

DENIAL AND ANXIETY IN SECOND DAY  
MYOCARDIAL INFARCTION PATIENTS

---

A THESIS  
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTER OF SCIENCE  
IN THE GRADUATE SCHOOL OF THE  
TEXAS WOMAN'S UNIVERSITY

COLLEGE OF NURSING

BY  
KAREN R. ROBINSON, R.N., B.S.N.

---

DENTON, TEXAS

DECEMBER 1982

7  
17  
17

DEDICATION

To my parents

4170

## ACKNOWLEDGMENTS

I wish to express gratitude and sincere appreciation to the following individuals:

To Shirley M. Ziegler, Ph.D., chairperson, for her guidance, encouragement, and unending patience.

To Estelle Kurtz, M.S., and Margaret McElroy, M.S., members of the committee, for their active interest and assistance.

To the patients who gave of their time to participate in this study.

To the health care personnel at the three hospitals for their assistance in coordinating this study.

To my family and friends who have encouraged and supported me throughout this endeavor.

## TABLE OF CONTENTS

	Page
DEDICATION . . . . .	iii
ACKNOWLEDGMENTS . . . . .	iv
TABLE OF CONTENTS . . . . .	v
LIST OF TABLES . . . . .	vii
 Chapter	
1. INTRODUCTION . . . . .	1
Problem of Study . . . . .	3
Justification of Problem . . . . .	3
Theoretical Framework . . . . .	6
Assumptions . . . . .	9
Hypothesis . . . . .	10
Definition of Terms . . . . .	10
Limitations . . . . .	11
Summary . . . . .	12
 2. REVIEW OF LITERATURE . . . . .	 13
Acute Myocardial Infarction . . . . .	13
Psychological Aspects of Myocardial Infarction . . . . .	17
Implications for Patient Care Management . . . . .	27
Summary . . . . .	35
 3. PROCEDURE FOR COLLECTION AND TREATMENT OF DATA . . . . .	 37
Setting . . . . .	37
Population and Sample . . . . .	38
Protection of Human Subjects . . . . .	39
Instruments . . . . .	40
Demographic Data Sheet . . . . .	40

	Page
Self-Appraisal Inventory . . . . .	41
State-Trait Anxiety Inventory . . . . .	43
Data Collection . . . . .	47
Treatment of Data . . . . .	49
4. ANALYSIS OF DATA . . . . .	52
Description of the Sample . . . . .	52
Findings . . . . .	54
Summary of Findings . . . . .	61
5. SUMMARY OF THE STUDY . . . . .	63
Summary . . . . .	63
Discussion of Findings . . . . .	67
Conclusions and Implications . . . . .	74
Recommendations for Further Study . . . . .	76
APPENDIX A . . . . .	78
APPENDIX B . . . . .	82
APPENDIX C . . . . .	84
APPENDIX D . . . . .	88
APPENDIX E . . . . .	90
APPENDIX F . . . . .	94
APPENDIX G . . . . .	97
APPENDIX H . . . . .	101
APPENDIX I . . . . .	104
APPENDIX J . . . . .	107
REFERENCES CITED . . . . .	109

LIST OF TABLES

Table	Page
1. Mean, Standard Deviation, and Range for the State-Trait Anxiety and Denial Scores . . . . .	54
2. Multiple Regression Results between the Variables of Denial and A-State after Adjustment of A-Trait . . . . .	56
3. Multiple Regression Results between the Variables of Denial and A-State . . . . .	57
4. Multiple Regression Results between the Variables of Age, Education, and Sedation in Relationship to A-State after Adjustment of A-Trait . . . . .	59
5. Correlations and Significant Values between the Variables of Age, Education, Sedation, and A-Trait in Relationship to Denial . . . . .	61

## CHAPTER 1

### INTRODUCTION

Coronary heart disease afflicts a vast number of individuals each year. Heart disease is the leading cause of death in this country. Research efforts are in progress to reduce the morbidity and mortality rates that are attributed to heart disease.

Health care professionals are also concerned with the well-being of individuals who have survived a myocardial infarction. Both physiological and psychological factors influence this well-being.

Just as the psychological disposition of an individual plays a role in the healthy heart, it can also play a role in the recovery of the heart. Psychological responses are a means by which the health professional can understand and describe an individual at a given point in time. Basically, the defense mechanisms that an individual used before his heart attack to cope with everyday stresses are relied on to handle the emotional impact of the current illness. Once the experience is realized, the individual must rely on past responses as a means of coping with the fears

and anxieties created by the stress-producing event. Awareness of these coping responses enables the health professionals to understand and communicate more effectively with the individuals during the acute and rehabilitation periods.

Findings of research studies have indicated that many individuals use denial as a coping mechanism to help them deal with the stressful experience of having a myocardial infarction. Findings also suggest that deniers experience less situational anxiety than nondeniers during stressful events. However, if denial persists to the point of ultimately preventing the individual from recognizing and accepting his/her condition, it can impair his/her ability to participate in treatment and rehabilitation. The denier may not follow instructions or take medicines, and generally minimizes the importance of treatment.

Even though studies emphasize the frequent use of denial, a review of the literature was unsuccessful in locating a concise denial assessment tool. Thus, the focus of this study was on the modification, development, and validation of an instrument to measure denial. Polit and Hungler (1978) emphasized that validating an instrument in terms of construct validity is a difficult

task. Construct validity is more concerned with the underlying attribute than with the scores which the instrument produces. In validating the measure of denial, the main concern was with the extent to which the measure corresponded to situational (state) anxiety. Construct validity would be supported if one finds a denier experiencing less state anxiety than a nondenier.

#### Problem of Study

With trait anxiety controlled, is there a negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects?

#### Justification of Problem

Each day many individuals are faced with stressful situations. Perhaps one of the most stressful life-threatening situations is having a myocardial infarction. How does the average individual cope with such a stress-producing event and to what degree? The literature suggests that certain defense mechanisms are employed to cope with the stressful event.

It is probable that denial is one of the first adaptive behaviors or mechanisms that a coronary patient employs during this stress-producing event. As reported

by Freud (1946), denial is one of the earliest ego defense mechanisms used by children. As an individual matures, denial is used less frequently. Since most individuals have employed the denial mechanism at one time or another, one could reason that a coronary patient would rely on this mechanism again as a means of defense.

Hackett, Cassem, and Wishnie (1968) suggested that a relationship may exist between the successful use of denial and morbidity/mortality in acute myocardial infarction patients. The ability to deny stress and anxiety successfully may be one of the factors that enhances the survival rate of myocardial infarction patients. Therefore, one must conclude that it is an important mechanism to investigate and measure.

For the acute myocardial infarction patient, it is not difficult to use denial as a form of coping because once the pain has been alleviated and the patient is comfortable in bed, there are no other symptoms. The patient may rationalize that nothing significant has happened.

