heterogeneous in that (a) the ages ranged from 18-51 years ($\bar{x}$ =23.3 yrs, sd =6.11); (b) 80% were females (n =106) and 20% males (n =26); and (c) there were three levels of education--Sophomores (n =49, 37%), Juniors (n =26, 20%), and Seniors (n =57, 43%)--representing two geographic regions, Tennessee (30%) and Michigan (70%).

Another area of diversity among the subjects was their ethnic background. The majority of the sample was Caucasian (n =100; 75.7%). Minority groups (n =32) such as American Indian, Asian, Black, Hispanic, and other comprised the remaining 24.3% of the sample.

Most of the subjects had never been married (n =106, 80%) and 13% were married (n =17). The remaining 7% of the sample was either separated, divorced or widowed.

Fifty-one percent (n =76) described their general health as excellent and 46% (n =61) considered themselves to be in

good health. The majority of the sample (n=114; 86%) had sought the assistance of a health care provider two or fewer times during the current academic year. Thirty-three percent (n=43) indicated they experienced frequent stress, while 56% (n=74) sometimes experienced stress and 11% (n=15) rarely experienced stress. Socially, most of the sample (n=84; 64%) preferred to spend their leisure time with a friend, while 18% (n=24) preferred to be with a group and 11% (n=15) liked to be alone.

Most subjects sought several different sources of support during stressful times. Ninety percent (n=119) turned to God or other higher power; friends (n=107; 81%); family (n=96; 73%); co-workers (n=31; 23%). A few subjects (n=10; 8%) chose their boyfriends as sources of support. Refer to Table 3.1 for a summary of demographic characteristics.

Human Subjects

Human rights were protected by obtaining approval from the College of Nursing Human Subjects Committee, the University of Tennessee, Knoxville, Institution Review Board and from the settings where the subjects were recruited. The study participants were informed that participation was voluntary and there would be no penalty for refusal to participate in the study. Subjects were informed of the

Table 3.1 Demographic Characteristics of The Sample

Demographics	Number of Participants	% of Sample
Age		
18	6	5.0
19	17	13.0
20	21	16.0
21	23	17.0
22	23	17.0
23	9	9.0
24	4	3.0
25	4	3.0
26	2	2.0
27	4	3.0
28	3	2.0
29	2	2.0
30	2	2.0
31	1	0.5
34	1	0.5
36	1	0.5
37	1	0.5
38	1	0.5
39	3	2.0
42	1	0.5
47	2	2.0
51	1	0.5
Gender		
Females	106	80.0
Males	26	20.0
Education Level		
Sophomore	49	37.0
Junior	26	20.0
Senior	57	43.0
Ethnic Background		
American Indian	1	0.5
Asian	4	3.0
Black	13	10.0
Caucasian	100	75.7
Hispanic (Nonwhite)	12	9.0
Other	2	2.0
Mixed (Asian, Black, Hispanic); Brazilian		
Marital Status		
Never Married	106	80.0
Married	17	13.0
Separated	1	1.0
Divorced	6	5.0
Widow/Widowed	1	1.0

Table 3.1 Continued

Demographics	Number of Participants	% of Sample
General Health		
Excellent	67	51.0
Good	61	46.0
Fair	3	2.0
Poor	1	1.0
Sought Health Care Assistance (during this academic year)		
0-2 times	114	86.0
3-4 times	14	11.0
>5 times	4	3.0
Stress Pattern		
Frequently	43	33.0
Sometimes	74	56.0
Rarely	15	11.0
Never	0	0.0
Social Patterns Preference (during leisure time)		
Being alone	15	11.0
Being with a friend	84	64.0
Being with a group	24	18.0
Other	9	7.0
Sources of Support* (when feeling stressed)		
God or other higher power	119	90.0
Friends	107	81.0
Coworkers	31	23.0
Family	96	73.0
Other	10	8.0

*Data does not add up to 100% as multiple sources could be indicated

purpose of the study, the approximate time involved in completing the forms, and how the researcher could be contacted.

Subjects were informed that (a) there was no risk to them, (b) their responses would not have any effect on their course grades, (c) their instructor(s) would not see or have access to the raw data, and (d) the data would be managed and stored confidentially.

For confidentiality, no names were on the data, but participants were assigned an identification number. This procedure allowed data to be deleted if a subject decided to withdraw from the study. Subjects were assured that all data would be reported as an aggregate for any presentation or publication that might arise from the research, thus protecting their anonymity. It was explained, verbally and in writing, to the participants that they could withdraw. The researcher and her major professor were the only individuals who had access to the raw data. Subjects gave their consent as participants of the study by returning the completed forms to the researcher.

Instruments

This study examined the relationship between the student's perception of empathy and stress experienced in student-instructor interactions. The variables of interest,

the perception of empathy and the perception of stress, were measured by two instruments. A demographic form was developed to describe the characteristics of the sample.

Perception of Empathy Inventory. A self-reporting Perception of Empathy Inventory (PEI) (Wheeler, 1990) was used to measure the students' perception of empathy experienced in the interactions with their clinical instructor (refer to Appendix A). The PEI originally included 33 items with a possible score range of 33-132, the higher the score, the more empathic the nurse was perceived to be. Reliability and validity analyses were completed using a sample of adult clients ($n=81$) and registered nurses ($n=20$). A Cronbach's alpha score of .94 was obtained. Item to total correlations were calculated each time, resulting in all items below $r=.30$ being dropped from the inventory. The modified PEI contains 20 items with a possible score range of 20-80 (Wheeler, 1990).

