

A COMPARISON STUDY OF THE STRESS LEVELS OF PERSONNEL ON  
AN UNDERSTAFFED AND ADEQUATELY STAFFED NURSING UNIT

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COLLEGE OF NURSING

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## DEDICATION

To my parents, whose goals for my future became  
an incentive and a reality, and

To my husband, whose continuous support and  
sacrifice has made this reality possible.

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## TABLE OF CONTENTS

	Page
Dedication. . . . .	iii
Acknowledgements. . . . .	iv
Table of Contents . . . . .	v
List of Tables . . . . .	vii
 CHAPTER 1 - INTRODUCTION. . . . .	 1
Problem of the Study . . . . .	1
Justification of Problem . . . . .	2
Theoretical Framework. . . . .	6
Assumptions. . . . .	8
Hypotheses . . . . .	8
Definition of Terms. . . . .	9
Limitations. . . . .	12
Summary . . . . .	12
 CHAPTER 2 - REVIEW OF LITERATURE . . . . .	 14
Stress Associated With Nurses. . . . .	14
Staffing Patterns As A Stressor. . . . .	17
Criteria For Staffing Methodology. . . . .	20
Computation of Staffing Patterns . . . . .	22
Summary . . . . .	24
 CHAPTER 3 - PROCEDURE FOR COLLECTION AND TREATMENT OF DATA . . . . .	 26
Setting . . . . .	26
Population and Sample. . . . .	27
Protection of Human Subjects . . . . .	28
Instrument . . . . .	28
Scoring . . . . .	28
Validity. . . . .	29
Reliability . . . . .	29
Data Collection. . . . .	30
Treatment of Data. . . . .	31



	Page
CHAPTER 4 - ANALYSIS OF DATA . . . . .	33
Description of Sample . . . . .	33
Findings. . . . .	40
Summary of Findings . . . . .	50
CHAPTER 5 - SUMMARY OF THE STUDY . . . . .	52
Summary . . . . .	53
Discussion of Findings. . . . .	53
Conclusions and Implications. . . . .	55
Recommendations for Further Study . . . . .	58
LIST OF REFERENCES . . . . .	59
APPENDICES	
A    MULTIPLE AFFECT ADJECTIVE CHECK LIST. . . . .	62
B    CONSENT FORM . . . . .	65
C    DEMOGRAPHIC DATA SHEET. . . . .	67
D    PERMISSION FOR THE STUDY. . . . .	69

## LIST OF TABLES

Table Number		Page
1	Comparison of Adequately Staffed and Understaffed Nursing Units by Age. . . . .	35
2	Comparison of Adequately Staffed and Understaffed Nursing Units By Years of Nursing Experience. . . . .	37
3	Comparison of Adequately Staffed and Understaffed Nursing Units by Level of Education . . . . .	38
4	Comparison of Adequately Staffed and Understaffed Nursing Units by Major Concerns Upon Arrival at Work . . . . .	39
5	Comparison of the Pretest Means of Scores for Adequately Staffed and Understaffed Units . . . . .	40
6	Comparison of the Posttest Means of Scores for Adequately Staffed and Understaffed Units . . . . .	41
7	Comparison of the Pretest Means of Scores For Adequately Staffed and Understaffed Medical Units . . . . .	43
8	Comparison of the Posttest Means of Scores for Adequately Staffed and Understaffed Medical Units . . . . .	44
9	Comparison of the Pretest Means of Scores For Adequately Staffed and Understaffed Surgical Units. . . . .	45
10	Comparison of the Posttest Means of Scores For Adequately Staffed and Understaffed Surgical Units. . . . .	46

## LIST OF TABLES (CONTINUED)

Table Number		Page
11	Comparison of the Pretest Means of Scores for Registered Nurses on Adequately Staffed and Understaffed Units. . . . .	47
12	Comparison of the Posttest Means of Scores For Registered Nurses on Adequately Staffed and Understaffed Units. . . . .	48
13	Comparison of the Pretest Means of Scores for Licensed Vocational Nurses and Nursing Aides On Adequately Staffed and Understaffed Units . . . . .	49
14	Comparison of the Posttest Means of Scores for Licensed Vocational Nurses and Nursing Aides On Adequately Staffed and Understaffed Units . . . . .	50

## CHAPTER 1

### INTRODUCTION

The problem encountered with establishing an effective staffing pattern can be identified as a well known stressor of nurses. Several causative factors can be identified as stress producing to nurses, but one of the most common stress producers which inadvertently affects staffing patterns involves utilizing nurses on units of which they were not originally assigned. The practice of floating nurses to unassigned nursing units can thereby create a staffing problem and the effectiveness of the provided nursing care is decreased. It is the intent of this study to focus on the measurement of stress of nursing personnel on an adequately staffed patient care unit and on an understaffed nursing unit.

#### Problem of Study

The problem of this study was: Is there a difference between the stress level of a nurse on an understaffed nursing unit and the stress level of a nurse on an adequately staffed nursing unit?

### Justification of Problem

Studies have been completed concerning the intensive care nurse and stress, but only a few studies reflect the stress factors on a non-intensive care setting. Gentry et al. (1972) reported from their comparative study of situational stress in intensive and non-intensive nursing that there was no significant personality patterns on the psychological tests involved, although more depression, hostility, and anxiety were reported in the intensive care nurses than in the non-intensive care nurses involved (Gentry et al., 1972, p. 795).

A study conducted in Tennessee by the National Institute for Occupational Safety and Health (NIOSH) concluded that health care professionals including nurses are involved in jobs that produce excessive stress. This study involved 106 out of 130 selected occupations which were ranked by physicians; 24 occupations were not ranked. Nursing related occupations ranked extremely high in the study. Practical nurses or Licensed Vocational nurses were ranked twenty-seventh from the top among the 106 occupations that were ranked (Ivancevich and Matteson, 1980, p. 17).

The identification of job related stress factors has repeatedly been attempted by researchers and health care related personnel. A "Stress Diagnostic Survey" devised to assess job factors capable of producing stress for registered nurses was conducted by the NIOSH. A total of 82 registered nurses with a mean age of 35.3 years, and a mean of 10.6 years of nursing experience were tested. Two classifications of stressors were utilized which include the hospital set of stressors and the job set of stressors. The hospital set of stressors depicted the hospital's procedures, policies, programs, politics, communications, and rewards. The job set of stressors included the categories of role conflict, role overload, and responsibility for people. Conclusions of the study revealed five stressful areas present for the registered nurse. Responsibility for people rated the highest, while time pressures, role conflict, relations with other nurses, and relationships with superiors followed respectively (Ivancevich and Matteson, 1980, p. 19).

A second part of the "Stress Diagnostic Survey" was to determine if nurses classified according to behavior patterns Type A or Type B experience similar or different types of stress in the hospital. It was reported that

distinct differences in perception of stress for Type A and Type B personalities exist. It must be noted that both types of personalities rated responsibility for people and time pressures as significantly stressful (Ivancevich and Matteson, 1980, p. 20). From this study we must be made aware that the situation and the personality of the individual will dictate the nurse's ability to perform and cope with the stress factor.

Situational stress factors have been a target of identification in recent years. Changes in life adjustment are of particular interest to many researchers. In a recent study by Hebert (1976) a conclusion was drawn that an abundance of life changes was a stressful factor which made the individual more susceptible to illness and disease. He furthermore concluded that the individual's perception of his capabilities and adjustment to new and altered patterns were relevant for investigation (Hebert, 1976, p. 23).