Denial can either be healthy or unhealthy. Denial of the fact that the heart attack occurred can be adaptive behavior during the first few weeks of recovery,

enabling the individual to cope with the shock and confusion. However, denial of fact can be maladaptive if the individual ignores necessary activity restrictions or fails to take prescribed medications.

Health professionals are familiar with anxiety and denial as common responses observed in coronary patients. However, Scalzi (1973) reported that there has been a lack of emphasis, both in the literature and in practice, on identifying patterns of responses and on identifying specific interventions for these behaviors.

Nurses are the health professionals who have the closest and most frequent contact with the patients. Nurses are in the position to assist the coronary patients in managing their denial; therefore, it is important for the nurses to further explore the aspects of denial. How individuals use denial while in the coronary care unit or any other hospital setting to protect themselves from stress-producing events should be common knowledge for nurses. Clues that the patients are using denial, whether it be therapeutic or nontherapeutic, may not be recognized.

It is most important that nurses recognize the manifestations of denial and then are able to assess the degree to which denial accelerates or impedes the

patient's progress toward regained health. A portion of the assessment could be accomplished by having the patient complete a denial inventory. Results of such an inventory could provide the nurse with objective data concerning the presence and degree of denial. This would also enable the nurse to infer the patient's level of acceptance and understanding of his/her condition. With this information, specific nursing interventions for denial behavior can be identified for each individual patient.

#### Theoretical Framework

The theoretical framework for the denial aspect of this study was based on Freud's (1946) theory of mechanisms of defense. Its major contribution is a theory that defense mechanisms are based upon a primitive response to danger called denial. Although Freud confined her examples to children, describing denial by word, act, and fantasy, her viewpoint could readily be expanded to include more differentiated and sophisticated defenses, as found in adults. This study considered denial in the general rather than the psychoanalytic sense.

Freud regarded denial as a unifying concept for different defenses, but did not suggest that denial is a unitary mechanism which serves only to disclaim reality. In fact, Freud felt that denial is expressed in words, acts, and fantasies, but these are what people do in order to counter, neutralize, and reorient themselves in the presence of danger. It would seem that denial is but one aspect of what defenses do. Denial helps to do away with the anxiety provoking or threatening portion of reality, but only because a person may then participate more fully in contending with problems (Freud, 1946).

The theoretical framework for the anxiety aspect of this study was based on Spielberger's (1972) trait-state anxiety theory. This theory differentiates between anxiety states, the stimulus conditions that evoke these states, and the defenses that serve to avoid them.

Spielberger proposed two different anxiety constructs, state anxiety (A-State) and trait anxiety (A-Trait). Spielberger (1972) conceptualized state anxiety (A-State) as a "transitory emotional state or condition of the human organism that varies in intensity and fluctuates over time" (p. 39). State anxiety levels should be high in situations that the individual perceives

to be threatening or dangerous. The state anxiety levels should be low in nonstressful situations. Spielberger (1972) stated that trait anxiety (A-Trait) refers to

relatively stable individual differences in anxiety proneness, that is, to differences in the disposition to perceive a wide range of stimulus situations as dangerous or threatening. (p. 39)

Trait anxiety levels are high in individuals who tend to perceive a larger number of situations as dangerous or threatening than individuals who have low trait anxiety levels. Individuals with high trait anxiety levels tend to respond to threatening situations with state anxiety elevations of greater intensity.

Spielberger's (1972) assumptions of trait-state anxiety theory can be summarized as follows:

1. In situations that are appraised by an individual as threatening, an A-State reaction will be evoked.
2. The intensity of an A-State reaction will be proportional to the amount of threat that the situation poses for the individual.
3. The duration of an A-State reaction will depend upon the persistence of the individual's interpretation of the situation as threatening.
4. High A-Trait individuals will perceive situations or circumstances that involve failure or threats to self-esteem as more threatening than will persons who are low in A-Trait.
5. Elevations in A-State have stimulus and drive properties that may be expressed directly in behavior, or that may serve to initiate psychological defenses that have been effective in reducing A-States in the past.

6. Stressful situations that are encountered frequently may cause an individual to develop specific coping responses or psychological defense mechanisms which are designed to reduce or minimize A-State. (p. 44)

Denial has been reported as the principal way in which acute coronary patients manage the psychological stress of their illness. Hackett et al. (1968) believed that denial, as a unifying concept for different defenses, can be used in the process of reducing anxiety. The patients can deny by rationalizing, intellectualizing, displacing, or through any and all combinations of standard defenses. More often than not, it is effective in reducing anxiety. Thus, one would reason that an individual who scores high on a denial scale would concurrently score low on an anxiety scale. If this relationship did not occur, one would question the validity of the denial scale.

#### Assumptions

For the purposes of this study, the following assumptions were identified:

1. Anxiety levels vary between and within individuals.
2. Denial levels vary between individuals.
3. Low anxiety levels are, at least in part, reflective of denial.

4. Denial is one of the first adaptive behaviors that myocardial infarction patients have at their disposal.

5. Denial levels are highest on the second post-myocardial infarction day.

#### Hypothesis

For the purposes of this study, the following directional hypothesis was tested:

With trait anxiety controlled, there is a negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects.

#### Definition of Terms

For the purposes of this study, the following terms were operationally defined:

1. Level of denial--degree of disclaimant as determined by the score obtained on the Self-Appraisal Inventory.

2. State anxiety--transitory emotional state determined by the score obtained on the state anxiety subscale of the State-Trait Anxiety Inventory.

3. Trait anxiety--stable individual level of anxiety proneness determined by the score obtained on

the trait anxiety subscale of the State-Trait Anxiety Inventory.

4. Second day postmyocardial infarction--a myocardial infarction diagnosis is determined by physician's notation in subject's clinical record. Second day is calculated in the following manner: day of admission, first full day of hospitalization, and then the second full day of hospitalization (between 48-60 hours post-admission).

#### Limitations

The following limitations which might have influenced the conclusions of this study were:

1. The study was conducted in one geographic area.
2. The study lacked randomization in subject selection.
3. Subject's knowledge of his condition and explanations given during treatment may have influenced coping.
4. Number and types of medications and procedures administered to subjects as a component of the treatment plan may have influenced coping.
5. Reliability of the instrument used to measure denial had not been determined.

### Summary

Denial is a defense mechanism used to alleviate anxiety by reducing the perception of the threat. With the use of the State-Trait Anxiety Inventory as a test of the validity of the denial instrument, this study attempted to determine if there was a negative relationship between denial and state anxiety levels of myocardial infarction patients.

## CHAPTER 2

### REVIEW OF LITERATURE

Myocardial infarction and the experiences associated with it precipitate many sudden changes that severely disrupt the balance of psychosocial and environmental factors in an individual's life. Individuals have a tendency to cope with this experience in a manner similar to the way in which they have coped with other serious alterations or disturbances in their lives.

This chapter presents a review of the literature pertinent to acute myocardial infarction. Psychological aspects of myocardial infarction and implications for patient care management are also discussed.