Using the modified PEI, a second descriptive correlational study of adult clients in a nursing home setting ($n=40$) was completed (Wheeler, 1995). Wheeler reported a moderate correlation ($r=.45$) between the patient's rating of nurse empathy and change in patient anxiety, thus supporting previously reported construct validity.

A factor analysis using the combined data from the two previous studies further confirmed the factor structure and the reliability of the PEI. Coefficients were found to be .94 and .92 respectively (Wheeler, 1995).

The PEI was developed to measure the client's perception of the nurse's empathy assigned to provide that client's care. This study investigated nursing students' perception of empathy of the instructor. Slight modification of terminology was necessary. Consultation with the author of the instrument was sought to determine if using the PEI was appropriate for this study. Wheeler (1995) agreed that the tool was an appropriate measure of nursing students' perception of instructor empathy. She indicated that the slight changes in the wording of items #1, #3, #12, and #16 from "takes care of me" to "teaches me" and item #8 from "care" to "learning" should not alter the reliability and validity of the tool. The validity of the instrument with this modification was confirmed as will be discussed in Chapter IV.

Nursing Clinical Experience Subscale. The Nursing Clinical Experience Subscale (NCES) of the Student Stress and Coping Inventory (Cohen, 1991) was used to measure the students' perception of whether their interactions with the clinical instructor were stressful (refer to Appendix B).

The inventory was designed to measure situations that student nurses might identify as stressful; therefore, the NCES was considered appropriate to measure the baccalaureate students' perception of stress during an interaction with their clinical instructor in the clinical setting.

The NCES developed by Cohen (1991) contained 24 items which measured stress during nursing clinical experiences. Using a likert scale of 1-4, the possible score ranges from 24-96. The lower the score, the lower the student's perception of stress. Likewise, a higher score indicated a higher perception of stress (Cohen, 1991).

The instrument was tested for validity and reliability with a sample of 298 baccalaureate nursing students. Students represented each academic level of a nursing program, with the largest group being juniors. Content validity was determined by nursing faculties who were experienced in conducting stress workshops for nursing students. The Content Validity Index (CAI) for the NCES measuring perceived stress in nursing clinical experiences was .79 compared to a perfect CAI value of 1.0. A Cronbach's alpha of .91 was reported on the NCES.

Demographic Data Form. Data were collected to provide a description of the sample. The demographic data form was developed by the researcher, guided by Neuman's (1995)

description of the "whole being" (physiological, psychological, sociocultural, developmental, spiritual).

Procedure

The Deans of selected NLN accredited nursing programs were contacted to describe the study and enlist their participation. Once permission was secured from the Dean, the researcher/research assistant met with the faculty to arrange a time to meet with students who met the criteria. After discussing the study with the faculty and the research assistant, it was decided on both campuses to approach the students toward the end of the course and on days that were not close to scheduled examinations or clinical evaluations.

The researcher on the Tennessee campus and a research assistant on the Michigan campus, who had received instruction on the procedure, met with each group of nursing students to ask their participation and to administer the instruments. Students who did not want to participate were excused from the groups. No time limit was placed on the subjects for completing the forms. Data were collected in a quiet classroom on both campuses. Participants returned the completed instruments to the researcher/research assistant as they left the classroom.

Data Analysis

Each subject had demographic data, a stress score from

the NCES, and an empathy score from the PEI. Frequency distributions, measures of central tendency, and variances were used to describe the sample and determine the distribution of data. SAS version .12 software was used to analyze data.

Person's product-moment correlation coefficient was used to test the hypothesis. This statistical procedure allowed the exploration of the nature and direction of the relationship. an acceptance level of significance of .05 was set.

Chapter Summary

This chapter has described the method and procedure used for data collection and analysis to address the question, "How does the nursing students' perception of instructor empathy during student-instructor interactions in the clinical setting relate to how stressful they perceive the interaction to be?"

The descriptive cross-sectional correlational design provided an approach to examine the nature and direction of the relationship between the baccalaureate nursing students' perception of empathy and stress experienced in their student-instructor interactions.

CHAPTER IV

RESULTS

Introduction

This study explored baccalaureate nursing students' perception of empathy and stress experienced in the student-instructor interaction. A theory of Optimal Student System Stability was proposed to explain the relationship between students' perception of empathy and perceived stress. The study tested this midrange theory derived from Neuman's System Model.

A descriptive cross-section correlational design was used to test the hypothesis: The higher the levels of instructor empathy baccalaureate nursing students perceive while interacting with clinical instructors, the less stressful students perceive the interaction to be. Students were asked to complete (a) the PEI to measure their perception of empathy experienced while interacting with the clinical instructor, and (b) the NCES to measure their perception of stress occurring in the interaction. Scores from these instruments were correlated, using the Pearson product-moment correlation coefficient. Statistical software, SAS release 6.12 was used to analyze the data.

Hypothesis

The essential question for this study asked, "How do nursing students' perception of instructor empathy experienced in student-instructor interactions in the clinical setting relate to how stressful they perceived the interaction to be?" The hypothesis stated: The higher the levels of instructor empathy baccalaureate nursing students perceive while interacting with clinical instructors, the less stressful students perceive the interaction to be. To examine this relationship between empathy and stress, the scores of the PEI and NCES were correlated using Pearson's product-moment correlation coefficient (a one-tail test). There was a negative correlation ($r = -.08$, $p = .18$) that indicated little if any relationship. The lack of magnitude of this correlation and significance resulted in the inability to support the hypothesis. The Optimal Student System Stability Theory was not supported as predicted.