Brockway (1979) further researched situational stress with the assistance of the Psychological Stress Evaluator (PSE). A significant increase in vocal stress was measured and recorded by this voice apparatus prior to and succeeding a naturally occurring environmental stress, for example, a college final examination (Brockway, 1979, p. 20).

Stressful situations also arise from within the hospital setting. One of the most widely recognized stress factors concerns staffing. Ryan attempted to develop a flexible staffing pattern based upon such aspects as skill level, the development of staffing tables, and constructs. The study evolved around staffing according to seasonal census fluctuations. A conclusion drawn from the study involving job satisfaction stated that disenchantment occurred whether nursing units were overstaffed or understaffed (Ryan, 1975, p. 11).

Cassell and Shilling (1979, p. 122) reported from a study involving nursing tasks and performance times that there was no unit adequately staffed to provide the optimal level of care. The necessity to keep all positions for ward clerks and other technicians was established in order to minimize the workload for nursing personnel. The average hours of care needed by each patient would be kept at a minimum if nurses were not held responsible for the services rendered by other departments such as dietary and respiratory therapy (Cassell and Shilling, 1979, p. 122).



### Theoretical Framework

Stress, as defined by Selye, is the nonspecific response of the body to any demand (Selye, 1976, p. 74). Emotional aspects have been identified as the most important stressors for man. Furthermore, each individual possesses internal hereditary traits which influence our stress responses. As humans we are continuously faced with emotional stimuli and the effect the stressor has on our daily lives. The stressor effects depend not on our actions or our fate, but on the manner in which we are exposed physiologically (Selye, 1976, p. 370).

The endocrine system is most associated with the effects of stressors. During the process of stress, not only the hypothalamus, the pituitary gland, and the adrenals are affected by stress, but also the stomach, lymphatic tissues, and the white blood cells are recognized as being affected. Noticeable changes in all of these vital areas were recorded after exposure to stress. The exact pathway of hormonal stimulation is still under extensive exploration (Selye, 1976, p. 100). However, the adrenal glands have been identified as the key linkage for excessive hormonal production during a stressful situation (Selye, 1976, p. 102).

With the evolution of the "General Adaptation Syndrome," Selye identified three phases of stress responses. The primary phase is referred to as "Alarm Reaction." Bodily changes occur that are characteristic of the initial exposure. Resistance is diminished in the organism, and if the stressor is exceedingly strong, death may result. The "Stage of Resistance" follows if exposure to the stressor continues although bodily changes initiated from the alarm reaction have ceased. The final stage, the "Stage of Exhaustion" ensues after long term exposure has exhausted adaptive energy. Signs of the alarm reaction now reappear, but are irreversible, and death to the organism is inevitable (Selye, 1974, p. 27).

Particular occupations are documented as containing more stressors which physiologically affect the organism. In nurses, rotating shift work produces the most severe disturbances in corticoid and adrenalin production. Despite the stress of varying work hours, the exclusion from society is likewise stressful for the individual (Selye, 1976, p. 374). As nurses, we must realize that stress responses are inborn, and we as individuals must learn to respond in a fashion which is not self-destructive.

### Assumptions

Assumptions made in this study include:

1. The participants will read and speak the English language.
2. The participants will truthfully answer to the best of their ability.
3. There is a difference in the stress level of a nurse on an adequately staffed nursing unit and the stress level of a nurse on an understaffed nursing unit.

### Hypotheses

The hypotheses, stated in null form, were:

1. There is no significant difference in the anxiety level of a nurse on an understaffed nursing unit and the anxiety level of a nurse on an adequately staffed nursing unit.
2. There is no significant difference in the level of depression of a nurse on an understaffed nursing unit and the level of depression of a nurse on an adequately staffed nursing unit.

3. There is no significant difference in the hostility level of a nurse on an understaffed nursing unit and the hostility level of a nurse on an adequately staffed nursing unit.

#### Definition of Terms

1. Stress - is the response of the body to any demand made upon it. All or most parts of the body can be affected without selectivity. Good and bad responses occur from the stimulus (Selye, 1974, p. 151).
2. Registered nurse - "One who has had two or more years of nursing education that consists of study in the biological, social sciences, and courses that deal with nursing problems. She applies the principles learned in the science courses to the nursing courses and then with understanding applies this knowledge in her nursing care. She takes into consideration the type of patient, the environment of the patient, the medical diagnosis, and then plans the nursing care for that specific patient" (DeYoung, 1972, p. 64).

3. Licensed Vocational Nurse - "One who has had formal training in a school designed for that purpose. She is prepared to give bedside nursing care, perform some technical skills, administer medications and treatments, and in some instances, plan care for groups of patients under the supervision of a registered nurse" (Douglas, 1970, pp. 89-90).
4. Nursing Aide - "One trained on the job to perform unskilled services in private homes or health agencies under the supervision of a registered nurse or a physician. She is able to administer hygienic care and perform such procedures as taking vital signs and tabulating oral intake and output" (Douglas, 1970, p. 89).
5. Staffing Patterns - "The sequential process of determining patient needs, a system to meet those needs, and the personnel necessary to maintain those systems" (Stevens, 1976, p. 135).
6. Adequate Staffing - "A sufficient number of qualified registered nurses on duty at all times to give patients the nursing care that requires the judgment and specialized skills of a registered

nurse. Nursing personnel staffing shall also be sufficient to assure prompt recognition of an untoward change in a patient's condition and to facilitate appropriate intervention by the nursing, medical, or hospital staffs" (Joint Commission on Accreditation of Hospitals, 1979, pp. 117-118).

7. Anxiety - "A sociopsychophysiologic phenomenon experienced as a foreboding dread or threat to the human organism whether the threat is generated by internal, real, or imagined dangers, the sources of which may be conscious or unconscious, or whether the threat is secondary to actual environmental threats of a biosocial, biophysical, or biochemical nature" (Lesse, 1970, p. 13).
8. Depression - "A syndrome consisting of dejected mood, psychomotor retardation, insomnia, and weight loss, sometimes associated with guilt feelings and somatic preoccupations, often of delusional proportions" (Dorland's, 1974, p. 423).
9. Hostility - "Antagonism, animosity, anger, or resistance toward an individual or group" (Jeffers et al., 1979, p. 628).

### Limitations

The intervening variables which are capable of diminishing the ability to generalize include:

1. The setting is limited to those nursing units with similar patient mixture.
2. The population is limited to those who are willing to participate.
3. The age, race, sex, level of education, and number of years of experience cannot be controlled for the participants.
4. The stimuli on the nursing units cannot be totally controlled; i.e., deaths and emergency crises.
5. The presence of student nurses cannot be eliminated from the nursing units.
6. Concurrent extra outside employment experiences cannot be controlled.

### Summary

Stress has many causes that are defined in terms of nursing. The signs and symptoms of stress were stated, and various studies were cited in the justification of the problem in which stress was the primary area of focus.

Studies pertaining to staffing patterns were cited in relation to requirements of the Joint Commission on Accreditation of Hospitals. The statement of the problem and the hypotheses were listed. The limitations of the proposed study were identified and definitions pertinent to the study were stated. The assumption was made that there is a significant difference of stress levels of nurses on an adequately staffed nursing unit and the stress levels of nurses on an understaffed nursing unit. The theoretical framework was stated in a physiological and psychological frame of reference. The concept of stress was emphasized throughout the theoretical framework.