#### Acute Myocardial Infarction

It has been estimated that approximately 2,000,000 to 2,500,000 people in the United States sustain acute myocardial infarctions each year. Approximately 700,000 deaths occur annually as a result of myocardial infarction (McBride & Moses, 1979).

Myocardial infarction is acute necrosis of a localized area of heart muscle and is usually a result of inadequate

blood flow to the area (Ayres & Gregory, 1971). Phipps, Long, and Woods (1979) stated that acute myocardial infarction could be caused by sudden blockage of one of the branches of a coronary artery. It may be extensive enough to interfere with cardiac function and cause immediate death, or it may cause necrosis of a portion of the myocardium with subsequent healing by scar formation or fibrosis.

Myocardial infarction may be precipitated by any factor that creates a period of prolonged oxygen deprivation to an area of the myocardium. Typically, the result is the blockage of one of the coronary vessels from atherosclerosis (McBride & Moses, 1979).

According to McBride and Moses, obstruction of a coronary artery by atherosclerosis may result from: (a) embolization of atherosclerotic plaque and (b) gradual narrowing and eventual occlusion of the vessel lumen. McBride and Moses included trauma, emboli from various sources, and narrowing of the coronary arteries due to aortic diseases as other causes of the obstruction.

Goldberger (1982) reported that myocardial infarction was associated with coronary atherosclerosis in approximately 90% of the cases. However, it was not necessarily

associated with coronary artery thrombosis. Goldberger declared that the etiology of myocardial infarction in patients without coronary artery thrombosis is not known. Two possibilities mentioned by Goldberger were severe transient coronary artery spasm and a clot located in a coronary artery that subsequently lyses. Regardless of the exact mechanism, the result of sustained reduction in blood supply to the myocardium is ischemia and eventual myocardial infarction (McBride & Moses, 1979).

Braunwald, Alpert, and Ross (1980) submitted that pain is the most common presenting complaint of the patient with a myocardial infarction. In some instances it may be severe enough to be described as the worst pain the individual has ever experienced. It is similar in character to the pain of angina pectoris, but it is usually more severe and lasts much longer. Despite the severe pain, Hackett and Cassem (1969) wrote that most patients with acute myocardial infarction delay seeking medical attention after the onset of chest pain. Following a review of various research studies, Hackett and Cassem (1969) concluded that a delay time of longer than 12 hours between onset of symptoms and hospital admission may be common for as many as one-third of patients.

Hackett and Cassem (1969) studied delay time in 100 randomly selected patients who had been admitted with a diagnosis of suspected or proven acute myocardial infarction. Hackett and Cassem found denial to be significantly related to symptom displacement and the influence of another person on delay. Those individuals who denied minimally recognized the heart as the source of trouble and did not require outside help to seek medical attention. Individuals whose denial was major, displaced the source of trouble from the heart to other organ systems and tended to put off consulting a physician until another person urged them to do so. Major denial was used to describe individuals who stated unequivocally that they felt no fear at any time throughout the hospitalization. Minimal denial was applied to patients who complained of anxiety or who readily admitted to being afraid.

One can begin to surmise the impact of a myocardial infarction with its many implications for the sick person's ability to deal with a changed life situation. Kiening (1970) believed that the threat to the self-system depends not only on the actual degree of physical impairment brought about by the illness itself but,

also on the alteration of the self-concept that takes place as a result of the impaired physical functioning. Kiening supported the belief that an individual deals with the stress produced by the threat to integrity by denying it. Kiening further stated that denial operates to allay anxiety by reducing the individual's perception of the threat. Thus, one could reason that the individual who has just experienced a myocardial infarction will probably employ denial to lessen the anxiety with regard to the event.

#### Psychological Aspects of Myocardial Infarction

Of all the features of coronary artery disease, none is emotionally more significant than its potential to kill. In 1975, cardiovascular diseases accounted for 994,513 deaths or 52.5% of all deaths in the United States, of which almost 650,000 were due to coronary artery disease (myocardial infarction and sudden death) and 194,000 to cerebrovascular disease (Levy, 1979). This dramatically reminds us that the primary threat a person with any kind of heart trouble faces is that he/she may die.

These fears manifest themselves in a number of ways. In order to assess the incidence of psychological

difficulties in acute myocardial infarction patients, Cassem and Hackett (1971) conducted a survey over a 27-month period in the coronary care unit. Of 441 patients admitted during that time, 145 (32.7%) were referred for psychiatric consultations. The three most frequently cited reasons for the referrals were anxiety, depression, and management of behavior. The management problems included demanding behavior, aggressive rejection of therapeutic limitations, and denying the presence or seriousness of their heart disease. Cassem and Hackett found that most consultations for anxiety occurred within the first 2 days in the coronary care unit, those for signing out occurred on the second day, and those for depression occurred during the third and fifth days.

Clin and Hackett (1964) studied 32 patients that were admitted with a diagnosis of acute myocardial infarction. The principal admitting symptom was pain, which was severe in 27 patients and moderate in 5 patients. Despite the fact that 22 of the 32 patients were familiar with the symptoms of coronary disease, their first impulse was to explain the pain by attributing it to other conditions less frightening than a

heart attack. Even the 10 patients who correctly diagnosed the cause of their pain did not take appropriate steps to obtain treatment. The patients' reaction was, "It couldn't happen to me," an attitude which persisted long after admittance to the hospital. None of the patients complained to the researcher of being frightened or anxious and only one directly mentioned a concern about dying. Furthermore, no one requested sedatives or reassurance about the immediate future. Olin and Hackett (1964) found the use of the defense mechanism of denial, in one form or another, in all 32 patients. These findings indicated the initial patient reaction to critical chest pain was to deny its seriousness.

Although the description of denial as a defense mechanism began with Freud, the concept was known to physicians as early as 1885. At that time, Von Monakow (cited in Weinstein & Kahn, 1955) wrote of patients who reacted to blindness by denying it. Freud (1946) looked upon denial as a unifying concept for different defenses in that their common goal was to reduce a threatening portion of reality in order to allow the person to function under less stress. Since Freud's contribution, many psychiatrists have described more elaborate forms

of defenses and have extended the concept of denial. Weisman (1972) reported that the term "denial" now includes

almost any situation, act, or verbal expression in which anyone seeks to avoid reality, or to escape confrontation with something unpleasant and alarming. (p. 58)

Rather than view denial as a specific defense mechanism, Hackett et al. (1968) preferred to regard denial as a process by which many other defense mechanisms can be employed to reduce stress. Thus, the patient can deny by rationalizing, intellectualizing, displacing, or through any combinations of standard defenses. Hackett et al. proposed that more often than not, denial is effective in reducing anxiety.

