THE EFFECT OF A RELATIONSHIP-BUILDING
ACTIVITY ON NURSING STUDENT ANXIETY
IN THE CLINICAL SETTING

by

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BSN, The University of British Columbia, 1969

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING

in
THE FACULTY OF GRADUATE STUDIES.
School of Nursing

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA
August 1988
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Abstract

A pre-test post-test group design was used to determine whether student nurses who received a relationship-building intervention would rate their relationship with the instructor higher than those who received a placebo, whether student nurses who received the intervention would have less state anxiety than those who received a placebo, and whether there was a relationship between ratings of state anxiety and student-instructor relationships. The intervention was designed to occur over a three-day period. Data were collected from a homogenous sample of 30 control nursing students and 31 experimental nursing students. Effectiveness of the intervention was determined by measuring student anxiety levels using the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushene, 1970) and by measuring the student-instructor relationship using the Relationship Questionnaire (adapted from Truax & Carkhuff, 1967). Additional data were collected from a Stressful Event Questionnaire, a demographic data form, and a debriefing session with participating instructors. Analysis of data indicated a treatment main effect was statistically significant. Members of the experimental group rated the perceived relationship with the instructor higher than members of the control group. There was no significant difference between groups in their ratings of anxiety. There was a trend, however, for those in the
experimental group to have lower state anxiety than those in the control group. Correlations between the student-instructor relationship scores and the anxiety scores were low but were in the anticipated negative direction.
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Acknowledgements

The study would not have been completed without the continued interest and encouragement provided by my mother, my aunt, and my friends.

A special appreciation is expressed to my thesis committee, Roberta Hewat, Chairman, and Barbara Milne who generously gave their time, patience, and valued expertise. In addition, I would like to acknowledge members of the UBC Statistical Consulting and Research Laboratory for their assistance with the statistical aspects of the study.

Lastly, I would like to thank the faculty and students of the Vancouver General Hospital School of Nursing who so willingly participated in the study. Their spirit of co-operation was truly inspirational to a beginning researcher.
CHAPTER ONE
Introduction

Background to Problem

Evidence that anxiety influences learning has long been recognized by educators (Meisenhelder, 1987; Sieber, O'Neil, & Tobias, 1977; Spielberger & Sarason, 1975). Although mild anxiety may augment learning by providing a motivating force, moderate to severe anxiety may seriously inhibit the learning process (Blainey, 1980).

Nursing research literature has consistently identified anxiety as a common response experienced by nursing students (Charlesworth, Murphy, & Beutler, 1981; McKay, 1978; Miller, 1984). Although several sources of anxiety have been identified, a dominant source of anxiety is practise in the clinical setting. Infante (1985) describes the professional education of the nurse as a bridge between the world of thought and the world of action. Traditionally, education for the "world of action" has occurred within this clinical setting.

The consequences of an impaired learning process resulting from anxiety have serious implications for that portion of the educational process of nursing which occurs in this practise setting. Research findings have demonstrated that highly anxious learners have increased difficulty with performance of psychomotor skills (Combs &
Taylor, 1952; Erber, 1984; Weinberg & Ragan, 1978), with learning of concepts, their retention and recall (Meyers & Martin, 1974) and with development of interpersonal relationships. Crow and Crow (1972) suggest that the nurse's ability to control her emotions plays a major role in the nurse-client relationship, while Brown and Fowler (1971) believe that if a student nurse experiences difficulty dealing with stress during the educational process the anxiety generated affects those with whom she is in personal contact. This latter finding is supported by Johnson (1979) who reports that increased levels of nurse anxiety have a negative effect on the amount of disclosure between nurse and client.

Furthermore, Infante (1985) suggests that in order to promote critical thinking in students in the clinical setting the teacher must provide an environment in which students are free from anxiety and feelings of inadequacy. The anxious nursing student practicing within the clinical setting, therefore, may provide less than optimal care which may lead to client physical and psychosocial needs being ineffectively met and standards of care jeopardized. In addition, anxiety may result in learner anger and depression and inhibit student personal development (McMaster, 1979).

Aspy and Roebuck (1977) suggest that one method by which student anxiety can be decreased and learning
enhanced is through the teacher's use of strategies to enhance interpersonal relationships. Although open communication appears to decrease student anxiety and enhance learning, evidence indicates that deliberate use of interpersonal skills in the teacher-learner relationship will further facilitate the learning process and may be an area for further study (Aspy & Roebuck, 1977).

Educational research on anxiety and learning has found the interpersonal relationship between teacher and pupils, which is reflected in characteristic teacher responses, to be related to anxiety levels (Hill, 1967; McKeachie, Pollie, & Speisman, 1955; Oner, 1977; Sarason & Davidson, 1962; Sarason, Davidson, & Blatt, 1962). Oner (1977) reports that children's anxiety is a function of the way they perceive their teacher. For example, teachers perceived as punitive and authoritarian tend to mobilize student anxiety and as a result classroom performance deteriorates. In contrast, teachers perceived as nonpunitive, nonauthoritarian, and interested in giving students every opportunity to communicate dependency and need for help reduce anxiety considerably. The debilitating effects of anxiety, therefore, often result from the nature of the situational context and the individual's interpersonal relationships.

Although the investigator recognizes that individual nursing instructors may use strategies attempting to decrease student anxiety, McKay (1978) suggests that
"historically, nursing faculty have exercised little foresight in planning learning experiences which will assist the student in coping with anxiety" (p. 378). The investigator believes that deliberate strategies implemented by nursing instructors to establish interpersonal relationships with students may result in decreased student anxiety in the clinical setting.

**Problem**

Both nursing research findings and the investigator's observational experience suggest that a dominant source of anxiety for nursing students arises from practise in the clinical setting. Personal observations have also revealed that anxiety levels of nursing students appear to vary among clinical groups.

Although available literature suggests that an improved interpersonal relationship between teacher and student may be helpful in decreasing student anxiety, few documented studies directly relate the two concepts. It is the investigator's opinion that one factor that may contribute to the variability in student anxiety level may be the perceived interpersonal relationship with the clinical instructor. This study attempts to fill a research void by attempting to relate the student's perception of the student-instructor interpersonal relationship to student anxiety levels.
Purpose

The purpose of the study was to test the proposition that nursing students' anxiety in the clinical setting would be lowered by implementation of a relationship-building activity by the instructor. In particular, three hypotheses were tested:

H1: Student nurses who receive a relationship-building intervention will rate their relationship with the instructor higher than student nurses receiving a placebo intervention.

H2: Student nurses who receive a relationship-building intervention will have less state anxiety than student nurses receiving a placebo intervention.

H3: There is a relationship between state anxiety levels of student nurses and their perception of the relationship with the instructor.

Definition of Terms

State anxiety: "a transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension, and heightened autonomic nervous system activity. A-states may vary in intensity and fluctuate over time" (Spielberger, Gorsuch, & Lushene, 1970, p. 3), as measured by STAI Form X-1 (see Appendix A).
**Trait anxiety:** "the relatively stable individual difference in anxiety proneness, that is, the differences between people in the tendency to respond to situations perceived as threatening with elevations in the A-state intensity" (Spielberger et al., 1970, p. 3), as measured by STAI Form X-2 (see Appendix B).

**Student-instructor relationship:** the student's perception of the relationship with the instructor as measured by the Relationship Questionnaire (adapted from Truax & Carkhuff, 1967) (see Appendix C).

**Relationship-building activity:** three interactional episodes that occur on consecutive days between one faculty member and a group of seven to eight students. These episodes have been developed to have faculty demonstrate empathy, congruence, and positive regard during interaction with students (see Appendix D).

**Empathy:** "to sense the client's world as if it were your own" (Rogers, 1961, p. 284). The concept is operationalized through instructor verbalization of statements which convey student understanding, realistic expectations, caring about students, knowledge of students, willingness to help, and recall of her previous experience as a student (Karns & Schwab, 1982).

**Congruence:** "accurate matching of experience with awareness" (Rogers, 1961, p. 282). It is operationalized by instructor statements "sharing self, admitting mistakes,
evaluating self as human, acknowledging limitations, accepting criticism, and being honest" (Karns & Schwab, 1982, p. 6).

**Positive regard**: "a warm caring for the client - a caring which is not possessive, which demands no personal gratification" (Rogers, 1961, p. 283). It is characterized by instructor actions "providing positive feedback, demonstrating willingness to listen to students, promoting discussion and questions, treating students as intelligent individuals, and by statements conveying trust and respect of students" (Karns & Schwab, 1982, p. 41).

**Clinical setting**: "a place in which the student is giving direct care to real clients as part of a planned learning activity" (O'Shea & Parsons, 1979, p. 411). In this study the clinical setting was five wards in an acute care facility in a large metropolitan area. The wards selected were classified as either acute surgical areas or acute medical-surgical areas.

**Assumptions**

The assumptions of the study were:

1. Respondents had the ability to assess their current feeling states.

2. Respondents answered questionnaires honestly and to the best of their ability.

3. Instructors implemented the treatment procedure according to the directions provided.
Ethics and Human Rights

Prior to commencement of the study the proposal was submitted for ethical review to both the University of British Columbia behavioral sciences screening committee and the institution's ethical review committee.

Access to the subject pool was gained through the parent institution of the School of Nursing, the Director of the School of Nursing, and the Level 1 Co-ordinator (see Appendix E). Instructors who participated in the study were provided with a verbal and written explanation of their role in the study (see Appendix F). Implementation of the treatment package constituted consent to participate.

Student subjects participating in the study were also provided with a verbal and written explanation of the study (see Appendices G and H). Completion of the questionnaire constituted consent to participate. Procedures for both the pilot test and the study were the same.

All subjects and participating instructors were informed that their participation was voluntary and they could withdraw at any time during the study. They were informed that their refusal or withdrawal would in no way affect their class standing or employment status. Subjects were assured that questionnaires would be destroyed after the data were analyzed.
Significance to Nursing

The study has significance for both nursing education and practise. Presently, programs for nurse educator preparation have little content on student-teacher relationship building. If student anxiety can be significantly decreased through use of such teaching strategies, it may indicate a need for increased emphasis on such content in nursing curricula. Additionally, methods of effectively building student-instructor relationships may serve as a focus for faculty development workshops.

In the practise setting, findings may suggest that choice of faculty for clinical teaching take into account not only a candidate's theoretical and practical knowledge but also his/her ability to relate effectively to students.

Additionally, when instructors demonstrate effective use of helping-relationship skills, they serve as role models so that students may learn therapeutic communication skills more readily. Students' interpersonal skills may be strengthened by such approaches and client care may benefit.

Knowledge of factors which impair learning will help us better prepare nurses to meet the increasingly complex physical and psychosocial needs of clients. Knowledge of factors which enhance learning will make that preparation process most effective.
CHAPTER TWO
Conceptual Framework and Literature Review

Conceptual Framework

The theoretical framework used to structure the study was drawn from theory proposed by Carl Rogers (1951, 1961, 1969, 1983). As a perceptual psychologist, Rogers (1969) refers to learning as the discovery of personal meaning. He introduces the term "significant learning" which he defines as "more than an accumulation of facts. It is learning that makes a difference in the individual's behavior, his course of action, his attitudes, and his personality" (Rogers, 1961, p. 280). Learning, therefore, is conceptualized as an affective as well as a cognitive experience.