## CHAPTER 2

### REVIEW OF LITERATURE

#### Stress Associated With Nurses

Stress is a recognized aspect of daily living. In reference to stress such complaints as physical tiredness, mental fatigue, loss of efficiency, being snappy and unhappy are often suggested by nurses. Harmful feelings described by nurses as a part of their job include anxiety and much emotional conflict (Nash, 1975, p. 476). The nature of the work is cited most often by nurses as being their primary stressor. The constant exposure to life and death situations and the chronic worrying over if the correct decision was made that was required for family and relatives. The ever constant changing of routines, values, and attitudes which are taking place in society as well as the field of nursing are a constant threatening force for a nurse. Change infers reorganization which is a frustrating experience for everyone concerned. The expectations of the public also place a tremendous strain on nurses. The conflict of what the public perceives as a nurse's role with the resources and facilities actually available are constantly at war.

Also, there is a conflict of differentiating between the nurse's knowledge of provision of care and what in actuality is feasible in consideration of underfinancing, understaffing, and lack of equipment. Perhaps the major stress factor to be considered is role conflict within the nurse to meet the emotional demands of the job itself--the ability to adapt attitudes, values, and ideas to accommodate an ever-changing role description (Nash, 1975, p. 476).

Indications of stress often are present in an individual, but yet go unnoticed by others. One early indicator of stress is resistance, with the individual attempting to make adjustments and resolve internal struggles (Coombe, 1976, p. 17). Withdrawal also might be exhibited by avoidance of others and not taking initiative to help or to make contacts with families (Coombe, 1976, p. 19). Lastly, the stressed individual may use blame or verbal abuse in an attempt to activate feelings about dependent authority conflicts (Coombe, 1976, p. 20).

Nurses are susceptible to society's stresses as are members of other professions. By the mere fact that nurses chose a profession which delegates the role of helping others to cope with stress does not necessarily mean that they themselves have the ability to withstand stress in their own lives.

Stress present in a nurse implies tension which unfortunately produces the effect of anxiousness in the patients she has in her care. It has frequently been documented that stress and anxiousness in patients prove to be a hindrance in achieving a state of wellness (Nash, 1975, p. 476).

The ability of the nurse to deal with the stress factor is dictated by her pattern of behavioral personality. Type A personality has an outward expression of inner turmoil and desires. If the individual possesses a Type A personality she will demonstrate the attitude of being habitually impatient, constantly under stress, and the feeling of pressure that she has not enough time. Body movements are described as being brisk, and speech is explosive and hurried. Tenseness is constantly experienced by those in contact with the individual. Type B personality keeps inner feelings intact and subdued. This individual is described as a nonachiever and incapable of hard work (Young, 1974, p. 66). From the description of the two types of personality traits one can understand that the Type A individual would accomplish more tasks and goals that were established by the individual, but have the capability of notwithstanding stress in an acceptable manner and producing stress in others.

The management of stress in an acceptable form is essential for the level of wellness and functioning of the individual. It has been repeatedly stated that a certain amount of stress is necessary for survival and well being, but when stress becomes prolonged and in excess to the individual's adaptive capacities that changes will occur in the individual. Smith and Selye (1979) have recognized three variables capable of altering the outcome of a potential stressor. These variables include the individual's perception of events and agents as stressors, conditioning factors present in the lifestyle of the individual, and coping mechanisms available to the individual (Smith and Selye, 1979, p. 1955).

#### Staffing Patterns As A Stressor

Nurses have frequently cited staffing patterns of nursing units as being a chronic job related stressor. Many hospitals have to be staffed by nurses who work double shifts or nurses who work overtime. It is out of a shortage of registered nurses on nursing units that the skilled care which should be given by registered nurses is delegated to unsupervised practical nurses and aides. Stress is further increased as nurses are required to

provide nursing care on other nursing units to which they were not originally assigned (James, 1979, p. 333).

The workload of a nurse is also affected by the demands placed upon her by the physicians in which she comes in contact. Satisfaction of both identified patient nursing needs and delegated medical tasks are often a source of frustration to the nurse. The work performed by the nurse may not be thoroughly understood by the physician which then results in unrealistic patient care loads being imposed upon the nurse (Fine, 1974, p. 2206). Limited time remains for the functions that are essential to nursing and for the utilization of education that has been obtained.

Sample, chairperson of the American Nurse's Association (ANA) Commission on Nursing Services, upholds the beliefs that nursing time is available to maximize the nurse's productivity for direct patient care if the institution is supportive and in harmony with this belief. Sample further recognized the fact that nurses are continuing to assume the chores of other departments after these departments have closed for weekends, evenings, and nights. It should be remembered that on weekends, evenings, and nights that nursing manpower is further reduced from the norm. As a result of this decrease in both departmental and nursing manpower, the

continuity of patient care is greatly affected (The American Nurse, 1981, p. 3).

King, vice chairperson of the ANA's Commission on Nursing Services, expanded on Samples' statements recognizing the basis for why nurses take on non-nursing activities. Some of the reasons listed for this occurrence included the feeling of importance experienced by the nurse in assuming the functions of other departments and the accomplishment of quick and easy tasks that provide a sense of gratification which unlike patient care is often demanding. Nurses also assume these extra tasks because they feel they are necessary to make the system of patient care work on behalf of the patient (The American Nurse, 1981, pp. 3 and 8).

Cost effectiveness to the consumer was also reviewed by King who declared that it is not cost effective to allow a nurse to direct her energies to a task that is not directed toward clinical care or meeting the consumer's needs. (The American Nurse, 1981, p. 3).

To alleviate the frustrations produced on the nursing unit in regard to staffing patterns and the provision of high quality care the Joint Commission on Accreditation of Hospitals (JCAH) has established guidelines for hospitals. The JCAH suggests that an adequate number of licensed registered nurses be on staff at all time to provide the

nursing care which demands the judgment and specialized skills of a registered nurse. The JCAH further specifies that the quantity of registered nurses and auxilliary personnel for each nursing unit can be determined only through evaluation of the patient needs and the capabilities of the nursing staff (Ryan, 1975, p. 10). The ratio of registered nurses to other workers will also influence the number of available positions, wage costs, and the quantity of care dispensed (Alexander, 1972, p. 292).

#### Criteria For Staffing Methodology

Criteria exist in each specific institution regarding staffing and personnel workload. The staffing methodology basically is not altered for each institution. The existing criteria are as follows. The staff is responsible for possessing the knowledge and skill necessary to perform services to patients and to meet the established objectives. The daily and weekly assignments of the staff must adhere to the personnel policies of the institution. It is essential that staffing patterns provide for the continuity of services to the patients and for the personnel to be used both effectively and economically. Staffing patterns should provide for leadership personnel capable of training staff to perform duties of nursing. Additional professional

personnel should be available to develop, execute, and evaluate programs of advanced learning for staff personnel. Lastly, allowances of personnel for nonproductive time frames should be included in a staffing pattern to safeguard the maintenance of minimal staffing numbers in the institution (Aydelotte, 1973, p. 60). An acceptable staffing pattern must then take into account the institution's policy regarding professional nurse supervision, the optimal workload and nurse personnel power, the guidelines for personnel scheduling, the definitions of difficult nursing functions, and the appropriate utilization of nursing knowledge and skill of the personnel in each category of health care. Aydelotte has further defined the ideal staffing pattern as consisting of each patient receiving 4.7 total hours of nursing care per day of which 2.5 hours should be provided by professional nurses and 2.2 hours by other nursing personnel (Aydelotte, 1973, p. 74).

The workload of a nurse is based on each individual shift and the identified usual needs of the patients. The workload and ratio of nurses to patients should be adjusted to the patient classification as a total group, the average census of the unit and the range of fluctuation in census, and the physical design of the unit. The available composed



staff and the available support services to the nursing staff should also be taken into account before the designation of a specified number of personnel to a nursing unit is established (Price, 1975, p. 29).