Instrument Reliability

Perception of Empathy Inventory (PEI). The total PEI scores ranged from 27-77, a low score indicated a perception of low empathy and a high score indicated a perception of high empathy, with a $\bar{x} = 56$ ($sd = 12.36$) and a mode of 74. This compares to findings reported by Wheeler (1990) scores ranging from 20-80, with a $\bar{x} = 57.0$ ($sd = 10.62$). A Cronbach's

alpha of .91 was obtained in this present study. This compares to a Cronbach's alpha of .94 reported by Wheeler (1990).

Data distribution was slightly skewed to the left. Some values were distant from the mean compared to most of the other values, thus indicating some kurtosis. There were no scores considered to be outliers as determined by scores outside three standard deviations from the mean. Table 4.1 shows a comparison of scores of the current study and those reported by Wheeler (1990).

Table 4.1 Comparison of Means, Standard Deviations, and Cronbach's Alpha for PEI Scores for Current and Wheeler's Studies.

Study	n	Means	Standard Deviations	Cronbach's Alpha
Current	132	56.0	12.36	.91
Wheeler	81	57.0	10.62	.94

Nursing Clinical Experience Subscale (NCES). Scores for the NCES ranged from 27-77, a low score indicated a perception of low stress and a high score indicated a perception of high stress, with a $\bar{x}=50.41$ ($sd=11.10$) and a mode of 52. There was some skewness and slight kurtosis. The scores in this study compare to scores ranging from 24-96, with a $\bar{x}=51.8$ ($sd=8.32$) reported by Cohen (1991). Table 4.2 shows the comparisons of NCES scores from the present study and those reported by Cohen (1991).

Table 4.2 Comparisons of Means, Standard Deviations, and Cronbach's Alpha for NCES Scores for Current and Cohen's studies.

Study	n	Means	Standard Deviations	Cronbach's Alpha
Current	132	50.4	11.10	.92
Cohen		51.8	8.32	.91

Post Analysis

In light of the failure to support the hypothesis, further review was done to determine how the instruments performed. Factor analysis was carried out on both the PEI and the NCES.

PEI. Three components emerged from the factor analysis of the PEI. Examination of each component revealed that all 20 items were loaded on the first component ($r=.51$ to $.85$), which exceeded the minimum standard of $r=.25$. Thus, the PEI was validated as an appropriate instrument to measure the students' perception of instructor empathy.

NCES. The items of the NCES loaded on seven principal components. The four items (#1, #3, #4, #11) loaded on component #3 were noted to contain items specific to student-instructor interactions and exceeded the minimum standard of $r=.25$. Therefore, that component was considered to directly measure stress during student-instructor interactions. Table 4.3 lists the items and strength of their correlations. The NCES was modified using these four items.

Table 4.3 NCES Items Related to Student-Instructor Interactions and their Correlations.

Items	r
1. Evaluation by instructor, (e.g., being observed)	.26
3. Availability of instructor for assistance	.75
4. Receptiveness of instructor for assistance	.79
11. The physical environment	.32

Scores from the modified NCES were correlated with PEI scores using Pearson's product-moment correlation coefficient. There was a moderate correlation ($r = -.37$) which was highly significant ($p = .0001$). Because items #3 and #4 exceeded $r = .70$, these scores were correlated with the PEI scores using Pearson's product-moment correlation coefficient. A correlation of $-.37$ ($p = .0001$) was obtained using these two items. Based upon this post analysis, the hypothesis of, "The higher the levels of instructor empathy baccalaureate nursing students perceive while interacting with clinical instructors, the less stressful students perceive the interaction to be," was supported using the modified NCES. Therefore, the modified NCES was used in the remainder of the analysis.

Additional Findings

Since the development of the demographic data form was guided by Neuman's System Model, the relationship of the hypothesis with selected demographic variables was examined.

The first variable to be examined was gender. Female (n=106) scores had a moderate correlation (-0.37) which was highly significant, ($p < .0001$), while the correlation ($r = -.32$) of male (n=26) scores was non significant ($p < .11$).

To examine the relationship between the scores of the ethnic groups, data was sorted accordingly. A moderate correlation ($r = -0.46$, $p < .0001$) between the PEI and the modified NCES scores was noted for Caucasian students (n=100). No significant correlation was found between the scores of other ethnic student groups.

Another variable that correlated with the modified NCES scores was the length of time students spent with the clinical instructor. Data were sorted into three categories: 0-4 weeks, 5-8 weeks, and 9 or more weeks. The PEI and modified NCES scores of each category were correlated using Pearson's product-moment correlation coefficient. Two of the three categories had a moderate negative correlation between the PEI and modified NCES scores. Table 4.4 shows the comparisons of these three categories.

Table 4.4 Correlation of PEI and NCES Scores and Length of Time with Instructors.

Length of Time	n	PEI $\bar{x}$ /sd	NCES $\bar{x}$ /sd	r=
0-4 weeks	59	56.4/11.9	8.9/2.1	-0.44**
5-8 weeks	56	56.8/12.6	8.3/2.1	-0.37*
≥9 weeks	17	52.2/12.7	8.2/2.3	-0.20

* $p = .05$, ** $p = .001$

Further examination was done to determine if there was a relationship between the scores of the students at differing levels of education and the length of time with the instructor. Data were sorted into education levels of sophomore, junior, and senior. These levels were then sorted according to the three categories of time spent with the instructor. The PEI and modified NCES scores were correlated with each group using Pearson's product-moment correlation coefficient. For the 0-4 week's category, a high correlation between scores was noted for juniors and a moderate correlation for seniors. A high correlation was found for sophomore nursing students in the 5-8 week's category. Table 4.5 shows the comparison between correlation of the educational levels and the length of time with the instructor.