The field of perceptual psychology suggests that all behavior is a function of a person's perceptions or personal meanings and is determined, therefore, not by the objective environment but by a personal, individual way of perceiving which is unique to that individual. More specifically, behavior can be described as a result of how an individual sees himself, how he views the world about him, and the interrelationship of the two. At the core of each person's perceptual field are perceptions about self (Combs, Donald, & Perkey, 1978).
Rogers (1961) also feels "a person learns significantly only those things which he perceives as being involved in the maintenance or enhancement of the structure of self" (p. 389). He further believes that the structure and organization of self appear to become more rigid under threat and more relaxed when completely free from threat. He feels significant learning is most effectively promoted in a situation in which threat to the self of the learner is reduced to a minimum and perception is facilitated (Rogers, 1951).

Within this context anything that is construed as a threat to self has the potential to produce a barrier to effective learning. Two effects of threat to self are described by perceptual psychologists. The first is termed "tunnel vision" (Combs, Donald, & Perkey, 1978, p. 59). When the individual feels threatened the perceptual field narrows and focuses on the object of threat. If the threat is perceived as great, attention becomes sharply focused on the threatening event excluding all other perceptions. This restricting effect of threat is inhibitory to effective learning.

A second effect of threat upon perception occurs when the individual feels threatened and is forced to defend the perceptions he already has (Combs, Donald, & Perkey, 1978). This defensive stance under threat is exactly the reverse of what provides for effective learning.
Rogers (1951) believes learning will be facilitated if students are provided the opportunity to explore and discover meanings of materials. Exploration is curtailed in an atmosphere in which the learner spends excessive time avoiding or reducing the experience of anxiety brought about by threat to self.

As a consequence, removal of threat is seen as a significant factor in the release of the individual to perceive more adequately. Rogers (1969) believes that freeing the individual to facilitate perception is accomplished through provision of a permissive, non-threatening relationship. He compares the teacher-student relationship to that of the psychotherapist-client relationship (Rogers, 1961). Within both these helping relationships, Rogers suggests that facilitation of significant learning rests upon certain attitudinal qualities between facilitator and learner.

The most basic of these essential attitudes is "realness or genuineness. When the facilitator is a real person, being what he is, entering into a relationship with the learner without presenting a front or facade, he is much more likely to be effective" (Rogers, 1969, p. 206).

Rogers and Stevens (1967) used the term "congruence" to mean "the feelings the counselor is experiencing are available to him, available to his awareness, that he is
able to live these feelings, be them in the relationship, and be able to communicate them if appropriate" (p. 90).

A second attitude Rogers and Stevens (1967) note in successful facilitation of learning is termed "positive regard" (p. 105). It is described as "a feeling which is not paternalistic, not sentimental, nor specifically social and agreeable. It respects the other person as a separate individual and does not possess him" (p. 94). Rogers (1969) describes it further as "prizing the learner, prizing his feelings, his opinions, his person . . . It is a basic trust - a belief that this other person is somehow fundamentally trustworthy" (p. 109).

The third attitude Rogers (1969) feels establishes a climate for successful learning is "empathic understanding" (p. 111). When the teacher has the ability to understand student reactions from the inside, that is, has a sensitive awareness of how the process of education and learning seem to the student, the likelihood of significant learning increases.

According to Rogers, one of the major responsibilities of the teacher is to create a facilitating climate in which significant learning can be accomplished. Provision of such a climate minimizes threat to self and resulting anxiety.

In this study the effect of an intervention designed to reduce feelings of threat to the individual was evaluated.
Since the experience of anxiety may be precipitated by feelings of threat to self, activities minimizing threat may reduce anxiety. The intervention implemented was a series of relationship-building activities incorporating the attitudinal qualities of empathy, congruence, and positive regard. These three constructs were used to facilitate development of a positively perceived non-threatening interpersonal relationship. The study attempted to relate a positively perceived interpersonal relationship between instructor and nursing student to reduced student anxiety levels.

Literature Review

The literature review is divided into three sections. The first section focuses on studies which provide evidence that anxiety in the clinical setting is a dominant source of stress for nursing students. The second section reviews studies that assess interventions for reducing anxiety in groups of nursing students. The final section focuses on studies which emphasize the significance of interpersonal relationships in control of anxiety in students.

The clinical setting as a source of anxiety and stress. Clinical experience has been identified as a major stress for nursing students (Birch, 1979; Elfert, 1976; Fox, Diamond, Walsh, Knopf, & Hodgin, 1965; Garrett, Manuel, &
Vincent, 1976). A variety of research methodologies, as well as a number of nursing student populations, have been used in studies which have contributed to this finding. A classic study by Fox et al. (1965) used the critical incident technique and identified four major areas in which nursing students may experience stress - personal, social, academic, and clinical. In this study 80,000 free response descriptions of satisfying and stressful incidents were collected from 4,000 nursing students enrolled in 23 diploma and 6 baccalaureate degree programs that were randomly selected from the New York area. Results revealed that 71% of responses were related to the stress associated with the clinical aspects of nursing school experience.

In another study Garrett, Manuel, and Vincent (1976) attempted to generalize the findings of Fox et al. One hundred and eleven sophomore, junior, and senior nursing students between the ages of 18 and 23 years enrolled in a collegiate setting were studied. Although stress was undefined in the previous study, in this study stress was defined as "a state always present in man but that is intensified when there is a change or threat with which the individual must cope" (p. 6).

Students' reports were independently interpreted by two of three researchers who had 100% agreement on the categorization of stressful responses. The largest percentage of sophomore responses, 47.8%, were categorized
as clinical experience while only 22.8% of junior responses fell in this group. The largest percentage of senior responses were classified as academic experiences; clinical experiences were described in only 16.7% of responses. Study findings of the distribution of stressful incidents revealed, however, that the largest percentage of total responses, 28.8%, were categorized as clinical experience.

Using the same technique Elfert (1976) studied basic students enrolled in the first two years of a new baccalaureate program at the University of British Columbia. Her study was longitudinal and evaluated data collected at the end of each of three terms over two years. Although the actual number of participants was not reported, the proportion of respondents varied from 79% to 91% of those enrolled. Results indicated that the number of stressful episodes in the clinical area increased over the six terms. The number of stressful incidents related to clinical experience, however, remained consistently fewer than the number of satisfying incidents related in the same area.

In addition to the critical incident technique, rating scales have also been used to study anxiety in nursing students. Birch (1979) studied 207 nursing students enrolled in four schools in England. The research design included use of the Personality Testing and Ability Testing Anxiety Scale [IPAT] devised by Cattell and a self-devised
questionnaire testing expressed anxiety in 56 areas of clinical practice. The study was longitudinal and occurred during the first two years of hospital experience. Cattell's Anxiety Scale was administered during the introductory course and at three eight-monthly intervals. The self-devised anxiety questionnaire was completed only at eight months and two years after commencement of training. Analysis of findings determined from the IPAT revealed that over 50% of subjects scored on three of the four scheduled testings at levels which Cattell described as borderline high and requiring follow-up for stress management.

Although the study did not differentiate as to causes of anxiety, the self-devised questionnaire contained 56 items of professional experience thought by the investigator to likely cause anxiety. Areas of stress in rank order revealed 9 of the top 10 to be associated with clinical experience and analysis suggested that causes of stress did not change significantly between 8 and 24 months.

Graduate nurses assuming a student role have also been described as anxious. Linn (1975) presented data on 21 students in two cohort nurse practitioner programs at the University of California [UCLA]. The instrument used was the Course and Personal Experience Inventory which was composed of the Physiological Stress Index, the Social
Stress Index, the Psychological and the Total Stress Index. Baseline data were acquired on the first day of class and questionnaires were completed every two weeks during the 18-week course. A total index score was calculated for each student; high scores reflected higher stress levels. Data revealed three peak points of stress. The first peak correlated with presentation of a considerable amount of classroom content and some clinical experience at the beginning of the course. The second peak seemed to be limited to increased clinical responsibility and the final peak related to course termination and examinations.

Feelings of anxiety and stress are experienced by nursing students early in the process of their professional education. Grassi-Russo and Morris (1978), in a study of freshman nursing students, asked participants to record two hopes and two fears at the beginning of their program and eight months later asked subjects to record two pleasant and two unpleasant experiences. The rank order of fears recorded included failure, taking responsibility, making a dangerous mistake, and dealing with death and sick people. Two unpleasant experiences identified were over-all stress and anxiety about clinical experience.

A comparison of anxiety levels between first and third year nursing students prior to clinical experience in an accident and emergency department and trauma area was
completed by Brunt (1984). A self-devised questionnaire was administered to a total of nine participants within one hour of arriving in the department and three weeks later. Two questions related to anxiety. The first question asked the students to describe their feelings about working in the area. Both levels of students expressed negative emotions such as "apprehensive, worried, dubious, and nervous" (p. 37). The second question listed 26 clinical situations and students were asked to rate their feelings on a Likert 4-point scale. Responses varied from unworried to very worried with a higher score indicating a greater degree of worry. Students at both levels on both occasions scored above 40 out of a maximum total score of 60 (p. 38) confirming anxiety to be a factor in student's learning experience.

In an attempt to add a cross cultural dimension to the study of nursing student stress, Davitz (1972) sought to compare similarities and differences in stress reported by Nigerian and American nursing students. The 37 Nigerian participants between 18 and 19 years of age were enrolled in a three and one-half year program. Data on the American students were acquired from the study conducted by Fox et al. (1965).

Each subject's recounting of a stressful incident contained an average of two details necessary to understand and interpret the experience and classify it using the
original four categories, personal, social, academic, and clinical, developed by Fox et al (1965). Two coders independently rated student responses and again coder agreement was 100%. "The results in terms of the four major categories were strikingly consistent. Of the 37 students, 36 reported stressful experiences concerned with the clinical area" (Davitz, 1972, p. 354). Areas of concern elaborated on by respondents were physical and emotional care of patients, stress of shift, initial clinical experiences and procedure implementation. In addition, "ten reports identified interpersonal relationships as the primary source of stress. Nine involved senior nurse tutors and staff nurses" (p. 355).

Davitz (1972) noted that both American and Nigerian nursing students reported their most frequent stress experience in terms of clinical interaction and concluded that "intrinsic to the education of nurses, regardless of the specific culture in which the training occurs, the clinical practicum aspects of training represent the primary areas of stress for students" (p. 356).

Interpersonal relationships as a specific source of stress associated with clinical experience are described by authors (Blainey, 1980; Davitz, 1972). Blainey (1980) in her discussion of anxiety in medical-surgical students suggested that a frequent anxiety that students experience is that related to interpersonal relationships. These
interpersonal relationships involve clients, other health care team members, and nursing instructors.