### Computation of Staffing Patterns

From the administrator's viewpoint, staffing patterns are predicted on the basis of the computation of the amount of time required for the average patient in each patient category, the nursing care knowledge, and the skill level for each class of patients. The first step in the prediction of staffing needs involves the calculation of the number of nursing hours required for the average patient in each class per twenty-four hours. Following the conclusion of what comprises an average group of patients on the nursing unit, one must then determine the total number of nursing care hours per day per nursing unit. The last measure to be taken requires the distribution of the total hours required for an average group of patients on the nursing unit among both professional and nonprofessional care deliverers. It is through the process of task analysis, compilation of task complexes, and the nursing judgment concerning the nursing care of the patients to be served that the ratio between the categories of personnel can be established.

Following the establishment of the appropriate mixture of knowledge and skill on the nursing unit, the distribution of hours over a twenty-four hour time period is made by setting up specific numbers of staff from the selected categories of workers for the day, evening, and night period. It is this distribution of personnel which defines the work schedule and denotes both on-duty time and days off (Aydelotte, 1973, pp. 6-7).

Despite the availability of knowledge and formulas to accomplish the task of computing the quantity of personnel required to care for the ill, a doubt remains in the minds of administrators and personnel if nursing units are indeed adequately staffed to provide optimal nursing care. The study conducted by Cassell and Shilling (1979) to determine the average hours of nursing care required per day best exemplifies this statement. The results of this study showed that no two nursing units require the same average hours of care per patient or the same ratio of registered nurses to licensed vocational nurses and nursing aides. It was also concluded that the needs of nursing units varied based on the severity and nature of the patient's illness and the patient census. This study furthermore concluded that no nursing unit was staffed to provide the optimal level of care. The researchers

determined that many nursing activities could be delegated to other supportive departments so that the nursing personnel could increase the average hours of care needed and provided to each patient (Cassell and Shilling, 1979, pp. 118 and 122).

### Summary

In view of the literature available on stress and on the requirements of an adequately staffed nursing unit under stressful circumstances the nurse's perception of stress might be altered. The signs and symptoms of stress were reviewed as well as conditions capable of the production of stress. The outcome and management of stress by the individual was also explored. The literature supported the fact that nurses who have chronic occupational stress cannot provide high-quality nursing care and give the support needed by patients. Stress on the nursing unit is also recognized as being capable of increasing the susceptibility of both patients and nurses to disease, decreasing work satisfaction, and producing a loss both financially and in manpower work hours.

The methodology and criteria for the establishment of staffing workloads were reviewed in reference to the specified duties of each category of personnel and the actual duties being performed by the nurse and other nursing personnel. It was emphasized that nurses are performing duties on the nursing units which are not within their job description thereby drawing energy and time away from patient care. The computation for the determination of staffing patterns was expounded on from the administrator's viewpoint. In consideration of the material presented, the stress level of a nurse on an adequately staffed nursing unit compared to the stress level of a nurse on an understaffed nursing unit will be the primary focus of this study.

## CHAPTER 3

### PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

A descriptive design method was chosen for use in this study. From the data obtained a correlation will be made to determine if there is a significant difference of the level of stress of a nurse on an adequately staffed nursing unit and the level of stress of a nurse on an understaffed nursing unit. The primary tool is the Multiple Affect Adjective Check List (MAACL) by Zuckerman and Lubin (See Appendix A). The MAACL is a standardized test designed to measure three manifestations of stress which are: anxiety, depression, and hostility. Data obtained will be analyzed through comparison of the scores of nursing personnel on an understaffed and adequately staffed nursing unit utilizing the t-test and chi square statistical tests.

#### Setting

This research project was conducted in a 644-bed federal institution located in Central Texas in a town of approximately 50,000 population. Data were collected from two medical and two surgical nursing units containing approximately 30 beds

each. It was the original intent of the investigator to utilize four mixed medical-surgical nursing units. Due to difficulty in obtaining this mixture of nursing units and the requirements of personnel for an understaffed and adequately staffed nursing unit, it was necessary for the investigator to resort to an understaffed and adequately staffed medical nursing unit and an understaffed and adequately staffed surgical nursing unit. The report room or head nurse's office was utilized for the collection of data.

#### Population and Sample

The population consisted of those registered nurses, licensed vocational nurses, and aides in the previously described setting. These individuals were required to meet the following criteria which included that they must:

1. Have patient contact on their assigned nursing unit
2. Be employed on one of the three prescribed shifts
3. Have had no previous experience with the data collection tool
4. Speak and understand the English language
5. Be eighteen years of age or older

### Protection of Human Subjects

This study will be in compliance with the current rules and regulations of the Human Research Review Committee at Texas Woman's University. The study was described to the participants. Return of completed questionnaires constituted informed consent to act as a subject in this research study (Appendix B). All data collection forms were coded and no names were used. The participants were advised that they could withdraw from the study at any time with no repercussions. All data obtained will be kept in strict confidence. A demographic data sheet was attached to the tool utilized, stating the participant's age, number of years of experience in nursing, level of education, and the participant's major concern upon arriving at work (Appendix C).

### Instrument

#### Scoring

Hostility, anxiety, and depression are scored individually by an MAACL scoring sheet. A score is obtained on each of the above mentioned items by adding one point for every check mark appearing through a hole marked "+" and adding one point for every item not checked in a hole marked "0".

The total score is then the number of plus (+) adjectives checked and the number of minus (0) adjectives not checked.

### Validity

Validity of the MAACL is established through repeated distribution of the test. The MAACL has been proven valid through use in a variety of stressful situations. Examples of situations studied include students experiencing exams, perceptual isolation, and stage fright. Wooden (1965) gave the MAACL to women after a film on childbirth, while Levitt (1964) administered the exam to a group of medical students rating a series of pornographic photographs to further validate the exam (Zuckerman, 1965, p. 10). Data obtained from use of the MAACL have proven to exhibit significant results in the measurement of hostility, anxiety, and depression. Therefore, if stress is indeed present in a nurse on a nursing unit, the MAACL should be considered a warranted tool to measure the above stated manifestations of stress.

### Reliability

Reliability on a single test occasion is expected to show high internal or item correlations. Subjects' moods will vary from day to day, and most people in the normal



population are noted to have some fluctuation in mood. However, assuming that daily changes in affect are randomly distributed within a group, the group as a whole should not change significantly from one occasion to the next unless the entire group is exposed to an identical stress situation on one occasion. Stability was exhibited in the group means for three baseline days in a study by Zuckerman et al., and also in a study by Tolor and Mabli (Zuckerman, 1965, p. 17).

#### Data Collection

Data collection took place by the researcher over a one-week time period in June 1980 among thirty-nine nursing personnel, including registered nurses, licensed vocational nurses, and nursing aides. Collection of data involved the utilization of three shifts on four nursing units. The MAACL checklist containing approximately 132 items was distributed at the beginning of the shift approximately twenty minutes after arrival on the nursing unit and at the close of the shift prior to departing the nursing unit to those subjects willing to participate. The subject was instructed to check the items according to how she feels "now." Questions pertaining to non-comprehensibility were defined as close to standard definition as possible.

Subjects with excessive requests for definitions were eliminated from the study for failure to comprehend. A valid sample was therefore obtained for the tabulation of results. Questions of ambiguity were dealt with by informing the subject to accept the connotation he preferred.