Table 4.5 Correlation of PEI Scores and Modified NCES Scores for Education Levels and Length of Time with the Instructor in the Clinical Setting.

Length of Time	Educational Levels	n	PEI $\bar{x}/sd$	NCES $\bar{x}/sd$	r
0-4 weeks	Sophomore	18	54.7/12.8	9.0/2.5	-0.38
	Junior	11	59.5/9.4	8.5/1.7	-0.73*
	Senior	30	56.3/12.5	9.0/2.1	-0.42*
5-8 weeks	Sophomore	25	60.9/13.3	8.4/2.6	-0.60**
	Junior	12	57.3/13.7	7.3/2.6	0.12
	Senior	19	51.3/9.1	8.9/2.3	-0.34
≥ 9 weeks	Sophomore	6	58.7/11.9	7.0/1.7	-0.32
	Junior	3	43.3/10.3	9.0/4.0	0.68
	Senior	8	50.8/13.1	8.9/1.7	-0.27

*p=.05, **p=.001

Chapter Summary

Using SAS release 6.12 software, descriptive statistics were used to compare the PEI and NCES scores. Pearson's product-moment correlation coefficient was used to test the hypothesis: The higher the levels of instructor empathy baccalaureate nursing students perceive while interacting with clinical instructors, the less stressful students perceive the interaction to be. The hypothesis was not supported. Factor analysis of data to determine the performance of the instruments revealed that four items of the NCES specifically measured the student's perception of stress during the student-instructor interaction. Therefore, post analysis was performed using the scores of the modified NCES. The results indicated that the hypothesis was supported with this modification.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The hypothesis tested in this research was as follows: The higher the levels of instructor empathy baccalaureate nursing students perceive while interacting with clinical instructors, the less stressful students perceive the interaction to be. The essential question for this study was: How do nursing students' perception of instructor empathy during student-instructor interactions in the clinical setting relate to how stressfully they perceive the interaction to be? The hypothesis was tested using the empathy score on the PEI and the stress score on the NCES. Results from Pearson's product-moment correlation coefficient analysis did not support the hypothesis. Using a modified NCES as discussed in Chapter IV, the hypothesis was again tested. Results with the modified NCES did support the hypothesis.

Discussion

Theory. The results of analyzes suggest that there is a relationship between the baccalaureate nursing students' perception of instructor empathy and perceived stress while

interacting with instructors. This finding was predicted by the midrange theory of Optimal Student System Stability. Stress and response to stress are central to Neuman's Systems Model from which the midrange theory was derived. Studies support student-instructor interactions as sources of stress in the clinical setting (Garrett et al, 1976; Pagana, 1988; Kleehammer et al, 1990). Studies also support a positive impact of empathy in student-instructor relationships (Bochner & Kelly, 1974; Bochner & Yerby, 1977; Coffman, 1981; Meisenholder, 1987). The results of this study supported these findings of the importance of empathy to student-instructor interactions.

The findings support the concept of empathy as a primary prevention intervention. According to Neuman's Systems Model, the role of primary prevention intervention is to decrease the perception of stimuli as stressful. Thus, the student's perception of instructor empathy during an interaction leads the student to perceive the encounter as less stressful. Therefore, the findings of this study add to the future development of primary prevention interventions for nursing students.

The analyzes of selected demographic variables focused on gender, ethnicity, and the length of time with the clinical instructor. The differences in the correlation of

PEI and modified NCES scores between males and females suggests the need for further study. The hypothesis was not supported for the male nursing students ($n=26$) when tested separately, but the scores of the females ($n=106$) were supportive. Most males indicated they were rarely stressed. The findings of this study suggest that males perceive stress different than females and they need to be studied as a group.

The relationship between the PEI and the modified NCES scores of Caucasian students was significant. The magnitude of the correlation was increased from $r=-.37$ to $r=-.46$ when limited to Caucasians alone. This suggests the need to test the theory with different ethnic groups. Generalizing this study beyond Caucasians is contraindicated due to the lack of a representative sample.

With regard to length of time with the instructor, students who spend 0-4 weeks and 5-8 weeks with their clinical instructors had a significant relationship between their PEI and modified NCES scores. Further examination of length of time while also controlling for educational levels clarified the picture. Sophomore students' scores were insignificant during the 0-4 weeks time frame, became significant during 5-8 weeks, then returned to an insignificant relationship for nine or more week's category.

This curvilinear relationship could be explained from a developmental perspective. As sophomore students progress, their flexible line of defense strengthens through the practice of skills, their confidence builds in their performance and the interactions no longer seem as stressful. Likewise, instructors recognize the developing competencies of the students and increase the expectation level of performance. Again, students perceive increased stress during the interactions and they find coping mechanisms to strengthen their defenses, resulting in a perception of less stress. This explanation is supported by the Optimal Student System Stability Theory.

Students at the junior and senior educational levels had a significant relationship between their PEI and modified NCES scores only when they were with their instructors for 0-4 weeks. A possible explanation could be that during the junior and senior years, frequently students are rotated through various clinical areas, thus they may have more than one instructor. Just as students begin to feel comfortable with their instructors, they are assigned to other instructors who have differing expectations. These findings warrant further investigation of juniors and seniors as individual groups.