A modification of the critical incident technique was used by McMaster (1979) to study students in a baccalaureate nursing program at the University of Western Ontario. Stress was defined according to Selye's description of distress; that is, "damaging or unpleasant stress" (McMaster, 1979, p. 891).

Participants were presented with possible behavioral manifestations of stress and were asked to recall and report incidents from the previous term that they had perceived as stressful. Data were collected at the end of first and second term; of the 216 students enrolled, 79% and 74% participated respectively.

Responses were analyzed and categorized by two independent coders and three major categories emerged: "academic, clinical, and social-personal" (McMaster, 1979, p. 89). Findings after first term Year 1 suggested that the academic area was the greatest source of stress. The investigator felt this was to be expected as clinical experience was limited at this point in the program. The most commonly expressed concern related to clinical experience was to do with apprehension about first experiences in hospital.

In contrast, second year students at the end of first term perceived the clinical area as the source of greatest
stress while at the end of second term emphasis returned to
the academic area. Responses from third year students at
the end of first term indicated almost equal concerns
related to academic and clinical areas but during second
term the clinical area again took precedence.

"The main clinical concern for this class related to
faculty. Many students perceived some of the teachers to
be 'threatening' and 'unhelpful' in the clinical area"
(McMaster, 1979, p. 94). During term one of fourth year
most of the concerns "arose from relationships with faculty
in the academic area, some having a perception of teachers
as 'hostile,' 'threatening,' and 'insensitive'" (p. 94).
The study concluded that major concerns resulting from
profiles of stress were in the academic and clinical area
and that "clinical concerns were of particular interest
because they focused on teacher behavior" (p. 95).

McMaster's findings are further supported by those of
Zujewskyj and Davis (1985). Although workload was the most
frequently identified source of stress for third year
baccalaureate students at the University of Alberta, the
second most frequently cited source of stress was the
clinical instructor.

Despite the lack of a consistent definition of the
concept of stress or anxiety, all studies clearly identify
clinical experience as a dominant theme in nursing
students' reports of stressful experiences. Within this
arena, interpersonal relationships as a specific source of stress are described by some researchers (Blainey, 1980; Davitz, 1972; McMaster, 1979; Zujewskyj & Davis, 1985).

**Intervention for anxiety in groups of nursing students.**

Attempts to deal with nursing student anxiety have been documented in the literature. An early descriptive study reported by Rosenberg and Fuller (1955) described an experiment that resulted from a felt need of the faculty in a diploma school of nursing "to handle a high withdrawal rate and emotional tensions of the students" (p. 431). The intervention planned was a seminar in human relations for first year students which began the second week of the school year and terminated in the twelfth week. Psychiatrically oriented group leaders conducted the one and one-half hour weekly sessions using "structured group therapy technique which was varied to fit needs of adolescents" (p. 431). Evaluation was based on students' impressions of seminars, faculty interpretation and reactions, the psychologist's analysis of the meetings, and the more objective observable results which took place on the wards and in the classroom. Subjective findings revealed that "emotional tensions of the students had been reduced and the withdrawal rate was obviously lower" (p. 431). Additionally, there appeared to be "fewer student expressions of anxiety to the instructor" (p. 426).
A longitudinal study conducted by Gowell (1966) attempted to generalize findings of Rosenberg and Fuller. Group work methods and process were again employed with groups of 6 to 15 university student nurses over a period of five years. Meetings were held weekly "for the purpose of discussing common problems of student adjustment to nursing school or other difficulties they consider important" (p. 355). Study results were completely subjective reports and included comments such as "there are less intense feelings of authority as evidenced by their ability to discuss difficulties with faculty with whom they have formerly been unable to communicate" (p. 361) and "there were also fewer incidents of psychosomatic complaints among students who had participated in the sessions" (p. 361).

Although findings of the two cited studies suggest that interventions were successful in reducing stress of nursing students, methodological limitations are evident. Neither study employed valid, reliable tools for the measurement of anxiety, attempted to measure anxiety levels prior to intervention or provided comparisons with appropriate control groups, making it impossible to differentiate between the effects of the intervention and factors such as normal personality development.

A more rigorous pre-test, post-test group design was used by Mancine, Lavecchia, and Clegg (1983) to investigate
the effects of a stress management program [SMP] on the stress response of full time graduate nursing students. The SMP consisted of 8 weekly one-hour sessions of demonstration and practice of relaxation, imagery, diaphragmatic breathing, and a commitment to reduced caffeine intake. Thirty female subjects between the ages of 25 to 43 years were randomly assigned to an experimental and a control group. Attrition reduced the final sample to seven and nine, respectively.

Instruments used for data collection were the Rahe Recent Life Changes Questionnaire [RLCQ], the A-State Anxiety Inventory, the Palmar Sweat Print [PSP], blood pressure readings, and the Weekly Self Report [WSR] which measured SMP adherence by the experimental group and perceived stress by both groups. The PSP indicator demonstrated a significant difference (p<.05) between groups. The WSR also revealed that the experimental group reported significantly fewer stressful experiences and used significantly more coping strategies than the control group.

Charlesworth et al. (1981) conducted a similarly designed study to assess the effectiveness of a 10-session, 5-week, group-administered stress management program for student nurses. The intervention consisted of sessions on progressive relaxation, deep muscle relaxation, autogenic training, visual imagery, and modified systematic
desensitization conducted by the nursing instructor. The experimental group was comprised of ten female nursing students while seven males and one female nursing student served as a control.

The effectiveness of stress training was assessed at three points throughout the study: pretest, before mid-term examinations, and before final examinations. Spielberger et al. (1970) State-Trait Anxiety Inventory [STAI] was used to measure anxiety. Findings indicated that the intervention effectively reduced trait anxiety \( (p<.05) \), while the control group's trait anxiety remained relatively unchanged. In addition, the experimental group showed reduction in state anxiety from mid-semester to final examinations, while the control group showed an increase for the same period.

Although both studies demonstrated usefulness of an intervention within a group setting, methodologic limitations are evident. The ability of an intervention employed for only five weeks to effectively lower trait anxiety is questionable. In addition, findings from the second study may reflect gender differences in groups as opposed to the effect of the intervention. Small sample size and failure to employ placebo interventions for control groups also impose limitations on the findings of both studies.
The research on group methods used to decrease anxiety in nursing students is inconclusive. Although studies fail to consistently report statistically significant effects of such interventions, descriptive findings suggest there is a role for such approaches to be used with student nurses.

The effect of interpersonal relationships on student anxiety levels. Research has demonstrated that the facilitative conditions of genuineness, non-possessive warmth, and accurate empathy are positively related to student emotional and intellectual functioning (Aspy & Roebuck, 1972; Reed, 1961; Stoffer, 1970).

Reed (1961) proposed that selected characteristics of teachers had particular effects upon students. He summarized findings from four earlier studies of over one thousand grade 6 and grade 11 subjects. Results suggested that the relationships between students' perceptions of teacher behaviors that relax interpersonal tension, which he defined as warmth, and student change as measured by academic achievement gains and attitudinal gains measured by amounts of self initiated school work, were correlated significantly ($p<.001$), positively and moderately ($r = .20$ for males; $r = .28$ for females) (p. 333).

Aspy and Roebuck (1972) investigated the relationship between teachers' classroom behavior and students' levels of cognitive functioning. Data were obtained from 40
female elementary teachers who submitted a one-hour audio tape recording of instruction of reading groups. The teachers' performance was evaluated using Carkhuff's Scales for empathy, congruence, and positive regard, Flander's Interaction Analysis and their students' levels of cognitive functioning determined through use of Bloom's Taxonomy of Educational Objectives. Ratings from measurements using the taxonomy were collapsed into two categories, level 1 and levels 2-6; higher levels indicated higher levels of cognitive functioning.

The teachers' levels of interpersonal functioning were assessed by three trained raters whose inter-rater reliability was significant at $p<.01$. An analysis of the relationship between student levels of cognitive functioning and teacher classroom behavior levels indicated that teachers whose students attained cognitive levels beyond level one of Bloom's Taxonomy provided significantly higher levels of positive regard than those who remained at level one throughout the hour. Significant findings related to the constructs of empathy and congruence were not obtained in the study.

Stoffer (1970) studied the effects of genuineness, non-possessive warmth, and empathic understanding on children who were experiencing behavioral and academic difficulty in grades one through six. Thirty-five adult females worked individually with one of 35 children twice
per week for three months. The adult helpers were instructed only to establish a good relationship with each child by choosing their own activities and structuring the relationship individually.

Interviews between adult helper and child were taped near the initiation and termination of the relationship and were rated on three scales measuring empathy, congruence, and positive regard. A relationship inventory was used to measure the child's and helper's perception of the levels of therapeutic conditions offered. Each child was examined before and after treatment and indices of behavioral change were determined by combining scores from individual intelligence tests, gains in achievement, reduction in teacher-rated behavior problems and gains in motivation. An outcome index was derived from totalling scores from the individual tests.

Provision of high levels of non-possessive warmth and accurate empathy were significantly related to gains in achievement, reduction in teacher-rated behavior problems, and gains reflected by the total outcome index. Lack of agreement between judges resulted in exclusion of the variable of genuineness from analysis. Further findings indicated that the child's perception of the relationship with the adult helper was significantly related to reduction in teacher-rated behavioral problems and gains as measured by the total outcome index.
The above research findings provide evidence that suggests facilitative teacher behaviors are related to behavioral changes in students. The behavioral changes examined related only indirectly to anxiety and utilized subjects in the school age years. Study designs which employed intervention treatments did not include control groups and failed to clearly define the intervention used for subjects.

A more rigorous study design was used by Dye (1974) who used an experimental design and rating scales to examine the effects of human relations training upon the measured self-concept, anxiety level, and group awareness of 56 associate degree nursing freshmen. Volunteers were randomly assigned to one of three treatment groups, a placebo-type group, or a control group. The experimental group received one of three types of human relations training for one and one-half hours weekly for seven weeks. The human relations training consisted of either a leaderless structured group experience which focused on learning through direct experience, a sensitivity experience with an affect-oriented growth opportunity, or a communication experience with training in cognitively oriented verbal and non-verbal interaction. Group four (placebo-type) members maintained journal recordings of critical incidents in their lives as nursing students and, like group five (control), received no human relations training.
Anxiety level was measured by the Manifest Anxiety Scale, State-Trait Anxiety Inventory, and Affect Adjective Check List-G. Inventories were administered pre- and post-treatment and after a one month post-test interval. Findings on all anxiety inventories "indicated a decrease in mean scores for all groups across time" (p. 305). Investigators felt the instruments "measured relatively stable individual differences in anxiety level rather than the effects of environmentally influenced anxiety" (p. 305). Data implied that "the significant decrease in measured anxiety reflected a change over time for all groups rather than a change resulting from a particular type of human relations treatment" (p. 305). Absence of treatment effect was felt to be "a natural consequence of greater familiarity with the professional demands of nursing and with the hospital as a clinical laboratory" (p. 305).