#### Treatment of Data

The MAACL was scored individually for hostility, anxiety, and depression. Each of these items were scored manually by adding one point for each check mark appearing through a hole on the score key marked "+" and adding one point for every item not checked in a hole marked "0". The total score is obtained by adding the number of plus (+) adjectives checked and the number of minus (0) adjectives not checked.

It was the investigator's intent to statistically analyze the scores obtained by use of the Wilcoxon signed-ranks test for matched pairs. Nursing personnel were to be placed in matched pairs on the basis of years of experience and the scores from the nursing personnel on the adequately staffed nursing unit compared with those from an understaffed nursing unit. Unavailability of matched pairs warranted the

necessity to deal with the data collected utilizing the t-test and chi square and to test the data at .05 level of significance.

## CHAPTER 4

### ANALYSIS OF DATA

The purpose of this study was to determine and compare the stress levels of nurses on an adequately staffed nursing unit with those stress levels of nurses on an understaffed nursing unit. The data obtained by the Multiple Affect Adjective Check List will be compared on the basis of scores from the nursing personnel on an understaffed medical unit, adequately staffed medical unit, understaffed surgical unit, and adequately staffed surgical unit. The scores of anxiety, depression, and hostility will be compared on the basis of statistical analysis among the categories of personnel including registered nurses, licensed vocational nurses, and nursing aides in relationship to one of the four nursing units utilized for the study. Circumstances will be considered which might have altered the scores obtained.

#### Description of Sample

Based on the suggested requirements of three registered nurses, two licensed vocational nurses, and three nursing

aides for the day shift; two registered nurses, one licensed vocational nurse, and one nursing aide for the evening shift; and one registered nurse, one licensed vocational nurse, and one nursing aide for the night shift, the nursing units tested were matched as closely as possible to the suggested ratio of nursing personnel.

The sample consisted of thirty-nine subjects over the four nursing units ranging in age from 22 years to 61 years. Ten subjects who were scheduled to work did not participate due to several reasons. Six people did not wish to participate, one individual was ill and not able to come to work, one person had car trouble and not able to come to work, and two of the subjects were less than eighteen years of age which automatically eliminated them from the study. Despite these circumstances the sample grouping remained relatively stable to supply valid scores for the study.

Demographic information obtained from all subjects included age, number of years of experience in nursing, level of education, and the subject's major concern upon arriving at work. The demographic information is described in Tables 1 through Table 4.

The ages of the subjects on the adequately staffed nursing units fell into a range of 22 to 61 years of age, with the greatest number of participants for the adequately

staffed nursing unit being between the ages of 50 to 54 years. The subjects on the understaffed nursing units ranged from 24 to 56 years of age, with the majority of the subjects falling into a category of 25 to 34 years of age. Utilizing a t-test to analyze the participants' age in years, there was no statistical significant difference between the subjects on the adequately staffed and understaffed unit at a .05 level of significance.

Table .1

Comparison of Adequately Staffed and Understaffed  
Nursing Units by Age

Years of Age	Adequately Staffed Unit		Understaffed Unit	
	Number	Percent	Number	Percent
20-24	2	10	1	5
25-29	3	15	5	25
30-34	3	15	5	25
25-39	2	10	0	0
40-44	1	5	2	10
45-49	3	15	2	10
50-54	4	20	1	5
55-59	2	10	2	10
60-64	1	5	0	0
Mean:	41.2		37.0	
t-value:	1.148			
p =	0.2572			
df =	37			

The number of years of experience in nursing of the participants on the adequately staffed nursing unit ranged from 1 year to 32 years. The greatest percentage of subjects on the adequately staffed nursing unit fell into the category of 20 to 24 years of nursing experience. Fifty percent of the participants on the understaffed nursing unit held 5 to 9 years of nursing experience, while the total number of participants on the understaffed nursing units ranged from 3 to 34 years of nursing experience. Statistically, there was no demonstration of a significant difference at a .05 level of significance through the use of a t-test. There was, however, found to be a variation when contrasting the median for the subjects on the adequately staffed unit as opposed to the subjects on the understaffed unit.

Table 2

Comparison of Adequately Staffed and Understaffed  
Nursing Units By Years of Nursing  
Experience

Years Experience	Adequately Staffed Unit		Under-Staffed Unit	
	Number	Percent	Number	Percent
1 - 4	5	25	3	15
5 - 9	4	20	10	50
10 - 14	3	15	3	15
15 - 19	1	5	0	0
20 - 24	6	30	0	0
25 - 29	0	0	0	0
30 - 34	2	10	2	10

Mean:	13.1	9.7
Median:	22	7

t = 1.147  
P = 0.2578  
df = 37

The subjects' level of education on the adequately staffed and understaffed nursing units included high school diplomas, licensed vocational nursing diplomas, registered nurses with diplomas, associate degrees in nursing, and Bachelor of Science degrees in nursing. Those subjects with licensed vocational nursing diplomas accounted for the greatest percentage of individuals on both the adequately



staffed and understaffed nursing units. The use of the chi-square statistical test revealed that there was no significant difference at a .05 level of significance between the subjects on the adequately staffed and understaffed unit based on the level of education.

Table 3

Comparison of Adequately Staffed and Understaffed Nursing Units by Level of Education

Level of Education	Adequately Staffed Unit		Under Staffed Unit	
	Number	Percent	Number	Percent
High school diploma	5	25	4	20
LVN	7	35	8	40
RN - Diploma	5	25	1	5
RN - A.D.N.	1	5	2	10
RN - B.S.N.	3	15	3	15

Chi square = 0.5502

P = 0.759

The concerns listed upon arrival at work by the participants of the study were similar on both the adequately staffed and understaffed nursing unit. Arrival to work on time was the major concern of the participants on the adequately staffed unit, while organization of work was the second major concern of the individuals on the adequately

staffed unit. Concern about patient care ranked highest among the concerns of the participants on the understaffed nursing unit. Notice should be taken that 15 percent of the individuals on the adequately staffed unit expressed concern over being assigned to another unit to work while only 5 percent of the individuals on the understaffed unit were concerned over being reassigned to another area to work. Due to the diversity of concerns expressed by the participants, the investigator was not able to further categorize the concerns of the subjects upon arrival at work.

Table 4

Comparison of Adequately Staffed and Understaffed Nursing Units by Major Concerns Upon Arrival At Work

Major Concerns	Adequately Staffed Unit		Understaffed Unit	
	Number	Percent	Number	Percent
Patient Care	3	15	6	30
Organization of Patient Care	4	20	3	15
Concern Over Patient's Well-Being	1	5	0	0
Arriving at Work on Time	6	30	3	15
Patient Census and Stress at Work	1	5	1	5
Fear of Reassignment to Another Unit	3	15	1	5
Car Trouble	2	10	1	5
Personal Problems	0	0	1	5
Nothing in Particular	1	5	2	10

### Findings

The dependent variables anxiety, depression, and hostility are examined in Table 5 comparing the pretest means of scores for the subjects on the adequately staffed and understaffed units. This information was obtained from the Multiple Affect Adjective Check List. The means of scores for the subjects are displayed in their respective categories. There was found to be no statistically significant difference in the pretest means of scores for anxiety, depression, and hostility for the subjects tested at .05 level of significance.

Table 5

Comparison of the Pretest Means of Scores for  
Adequately Staffed and Understaffed Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=21)	Under- Staffed (N=18)			
Anxiety	6.86	7.11	0.266	37	0.78
Depression	14.38	13.78	0.333	37	0.74
Hostility	7.43	7.39	0.038	37	0.96

Table 6 describes the comparison of the posttest means of scores for the subjects on the adequately staffed and understaffed units. The means for the dependent variables anxiety, depression, and hostility are contrasted for the subjects on the adequately staffed and understaffed unit. Examination of the means of scores for the subjects on these units reveals that there is no statistically significant difference at .05 level of significance for the posttest means of scores for the dependent variables anxiety, depression, and hostility for the subjects on the adequately staffed unit as opposed to the subjects on the understaffed unit.