Method. The study findings raise questions about methodology centering mainly around the choice of an instrument to measure stress and sample selection.

Instrumentation. Although Cohen (1991) described the NCES as an instrument designed to measure stress during nursing clinical experiences, the findings raised questions about the construct validity of the instrument. The factor analysis indicated that four questions out of the 24 were specifically related to student-instructor interactions. The remaining 20 items measured general stress associated with clinical performance, the overall environment, and client care. This finding led the researcher to question the use of the instrument in its entirety. A scale which measures stress during the student-instructor interaction in greater depth or with some additional items is needed.

Sample Selection. The sample group was selected using non probability sampling methods. This sampling method raises a number of concerns when interpreting the findings. Specifically, without a more representative sample, drawing conclusions about the relationship of selected demographic variables were difficult. The findings of the present study led this researcher to conclude that studying one educational level is preferable. The need for replication of the study using a randomized sampling method with a specific

education level is suggested.

Conclusions

The goal of this study was to examine the relationship of baccalaureate nursing students' perception of empathy and stress while interacting with clinical instructors in the clinical setting. Nursing education has the reputation for producing high levels of stress in students. The findings of this study support the use of empathy by clinical instructors as a primary prevention intervention during interactions with students to decrease students' perceived stress. This was supported by the midrange theory of Optimal Student System Stability, but further research is needed to validate the study findings, as well as to explore questions raised. Because of the lack of a representative sample, the results of this study can only be generalized to Caucasian females.

Recommendations

Theory. Recommendations are as follows:

1. Test the Optimal Student System Stability again with a different sample;
2. Use an instrument to specifically measure stress experienced in student-instructor interactions with linkages to Neuman's System Model and the midrange theory of Optimal Student System Stability;

3. Measure the relationship of Neuman's five core variables to the students' perception of empathy and stress;

Method. Recommendations are as follows:

1. Use samples which are representative of diverse ethnic groups and both genders;

2. Randomly select the sample;

3. Select students from one educational level that have been with the same clinical instructor for at least eight weeks.

From the study's inception, it was hoped that the findings from this investigation would contribute to the literature on the empathy stress relationship in nursing students while interacting with instructors in the clinical setting. This is the study's major contribution. This study proposed a midrange theory and provided an initial testing of the theory. The findings provide beginning support and groundwork for additional research in this area.

REFERENCES

REFERENCES

Alligood, M. R. (1992). Empathy: The importance of recognizing two types. Journal of Psychosocial Nursing, 30, 14-17.

Amoroso, H.C. (1984). On becoming literate: Personal perspectives. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Aspy, D. N. (1972). The effects of interpersonal skills training upon student I.Q., achievement, and self-concept of ghetto school children. Mimeographed manuscript. Northeastern Louisiana University.

Bergman, K., & Gaitskill, T. (1990). Faculty and student perceptions of effective clinical teachers: An extension study. Journal of Professional Nursing, 6, 33-44.

Bevis, E. O. (1989). Curriculum building in nursing: A process (3rd. ed.). New York: NLN.

Bochner, A. P., & Kelly, C. W. (1974). Interpersonal competence: Rationale, philosophy, and implementation of a conceptual framework. Speech Teacher, 23, 279-301.

Bochner, A. P., & Yerby, J. (1977). Factors affecting instruction in interpersonal competence. Communication Education, 26, 91-103.

Bonner, T., & Aspy, D. N. (1984). A study of the relationship between student empathy and GPA. Journal of Humanistic Education & Development, 22, 149-154.

Bradley, J. C., & Edinberg, M. A. (1990). Communication in the nursing context (3rd. ed.). East Norwalk, CT: Appleton & Lange.

Brown, K. A. (1990). The nurse, empathy, and patient satisfaction. Dissertation Abstracts International, 51, (01), 432B. (University Microfilms No. AAG91-00376)

Brown, M. W. (1988). Neuman's systems model in risk factor reduction. Cardiovascular Nursing, 24, 43.

Brown, S. T. (1981). Faculty and student perception of effective clinical teachers. Journal of Nursing Education, 20, 4-15.

Bueno, M.N., Redeker, N., & Norman, E.M. (1992). Analysis of motor vehicle crash data in an urban trauma center: Implications for nursing practice and research. Heart and Lung, 21, 558-567.

Carkhuff, R. R. (1969). Helping and human relations: A primer for lay and professional helpers. Vol I. New York: Holt, Rinehart, & Winston.

Clarke, V. A., & Ruffin, C. L. (1992). Perceived sources of stress among student nurses. Contemporary Nurse, 1, 35-40.

Clay, M. (1984). Development of an empathic interaction skills schedule in a nursing context. Journal of Advanced Nursing, 9, 343-350.

Coffman, S. L. (1981). Empathy as a relevant instructor variable in the experiential classroom. Group and Organizational Studies, 6(6), 114-120.

Cohen, B. J. (1990). Assessing stress and coping in nursing students. In C. F. Waltz & O. L. Strickland (Eds.), Measurement of Nursing Outcomes, Vol. 3, pp. 323-348.

Craig, M. P. (1991). Nursing students' perceptions of interpersonal relationships with clinical instructors. Dissertation Abstracts International, 52(01), 5334B.
(University Microfilms No. AAG92-12738)

Davitz, L. J. (1972). Identification of stressful situations in a Nigerian school of nursing. Nursing Research, 21, 352-357.