According to Hackett and Cassem (1969), a patient's first response to the onset of chest pain is denial. Through this defense mechanism, the individual attempts to minimize or ignore the significance of the symptoms. The patient may delay seeking medical attention for several hours, displacing the discomfort to other organ systems. When it is no longer possible to ignore the pain, and the individual either realizes or is told that he/she is having a heart attack, Cassem and Hackett (1971) contended that the individual enters the second

psychologic response phase of anxiety. The individual finds himself/herself uprooted from a familiar environment and thrust into the strange surroundings of the coronary care unit. At this point, the patient is preoccupied with death or its possibility. The individual is acutely aware of the disturbing symptoms of chest pain, shortness of breath, and weakness. He/she may have a sense of imminent danger or doom, or fear the unknown. As the individual starts to feel better, feelings of denial are mobilized. He/she may find it hard to believe that a heart attack has really occurred. Cassem and Hackett (1971) pointed out that in the next few days, anxiety and denial interact, with denial protecting the individual from excessive anxiety.

By the third or fourth day, the psychologic response phase of depression develops as the patient's condition stabilizes, denial weakens, and he/she begins to acknowledge the implications of his/her cardiac injury (Cassem & Hackett, 1971). The patient begins to realize that more than just heart tissue has been lost.

Billings (1980) avowed that the individual has lost his/her perception of himself/herself as a healthy person, confidence in himself/herself, optimism about the

future, feelings of independence, and earning power. The individual may have to stop smoking and alter patterns of eating, drinking, and exercise.

Billing, Lindell, Sederholm, and Theorell (1980) interviewed and observed 93 patients who had experienced myocardial infarctions. These authors observed these patients for signs of anxiety, depression, and denial and found an association between greater degrees of denial and lower degrees of reported pain. Hackett and Cassem's (1974) questionnaire was used for assessing denial. Billing et al. reported that men showed a statistically significant negative correlation between denial and degree of pain; that is, the more denial they exhibited, the less pain reported. A high total denial score during the intensive coronary care phase was based mainly on the following variables: no fear of further infarction or incapacity (70% of the patients), belief in fate or destiny (58%), and active denial of dangerous aspects of past or present stresses (41%).

Croog, Shapiro, and Levine (1971) conducted an exploratory study of the denial mechanism in a population of essentially normal adults who faced a first major health crisis. In this study there were 345 male

subjects between the ages of 30 and 60 years who suffered a first myocardial infarction. Three weeks after hospital admission, 20% of the subjects denied that they had suffered a heart attack. Croog et al. found a possible association between denial and ethnic background, with patients of Jewish and Italian background denying more frequently than those of Irish and British origin. Deniers in the Croog et al. study displayed the following characteristics: (a) they tended to deny experiencing symptoms; (b) they denied knowledge of heart disease among relatives; and (c) they planned to not comply with medical advice regarding work, rest, and smoking.

Hackett and Cassem (1974) investigated three different degrees of denial: minimal, partial, and major. These researchers interviewed 89 patients with a diagnosis of suspected or confirmed myocardial infarction. Depending on the patient's condition, interviews lasted 5 minutes to 1 hour, and each patient was seen between 3 and 10 times during his/her hospital stay. After the interview was completed, the patient's denial was rated according to the Hackett-Cassem Denial Scale (Hackett & Cassem, 1974).

The 31-item rating scale had two groups of variables: questions about the patient's typical way of undertaking life's difficulties and questions about the patient's way of reacting to the present situation. The first group included variables such as self-acknowledged denial in experiencing strain, an inclination to take risks, and a tendency to blame fate for past difficulties. The second group included variables such as minimization of symptom reporting and an absence of fear of death, of another infarction, or of invalidism. Each variable was rated on a 0-3 scale. Then a total denial score was calculated for each patient. Based on the denial scores, patients were divided into the three groups.

The results were 30 patients were identified as mild deniers, 38 patients were identified as partial deniers, and 21 patients were identified as major deniers. With its first application to a sample of 89 coronary patients, Hackett and Cassem (1974) felt that the denial scale demonstrated an encouraging range of scores by which to characterize denial behavior. However, as Hackett and Cassem pointed out, cross contamination of scores by prior clinical judgment was inevitable, because the same investigators did both the clinical rating and the scoring.

Gentry, Foster, and Haney (1972) investigated the use of psychologic tests in assessing the degree of affect manifested by patients in a coronary care unit. The investigation involved an assessment of situational and chronic anxiety, depression, and perceived health status. The 16 patients, admitted with a diagnosis of myocardial infarction, were selected at random and studied over a 5-day period. Half of the patients were classified as deniers and half as nondeniers, based on their complaints of fear and apprehension during the coronary care unit experience. The patients were asked if they felt afraid, frightened, or apprehensive at any time during their hospitalization. Patients who responded negatively were classified as deniers, while patients who responded positively were labeled nondeniers. Self-report ratings of situational anxiety (A-State) and depression were obtained daily from each patient; ratings of chronic (A-Trait) and perceived health status were obtained on the first and fifth days. The State-Trait Anxiety Inventory was used to measure anxiety and the Self-Rating Depression Scale was used to measure depression. An estimate of perceived health status was obtained by simply asking each patient to rate

both his/her current and general health on a 10-point scale.

Gentry et al. (1972) reported the following:

1. Deniers experienced less state anxiety across the 5 days in the coronary care unit than did nondeniers.
2. Only nondeniers showed a significant decrease in state anxiety as a function of time on the unit.
3. Nondeniers tended to perceive a marked difference between current and general health status on the first day of the study, whereas deniers did not.
4. The estimated level of current health was lower than that of general health on the fifth day with nondeniers exhibiting considerable improvement in perceived current health status relative to the first day.

There were no differences either between deniers and nondeniers or across coronary care unit days for trait anxiety or depression. Gentry et al. concluded that the findings supported the hypothesis that the defense mechanism of denial was a major determinant of the level of anxiety which characterized patients in the coronary care unit.

As indicated in the literature review and various research studies, people who experience a myocardial

infarction use various defense mechanisms and coping behaviors in an attempt to cope with the disruption the illness causes in the psychosocial and environmental aspects of their lives. Kucharski (1978) believed that the individual's ability to master the painful aspects associated with the stress of the myocardial infarction and to develop adequate coping mechanisms depend on the person's character traits and effective medical intervention. Through knowledgeable assessment of coping and skillful therapeutic intervention, Pranulis (1975) contended that nurses and physicians may be a determining factor in the outcome of the cardiac experience.

#### Implications for Patient Care Management

Because of man's holistic nature, Cook (1979) believed that a problem or alteration in any aspect of his/her being affects the whole person. Cook avowed that professional nurses have opportunities to establish therapeutic interpersonal relationships with all sorts of individuals, especially during times of change due to altered states of health. The nature of nurses' educational preparation, areas of expertise, and work settings allow nurses more of an opportunity to interact with

patients. Nurses are able to observe and assess patients' reactions to health changes. Based on this assessment, Cook (1979) felt that nurses can plan and implement interventions directed at helping patients cope with change as the patient strives toward the goal of optimum health.