Table 6

Comparison of the Posttest Means of Scores for  
Adequately Staffed and Understaffed Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=21)	Under- Staffed (N=18)			
Anxiety	8.10	7.06	1.319	37	0.19
Depression	17.95	15.56	1.474	37	0.14
Hostility	8.95	8.39	0.539	37	0.59

The existence of nonsignificant differences in the means of scores for pretest and posttest scores for the dependent variables anxiety, depression, and hostility for the subjects on the adequately staffed and understaffed unit prompted the investigator to further subdivide the data for analysis. The data were divided so as to contrast the level of anxiety, depression, and hostility for the subjects on an adequately staffed and understaffed medical unit. The level of anxiety, depression, and hostility for the subjects on an adequately staffed and understaffed surgical unit was contrasted in the same fashion.

Table 7 describes the pretest means of scores for anxiety, depression, and hostility for the subjects on an adequately staffed and understaffed medical unit. Analysis of the data reveals that there is no statistical significant difference at .05 level of significance for the pretest means of scores for those subjects on an adequately staffed and understaffed medical unit.

Table 7

Comparison of the Pretest Means of Scores For  
Adequately Staffed and Understaffed Medical  
Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=9)	Under- Staffed (N=8)			
Anxiety	7.44	8.13	0.430	15	0.67
Depression	13.56	13.25	0.113	15	0.90
Hostility	7.44	7.75	0.197	15	0.85

Analysis of the posttest means of scores for the subjects on the adequately staffed and understaffed medical units are described in Table 8. Anxiety, depression, and hostility in the subjects were compared on the basis of mean scores. At .05 level of significance, there was found to be no statistical difference in the level of anxiety, depression, and hostility in the subjects on the adequately staffed medical unit as compared to those subjects on an understaffed medical unit.

Table 8

Comparison of the Posttest Means of Scores for  
Adequately Staffed and Understaffed Medical  
Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=9)	Under- Staffed (N=8)			
Anxiety	8.00	6.25	1.906	15	0.07
Depression	15.78	14.63	0.529	15	0.60
Hostility	8.44	8.00	0.317	15	0.75

Table 9 presents a comparison of the pretest means of scores for the dependent variables anxiety, depression, and hostility for those subjects on an adequately staffed and an understaffed surgical unit. Statistical analysis of the data demonstrated that there was no significant difference in the pretest means of scores for the subjects on an adequately staffed and understaffed surgical unit. This finding was supported at .05 level of significance.

Table 9

Comparison of the Pretest Means of Scores For  
Adequately Staffed and Understaffed Surgical  
Units

	Adequately Staffed (N=12)	Under- Staffed (N=10)	t-value	df	P
Anxiety	6.41	6.30	0.100	20	0.91
Depression	15.00	14.20	0.315	20	0.75
Hostility	7.41	7.10	0.226	20	0.81

The posttest means of scores for the comparison of anxiety, depression, and hostility in subjects on the adequately staffed and understaffed surgical unit are described in Table 10. The scores displayed that there was no statistical significant difference at .05 level of significance in the subjects' level of anxiety, depression, and hostility when contrasting the personnel on an adequately staffed surgical unit with those personnel on an understaffed surgical unit.



Table 10

Comparison of the Posttest Means of Scores For  
Adequately Staffed and Understaffed Surgical  
Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=12)	Under- Staffed (N=10)			
Anxiety	8.16	7.70	0.385	20	0.70
Depression	19.58	15.30	1.721	20	0.09
Hostility	9.33	8.00	0.409	20	0.68

Thus, not finding significant differences between the means of the dependent variables anxiety, depression, and hostility among the subjects on the medical adequately staffed and understaffed units and the surgical adequately staffed and understaffed units, the possibility of significant differences between the different categories of personnel became a realization.

The t-test was utilized to determine if significant differences occur in the level of anxiety, depression, and hostility at the .05 level of significance between registered nurses on adequately staffed and understaffed units. A comparison of the pretest means of scores revealed that there was no statistical significant difference between the level of anxiety, depression, and hostility

when contrasting or comparing registered nurses under these two different conditions. Table 11 demonstrates the comparison of the pretest means of scores for registered nurses on adequately staffed and understaffed units.

Table 11

Comparison of the Pretest Means of Scores for  
Registered Nurses on Adequately Staffed  
and Understaffed Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=9)	Under- Staffed (N=6)			
Anxiety	7.77	6.83	0.638	13	0.54
Depression	16.22	12.00	1.647	13	0.12
Hostility	8.11	8.00	0.064	13	0.94

Table 12 describes the posttest means of scores for registered nurses analyzing anxiety, depression, and hostility on adequately staffed and understaffed units. There was no statistical significant difference at .05 level of significance in the level of anxiety and hostility between the registered nurses on adequately staffed and understaffed units. However, a statistical significant difference at .05 level of significance was found in the level of depression between the registered nurses on the

adequately staffed unit when compared to the registered nurses on understaffed units. Therefore, one can assume that occurrences during the day or the job description of a registered nurse could be an intervening variable affecting the level of depression in a registered nurse on an adequately staffed unit.

Table 12

Comparison of the Posttest Means of Scores For  
Registered Nurses on Adequately Staffed and  
Understaffed Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=9)	Under- Staffed (N=6)			
Anxiety	8.33	7.66	0.624	13	0.54
Depression	19.88	14.33	2.301	13	0.03*
Hostility	9.77	9.83	0.030	13	0.97

\*Significant difference at .05 level of significance

A comparison of the pretest means of scores for the dependent variables anxiety, depression, and hostility in licensed vocational nurses and nursing aides on adequately staffed and understaffed units are described in Table 13. There was no statistical significant difference at .05 level of significance in those licensed vocational nurses

and nursing aides on an adequately staffed unit as opposed to licensed vocational nurses and nursing aides on an understaffed unit.

Table 13

Comparison of the Pretest Means of Scores for  
Licensed Vocational Nurses and Nursing Aides  
On Adequately Staffed and Understaffed Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=12)	Under- Staffed (N=12)			
Anxiety	6.16	7.25	0.859	22	0.59
Depression	13.00	14.66	0.682	22	0.50
Hostility	6.91	7.08	0.121	22	0.90

Table 14 describes the posttest means of scores for the level of anxiety, depression, and hostility in licensed vocational nurses and nursing aides when compared on an adequately staffed and understaffed unit. Analysis of the data revealed no statistical significant difference at .05 level of significance in the dependent variables anxiety, depression, and hostility in licensed vocational nurses and nursing aides when compared on an adequately staffed and understaffed unit.