Decker, D.M., & Young, E. (1991). Self-perceived needs of primary caregivers of home-hospice clients. Journal of Community Health Nursing, 8, 147-154.

Edwards, P. A., & Kittler, A. W. (1991). Integrating rehabilitation content in nursing curricula. Rehabilitation Nursing, 16, 70-73.

Fawcett, J., Archer, C.L., Beacaker, D., Brown, K.K., Gann, S., Wong, M.J., & Wurster, A.B. (1992). Guidelines for

selecting a conceptual model of nursing: Focus on the individual patient. Dimensions of Critical Care Nursing, 11, 268-277.

Fawcett, J. (1995). Analysis and evaluation of conceptual models of nursing (3rd. ed.). Philadelphia: F. A. Davis, Co.

Foote, A. W., Piazza, D., & Schultz, M. (1990). The Neuman systems model: Application to a patient with a cervical spinal cord injury. Journal of Neuroscience Nursing, 22, 302-306.

Forsyth, G. L. (1980). Analysis of the concept of empathy: Illustration of one approach. Advanced Nursing Science, 2, 33-42.

Garrett, A., Manuel, D., & Vincent, C. (1976). Stressful experiences identified by student nurses. Journal of Nursing Education, 15, 9-21.

Gavigan, M., Kline-O'Sullivan, C., & Klumpp-Lybrand, B. (1990). The effect of regular turning on CABG patients. Critical Care Nursing Quarterly, 12, (4), 69-76.

Gellner, P., Landers S., O'Rourke, D., & Schlegel, M. (1994). Community health nursing in the 1990s: Risky business? Holistic Nursing Practice, 8(2), 15-21.

Hall, J. A. (1984). Empirically based treatment for parent-adolescent conflict. Social Casework, 65(8), 487-495.

Haggart, M. (1993). A critical analysis of Neuman's systems model in relation to public health nursing. Journal of Advanced Nursing, 18, 1917-1922.

Harbin, P. D. O. (1989). A Q-analysis of the stressors of adult female nursing students enrolled in baccalaureate schools of nursing. Dissertation Abstracts International, 50, (01), 512B. (University Microfilms No. AAG90-03851.

Henderson, V. (1966). The nature of nursing. New York: Macmillian.

Herrick, C. A., & Goodykoontz, L. (1989). Neuman's systems model for nursing practice as a conceptual framework for a family assessment. Journal of Child and Adolescent Psychiatric and Mental Health Nursing, 2, 61-67.

Hinds, C. (1990). Personal and contextual factors predicting patients' reported quality of life: Exploring congruency with Betty Neuman's assumptions. Journal of Advanced Nursing, 15, 456-462.

Iannotti, R. J. (1975). The nature and measurement of empathy in children. The Counseling Psychologist, 5(2), 21-25.

Jacobson, M. D. (1966). Effective and ineffective behaviors of teachers of nursing as determined by their students. Nursing Research, 15, 218-224.

Katz, R. L. (1963). Empathy: Its nature and uses. New York: Free Press.

Keefe, T. (1984). The stresses of unemployment. Social Work, 29(3), 264-268.

Kleehammer, K., Hart, A. L., & Keck, J. F. (1990). Nursing students' perception of anxiety-producing situations in the clinical setting. Journal of Nursing Education, 29, 183-187.

Knight, J. B. (1990). The Betty Neuman systems model applied to practice: A client with multiple sclerosis. Journal of Advanced Nursing, 15, 447-455.

Knox, J. E., & Morgan, J. (1985). Important clinical teacher behaviors as perceived by university nursing faculty, students, and graduates. Journal of Advanced Nursing, 10, 25-30.

Lambert, M. J., & DeJulio, S. S. (1977). Outcome research in Carkhuff's Human Resources Development Training Program: Where is the donut? The Counseling Psychologist, 6(4), 79-86.

La Monica, E. L., Wolf, R. M., Madea, A. R., & Oberst, M. T. (1987). Empathy and nursing care outcomes. Scholarly Inquiry for Nursing Practice: An International Journal, 1, 197-213.

Lile, J. L. (1990). A nursing challenge for the 90's: Reducing risk factors for coronary heart disease in women. Health Values, 14(4), 17-21.

Lowry, L. W., & Anderson, B. (1993). Neuman's framework and ventilator dependency: A pilot study. Nursing Science Quarterly, 6, 195-200.

Louis, M., & Koertvelyessy, A. (1989). The Neuman model in nursing research. In B. Neuman (ed.), The Neuman Systems Model (2nd. ed.), pp. 93-103. Norwalk, CT: Appleton & Lange.

Ludemann, R. (1968). Empathy. Nursing Forum, 7(3), 276-288.

Macklin, T., & Rossieter, C. (1976). Interpersonal communication and self-actualization. Communication Quarterly, 24, 45-50.

Mann, A. H., Hazel, C., Geer, C., Hurley, C. M., & Podrapovic, T. (1993). Orthopaedic Nursing, 12(4), 23-27, 62..

Mehrabian, A. (1976). Nonverbal communication. Los Angeles: University of California.

Meisenhelder, J. B. (1987). Anxiety: A block to clinical learning. Nurse Educator, 12, 27-30.

Miller, B., Haber, J., & Byrne, M. (1990). The experience of caring in the teaching-learning process of nursing education: Student and teacher perspectives. In Leininger, M., & Watson, J. (Eds.), The caring imperative in

education. New York: NLN.