In the past few years there has been a greater emphasis on psychologic aspects in the care of the myocardial infarction patient. Scalzi (1973) submitted that nursing education is placing greater emphasis on the value and importance of understanding human behavior. A review of the literature has revealed many articles that describe a patient's behavior following a myocardial infarction. Some of the studies have reported significant implications that have altered and improved the quality of care now being given to myocardial infarction patients.

Lee and Ball (1975) disclosed that during the crisis of having a myocardial infarction, the patient has a great need for supportive interpersonal relationships, attention, warmth, and encouragement. Lee and Ball emphasized that professional nurses must expand their role to provide support to patients relative to their

particular adjustment styles, which are dependent on personality, handling of past illnesses, and outside situational pressures. In order to provide support, Pranulis (1975) contended that the nurse must be able to assess the patient's coping skills. This is accomplished by first identifying what the individual is trying to cope with and then what purposes particular behaviors fulfill.

In order to carry out appropriate nursing interventions, Scalzi (1973) stated that it is vital for the nurse to understand the normal pattern of patient adaptation following a myocardial infarction, to recognize the defense mechanisms that the individual may employ, and to identify behaviors that may manifest. According to Pranulis (1975), the patient who is successfully coping with the stressful event will probably demonstrate the following characteristics:

1. He will be able to communicate his feelings (emotions).
2. His emotions will be manageable and he will be in control of his behavior.
3. He will be able to verbally demonstrate that he can perceive things clearly, think logically, and engage in problem-solving activities.
4. He will be able to cooperate in his care. (p. 66)

Utilizing Cassem and Hackett's (1971) emotional sequence of reactions to a myocardial infarction, the nurse can assist the patient in the process of moving forward along the adaptive course as well as recognize maladaptive behavior. Cassem and Hackett asserted that anxiety is commonly experienced in the initial postmyocardial infarction period. Spielberger (1972) conceived anxiety as a specific emotional state which consists of unpleasant, consciously-perceived feelings of tension, nervousness, and apprehension. Activation or arousal of the autonomic nervous system is associated with this emotional state.

According to Cassem and Hackett (1971), the defense mechanism of denial emerges strongly by the second day after a myocardial infarction. Scalzi (1973) described denial as a defense mechanism that is used to alleviate anxiety by reducing the perception of the threat. Scalzi proceeded to define denial as behavior that denotes a failure to accept either an obvious fact or its significance to the person in the situation. Possible manifestations of denial in the myocardial infarction patient include ignoring symptoms prior to admission, avoiding a discussion of a heart attack, minimizing the

severity and consequences of having a heart attack, being overly cheerful, asking the same questions of different staff members, and disregarding activity and dietary limitations (Scalzi, 1973).

Foster and Andreoli (1970) emphasized that the way in which the crisis of myocardial infarction is handled emotionally may significantly influence the outcome of the illness. Elliott (1980) cautioned the nurse to remember that denial may be the patient's only line of defense against destruction of self-concept. If the nurse tries to undermine the denial in order to make the person deal with reality, disorganization and depression may be the result.

Some useful aspects of nursing assessment of the use of denial have been outlined by Kiening (1970). These aspects of the nursing assessment include: (a) recognizing the manifestations of denial, (b) assessing the degree to which denial impedes the patient's progress toward regained health, (c) understanding the dynamics of the behavior, (d) trying to determine the need which the denial is serving, and (e) making a nursing decision that best serves the patient's needs. When making a decision, Elliott (1980) stated that the nurse should

consider the amount of time the individual has been hospitalized. According to Elliott, the further away the initial stressful experience, the closer the individual should be to dealing with the consequences of the event. If the use of denial persists, then it could become more pathologic and could seriously impede the patient's progress toward rehabilitation.

Elliott felt that there are many unanswered questions in regard to the background and preparation of the professional nurse who is to actively intervene in some of the situations in which denial is present. This researcher believed that one of the most important factors in the nursing process is for the nurse to recognize his/her limitations and seek help from other health professionals where appropriate. Kiening (1970) stressed that because denial operates to some degree in the majority of patients and often blocks the goals of nursing therapy, the professional nurse should be able to:

1. Recognize behavioral cues that suggest that the person is denying some aspect of reality.
2. Understand the need that denial helps meet for the person.
3. Determine if the denial is interfering with treatment goals.
4. Decide on appropriate action.
5. Avoid reinforcing patterns of denial.

6. Maintain a supportive, helping relationship as the patient begins to move toward a more reality-based orientation. (p. 224)

In the coronary care unit the nurse is the most important individual responsible for the patient's emotional well-being. Sobel (1969) specified the quality of "openness" to personalize in the nurse as an important factor in the emotional environment of the coronary care unit. It means that the nurse who has this quality is able to talk to the patient, to feel free to exchange ideas and thoughts, and to respond to the patient.

Psychologic stress occurring in the myocardial infarction patient is readily apparent and treatable (Foster & Andreoli, 1970). Roberts (1976) indicated that nurses should try to anticipate, recognize, and alleviate this stress. In this regard, Foster and Andreoli (1970) proposed that the coronary care unit environment needs to be evaluated and adjustments made so that the patient's hospitalization is less stressful. Nurses have a definite role in making changes in the coronary care unit. The nurse is a major influence in helping the patient recover psychologically as well as physically from a heart attack.

Even though the literature emphasizes the frequent use of denial in the myocardial infarction patient and

stresses the importance of accurate nursing assessment and intervention, a literature search was unsuccessful in locating a concise denial assessment tool. Several researchers, investigating denial, were contacted by this investigator to determine their particular method of measuring denial. This investigator found that researchers measure denial primarily by two methods. One method is to ask the patient if he/she felt afraid, frightened, or apprehensive at any time during his/her hospitalization. If the patient responds negatively, he/she is classified as a denier. A positive response classifies the patient as a nondenier. Another method is the use of a denial scale which is designed to rate behavioral characteristics associated with various degrees of denial. It is scored by the investigator, based on clinical interview (Hackett & Cassem, 1974). Several researchers have modified this particular denial scale, but have continued to score it based on the clinical interview. The problem with this type of measurement, as Hackett and Cassem cautioned, is that cross contamination of scores by prior clinical judgment is inevitable when the same researchers do both the clinical interview and the scoring. In addition, the

nature of several questions in the denial scale requires the interviewer to make inferences when rating denial behavioral characteristics of the subject.

A review of the literature demonstrates the need for an inventory that would provide the nurse with objective data in regard to the presence and degree of denial in the postmyocardial infarction patient. With this information, the nurse would be in a better position to identify specific nursing interventions for the patient.

#### Summary

This chapter has presented a discussion of acute myocardial infarction including definition, incidence, and etiology. The psychological aspects of sustaining a myocardial infarction were presented emphasizing a sequence of behavioral reactions. The discussion of implications for patient care management included interventions appropriate to the denial aspect of the psychological coping process of the postmyocardial infarction patients. Even though studies emphasize the use of denial in the cardiac patient, a review of the literature was unsuccessful in locating a concise denial assessment

tool that would provide the nurse with objective data concerning the presence of denial.