Forsythe and Layton (1985) completed a correlational study which examined anxiety in nursing students and teacher empathy. They studied 130 nursing students from two private schools in their final two years of nursing education. Students rated both the empathy of their clinical instructors using the Empathy Construct Rating Scale and their own anxiety using the state section of the State-Trait Anxiety Inventory. Results indicated a statistically significant (p<.01) negative correlation (r = -.42) between student anxiety and instructor empathy.
Evidence suggests that facilitative teacher behavior is related positively to desirable changes in students, and limited evidence suggests nursing student anxiety is related to selected facilitative conditions demonstrated by faculty. A thorough review of literature fails to reveal, however, any research that directly relates the perceived interpersonal relationship between student and teacher to student anxiety levels.

In summary, research consistently identifies experience in the clinical setting as a major source of anxiety for nursing students. Within this setting, the interpersonal relationship with the clinical instructor has been described as a specific source of anxiety for the student. Group methods designed to assist nursing students in dealing with anxiety have been studied with inconsistent results. Finally, a limited number of studies indicate that teacher facilitative behavior is positively correlated with positive change in student behaviors and negatively correlated with nursing student anxiety. This study attempts to fill a research void by attempting to relate the student's perception of the student-instructor interpersonal relationship to student anxiety levels. It is hypothesized that student nurses who receive a relationship-building intervention will rate their relationship with the instructor higher than student nurses receiving a placebo intervention and that student nurses
who receive a relationship-building intervention will have less state anxiety than student nurses receiving placebo intervention. The intervention planned was designed to have the instructor demonstrate the facilitative conditions of empathy, congruence, and positive regard and was to be implemented within a group setting.
CHAPTER THREE

Methodology

Research Design

An experimental pre-test, post-test group design was used to test the three study hypotheses. A convenience sample of first year nursing students was randomly assigned to ten groups. Of the ten groups, five constituted the control group and five constituted the experimental group.

Control of variables. Each of five instructors had assigned to her two groups of students; one group formed the control group and the second the experimental group. Having one instructor work with both a control and an experimental group decreased the chance of inherent individual instructor characteristics influencing study results.

In order to prevent study contamination instructors worked with control groups first. Having the treatment intervention implemented following the placebo intervention prevented a carry-over effect which could have occurred if the sequence of the intervention was randomized. Instructors working with control groups Week 2 would have been sensitized by the treatment carried out the previous week resulting in decreased study validity.

Prior to working with the experimental group the same five participating instructors were introduced to the
treatment intervention package (see Appendix D). In an attempt to ensure consistency of implementation among instructors the investigator presented the intervention package to all instructors in person. Written instructions for each of the activities planned was also provided.

Baseline data and post placebo or post intervention data were collected by the investigator from control and experimental subjects (see Tables 1 and 2). Data from control subjects were collected prior to instructor involvement with the treatment group.

Attempts were made to control variables which would influence stress ratings by study participants. The clinical settings for the study were four acute surgical wards and one acute medical-surgical ward. Because both control and experimental groups were assigned to the same five areas, variation in clinical setting and acuity of clients was minimized. Variation in client complexity was partly controlled by the narrow definition of types of clients which first level students are allowed to care for.

The students begin clinical experience during the sixth week of the nursing program. Students begin rotations during which they are in the clinical setting five hours three consecutive mornings on alternate weeks. Because of the alternate week rotation, subjects in the control and experimental groups had participated in the same number of clinical hours prior to the study. Members of both the
Table 1
Plan for Control Group: Implemented by each of 5 instructors Week 1

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-minute post-conference each of three days implemented by instructor using conventional agenda of discussion related to student concerns and client care.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Data Collection**

Baseline data collection from subjects in control group which includes

(1) State/Trait Anxiety Questionnaire.

**Data Collection**

Data collection from subjects in control group which includes completion of

(1) State Anxiety Questionnaire,

(2) Instructor-Relationship Questionnaire,

(3) Stressful Event Questionnaire, and

(4) Demographic Data Questionnaire.
Table 2
Plan for Experimental Group: Implemented by each of 5 instructors Week 2

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-minute post-conference each of three days incorporating structured relationship-building activity provided by investigator.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Data Collection</strong></td>
<td><strong>Data Collection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline data collection from subjects in experimental group which includes completion of (1) State/Trait Anxiety Questionnaire.</td>
<td>Data collection from subjects in experimental group which includes completion of (1) State Anxiety Questionnaire, (2) Instructor-Relationship Questionnaire, (3) Stressful Event Questionnaire, and (4) Demographic Data Questionnaire.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
control and experimental groups had been in the selected clinical area one week before the study took place and therefore both groups of subjects had contact with the participating instructor prior to commencement of the study.

Setting and Sample

The study took place in a three-year diploma School of Nursing in a large metropolitan area in British Columbia. The School of Nursing was associated with a large, acute care hospital.

The clinical settings for the study were four acute care surgical wards and one acute medical-surgical ward. The placebo and intervention treatments took place in conference rooms on each of the five wards in the clinical setting.

Participants were volunteers from the first year class of nursing students. The first year of the nursing program provides concurrent classroom instruction and clinical experience. Instructors participating in the study were first year nursing instructors in the three-year diploma program. Instructors were responsible for teaching in specific clinical areas and for conducting post conferences as part of planned learning experiences.
Instruments

Four questionnaires were used in the study. Two instruments were used to measure the effect of the relationship-building activities. The first was the State-Trait Anxiety Inventory (Spielberger et al. 1970) (see Appendices A and B) which was used to measure student anxiety. The second was an adapted version of the Truax and Carkhuff Relationship Questionnaire (Truax & Carkhuff, 1967) (see Appendix C) which measured the perceived student-instructor relationship.

A third and fourth questionnaire were devised by the investigator. The Stressful Event Questionnaire (see Appendix I) was used to determine whether or not subjects perceived they had experienced a recent stressful event and if so to determine the nature of that event. The fourth questionnaire was used to collect data on subject demographic characteristics (see Appendix J).

State-Trait Anxiety Inventory [STAI] (Spielberger et al., 1970). This inventory consists of two self-report scales designed to measure two separate anxiety concepts, state anxiety and trait anxiety. The higher the anxiety score the higher the level of anxiety. The maximum achievable score is 80.

It is hypothesized that people exhibiting high A-trait will also exhibit A-state elevations more often than low
A-trait individuals "because they tend to react to a wider range of situations as dangerous or threatening" (Spielberger et al., 1970, p. 3).

Spielberger et al. (1970) reported that test-retest correlations of the A-trait component are relatively high ranging from .73 to .86 (p. 9). Due to the transitory nature of anxiety states, the test-retest correlations of the A-state component are low, ranging from .16 to .54 (p. 9). Low correlations appear valid as A-state scores should reflect the influence of unique situational factors existing at the time of testing. Internal reliability using Cronbach Alpha coefficients is high, however, ranging from .83 to .92 (p. 9). In addition, construct validity and concurrent validity have been established by test developers (p. 10).

**Relationship Questionnaire** (adapted from Truax & Carkhuff, 1967). The Relationship Questionnaire was adapted by the investigator. Thirty items measuring the constructs empathy, congruence, and positive regard were selected from the original questionnaire of 141 items. Ten items for each construct were chosen. A Likert 4-point rating scale was used to have respondents rate their perceptions of the relationship with their instructor. Subjects rated descriptive statements from "very much so" to "not at all". To help break response pattern bias, a
phenomenon often associated with questionnaires in the affective area, items were worded so that half were positively worded and half were negatively worded. Positively worded items were given a value of 4 for a response of "very much so" through one for a response of "not at all". The negatively worded items were reversely scored with a value of one for the response "very much so" through 4 for "not at all". The highest score attainable on the questionnaire was 120 and reflected a more satisfying interpersonal relationship with the instructor.

Because the Relationship Questionnaire used to measure student-instructor relationship was adapted by the investigator, the questionnaire was pilot tested for test-retest reliability and internal consistency. The questionnaire was tested on an alternate class of first year students who were in their final month of the first year course. The alternate class was the responsibility of a separate group of instructors.

Volunteers from the class were asked to complete the questionnaire on two separate occasions one week apart. The investigator asked volunteers to think of a teacher they had known and complete the questionnaire rating that specific individual. The questionnaire was completed the first time following a classroom session. Twenty-three volunteers submitted questionnaires. The investigator visited the clinical areas one week later and requested the
same 23 volunteers to again complete the questionnaire thinking of the same teacher. Because the students in the alternate class of first year students were subjects for the pilot study, the investigator verbally requested the volunteers completing the questionnaire to refrain from sharing information on the questionnaires with fellow students.

A scatter plot was constructed using the 23 paired data and showed evidence of a strong positive relationship between scores on the questionnaire administered on the two occasions. Pearson's sample correlation coefficient was calculated to be $r = .87$. According to Devore and Peck (1986), the relationship is classified as strong if greater than .8 (p. 116).

Cronbach's alpha was used to obtain reliability coefficients for each of the three subscales. Results of analysis indicated $r = .45$ for empathy, $r = .71$ for congruence, and $r = .80$ for positive regard.

**Stressful Event Questionnaire.** The investigator recognized that any anxiety-producing event that occurred between the measurement of state anxiety prior to placebo or treatment intervention and the measurement of state anxiety post intervention would constitute an intervening variable. Consequently, subjects were asked to state whether or not they had experienced any stress-producing
situation during the intervening three days. Those stating "yes" were asked to describe the event in their own words (see Appendix I).

Demographic Data. Demographic data on subject age, sex, and marital status were collected. In addition, the clinical area to which the subject was assigned was reported.

Subjects were asked to report absenteeism from the clinical area. In the event that large numbers of students had been absent in one clinical group during the course of the study, data from this group would have been excluded from the study.

The fact that some subjects could have considerably more experience than others in dealing with client situations, thus perhaps precipitating less anxiety, was also recognized. Subjects, therefore, were asked to record their occupation prior to commencing the nursing program (see Appendix J).

Procedure

When subjects first entered the nursing program they were randomly assigned to one of ten clinical groups using a table of random numbers. Of the ten groups, five were selected by a drawing process. These five groups constituted the control group and the remaining five
constituted the experimental group. Each of five instructors had assigned to her a control group and an experimental group.

The intervention planned was a relationship-building activity designed by the investigator and a consultant. The relationship-building activity was designed to occur during post conferences on three successive clinical days which were Tuesday, Wednesday and Thursday mornings.

During Week 1, prior to receiving any information on the treatment planned, the instructor worked with the control group (see Table 1). The placebo treatment for the control group consisted of activities normally scheduled for a thirty minute post conference. Student concerns and discussion of client problems arising from clinical experience was a common agenda for the conference.

Prior to working with the experimental group in Week 2, the same five participating instructors were introduced to the relationship-building activities package (see Appendix A) which constituted the treatment in the study. During Week 2, following introduction to the relationship-building activities package, the same five instructors implemented the activities with the experimental group (see Table 2). The activities were planned to occur during the regularly scheduled post conference time.