Table 14

Comparison of the Posttest Means of Scores for  
Licensed Vocational Nurses and Nursing Aides  
On Adequately Staffed and Understaffed Units

	Mean Scores		t-value	df	P
	Adequately Staffed (N=12)	Under- Staffed (N=12)			
Anxiety	7.91	6.75	1.042	22	0.30
Depression	16.50	15.91	0.261	22	0.79
Hostility	8.33	7.66	0.529	22	0.60

#### Summary of Findings

Statistical analysis of the data demonstrated that there is no statistical significant difference at .05 level of significance between the stress level of a nurse on an understaffed nursing unit and the stress level of a nurse on an adequately staffed nursing unit. The dependent variables anxiety, depression, and hostility were used as the basis for this study's conclusions. A pretest and posttest comparison of the means of scores for anxiety, depression, and hostility of the personnel on a medical adequately staffed and medical understaffed unit provided nonsignificant differences. Pretest and posttest analysis of the means of scores for anxiety, depression, and hostility of personnel

on a surgical adequately staffed unit versus personnel on a surgical understaffed unit also provided nonsignificant differences. The comparison of pretest means of scores for registered nurses on adequately staffed units and understaffed units demonstrated no statistical significant differences. A significant difference at .05 level of significance was found in the comparison of posttest means of scores for the dependent variable depression in registered nurses on adequately staffed units as compared to registered nurses on understaffed units. The level of depression was found to be significantly increased in those registered nurses on an adequately staffed nursing unit. Pretest and posttest comparison of means of scores for anxiety, depression, and hostility in licensed vocational nurses and nursing aides on adequately staffed units and understaffed unit demonstrated no statistical significant differences when compared under these different conditions.

## CHAPTER 5

### SUMMARY OF THE STUDY

This investigation was a descriptive study to determine if there is a difference between the stress level of a nurse on an understaffed nursing unit and the stress level of a nurse on an adequately staffed nursing unit.

The hypotheses, stated in null form and tested in this study were:

1. There is no significant difference in the anxiety level of a nurse on an understaffed nursing unit and the anxiety level of a nurse on an adequately staffed nursing unit.
2. There is no significant difference in the level of depression of a nurse on an understaffed nursing unit and the level of depression of a nurse on an adequately staffed nursing unit.
3. There is no significant difference in the hostility level of a nurse on an understaffed nursing unit and the hostility level of a nurse on an adequately staffed nursing unit.

### Summary

Thirty-nine subjects over eighteen years of age were tested utilizing the Multiple Affect Adjective Check List in a 644-bed federal institution in Central Texas. Understaffed and adequately staffed medical and surgical units were utilized for the collection of data over a one-week time period in June 1980. The tool was scored individually for anxiety, depression, and hostility and analyzed at .05 level of significance.

It was the investigator's intent to determine extraneous variables which might influence the stress level of a nurse on an adequately staffed nursing unit and a nurse on an understaffed nursing unit. The subjects' age, years of nursing experience, level of education, and major concerns were explored and analyzed to accomplish this task.

### Discussion of Findings

The concept that a significant difference exists in the stress level of a nurse on an adequately staffed unit and an understaffed unit leaves other investigators many aspects of stress and staffing patterns to explore. Many variations and manifestations of stress exist on a nursing unit which are capable of producing critical consequences



to the deliverance of patient care. The focus of this study was on the dependent variables anxiety, depression, and hostility which are recognized as being common manifestations of stress.

The value of research in the areas of stress and staffing is of importance to the patient as well as to the improvement of conditions for hospital personnel. Ivancevich and Matteson (1980) researched stressors pertinent to the hospital and specific job related areas and concluded that responsibility for people rated the highest (Ivancevich and Matteson, 1980, p. 19). This study revealed that on understaffed units the personnel's primary concern which ranked highest involved the quality of patient care. This conclusion is of importance because this area of the study is suggestive that units which have a sufficient number of personnel may not be providing optimal nursing care.

The assignment of nursing personnel on units is also of interest to the investigator since half of the nursing personnel on the understaffed units were found to possess eleven years difference in nursing experience when compared to the personnel on the adequately staffed units. This finding may indicate the possibility that nurses who

have accumulated numerous years in nursing are assigned together on adequately staffed units where the stress level could possibly be decreased. Research in the placement of nursing personnel is very limited in reference to personalities, age, sex, and experience.

### Conclusions and Implications

Based on the findings of this research study the conclusions which resulted from this study were:

1. There is no statistically significant difference between pretest and posttest levels of anxiety of a nurse on an understaffed nursing unit and the anxiety level of a nurse on an adequately staffed nursing unit.
2. There is no statistically significant difference between pretest and posttest levels of depression of a nurse on an understaffed nursing unit and the depression level of a nurse on an adequately staffed nursing unit.
3. There is no statistically significant difference between pretest and posttest levels of hostility of a nurse on an understaffed nursing unit and the hostility level of a nurse on an adequately staffed nursing unit.

4. There is no statistically significant difference between pretest and posttest levels of anxiety, depression, and hostility of nursing personnel on an adequately staffed medical nursing unit and nursing personnel on an understaffed medical nursing unit.
5. There is no statistically significant difference between pretest and posttest levels of anxiety, depression, and hostility of nursing personnel on an adequately staffed surgical nursing unit and nursing personnel on an understaffed surgical nursing unit.
6. There is no statistically significant difference between pretest levels of anxiety, depression, and hostility of registered nurses on an adequately staffed nursing unit and registered nurses on an understaffed nursing unit.
7. There is no statistically significant difference between posttest levels of anxiety and hostility of registered nurses on an adequately staffed nursing unit and registered nurses on an understaffed nursing unit.

8. There is a statistically significant difference between posttest levels of depression of registered nurses. A significant increase in the level of depression was found in registered nurses on an adequately staffed nursing unit when compared to registered nurses on an understaffed nursing unit.
9. There is no statistically significant difference between pretest and posttest levels of anxiety, depression, and hostility of licensed vocational nurses and nursing aides on an adequately staffed nursing unit and licensed vocational nurses and nursing aides on an understaffed nursing unit.
10. The Multiple Affect Adjective Check List can be utilized as a valid and reliable tool to determine nursing personnel's level of anxiety, hostility, and depression under two different conditions.

Several implications for nursing are suggested as a result of the findings of this study. Based on the conclusion that there is no difference in the levels of anxiety, depression, and hostility of a nurse on an adequately staffed nursing unit and a nurse on an understaffed nursing unit, nursing administrators should evaluate their staffing patterns and make the necessary adjustments.

Staffing patterns need to be examined to determine if nurses are being utilized for cost effectiveness and if nurses are in actuality performing duties designated to their job description. The conclusion that stress is kept to a minimum on both adequately staffed and understaffed nursing units may indicate that patient care needs are being met by nursing personnel, but that an excess of nursing personnel may exist on the adequately staffed nursing unit.

#### Recommendations for Further Study

The recommendations resulting from this study are:

1. That similar studies be implemented contrasting age and assignment to nursing units.
2. That the study be replicated utilizing a larger population for a longer time frame.
3. That the quality of patient care be examined through implementation of studies comparing the effects of stress on nurses with the quality of care provided.
4. That the stress level of nurses on a medical unit be compared to the stress level of nurses on a surgical unit utilizing variables other than anxiety, depression, and hostility.

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APPENDIX A

MULTIPLE AFFECT ADJECTIVE  
CHECK LIST (MAACL)

# MULTIPLE AFFECT ADJECTIVE CHECK LIST

TODAY FORM

By Marvin Zuckerman  
and  
Bernard Lubin

Name..... Age..... Sex.....

Date..... Highest grade completed in school.....

DIRECTIONS: On this sheet you will find words which describe different kinds of moods and feelings. Mark an ☒ in the boxes beside the words which describe how you feel now - today. Some of the words may sound alike, but we want you to check all the words that describe your feelings. Work rapidly.