## CHAPTER 3

### PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This study was methodological in nature. Kerlinger (1973) emphasized that methodological research is concerned with theoretical and practical problems of identifying and measuring psychological variables. Methodological research may also be applied to the theoretical and practical problems of the construction of measuring instruments. Using a modified denial measurement and the State-Trait Anxiety Inventory, the psychological variables of denial and anxiety were studied in postmyocardial infarction patients.

This chapter will describe the setting, population and sample, protection of human subjects, and the instruments. Data collection is detailed and treatment of the data is included, with a description of the selected statistical test presented.

#### Setting

This study was conducted at three hospitals in a Southwestern metropolitan area. One institution is a

private 349-bed, general and acute care facility with an 8-bed coronary care unit. The second institution is a 200-bed, private hospital that has a 7-bed coronary care unit. The third institution is a 700-bed, private, general and acute care facility with a 14-bed coronary care unit. The three institutions were selected under the premise that a sufficient number of male subjects with myocardial infarctions could be found therein.

The actual setting of the study was in the subject's room in the coronary care unit in each of the three institutions. Each subject occupied a private room.

#### Population and Sample

The population for this study consisted of male patients hospitalized in a coronary care unit for a myocardial infarction. A convenience sample was acquired as potential subjects were admitted to the coronary care units in the designated hospitals. The convenience sampling method is the obtainment of subjects who are available at hand (Polit & Hungler, 1978). The sample consisted of the first 30 patients who met the delimitations of the study. The subjects must have met the following criteria: (a) were of male gender; (b) agreed to participate; (c) had approval of their attending

physician; (d) had a clinically documented day-2 post-myocardial infarction; (e) had no clinical documentation of cardiogenic shock, thromboembolism, severe arrhythmias uncontrolled by medications, severe heart failure, or acute pulmonary edema; (f) no cerebral symptoms (oriented in all three spheres) that made it impossible to answer questions; (g) were able to read and understand English; (h) were 69 years of age and younger; and (i) were pain-free for at least 12 hours.

#### Protection of Human Subjects

Specific measures were taken to protect the rights of the subjects in the study. Permission was obtained from the Texas Woman's University Human Subjects Review Committee (Appendix A) and from the graduate school (Appendix B) to collect the data for this study. Agency permission was received from the participating hospitals (Appendix C). Method of permission obtainment from the subject's attending physician was determined by the administration of each facility. If requested by the agency, written permission to contact the patient in order to administer the questionnaires was obtained from the subject's attending physician (Appendix D).

Completion and return of the questionnaires was construed as the subject's informed consent to be a study participant.

Each prospective subject was given a description of the study which was read to him by the investigator (Appendix E). This description included the purpose, activities, risks, and benefits involved in the study. Anonymity was assured by use of a coding system on all questionnaires. Names of the individuals and institutions were not mentioned in the reporting of findings; only group data were reported. Each subject was given a guarantee of confidentiality and the freedom to withdraw from the study at any time if he decided not to participate in the study.

### Instruments

Three instruments were utilized for data collection in this study. These instruments were the Demographic Data Sheet, the Self-Appraisal Inventory, and State-Trait Anxiety Inventory.

#### Demographic Data Sheet

The Demographic Data Sheet, a two-part questionnaire, was developed by the investigator (Appendix F).

The first part of the questionnaire, Demographic Data--Part 1, was used to gather information regarding age, education, and number of prior heart attacks of the sample. This part was completed by the subject. The second part of the questionnaire, Demographic Data--Part 2, was used to gather information from the subject's medical record regarding sedation that the subject received prior to the administration of the questionnaires. This section was completed by the investigator.

#### Self-Appraisal Inventory

This instrument was used to measure denial levels of the subjects. The Self-Appraisal Inventory, modified by the researcher from the Hackett-Cassem Denial Scale, consists of 20 statements with responses entered on a 4-point Likert-type scale (Appendix G). Subjects were instructed to give their first reaction to how they felt about each statement (e.g., "I don't really believe that there is anything wrong with my heart"). Subjects responded to each statement by selecting one of the following: (1) strongly agree, (2) agree, (3) disagree, or (4) strongly disagree. Some of the items (e.g., "I am seriously ill") were worded in such a manner that a

rating of (4) indicated a high level of denial, while other items (e.g., "I don't really believe that there is anything wrong with my heart") are worded so that a high rating indicated low denial. The scoring weights for items on which high ratings indicate high denial were the same as the number circled for those items on the test form. For items on which a high rating indicated low denial, the scoring weights are reversed. Scores for the Self-Appraisal Inventory ranged from a minimum score of 20 to a maximum score of 80.

A review of the literature was unsuccessful in locating a self-administered denial measurement. Hackett and Cassem (1974) developed the Hackett-Cassem Denial Scale, a 31-item rating scale that is designed to rate behavioral characteristics associated with various degrees of denial (Appendix H). It is scored by the investigator, based on a clinical interview. However, the nature of several questions in the denial scale require the interviewer to make inferences when rating denial behavioral characteristics of the subject. In an attempt to eliminate interviewer bias, this researcher has modified the Hackett-Cassem Denial Scale into a self-administered denial scale. Permission to modify the

Hackett-Cassem Denial Scale was granted to the researcher by Dr. Thomas P. Hackett (Appendix I). Statements 2, 3, 4, 5, 6, 8, 9, 11, 13, 15, 17, 18, and 19 on the Self-Appraisal Inventory are modified statements from items 1, 7, 8, 10, 4, 17, 11, 14, 23, 2, 2, 25, and 27, respectively, from the Hackett-Cassem Denial Scale. The remainder of the statements was developed from the researcher's past experiences of working with myocardial infarction patients and a review of the literature. During the instrument modification, input was received from two cardiovascular clinical nurse specialists. Since the Self-Appraisal Inventory is a modified instrument, the use of the State-Trait Anxiety Inventory served as a test of the validity of the denial instrument.

#### State-Trait Anxiety Inventory

This instrument measured anxiety levels of the subjects in the study. Developed by Spielberger, Gorsuch, and Lushene (1970), the State-Trait Anxiety Inventory (STAI) (Appendix J) is a two-part self-administered test entitled Self-Evaluation Questionnaire. The self-report scales measure state anxiety (A-State) and trait anxiety (A-Trait). State anxiety (A-State) is a transitory

emotional state, while trait anxiety (A-Trait) is a stable individual level of anxiety proneness.

The STAI A-Trait scale consists of 20 statements that ask individuals to describe how they generally feel. Subjects respond to each item (e.g., "I feel blue") by selecting one of the following: (1) almost never, (2) sometimes, (3) often, or (4) almost always.