Baseline data were collected from all control group subjects on the Monday prior to placebo intervention on
Tuesday, Wednesday, and Thursday (see Table 1). Subjects who were to attend clinical experience that particular week and who volunteered to participate completed the STAI questionnaire. Data were collected by the investigator in approximately 20 minutes following a classroom lecture.

On Thursday afternoon of the same week prior to a classroom lecture, members of the control group were asked to complete the A-state component of the STAI questionnaire, the Relationship Questionnaire, the Stressful Event Questionnaire, and the Demographic Data Form.

The A-trait was not administered again as it was used to measure how anxious individuals generally feel and is therefore relatively stable. Scores from A-trait inventories were used to determine homogeneity of control and experimental groups.

Data collection was again completed by the investigator and took approximately 30 minutes. Subjects comprising the control group were requested verbally to refrain from sharing information related to the questionnaires with classmates in the experimental group.

Baseline data were collected from all experimental group subjects on the Monday prior to treatment intervention on Tuesday, Wednesday, and Thursday of Week 2 (see Table 2). Again data were collected by the investigator in the same manner as it was collected from
control group subjects. On Thursday afternoon of the same week members of the experimental group were asked to complete the same questionnaire as the control group. Data collection was conducted in the same manner as it was for control subjects.

At the completion of the two weeks' activities the investigator held a half hour debriefing session with participating instructors. Informal verbal comments on their feelings about the effects of the study and the intervention package were solicited and recorded. In addition, comments from subjects who had participated were elicited from the instructors.

**Data Analysis**

Parametric statistical procedures were used to analyze data related to the study hypotheses. A two-way analysis of variance (ANOVA) was used to test for statistical differences between means on the scores obtained from the Relationship Questionnaire. A two-way analysis of covariance (ANCOVA) was used to test for differences between means obtained from state anxiety scores. A significance level equal to or less than .05 was used. A Pearson product-moment coefficient correlation was computed to test for relationships between student-instructor relationship scores and state anxiety scores.
A t-test was used to determine whether a significant difference was present between the mean trait anxiety scores of the control and experimental groups. The chi square procedure was used to measure the differences between the control and experimental groups with respect to the number of stressful events experienced in the 24 hours prior to post-test data collection.

Descriptive statistics were used to analyze the data from the Stressful Event Questionnaire and the Demographic Data Form.
Results

The results of the study are presented in the following manner. Descriptive information on subject demographics is reported first. Secondly, the statistical findings related to study hypotheses are described. Finally, descriptive information from the Stress Questionnaire and from the debriefing session with instructors is included.

Attrition. Data obtained from the experimental pre-test, post-test group design study revealed that 63 (90%) of 70 students in the first year nursing class volunteered to participate in the study. Due to illness during the study, 61 of the 63 participants, or 87% of the total class completed the study.

Demographic characteristics of subjects. A comparison of the demographic characteristics of the experimental and control groups by age, sex, marital status, and occupation prior to enrollment in the nursing program indicated that the groups were similar. These data are contained in Table 3.

A comparison of the number of clinical days missed by subjects in the experimental and control groups indicated
that the majority of group members were present in each group on all three days when either the placebo or treatment intervention occurred. One subject missed one experience in the experimental group, while one subject missed one experience and one subject missed two experiences in the control group.

Table 3
A Comparison of Experimental and Control Subjects by Age, Sex, Marital Status, and Occupation Prior to Enrollment (N = 61)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Experimental n = 31</th>
<th>Control n = 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-20</td>
<td>23 (74)</td>
<td>21 (70)</td>
</tr>
<tr>
<td>21-25</td>
<td>8 (26)</td>
<td>7 (23)</td>
</tr>
<tr>
<td>26-29</td>
<td>-</td>
<td>1 (3)</td>
</tr>
<tr>
<td>30-35</td>
<td>-</td>
<td>1 (3)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>30 (97)</td>
<td>30 (100)</td>
</tr>
<tr>
<td>Male</td>
<td>1 (3)</td>
<td>-</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>30 (97)</td>
<td>30 (100)</td>
</tr>
<tr>
<td>Married</td>
<td>1 (3)</td>
<td>-</td>
</tr>
<tr>
<td>Occupation Prior to Enrollment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>15 (48)</td>
<td>14 (47)</td>
</tr>
<tr>
<td>Nurse Aide</td>
<td>4 (13)</td>
<td>2 (7)</td>
</tr>
<tr>
<td>Other</td>
<td>12 (39)</td>
<td>14 (47)</td>
</tr>
</tbody>
</table>

Note. Numbers in brackets are percent.

Hypothesis one: Effect of intervention on student-instructor relationship. The investigator hypothesized that
student nurses who received a relationship-building intervention would rate their relationship with the instructor higher than student nurses who received a placebo intervention. Thirty respondents in the control group and 31 respondents in the experimental group completed the Relationship Questionnaire (see Appendix C). The response rate and the mean score for each student-instructor combination is shown in Table 4.

Table 4
Response Rates and Mean Student-Instructor Relationship Scores of Control and Experimental Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Instructor No.</th>
<th>Response Rate</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>5</td>
<td>3/7</td>
<td>110.00</td>
</tr>
<tr>
<td>Control</td>
<td>6</td>
<td>7/7</td>
<td>102.86</td>
</tr>
<tr>
<td>Control</td>
<td>7</td>
<td>6/7</td>
<td>85.83</td>
</tr>
<tr>
<td>Control</td>
<td>8</td>
<td>7/7</td>
<td>95.86</td>
</tr>
<tr>
<td>Control</td>
<td>9</td>
<td>7/7</td>
<td>103.57</td>
</tr>
<tr>
<td>Experimental</td>
<td>5</td>
<td>7/7</td>
<td>106.57</td>
</tr>
<tr>
<td>Experimental</td>
<td>6</td>
<td>6/7</td>
<td>107.00</td>
</tr>
<tr>
<td>Experimental</td>
<td>7</td>
<td>7/7</td>
<td>93.71</td>
</tr>
<tr>
<td>Experimental</td>
<td>8</td>
<td>7/7</td>
<td>106.86</td>
</tr>
<tr>
<td>Experimental</td>
<td>9</td>
<td>4/7</td>
<td>108.25</td>
</tr>
</tbody>
</table>
A two-way analysis of variance (ANOVA) procedure was used to analyze the data; the first factor is the intervention effect (two levels: treatment and placebo), and the second factor is the instructor effect (five levels). Since there were unequal numbers of respondents in each student-instructor combination group, an ANOVA procedure for unbalanced design was used.

Diagnostic checking of the ANOVA model was based on residual analysis. It was concluded that the two-way ANOVA model was appropriate for the student-instructor relationship data.

The results of the ANOVA (Table 5) showed that there was a statistically significant difference between the experimental and control group for the intervention main effect. The experimental group rated the student-instructor relationship higher than the control group. That is, the experimental group appeared to have a better student-instructor relationship than the control group. Data analysis also revealed a statistically significant difference between the two groups for the instructor main effect. The difference between the control and experimental groups seemed to be the same for all five instructors, however. Since the interaction effect was not statistically significant, the difference between the two groups can be considered to be due to the planned
intervention. Hypothesis number one is therefore supported.

Table 5
Summary of Analysis of Variance for Intervention and Instructor Effect on Student-Instructor Relationship

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>1</td>
<td>332.18</td>
<td>332.18</td>
<td>6.07</td>
<td>0.02</td>
</tr>
<tr>
<td>Instructor</td>
<td>4</td>
<td>2513.12</td>
<td>628.28</td>
<td>11.49</td>
<td>0.00</td>
</tr>
<tr>
<td>Interaction</td>
<td>4</td>
<td>299.07</td>
<td>74.77</td>
<td>1.37</td>
<td>0.26</td>
</tr>
<tr>
<td>Error</td>
<td>51</td>
<td>2789.01</td>
<td>54.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>5912.75</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hypothesis two: Effect of intervention on state anxiety. The investigator hypothesized that student nurses who received a relationship-building intervention would have less state anxiety than student nurses who received a placebo intervention. For each subject who responded, a pre-test and a post-test state anxiety score was derived from the STAI Form X-1 questionnaire (see Appendix A). The response rate and the mean scores of the two tests for each student-instructor combination group is shown in Table 6.
Table 6
Response Rates and Mean State Anxiety Scores of Control and Experimental Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Instructor Number</th>
<th>Response Rate</th>
<th>Mean Pre-Test Score</th>
<th>Mean Post-Test Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>5</td>
<td>3/7</td>
<td>37.37</td>
<td>38.33</td>
</tr>
<tr>
<td>Control</td>
<td>6</td>
<td>7/7</td>
<td>38.14</td>
<td>47.14</td>
</tr>
<tr>
<td>Control</td>
<td>7</td>
<td>6/7</td>
<td>42.67</td>
<td>48.67</td>
</tr>
<tr>
<td>Control</td>
<td>8</td>
<td>7/7</td>
<td>40.14</td>
<td>45.57</td>
</tr>
<tr>
<td>Control</td>
<td>9</td>
<td>6/7</td>
<td>40.50</td>
<td>42.00</td>
</tr>
<tr>
<td>Experimental</td>
<td>5</td>
<td>6/7</td>
<td>41.67</td>
<td>39.00</td>
</tr>
<tr>
<td>Experimental</td>
<td>6</td>
<td>6/7</td>
<td>41.83</td>
<td>41.50</td>
</tr>
<tr>
<td>Experimental</td>
<td>7</td>
<td>6/7</td>
<td>41.50</td>
<td>42.50</td>
</tr>
<tr>
<td>Experimental</td>
<td>8</td>
<td>7/7</td>
<td>43.86</td>
<td>38.29</td>
</tr>
<tr>
<td>Experimental</td>
<td>9</td>
<td>4/7</td>
<td>39.50</td>
<td>42.00</td>
</tr>
</tbody>
</table>

A two-way analysis of covariance (ANCOVA) procedure was used for the analysis of the data. The dependent variable was the post-test state anxiety score, the first factor was the intervention effect (two levels: treatment and placebo), the second factor was the instructor effect (five levels), and the covariate was the pre-test state-anxiety score. Since there were unequal numbers of respondents in each student-instructor combination group, an analysis of covariance procedure for unbalanced design was used.
Diagnostic checking of the covariance model was based on residual analysis. It was concluded that the covariance model was appropriate for the post-test state anxiety data.

Results of the two-way analysis of covariance are shown in Table 7.

Table 7
Summary of Analysis of Covariance for Intervention and Instructor Effect on State Anxiety

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F-statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>1</td>
<td>2268.04</td>
<td>2268.04</td>
<td>18.76</td>
<td>0.00</td>
</tr>
<tr>
<td>Intervention</td>
<td>1</td>
<td>312.75</td>
<td>312.75</td>
<td>2.59</td>
<td>0.11</td>
</tr>
<tr>
<td>Instructor</td>
<td>4</td>
<td>231.91</td>
<td>57.98</td>
<td>0.48</td>
<td>0.75</td>
</tr>
<tr>
<td>Interaction</td>
<td>4</td>
<td>193.34</td>
<td>48.34</td>
<td>0.40</td>
<td>0.81</td>
</tr>
<tr>
<td>Error</td>
<td>47</td>
<td>5680.96</td>
<td>120.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>8647.52</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Findings from the F-test indicated that adjustment provided by the inclusion of the covariate (the pre-test state anxiety score) was necessary \( (p<0.00) \).