Morgan, S. R. (1984). An illustrative case of high empathy teachers. Humanistic Education and Development, 22(4), 143-148.

Mynatt, S. L., & O'Brien, J. (1993). A partnership to prevent chemical dependency in nursing using Neuman's systems model. Journal of Psychosocial Nursing and Mental Health Services, 31, 27-34.

Neuman, B. M. (1995), The Neuman Systems Model (3rd. ed.). Norwalk, CT: Appleton & Lange.

Pagana, K. D. (1988). Stresses and threats reported by baccalaureate students in relation to an initial clinical experience. Journal of Nursing Education, 27, 418-424.

Peoples, L. T. (1990). The relationship between selected client, provider, and agency variables and the utilization of home care services. Dissertation Abstracts International, 51, (01), 356B. (University Microfilm No. AAG91-00398)

Polit, D. F. (1996). Data analysis and statistics for nursing research. Stamford, CT: Appleton & Lange.

Poole, V. L. (1991). Pregnancy wantedness, attitude toward pregnancy, and use of alcohol, tobacco, and street drugs during pregnancy. Dissertation Abstracts International 52, (01), 456B. (University Microfilms No. AAG92-08078)

Reed, K. S. (1993). Adapting the Neuman systems model for family nursing. Nursing Science Quarterly, 6, 93-97.

Reik, R. (1948). Listening with the third ear. New York: Farror Straus.

Rogers, C. R. (1957). Necessary and sufficient conditions of therapeutic personality change. Journal of Consulting Psychology, 21, 95-103.

Rogers, C. R. (1975). Empathic: An unappreciated way of being. Counseling Psychologist, 5(2), 2-10.

Rosendahl, P. L. (1973). Effectiveness of empathy, non-possessive warmth, and genuineness of self-actualization of nursing students. Nursing Research, 22, 253-257.

Ross, M. M., & Helmer, H. (1988). A comparative analysis of Neuman's model using the individual and family as the units of care. Public Health Nursing, 5, 30-36.

Schimpfhauser, F., Witttleman, J. L., & Sachs, L. (1981). clinical instruction in nursing: A national survey. Journal of Nursing Education, 20, 32-40.

Selye, H. (1956). The stress of life. New York: McGraw-Hill.

Selye, H. (1974). Stress without distress. N.Y.: J .B. Lippincott, Co.

Sipple, J. E. A. (1989). A model for curriculum change based on retrospective analysis. Dissertation Abstracts International, 50, (01), 578B. (University Microfilms No. AAG89-21503)

Stein, G. (1970). On the problem of empathy. The Hague, the Netherlands; Nartinus Nijhoff.

Tennyson, M. G. (1991). Becoming pregnant: Perceptions of Black adolescents. Dissertation Abstracts International, 52, (01), 538B. (University Microfilms No. AAG92-08083)

Vincent, J. L. M. (1988). A Q-analysis of the stressors of fathers with an infant in an intensive care unit. Dissertation Abstracts International, 49, (01), 493B. (University Microfilms No. AAG88-23599)

Webb, C. A. (1988). A cross-sectional study of hope, physical status, cognition and meaning and purpose of pre- and post-retirement adults. Dissertation Abstracts International, 49, (01), 569B. (University Microfilms No. AAG88-17005)

Wheeler, K. (1990). Perception of empathy inventory. In Strickland, O. L., & Waltz, C. F. (Eds.), Measurement of nursing outcomes: Measuring client self-care and coping skills (Vol. 4, pp. 181-198). New York: Springer.

Wheeler, K. (personal communication, October, 1995)

Williams, C. A. (1990). Biopsychosocial elements of empathy: A multidimensional model. Issues in Mental Health Nursing, 11, 155-174.

Williams, C. L. (1979). Empathic communication and its effect on client outcome. Issues in Mental Health Nursing, 2, 15-26.

Williamson, J. W. (1989). The influence of self-selected monotonous sounds on the night sleep pattern of postoperative open heart surgery patients. Dissertation Abstracts International, 50, (01), 489B. (University Microfilms No. AAG90-16774)

Wilson, M. E. (1994). Nursing student perspective of learning in a clinical setting. Journal of Nursing Education, 33, 81-86.

Windsor, A. (1987). Nursing students' perceptions of clinical experiences. Journal of Nursing Education, 26, 150-154.

Wong, S. (1978). Nurse-teacher behaviors in the clinical field: Apparent effect on nursing students' learning. Journal of Advanced Nursing, 3, 369-372.

Zderad, L. T. (1969). Empathic nursing: Realization of a human capacity. Nursing Clinics of North America, 2(2), 95-102.

Zweig, N. B. (1988). Stressful events and ways of coping of baccalaureate student nurses in the clinical laboratory. Dissertation Abstracts International, 49, 526B. (University Microfilms No. AAG88-24437)

APPENDICES

Appendix A

Perception of Empathy Inventory

SECTION I: PERCEPTION OF EMPATHY INVENTORY

Below are listed many different ways that you might feel about your clinical instructor. Please circle the number by each statement that best describes how you feel about your current or most recent clinical instructor.