The STAI A-State scale consists of 20 statements that ask subjects to indicate how they feel at a particular moment in time. Subjects respond to each item (e.g., "I feel nervous") by rating themselves on the following 4-point scale: (1) not at all, (2) somewhat, (3) moderately so, or (4) very much so.

Scores for the State-Trait Anxiety Inventory range from a minimum score of 20 to a maximum score of 80 on both the subscales. Should a subject omit one or two items on either subscale, a prorated full-scale score can be obtained by (a) determining the mean score for the items responded to, (b) multiplying this value by 20, and (c) rounding the product to the next higher whole number (Spielberger et al., 1970).

Normative data for the STAI are available for large groups of high school and college students, male psychiatric patients, and general medical-surgical

patients. A study of 110 general medical-surgical patients without psychiatric complaints revealed a mean A-State score of 42.68, while the mean A-State score for 34 patients with psychiatric complaints was 42.35. The A-Trait scores for these same two groups were 41.33 and 44.62, respectively (Spielberger et al., 1970). The STAI was used by Gentry et al. (1972) in a study of 16 patients admitted to a coronary care unit with a diagnosis of myocardial infarction. Half of the patients were classified as deniers and half as nondeniers, based on their complaints of fear and apprehension during the coronary care unit stay. The patients were asked if they felt afraid, frightened, or apprehensive at any time during their hospitalization. Patients who responded negatively were classified as deniers, while patients who responded positively were labeled nondeniers. The mean A-State score for the denier group ( $\underline{n} = 8$ ) was 33.75 and the mean score for the nondenier group ( $\underline{n} = 8$ ) was 40.63 for day 3 (48-72 hours postadmission in coronary care).

Reliability of the instrument is the "degree of consistency with which it measures the attribute it is supposed to be measuring" (Polit & Hungler, 1978, p. 424). The reliability of the STAI has been established

through the methods of test-retest correlation, measures of internal consistency using the Cronbach modified K-R 20 formula, and item remainder correlations. Spielberger et al. (1970) reported that test-retest correlation coefficients on the state anxiety scale ranged from .16 to .54; however, on the trait anxiety scale, the test-retest correlation coefficients ranged from .73 to .86. The measures of internal consistency yielded reliability coefficients ranging from .86 to .92 for the trait anxiety scale and those for A-State were equally high. Additional evidence of reliability was provided through obtaining median item-remainder correlations for various norm groups ranging from .45 to .55 on the state anxiety scale, and from .46 to .54 on the trait anxiety scale. Spielberger et al. (1970) concluded the following:

The test-retest reliability of the STAI A-Trait scale is relatively high, but stability coefficient for the STAI A-State scale tends to be low, as would be expected for a measure designed to be influenced by situational factors. Both the A-Trait and A-State scales have a high degree of internal consistency. (p. 10)

Spielberger et al. established construct validity of the STAI through administering the A-State scale to 977 undergraduate college students using the standard instructions under normal and exam conditions. Under

normal conditions the male students ( $n = 332$ ) scored 40.02 and under the exam conditions, they scored 54.99. The female students ( $n = 645$ ) scored 39.36 under the normal conditions and 60.51 under the exam conditions. The critical ratio between males under these two conditions was 24.14 and the point-biserial correlation was .60 between the two measures. The critical ratio between female subjects was 42.13 and a point-biserial correlation of .73 was found. Both of the critical ratios and correlation coefficients were highly statistically significant.

#### Data Collection

Initial permission to conduct this study was obtained from the Human Subjects Review Committee and the Graduate School of the Texas Woman's University. Written permission to conduct this study in three selected hospitals was obtained from appropriate hospital administrative personnel. Method of permission obtainment from the subject's attending physician was defined by the administration of each institution.

Every morning the investigator telephoned each of the three institution's coronary care units to determine

if a potential subject had been admitted in the past 24 hours. The investigator wanted the following information from the coronary care nurse with regard to the potential subject: (a) subject of male gender; (b) no clinical documentation of cardiogenic shock, thromboembolism, severe arrhythmias uncontrolled by medications, severe heart failure, or acute pulmonary edema; (c) no cerebral symptoms that would make it impossible to answer questions; (d) was able to understand English; (e) was 69 years of age and younger; and (f) had a possible diagnosis of myocardial infarction.

On the potential subject's second hospital day, the investigator visited that particular coronary care unit. The potential subject's clinical record was reviewed first to determine if the potential subject met the delimitations of the study. Then the researcher approached the potential subject in his room and verbally described the study. After obtaining the subject's agreement to participate in the study, the investigator completed the Demographic Data--Part 2. The subject was then asked to complete the Self-Appraisal Inventory, the A-State and A-Trait scales, and the Demographic Data--Part 1. With the exception of Demographic

Data--Part 2, these questionnaires were completed in the previously stated order and in the patient's room.

The following additional measures were taken during the testing procedure:

1. The subject completed the questionnaires without the assistance of others.

2. The investigator and all others left the room while the subject completed the questionnaires.

3. Questionnaires were not left at the bedside for the patient to complete at a later time. Questionnaires were completed while the investigator was present in the coronary care unit, so the investigator could be assured that the questionnaires were completed by the intended participant. If this could not be accomplished, the subject was not included in the study.

4. The researcher collected the questionnaires in approximately 20 minutes after they had been given to the subject. At that time, additional questions were answered by the researcher.

#### Treatment of Data

The demographic data included age, education, number of prior heart attacks, and sedation that the subjects received prior to the administration of the

questionnaires. This information was summarized using descriptive statistics.

The hypothesis stated that with trait anxiety controlled, there is a negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects. This hypothesis was tested using multiple regression and a one-tailed test of significance.

The first step of the analysis was the forcing of trait to be the first variable entered into the regression equation. This removed or controlled for the effect of the trait scores. In the second step, the denial score was entered into the equation. The relationship of the denial score and the adjusted state score could be determined from the two steps. A one-tailed test of the significance was then applied to determine if the relationship was significant.

In addition the correlation coefficient method was used to determine the degree of relationship between the two variables of denial and A-State when the A-Trait variable was removed from the equation. Internal consistency was computed on the denial scale by using the coefficient alpha method.

The analysis of data for this study was performed using the SPSS computer program. For purposes of this study, the significance level was set at .05.

## CHAPTER 4

### ANALYSIS OF DATA

A methodological study was conducted to determine if there was a negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects when the trait anxiety was controlled. The State-Trait Anxiety Inventory (Spielberger et al., 1970) was used to measure the state and trait anxiety levels and the Self-Appraisal Inventory, a tool modified by the investigator, was used to measure the denial levels of the subjects. The Demographic Data, a questionnaire developed by the researcher, was employed to describe the sample. This chapter presents a description of the sample, an analysis and interpretation of the data, and a summary of the findings.

#### Description of the Sample

The sample consisted of 30 second day postmyocardial infarction male patients. The ages of the patients ranged from 33 to 65 years of age, with the mean age being 48.07 years. None of the subjects had experienced a previous myocardial infarction.