There was no statistically significant difference between the experimental and control groups in their post-test state anxiety ratings. There was no significant instructor main effect, intervention main effect, nor
significant instructor-intervention interaction effect. Hypothesis number two is therefore unsupported.

Analysis of a scatter plot of post state anxiety scores by treatment group shown in Figure 1 (see Appendix K) indicated that post intervention state anxiety levels tended to be lower for subjects in the experimental group than in the control group. Although differences between groups did not achieve statistical significance, p<0.11, the trend was in the right direction. This suggests that the intervention treatment may have helped in lowering state anxiety in some of the subjects, but not enough to establish statistical significance.

Analysis of a scatter plot of state anxiety versus instructors shown in Figure 2 (see Appendix L) revealed no obvious pattern. This suggested that the instructor was not a major factor in lowering state anxiety levels and therefore the intervention was the most significant factor.

**Hypothesis three: Relationship between student-instructor relationship score and state anxiety score.** Pearson's product-moment correlation coefficient between student-instructor relationship scores and post-test state anxiety scores was calculated to be -0.36 and -0.50, for the control and experimental groups respectively. Although the trend was not strong, the result suggests that the stronger the relationship between the instructor and the student, the lower the state anxiety for the student.
A comparison of trait anxiety scores of control and experimental groups. To determine if differences in trait anxiety existed between the control and experimental groups a t-test was completed on trait anxiety scores. Results revealed no significant difference between the mean scores for the two groups.

Data from Stress Questionnaire. The effect of a perceived stressful event in the 24-hour period prior to data collection on post intervention state anxiety was a possible intervening variable. Therefore subjects were requested to provide data on such occurrences. Table 8 presents this information.

Using the Chi Square procedure a statistical difference was not found between the control and experimental groups in relationship to the number of stressful events perceived.

Table 8
A Comparison of Experimental and Control Subjects
Experience of Stressful Events in 24 Hours Prior to Post-test Data Collection (N = 61)

<table>
<thead>
<tr>
<th>Experience</th>
<th>Experimental n = 31</th>
<th>Control n = 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>13 (42)</td>
<td>9 (30)</td>
</tr>
<tr>
<td>No</td>
<td>18 (58)</td>
<td>21 (70)</td>
</tr>
</tbody>
</table>

Note. Numbers in brackets are percent.
Subjects who responded positively to having experienced a stressful event were asked to describe the event in their own words. Subjects in both the experimental and control groups described similar types of events.

Although the investigator had given a car accident or the death of a friend or family member as examples of stressful events, subjects perceived and reported very different types of events. Upon analysis of the descriptions the investigator noted that all the comments could be readily classified into the categories of stressful events - Personal, Social, Academic, and Clinical - developed by Fox et al. (1965). These categories were used, therefore, in describing the events. Several subjects described more than one type of event. The frequency and classification of responses is displayed in Table 9.

Members of both the control and experimental groups described similar situations. Several comments related to the fact that the first intramuscular injection was given. Other comments related to caring for nauseated clients or clients with a poor prognosis. Academic concerns related to impending examinations and completion of nursing care plans with associated time restraints. Personal stresses were predominantly results of individual health problems.
Table 9
Classification of Stressful Events Perceived by Control and Experimental Subjects (N = 61)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Experimental n = 31</th>
<th>Control n = 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress Reported</td>
<td>13 (42)</td>
<td>9 (30)</td>
</tr>
<tr>
<td>(number of subjects)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of comments</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Classification of Stressful Events</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>2 (12)</td>
<td>4 (33)</td>
</tr>
<tr>
<td>Social</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Academic</td>
<td>9 (53)</td>
<td>2 (17)</td>
</tr>
<tr>
<td>Clinical</td>
<td>5 (29)</td>
<td>6 (50)</td>
</tr>
<tr>
<td>Unclassified</td>
<td>1 (6)</td>
<td>-</td>
</tr>
<tr>
<td>No Stress Reported</td>
<td>18 (58)</td>
<td>21 (70)</td>
</tr>
<tr>
<td>(number of subjects)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Numbers in brackets are percent.

Descriptive information from a debriefing session with instructors. Instructors were asked to comment on their experience during an informal half-hour meeting. Comments from student subjects reported by instructors are reported first; comments by instructors are reported last.

Students receiving the intervention treatment stated they did not mind having their post-conference time filled with communication exercises for one week but they would...
not like it continuously. Others felt it would be a beneficial exercise to have initially in each rotation. Some subjects expressed concern that their answers were being taped and one student confessed she found the conferences more stressful than usual. Finally, students especially liked the fact that instructors had to actively participate in the experience.

Initially, instructors were questioned about their ability to implement the intervention package. Only one instructor stated she had been unable to carry out the exercises designed for use with the experimental group on day three as students were late leaving the ward. All other instructors stated they had carried out the instructions provided with the package and the exercises took from 20 to 30 minutes each day. One instructor stayed late one day to ensure the exercises were completed.

Generally comments from instructors were favorable. They found the post conference more relaxing than normal as there was a pre-arranged format which did not allow any time to provide negative feedback to learners.

Instructors found the exercises particularly useful as it forced all students to participate and to provide more information than "yes" or "no". Because of the nature of the information shared, instructors felt they learned more about students and often their first perceptions of the learner were not confirmed. They all felt they gained insight into the individual nature of their students.
Interestingly, one new instructor with limited teaching experience stated that she felt much more at ease with her student group on the second day. She attributed these feelings to use of the intervention on day one.

**Discussion**

**Intervention effect on student-instructor relationship.**

The fact that the experimental group rated their relationship with the instructor significantly higher than the control group is important. Schweer and Gebbie (1976) suggest that the effectiveness of the total clinical nursing program is directly proportional to the kind of relationship the instructor establishes with students. Authors have consistently identified the ability to establish effective interpersonal relationships as an integral behavioral component of effective clinical instructors (Barham, 1965; Brown, 1981; Karns & Schwab, 1982; Kiker, 1973). Since a large part of nursing skill and behavior learned by nursing students is directly related to the behavior they observe in their nursing instructor (Kiker, 1973; Rauen, 1974; Stuebbe, 1981), an instructor who demonstrates the ability to relate well to students provides a pattern and serves as a role model in the area of interpersonal relationships.

Several authors have suggested that the interpersonal relationship with the instructor is a source of stress for
nursing students (Blainey, 1980; Davitz, 1972; McMaster, 1979). Rogers (1961) suggested that learning was most effectively promoted in a situation where threat to self was minimized and advocated measures to enhance interpersonal relationships. Significant learning is more likely to occur, therefore, in situations where a student experiences a positive interpersonal relationship with his/her instructor. Furthermore, since the self concept is understood to develop through an individual's relationship with significant others, including faculty members, students experiencing positive interpersonal relationships with instructors are provided an opportunity for development of a positive self concept (Rogers, 1961).

**Instructor effect on student state anxiety.** Although the intervention treatment failed to lower state anxiety in the experimental group to statistically significant levels, the trend for post intervention state anxiety scores to be higher in the control group than the experimental group is meaningful. A number of possible explanations for the study results are offered.

The fact that one instructor was unable to carry out the intervention planned on day three may have resulted in higher mean state anxiety scores in the experimental group, thus decreasing the chance for scores to be statistically significant. In addition, research treatment effects often
do not occur until well after the intervention. Expected change may occur over a period of time and at different individual rates. Multiple measurements of variables may have produced different findings.

Furthermore, numerous sources of stress for nursing students have been identified. Descriptive data from the Stress Questionnaire suggested that stress was due predominantly to clinical and academic concerns. This was consistent with findings of Elfert (1976), Fox et al. (1965), and McMaster (1979).

Within the clinical setting, however, some researchers have suggested that the interpersonal relationship between instructor and nursing student is not as important a source of stress as other identified factors (McMaster, 1979; Zujewskyj & Davis, 1985). Davitz (1972) and McMaster (1979) both noted that initial experiences evoke anxiety. This finding is supported by data acquired in this study in which students frequently identified the administration of intramuscular injections for the first time to be stressful.

The lack of statistical significance achieved when determining the effect of the intervention on post state anxiety scores may indicate the intervention was successful in dealing only with selected sources of stress. The intervention may be useful in decreasing stress resulting from negatively perceived interpersonal relationships with
instructors but unsuccessful in dealing with stress from other sources such as those associated with initial experiences, personal health problems, or academic concerns.

Correlation between scores of student-instructor relationships and anxiety. Although the findings correlating the higher rated instructor-student relationship with lower ratings of state anxiety were not strong, they were in the anticipated direction and were supported by findings of Forsyth and Layton (1985). A larger sample size and an intervention which occurs over a longer period of time may have strengthened the correlations.

Limitations

The limitations of the study are:

1. Factors other than the treatment intervention may have influenced the perceived student-instructor relationship.

2. Factors other than the treatment intervention may have influenced state anxiety.

3. The dependent variables used in the study rely on self-report measures and therefore are subject to the limitations of this measurement technique.
4. Sample size was small, confined to one institution and consisted of only one level of student as subjects; therefore, results are not generalizable except to a population with similar characteristics.

5. Having the treatment group second in all cases raises the possibility that differences may be due to order effect.

6. The inherent variability of instructors to carry out the treatment package may have affected results.

7. The ability of the developed STAI questionnaire to accurately measure the type of anxiety experienced by student nurses must be considered.

8. Use of a rating scale in the Relationship Questionnaire to measure the phenomena of empathy, congruence, and positive regard suggests they can be reduced to quantifiable elements. Stewart (1956) argues that empathy cannot be studied by the use of traditional methods and suggests a more holistic perspective to measurement. This view is supported by Hackney (1978) who suggests no instrument may be able to measure the projection of an individual's own feelings into another. Cronbach's alpha performed on the Relationship Questionnaire revealed internal consistency for the construct of empathy to be only .45.
CHAPTER FIVE  
Summary, Conclusions, and Recommendations for Further Research

Summary of the Study

The purpose of the study was to determine if an intervention designed to enhance the interpersonal relationship between the nursing instructor and a group of nursing students would lower students' anxiety in the clinical setting. It was hypothesized that student nurses who received a relationship-building intervention would rate their relationship with the instructor higher than student nurses who received a placebo intervention, and that student nurses who received a relationship-building intervention would have less state anxiety than student nurses receiving a placebo intervention. A secondary purpose of the study was to determine the relationship between the variables of interest, state anxiety and student-instructor relationship.

The theoretical underpinnings of the study were drawn from the work of Carl Rogers (1951, 1961, 1969, 1983). He suggests that learning is an affective as well as a cognitive experience and that anxiety resulting from feelings of threat to self could be minimized by establishing a positive interpersonal relationship between teacher and learner. He further suggests that three
constructs, empathy, congruence, and positive regard, facilitate development of such a relationship.