1. I feel it is not at all true.
 2. I feel it is somewhat true.
 3. I feel it is moderately true.
 4. I feel it is very true.
-
1. I feel more confident about myself when she/he teaches me. . . . 1 2 3 4
 2. She/he knows how to place her/himself in my shoes. 1 2 3 4
 3. I feel more energetic when she/he teaches me. 1 2 3 4
 4. Sometimes she/he does not know what I mean. 1 2 3 4
 5. She/he gives me strength. 1 2 3 4
 6. She/he makes me feel worthwhile 1 2 3 4
 7. I can make decisions easier because of her/him. 1 2 3 4
 8. She/he seems to be involved in my learning. 1 2 3 4
 9. She/he understands me 1 2 3 4
 10. I feel she/he respects me 1 2 3 4
 11. She/he instills hope in me. 1 2 3 4
 12. I feel she/he is in touch and connected with me
when she/he teaches me 1 2 3 4
 13. She/he makes me feel more relaxed 1 2 3 4
 14. She/he accepts me as I am 1 2 3 4
 15. Sometimes I have difficulty communicating with her/him 1 2 3 4
 16. When she/he teaches me I do not feel so alone 1 2 3 4
 17. When I do not say what I mean at all clearly,
she/he still understands me 1 2 3 4
 18. I feel comforted just being with her/him. 1 2 3 4
 19. Even when she/he is silent I know she/he understands 1 2 3 4
 20. She/he cares about and is genuinely
concerned about my welfare 1 2 3 4

Appendix B

Nursing Clinical Experience Subscale

SECTION II: NURSING CLINICAL EXPERIENCES SUBSCALE

Stress is defined as something in a person's environment that he/she believes or feels is upsetting, threatening, or endangering to him/her.

The items in this section describe situations or experiences in the clinical setting which a nursing student may be perceived as stressful. Please **circle one answer** indicating the level of stress that you have experienced.

NURSING CLINICAL EXPERIENCES	1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful
Evaluation by instructor(s) (e.g., being observed)	1	2	3	4
Meeting own expectations in caring for clients	1	2	3	4
Availability of instructor(s) for assistance	1	2	3	4
Acceptiveness of instructor(s) for assistance	1	2	3	4
Level of own competency (i.e., feeling of preparedness for client care)	1	2	3	4
Condition of clients assigned (e.g., dying critically ill, dis- figured clients)	1	2	3	4
Age of client	1	2	3	4
Sex of client (i.e., client of same sex/opposite sex)	1	2	3	4
Communicating with clients	1	2	3	4
Interaction with members of the health care team	1	2	3	4
The physical environment of the clinical agency (e.g., equipment, odor, sights)	1	2	3	4
Own abilities to meet requirements of clinical assignments	1	2	3	4
PLEASE BE SURE YOU HAVE ANSWERED EVERY ITEM ON THIS PAGE				

SECTION II
Page 2

NURSING CLINICAL EXPERIENCES	1 not at all stressful	2 slightly stressful	3 moderately stressful	4 extremely stressful
Exposure to experiences that will prepare me for nursing practice (e.g., level of assignment)	1	2	3	4
Possibility of making an error (e.g., medication, assessment of client)	1	2	3	4
Exposure to contagious disease/ "catching something from client(s)"	1	2	3	4
Performing psycho-motor skills	1	2	3	4
Being in an emergency situation	1	2	3	4
Organization structure of the clinical agency (e.g., channels of communication and authority)	1	2	3	4
Being in a new environment/ situation	1	2	3	4
Being Evaluation of performance by nursing staff	1	2	3	4
Preparing for clinical assignments	1	2	3	4
Traveling to clinical setting	1	2	3	4
Evaluation by client(s)	1	2	3	4
Physical contact with a stranger	1	2	3	4
PLEASE BE SURE YOU HAVE ANSWERED EVERY ITEM ON THIS PAGE				

Appendix C

Demographic Data Form

SECTION III: DEMOGRAPHIC DATA FORM

1. Age: _____ years
2. Gender: Male _____ Female _____
3. Education level:
Soph _____ Junior _____ Senior _____
4. How long were you with the clinical instructor?
0-4 weeks _____
5-8 weeks _____
9 or more weeks _____
5. Ethnic background:
American Indian _____
Asian _____
Black _____
Caucasian _____
Hispanic (non-white) _____
Other _____
6. Marital Status:
Never married _____ Married _____
Separated _____ Divorced _____
Widow/Widowed _____
7. How would you generally describe your health?
excellent _____
good _____
fair _____
poor _____
8. During this academic year, have you sought assistance from a health care provider?
0-2 times _____
3-4 times _____
5 or more times _____
9. During your leisure time do you generally prefer:
being alone _____
being with a friend _____
being with a group _____
other _____
10. What best describes the frequency of your stress?
frequently _____
sometimes _____
rarely _____
never _____
11. What sources of support do you draw on when feeling stressed?
God or other higher power _____
friends _____
coworkers _____
family _____
other _____

VITA

VITA

Katie Ann Lamb was born in San Saba, Texas on December 9, 1940. She attended school in Keene, Texas, where she graduated from Southwestern Junior College Academy in June, 1957. She entered Union College, Lincoln, Nebraska during August, 1958, where in June, 1961 she received the Bachelor of Science in Nursing Education. After working as a staff nurse/supervisor for 11 years, she began teaching nursing at Southern Missionary College (now known as Southern Adventist University), Collegedale, Tennessee. She entered the Master's of Science in Nursing at The University of Central Arkansas, in May of 1980, officially receiving the Master's degree in May, 1982. In August of 1991, she entered the Doctoral program in Nursing at The University of Tennessee, Knoxville while continuing as Dean of the School of Nursing at Southern Adventist University. The doctoral degree was received August, 1998.

She is presently working as Associate Vice President for Academic Administration at Southern Adventist University, Collegedale, Tennessee. She is married to Edward L. Lamb and has two adult children.