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MAA 001

- 1 ☐ active
- 2 ☐ adventurous
- 3 ☐ affectionate
- 4 ☐ afraid
- 5 ☐ agitated
- 6 ☐ agreeable
- 7 ☐ aggressive
- 8 ☐ alive
- 9 ☐ alone
- 10 ☐ amiable
- 11 ☐ amused
- 12 ☐ angry
- 13 ☐ annoyed
- 14 ☐ awful
- 15 ☐ bashful
- 16 ☐ bitter
- 17 ☐ blue
- 18 ☐ bored
- 19 ☐ calm
- 20 ☐ cautious
- 21 ☐ cheerful
- 22 ☐ clean
- 23 ☐ complaining
- 24 ☐ contented
- 25 ☐ contrary
- 26 ☐ cool
- 27 ☐ cooperative
- 28 ☐ critical
- 29 ☐ cross
- 30 ☐ cruel
- 31 ☐ daring
- 32 ☐ desperate
- 33 ☐ destroyed
- 34 ☐ devoted
- 35 ☐ disagreeable
- 36 ☐ discontented
- 37 ☐ discouraged
- 38 ☐ disgusted
- 39 ☐ displeased
- 40 ☐ energetic
- 41 ☐ enraged
- 42 ☐ enthusiastic
- 43 ☐ fearful
- 44 ☐ fine

- 45 ☐ fit
- 46 ☐ forlorn
- 47 ☐ frank
- 48 ☐ free
- 49 ☐ friendly
- 50 ☐ frightened
- 51 ☐ furious
- 52 ☐ gay
- 53 ☐ gentle
- 54 ☐ glad
- 55 ☐ gloomy
- 56 ☐ good
- 57 ☐ good-natured
- 58 ☐ grim
- 59 ☐ happy
- 60 ☐ healthy
- 61 ☐ hopeless
- 62 ☐ hostile
- 63 ☐ impatient
- 64 ☐ incensed
- 65 ☐ indignant
- 66 ☐ inspired
- 67 ☐ interested
- 68 ☐ irritated
- 69 ☐ jealous
- 70 ☐ joyful
- 71 ☐ kindly
- 72 ☐ lonely
- 73 ☐ lost
- 74 ☐ loving
- 75 ☐ low
- 76 ☐ lucky
- 77 ☐ mad
- 78 ☐ mean
- 79 ☐ meek
- 80 ☐ merry
- 81 ☐ mild
- 82 ☐ miserable
- 83 ☐ nervous
- 84 ☐ obliging
- 85 ☐ offended
- 86 ☐ outraged
- 87 ☐ panicky
- 88 ☐ patient

- 89 ☐ peaceful
- 90 ☐ pleased
- 91 ☐ pleasant
- 92 ☐ polite
- 93 ☐ powerful
- 94 ☐ quiet
- 95 ☐ reckless
- 96 ☐ rejected
- 97 ☐ rough
- 98 ☐ sad
- 99 ☐ safe
- 100 ☐ satisfied
- 101 ☐ secure
- 102 ☐ shaky
- 103 ☐ shy
- 104 ☐ soothed
- 105 ☐ steady
- 106 ☐ stubborn
- 107 ☐ stormy
- 108 ☐ strong
- 109 ☐ suffering
- 110 ☐ sullen
- 111 ☐ sunk
- 112 ☐ sympathetic
- 113 ☐ tame
- 114 ☐ tender
- 115 ☐ tense
- 116 ☐ terrible
- 117 ☐ terrified
- 118 ☐ thoughtful
- 119 ☐ timid
- 120 ☐ tormented
- 121 ☐ understanding
- 122 ☐ unhappy
- 123 ☐ unsociable
- 124 ☐ upset
- 125 ☐ vexed
- 126 ☐ warm
- 127 ☐ whole
- 128 ☐ wild
- 129 ☐ willful
- 130 ☐ wilted
- 131 ☐ worrying
- 132 ☐ young

APPENDIX B

CONSENT FORM

## TO WHOM IT MAY CONCERN:

My name is Nancy Gates. I am a graduate nursing student from Texas Woman's University. I am conducting a study on stress that requires giving a stress test designed to measure stress and what you are feeling now. This test will take approximately ten minutes and will be given at the beginning and at the end of this shift.

If you do or do not take this test your present job will not be in jeopardy and no ill effects will be felt. You will remain anonymous and all information collected will be kept in strict confidence.

No medical service or compensation is provided to subjects by the University as a result of injury from participation in this research.

Please turn the page and answer the questions. When you have finished these questions, turn to the back page of the test and place an "X" by the words which describe how you feel now.

I UNDERSTAND THAT THE RETURN OF MY QUESTIONNAIRE CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

NANCY GATES

APPENDIX C

DEMOGRAPHIC DATA SHEET

Code No.

Age \_\_\_\_\_

Number of years of experience in nursing \_\_\_\_\_

Level of education \_\_\_\_\_

(High School Graduate, A.D.N., R.N., diploma,  
B.S.N., M.S.N.)

My major concern upon arriving at work is: \_\_\_\_\_

\_\_\_\_\_

APPENDIX D

PERMISSION FOR THE STUDY



TEXAS WOMAN'S UNIVERSITY  
Box 23717, TWU Station  
Denton, Texas 76204

1810 Inwood Road  
Dallas Inwood Campus

HUMAN SUBJECTS REVIEW COMMITTEE

Name of Investigator: Nancy Miculka Gates Center: Dallas  
Address: 3327 Red Cliff Circle Date: 4/29/80  
Temple, Texas 76501

Dear Ms. Gates

Your study entitled A Comparison Study of the Stress Levels of Personnel on an Understaffed and Adequately Staffed Nursing Unit has been reviewed by a committee of the Human Subjects Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education, and Welfare regulations typically require that signatures indicating informed consent be obtained from all human subjects in your studies. These are to be filed with the Human Subjects Review Committee. Any exception to this requirement is noted below. Furthermore, according to DHEW regulations, another review by the Committee is required if your project changes.

Any special provisions pertaining to your study are noted below:

Add to informed consent form: No medical service or compensation is provided to subjects by the University as a result of injury from participation in research.

Add to informed consent form: I UNDERSTAND THAT THE RETURN OF MY QUESTIONNAIRE CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

\_\_\_\_ The filing of signatures of subjects with the Human Subjects Review Committee is not required.

\* Other: \_\_\_\_\_

\_\_\_\_ No special provisions apply.

Sincerely,

*Estelle D. Kurtz*

Chairman, Human Subjects  
Review Committee

at Dallas

- \* Note that you still have not responded to how you will prevent or mitigate increased stress which comes from the awareness you pointed out as a risk. The stress relief you identify is related to other kinds of stressors.

PK/smu/3/7/80

TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE Olin E. Teague Veteran's Center

GRANTS TO Nancy Miculka Gates  
a student enrolled in a program of nursing leading to a  
Master's Degree at Texas Woman's University, the privilege  
of its facilities in order to study the following problem.

A Comparison Study Of The Stress Levels Of Personnel  
On An Understaffed And Adequately Staffed Nursing Unit

The conditions mutually agreed upon are as follows:

1. The agency (may) (~~may not~~) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (may) (~~may not~~) be identified in the final report.
3. The agency (~~wants~~) (does not want) a conference with the student when the report is completed.
4. The agency is (willing) (~~unwilling~~) to allow the completed report to be circulated through interlibrary loan.
5. Other Any publication other than in the form of a dissertation should be submitted to the Publications Committee of the VA Center.

Date: Jan 5, 1980

Robert B. Rossier  
Signature of Agency Personnel

Nancy M. Gates  
Signature of Student

Lynn Kiegan  
Signature of Faculty Advisor

\*Fill out & sign three copies to be distributed as follows:  
Original - Student; First copy - Agency; Second copy - TWU  
College of Nursing.