A review of selected literature reveals that practise in the clinical setting is a dominant source of anxiety for nursing students. A specific source of anxiety within this clinical setting is noted to be a student's relationship with the instructor. Authors also suggest that the interpersonal relationship established between teacher and learner can be related to student anxiety and that group methods designed to deal with anxiety in nursing students have been effective. Findings from literature and curiosity arising from personal observations provided the impetus for an experimental pre-test, post-test group design to be used to test three hypotheses. The experimental intervention in the study was designed to have nursing instructors demonstrate empathy, congruence, and positive regard during three successive post conferences with nursing students. The placebo intervention was normally scheduled post conference discussion.

The study took place over a two-week period and involved participants in a three-year diploma nursing program. The 30 member control group participated in the study before the 31 member experimental group. Baseline and post intervention data were collected from each group prior to and following the respective interventions. Data collection tools were: a demographic questionnaire, a
Stressful Event Questionnaire, the State-Trait Anxiety Inventory (Spielberger et al., 1970), and the Relationship Questionnaire (adapted from Truax and Carkhuff, 1967). Descriptive information from instructors and students was gathered informally at study end.

Analysis of data indicated that members of both groups were similar in demographic characteristics and trait anxiety ratings. Analysis of data from the Relationship Questionnaire indicated a treatment and instructor main effect were statistically significant. Members of the experimental group rated the perceived relationship with the instructor statistically significantly higher than members of the control group.

There was no statistically significant difference between the control and the experimental groups in their ratings of state anxiety. There was a trend, however, for those in the experimental group to have lower state anxiety ratings than those in the control group.

While correlations cited between the perceived student-instructor interpersonal relationship and anxiety were low, they were in the anticipated direction and suggested important relationships.

The differences between control and experimental groups were not statistically significant in relationship to the number of recently experienced stressful events nor were they different in the types of events perceived as
stressful. The types of events identified were consistent with findings of other researchers.

Informal data from instructors and students indicated that the intervention was positively received and determined to be useful.

**Conclusions**

1. Experimental subjects rated the student-instructor relationship higher than control subjects. It can be concluded, therefore, that a planned intervention implemented in a group of nursing students may result in an improved interpersonal relationship between nursing instructor and student. This relationship is integral to the success of the clinical component of nursing education. Inclusion of learning activities designed to foster this relationship seem valuable.

2. Experimental subjects did not report less state anxiety than control subjects. Therefore, it cannot be concluded that a positively perceived relationship with a nursing instructor will result in decreased student anxiety.

3. The correlation between student-instructor relationship scores and state anxiety scores were negative and greater for the experimental group than the control group. It can be concluded, therefore, that there is an inverse relationship between nursing student anxiety and the perceived relationship with the instructor.
4. The findings of this study support the theory proposed by Carl Rogers (1957, 1961, 1969, 1983). The constructs of empathy, congruence, and positive regard are significant components for developing a positively perceived interpersonal relationship between teacher and learner.

5. In this particular study, aspects of Roger's theory which suggest learners will be less anxious if the relationship to the teacher is positively perceived is not supported.

**Implications for Nursing Education**

Because clinical instructors cannot totally manipulate the clinical situation to promote learning, they should include as part of clinical instruction learning experiences which will facilitate development of positive interpersonal relationships with students. The deliberate placement of a relationship-building activity at the beginning of a clinical rotation or a group of strategically placed activities throughout a rotation may be most useful. Building of relationships with students may help decrease their anxiety in the stressful environment of clinical practise. As a result of decreased anxiety, learning should be enhanced and client care may benefit.
Incorporation of such learning experiences depends largely on the repertoire of teaching strategies clinical instructors have available to them. Current programs preparing nurse educators for the role of clinical instructor have limited content on methods contributing to the development of student-instructor relationships. Curricula of such programs could be expanded to ensure that content addressing this essential area is included. Furthermore, faculty development workshops focused on the theme of student-instructor relationships could be offered.

Clinical instructors should be aware of the significant effects their patterns of communication have on nursing students and strive to practise empathy, congruence, and positive regard. They should be encouraged to regularly evaluate their own use of such critical communication skills and seek assistance with development or modification of such skills.

In addition, the sensitivity of faculty to indicators of increasing anxiety within groups of students for whom they are responsible is important. Evaluating their own behavior as a possible source of the emotion and inclusion of an activity to deal with the response may be indicated.

Criteria for selection of faculty for clinical teaching roles should include those related not only to theoretical and practical knowledge but also those related to their ability to relate effectively to students. Students often
are not the most important priority in nursing education. Pressure to be productive in scholarly activities, such as research and publication or involvement in community services, often takes precedence over learners in the academic setting. Furthermore, clinical instructors often work in isolation with limited opportunity for peer support and recognition. Clinical instructors need to be rewarded for excellence in teaching and, specifically, for demonstration of facilitative interpersonal skills. Faculty evaluation tools should reflect assessment of these valued qualities.

If high anxiety situations exist in nursing, as research findings suggest, strategies for coping with them are essential both in the interest of enhancing learning and in providing future health professionals with techniques they can use with clients. Student nurses valuing a positive interpersonal relationship with instructors may strive towards development of such relationships with clients, thus providing clients with one source of dealing with their particular anxieties.

**Recommendations for Further Research**

The Relationship Questionnaire adapted by the investigator requires further development and refinement to improve internal consistency of the construct empathy. Increasing the number of responses rating the construct of
empathy from the present 10 to 20 and testing the instrument on a more heterogenous population may result in higher correlation readings.

Further research is needed to test the study's generalizability to nursing students whose characteristics, geographic setting, and academic conditions differ from the sample in this study. Other samples should include clinical groups from baccalaureate programs and two-year diploma programs as well as students at other levels within the three-year diploma program.

Findings from the Stress Questionnaire indicated a variety of sources of student anxiety within the clinical setting. A comparison of research findings in this area that were acquired using qualitative methodology would be interesting. Student anxiety could be influenced by factors such as type of clinical setting and interactions with other health team members. Identification of these factors would provide clinical instructors with knowledge to plan appropriate intervention.

The study tested the effectiveness of an intervention which was employed over a three-day period. Student anxiety levels were not lowered sufficiently to reach statistical significance. A replicate study using a larger sample size and employing a similar intervention package over a longer period of time may improve results.
In addition, the study assumed that the instructor was primarily responsible for the level of facilitative interpersonal conditions present in the relationship with students. There is considerable evidence which suggests the level of conditions is a result of dynamic interaction between teacher and student. This interaction deserves further investigation.

Finally, this study employed only one method to deal with student anxiety in the clinical setting. Research into the effectiveness of other group methods is indicated.

In conclusion, the investigator believes that the interpersonal relationship established between clinical instructor and nursing student is significant. Teaching strategies available to clinical instructors have demonstrated effectiveness in improving this relationship and should be incorporated into the instructor's repertoire of teaching techniques. The consequences of an improved student-instructor relationship may be helpful in both minimizing student anxiety and enhancing the effectiveness of the valued clinical learning experience.
References


Elfert, H. (1976). Satisfying and stressful incidents reported by students during the first 2 years of a new baccalaureate program in nursing. *Nursing Papers*, **8** (2), 36-43.


APPENDIX A

Self-Evaluation Questionnaire

STAI FORM X-1
Self-Evaluation Questionnaire

STAI FORM X-1

Questionnaire Number:

Student Number_________________________  Date____________________

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle to the right of the statement the number which indicates how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1. I feel calm ......................... 1 2 3 4
2. I feel secure ......................... 1 2 3 4
3. I am tense ........................... 1 2 3 4
4. I am regretful ........................ 1 2 3 4
5. I feel at ease ........................ 1 2 3 4
6. I feel upset ........................... 1 2 3 4
7. I am presently worrying over possible misfortunes .................. 1 2 3 4
8. I feel rested .......................... 1 2 3 4
9. I feel anxious ........................ 1 2 3 4
10. I feel comfortable .................... 1 2 3 4
11. I feel self-confident .................. 1 2 3 4
12. I feel nervous ........................ 1 2 3 4
13. I am jittery ........................... 1 2 3 4
14. I feel "high strung" .................... 1 2 3 4
15. I am relaxed .......................... 1 2 3 4
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>NOT AT ALL</th>
<th>SOMEWHAT</th>
<th>MODERATELY SO</th>
<th>VERY MUCH SO</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>I feel content</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>I am worried</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>I feel over-excited and &quot;rattled&quot;</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>I feel joyful</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>I feel pleasant</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

APPENDIX B

Self-Evaluation Questionnaire

STAI FORM X-2
Self-Evaluation Questionnaire

STAI FORM X-2

Questionnaire Number:

Student Number__________________________ Date____________________

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then circle to the right of the statement the number which indicates how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. I feel pleasant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I tire quickly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. I feel like crying</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. I wish I could be as happy as others seem to be</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. I am losing out on things because I can't make up my mind soon enough</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. I feel rested</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. I am &quot;calm, cool, and collected&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. I feel that difficulties are piling up so that I cannot overcome them</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. I worry too much over something that really doesn't matter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. I am happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. I am inclined to take things hard</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. I lack self-confidence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. I feel secure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. I try to avoid facing a crisis or difficulty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ALMOST NEVER</td>
<td>SOMETIMES</td>
<td>OFTEN</td>
<td>ALWAYS</td>
</tr>
<tr>
<td>---</td>
<td>--------------</td>
<td>-----------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>35.</td>
<td>I feel blue</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>36.</td>
<td>I am content</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>37.</td>
<td>Some unimportant thought runs through my mind and bothers me</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>38.</td>
<td>I take disappointments so keenly that I can't put them out of my mind</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>39.</td>
<td>I am a steady person</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>40.</td>
<td>I get in a state of tension or turmoil as I think over my recent concerns and interests</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

APPENDIX C

Relationship Questionnaire
**Relationship Questionnaire**

**Questionnaire Number:**

**Student Number** ________________ **Date** ________________

**DIRECTIONS:** People feel differently about some people than they do about others. There are a number of statements below that describe a variety of ways that one person may feel about another person, or ways that one person may act toward another person. Consider each statement carefully and decide how closely it describes your present relationship with your instructor. Circle the number to the right of each statement which best describes your response.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>NOT AT ALL</th>
<th>SOewhat SO</th>
<th>MODERATELY SO</th>
<th>VERY MUCH SO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>She seems to like me no matter what I say to her</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>She never says anything that makes her sound like a real person</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>She understands exactly how I see things</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>If I made mistakes or miss a class, she really gives me trouble about it</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>She is impatient with me</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>She usually knows exactly what I mean, sometimes even before I finish saying it</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>She doesn't like me as a person, but continues to see me as a student anyway</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>She appreciates me</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Even if I were to criticize her, she would still like me</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>She likes me better when I agree with her</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOT AT ALL</td>
<td>SOMEBODY</td>
<td>MODERATELY</td>
<td>VERY MUCH</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>11.</td>
<td>I often cannot understand what she is trying to tell me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>Often she makes me feel stupid, the way she uses strange words</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>I am just another student to her</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>I can learn a lot about myself from talking with her</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>She likes to see me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>I feel she is being genuine with me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>She feels indifferent about me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>Sometimes I feel what she says to me is very different from the way she really feels</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>She sometimes seems more interested in what she herself says than in what I say</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>She ignores some of my feelings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>I would not be afraid to ask her for help</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>She acts too professional</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23.</td>
<td>She really listens to everything I say</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24.</td>
<td>She ignores some of my feelings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25.</td>
<td>I feel I can trust her to be honest with me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26.</td>
<td>She seems willing to share her own experiences as a student</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
27. She sometimes pretends to understand me when she really does not ................. 1 2 3 4

28. She is usually not very interested in what I have to say ............... 1 2 3 4

29. I am afraid of her ............... 1 2 3 4

30. I feel I can count on her to tell me what she really thinks or feels .... 1 2 3 4

APPENDIX D

Relationship-building Activities Package
This packet contains an outline of activities which I'd like you to complete with your individual groups next week.

There are three "interactional episodes". Please complete number one on Tuesday during post conference, number two on Wednesday during post conference, and number three on Thursday during post conference.

Thank you for your cooperation.

The teacher as a person is more important than the teacher as a technician. What he is has more effect than anything he does.

Jack Canfield
Interactional Episode I

During your post clinic time, rather than carrying out your regular discussion, please carry out the following exercises.

Explain to your clinical group that, rather than the conventional post conference, this week a different format focused on communication will be followed.

The exercises should take approximately 30 minutes.

Exercise 1

Divide the group into two groups of four, or one group of three and one group of four. The instructor is included in one of the groups.

Have the two groups sit facing each other (one person may not have a partner initially). Each member of the pair fills in the following phrase:

"When I see .............., I feel .............."

(Instructor can write the phrase on the board.)

Allow time for thought formulation.

After each pair has completed the exercise, one row of four moves one seat along so two new partners are facing each other. The phrase will then be completed by each person using new words. The row keeps changing until the original pair are facing each other.
Exercise 2

Each group member (including the instructor) will complete the statement:

"I am ...........................

Complete the statement using five adjectives describing yourself and then rank order them in terms of importance to you as an individual. Record your answers independently. Go around the group and each group member shares their adjectives in rank order with the most significant reported last.

Exercise 3

The instructor shares with the group an anecdote about themselves as a student or an amusing episode involving themselves as an instructor.

Exercise 4

Closure exercise.

Instructor to write on board:  I think .................

I feel ....................

I learned .................

Each student and instructor fills in one of the blanks and verbally shares it with the group. Complete in one go-round.
Every person needs recognition. It is expressed cogently by the lad who says, "Mother, let's play darts. I'll throw the darts and you say 'wonderful.'"

M. Dale Baughman, *Educator's Handbook of Stories, Quotes, and Humour*
Interactional Episode II

During your post clinic time, rather than carrying out your regular discussion, please carry out the following exercises.

The exercises should take approximately 30 minutes.

Exercise 1

Divide the group into two groups of four, or one group of three and one group of four. The instructor is included in one of the groups.

Have the two groups sit facing each other (one person may not have a partner initially). Each member of the pair answers the following three questions:

"What do you feel?"
"What do you want?"
"What are you afraid of?"

Instructor can write questions on the board.

Allow time for thought formulation.

After each member of the pair has answered the questions, one row of four moves one seat along so two new partners are facing each other. The questions will then be completed by each person using new words. The row keeps changing until the original pair are facing each other.
Exercise 2

Students share with the instructor and other students their expectations of the instructor as a professional and clinical instructor. For example, instructor behaviors they like or find helpful and those they dislike or find unhelpful.

Exercise 3

Closure exercise.

Instructor to write on board: I think .................

I feel .................

I learned .............

Each student and instructor fills in one of the blanks and verbally shares it with the group. Complete in one go-round.

If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow.

Rachel Carson, The Sense of Wonder
During your post clinic time, rather than carrying out your regular discussion, please carry out the following exercises.

The exercises should take approximately 30 minutes.

Exercise 1
Students and instructor to sit in a circle. Each group member (including the instructor) shares with the group two positive experiences in which they were involved during the past week. Ask that participants choose at least one experience that pertains to clinical work. Allow a few minutes for thought formulation. Have each group member (including the instructor) share verbally their two experiences.

Exercise 2
Students and instructor to share with the group one negative experience they identified during the week. For example, a statement might begin: "One thing I had trouble with ........." or "One thing I didn't like was ........."
Exercise 3

Group members and instructor to give one response to:
"This week I especially appreciated ............"

Exercise 4

Group to share feelings about interactional episodes
with each other.

The End

With thanks for your
cooperation.
APPENDIX E

Explanatory Letter

Director, Level 1 Co-ordinator
Dear Director/Co-ordinator:

In order to complete a Master's Degree in Nursing at the University of British Columbia I have elected to do a thesis. My research is in the area of interpersonal relationships and their effect on student anxiety in the clinical setting.

I would like to conduct an experimental study involving one class of first level students and their clinical instructors.

I propose to have each of the five instructors work with both a control and an experimental group. The treatment involved consists of three "interactional episodes" designed to facilitate positive interpersonal relationships between instructor and students.

The study would take place over a two-week period. During the first week the instructor would implement the "control" package and during the second week would implement the "treatment" package.

The amount of instructor time involved would be about one to two hours in addition to her regularly scheduled clinical hours. During the one to two hour period, orientation to the "package" would occur. This would be completed by myself.

I propose to have students rate both anxiety and instructor-student relationships. Their participation is entirely voluntary. I would like to have approximately
one half hour for data collection on Monday and Thursday of two consecutive weeks at 1300 hours. In addition, it is necessary for me to pretest my instrument to measure instructor-student relationships. I would like to do this with a group of twenty first level students who would not be involved in the study. I would like to have them complete the questionnaire on two occasions in order to establish test-retest reliability. The questionnaire could be completed in approximately twenty minutes.

I look forward to hearing from you and working with you.

Sharon Sundberg, BSN
APPENDIX F

Explanatory Letter

Participating First Year Instructors
Dear Colleague:

In order to complete a Master's Program in Nursing at The University of British Columbia I have selected to do a thesis. My research is in the area of interpersonal relationships and their effect on student anxiety in the clinical setting.

I would like to conduct an experimental study which would involve both yourself and your two groups of students. Your involvement would entail implementing three groups of activities with the experimental group.

The three activities for the experimental group would take place during post conference Tuesday, Wednesday, and Thursday of their second week on your ward. The objectives and instructions for the activities would be provided by myself prior to implementation. Orientation to the "activities package" will probably take one hour and time for questions will be allowed.

Your participation in the study is entirely voluntary and will in no way reflect on your employment status. If at any time during the study you wish to withdraw, your actions are acceptable.

Students will be asked to complete questionnaires as a part of the study. Findings from these questionnaires will be grouped to ensure anonymity. Questionnaires will be shredded once data is coded.
Implementation of the planned activities with your students will constitute consent to participate in the study.

Thank you for your cooperation. I look forward to working with you.

Sharon Sundberg, BSN
APPENDIX G

Explanatory Letter

Subjects for Instrument Validation Test
My name is Sharon Sundberg and I am a graduate student in the Master's Degree Program in Nursing at The University of British Columbia. I am planning to conduct a study titled "The Effect of a Relationship-Building Activity on Nursing Student Anxiety in the Clinical Setting".

The purpose of this study is to examine through the use of questionnaires students' anxiety in the clinical setting. Findings of the study will be of benefit to both faculty and students in enhancing learning within this setting. The study has been approved by the ethical review committee of this agency and by the School of Nursing.

Your participation in this study is entirely voluntary. If you choose not to participate, no untoward actions will ensue.

Participation involves completion of a questionnaire which will take approximately 15 minutes. I would like you to complete the questionnaire on two occasions approximately one week apart. The purpose of this testing is to establish test-retest reliability. Questionnaires are anonymous, but if on completion of the questionnaire you prefer not to submit it, your actions are acceptable.

Data from questionnaires will be used solely for the purpose of this study. Findings will be grouped to ensure anonymity of respondents. Questionnaires will be shredded once data is coded.
Grouped findings of the study may be shared with the faculty of this School of Nursing and with the members of the participating class of students.

Completion of the questionnaire will constitute your consent for participation in the study.

Thank you for your assistance.

Sharon Sundberg, BSN
APPENDIX H

Explanatory Letter
Control and Experimental Subjects
My name is Sharon Sundberg and I am a graduate student in the Master's Degree Program in Nursing at The University of British Columbia. I am planning to conduct a study titled "The Effect of a Relationship-Building Activity on Nursing Student Anxiety in the Clinical Setting".

The purpose of this study is to examine through the use of questionnaires students' anxiety in the clinical setting. Findings of the study will be of benefit to both faculty and students in enhancing learning within this setting. The study has been approved by the ethical review committee of this agency and by the School of Nursing.

Your participation in this study is entirely voluntary. If you choose not to participate, no untoward actions will ensue.

Participation involves completion of questionnaires which will take approximately 30 minutes. Questionnaires are anonymous, but if on completion of the questionnaire you prefer not to submit it, your actions are acceptable.

Data from questionnaires will be used solely for the purpose of this study. Findings will be grouped to ensure anonymity of respondents. Questionnaires will be shredded once data is coded.

Grouped findings of the study may be shared with the faculty of this School of Nursing and with the members of the participating class of students.
Completion of the questionnaire will constitute your consent for participation in the study.

Thank you for assistance.

Sharon Sundberg, BSN
APPENDIX I

Stressful Event Questionnaire
Stressful Event

Questionnaire Number:

Do you feel you have experienced an unusually stressful event during the past 24 hours?

Yes ☐
No ☐

If yes, please describe in your own words the nature of the stressful event. For example, a car accident, death of a family member or friend.
APPENDIX J

Demographic Data Form
Demographic Data Form

Questionnaire Number:

Please complete the following questions by filling in the correct box.

Age 17-20 □ Sex Male □ Marital Single □
21-25 □ Female □ status Married □
26-29 □ Divorced □
30-39 □ Separated □

Occupation prior to enrolment in the VGH Nursing program:

Student □
Practical Nurse □
Nurse aide □
Other □

During the past week your clinical experience was on:

A3 □
E7 □
W7 □
E9 □
E10 □

Were you in attendance on all three clinical days?

Yes □
No □

If no, did you miss:

1. □
2. □
3. □
APPENDIX K

Figure 1: Plot of State Anxiety Scores by Treatment Group
Figure 1  Plot of State Anxiety Scores by Treatment Groups

Pre-test State Anxiety Score

C=control, T=treatment.
APPENDIX L

Figure 2: Plot of State Anxiety Scores by Instructors
Figure 2  Plot of State Anxiety Scores by Instructors

Pre-test State Anxiety Score  vs  Post-test State Anxiety Score