The findings with regard to educational level were 1 (3%) in the elementary level and 2 (7%) completed some high school. There were 17 (57%) subjects with a high school education, 3 (10%) had completed some college, and 7 (23%) had a college degree.

The final demographic category specified the type and frequency of sedation that the subject received prior to the administration of the questionnaires. It also included the person who had requested the sedation (patient, family member, physician, or nurse). There were 5 (16.7%) subjects who had received oral sedation prior to the administration of the questionnaires. Of the 5 receiving sedation, 2 subjects received Valium 2 milligrams, per physician request, every 6 hours. These 2 subjects received the sedative 6 hours prior to completing the questionnaires. Two subjects received Valium 5 milligrams, per physician request, every 6 hours. The subjects received the sedation 6 hours prior to the administration of the questionnaires. One subject received Valium 5 milligrams because he had complained of a headache that was unrelieved with Tylenol. The nurse initiated the sedation request. The sedative had been given 4 hours prior to the completion of the questionnaires.

### Findings

The state-trait anxiety and denial scores were calculated and recorded for each of the completed questionnaires for the postmyocardial infarction subjects. The state anxiety (A-State) scores ranged from 24 to 59 with the mean score 37.17. The trait anxiety (A-Trait) scores for the individuals ranged from 22 to 58 with the mean score 34.53. The denial scores ranged from 36 to 59 with the mean score 45. Table 1 presents the means, standard deviations, and ranges for the state-trait anxiety and denial scores of the second day post-myocardial infarction subjects.

Table 1

Mean, Standard Deviation, and Range for the  
State-Trait Anxiety and Denial Scores

	<u>M</u>	<u>SD</u>	Obtained Range	Possible Range
A-State	37.17	9.45	24-59	20-80
A-Trait	34.53	10.57	22-58	20-80
Denial	45.00	5.72	36-59	20-80

n = 30.

Multiple regression analysis was used in this methodological study to test the hypothesis which stated: With trait anxiety controlled, there is a

negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects. Table 2 presents the statistical results obtained.

Statistical results revealed in Table 2 that there was no significant negative relationship between the denial and state anxiety levels of the subjects when the trait anxiety was controlled,  $F(27) = 2.339$ ,  $R = .690$ ,  $Beta = -0.216$  (one-tailed test of significance)  $p = .069$ . A correlation of .311 is significant at the .05 level. Even though the hypothesis was rejected, the direction of the relationship between the two variables of denial and state anxiety went to the predicted direction in that as denial scores increased, state anxiety scores decreased. There was a significant positive relationship between state and trait anxiety scores as expected.

In further analysis of data displayed in Table 3, it was found that there was a significant relationship between the two variables of denial and A-State when the A-Trait variable was removed from the equation,  $F(27) = 5.928$ ,  $R = .418$  (one-tailed test of significance)  $p = .011$ , pointing out the need to control for trait anxiety scores. With a  $Beta$  value of  $-0.418$ ,

Table 2

Multiple Regression Results between the Variables of Denial and A-State after Adjustment of A-Trait

Dependent Variable . . . . . A-State		Variable entered on Step Number 1 . . . . . A-Trait		Multiple R = .690		$R^2 = .476$	
<u>Analysis of Variance</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Level of Significance</u>		
Regression	1	1234.420	1234.420	25.494	$p < .001$		
Residual	28	1355.746	48.419				
<u>Variable in the Equation</u>							
<u>Variable</u>	<u>Beta</u>	<u>Standard Error B</u>	<u>F</u>	<u>Level of Significance</u>			
A-Trait	.690	.122	25.494	$p < .001$			
<u>Variable not in the Equation</u>							
<u>Variable</u>	<u>Beta</u>	<u>Partial</u>	<u>df</u>	<u>F</u>	<u>Significance Level (one-tailed test)</u>		
Denial	-0.216	-0.282	27	2.339	$p = .069$		

Table 3  
Multiple Regression Results between the Variables  
of Denial and A-State

Dependent Variable . . . . . A-State					
Variable entered on Step Number 1 . . . . . Denial					
Multiple $\underline{R} = .418$		Multiple $\underline{R}^2 = .175$			
<u>Analysis of</u> <u>Variance</u>	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>	<u>Level of</u> <u>Significance</u>
Regression	1	452.558	452.558	5.928	$\underline{p} = .022$
Residual	28	2137.609	76.343		
-----					
<u>Variable in the Equation</u>					
<u>Variable</u>	<u>Beta</u>	<u>Standard Error B</u>	<u>df</u>	<u>F</u>	<u>Significance</u> <u>Level (one-</u> <u>tailed test)</u>
Denial	-0.418	.284	27	5.928	$\underline{p} = .011$

this indicated a negative relationship between the two variables; thus, subjects with higher denial scores had lower state anxiety scores.

Internal consistency reliability was computed on the denial scale by using the coefficient alpha method. The alpha reliability of the scale was .65.

Additional findings reported in Table 4 revealed that age and sedation were not significant variables in relationship to state anxiety scores,  $F(1,28) = 3.934$ ,  $p > .05$ , and  $1.204$ ,  $p > .05$ , respectively. Education was revealed to be a significant variable in relationship to state anxiety scores,  $F(1,28) = 6.999$ ,  $p < .05$ ,  $Beta = .334$ . Findings indicated that the higher the educational level of the subject, the higher the state anxiety score.

Findings reported in Table 5 revealed that age and sedation were not significant variables in relationship to denial scores,  $Beta = -0.082$ ,  $p > .05$ , and  $Beta = -0.270$ ,  $p > .05$ , respectively. Additional findings revealed that there was no significant relationship between the variable of A-Trait to denial scores,  $Beta = -0.326$ ,  $p > .05$ . A correlation of .361 is significant at the .05 level. However, the direction of the relationship between the two variables of A-Trait and denial

Table 4

Multiple Regression Results between the Variables of Age, Education, and Sedation in Relationship to A-State after Adjustment of A-Trait

Dependent Variable . . . . . A-State	
Variable entered on Step Number 1 . . . . . A-Trait	
Multiple R = .690	$R^2 = .476$
<u>Analysis of Variance</u>	<u>Level of Significance</u>
<u>df</u>	<u>F</u>
<u>SS</u>	<u>MS</u>
1	1234.420
28	1355.746
Regression	1234.420
Residual	48.419
Variable in the Equation	
<u>Beta</u>	<u>Standard Error B</u>
.690	.122
A-Trait	25.494
	<u>Level of Significance</u>
	p < .001

Table 4 (continued)

<u>Variable</u>	<u>Beta</u>	<u>Partial</u>	<u>F</u>	<u>Level of Significance</u>
Age	.272	.357	3.934	$\underline{p} > .05$
Education	.334	.454	6.999	$\underline{p} < .05$
Sedation	.152	.206	1.204	$\underline{p} > .05$

went to the anticipated direction in that as denial scores increased, trait anxiety scores decreased. Education was shown to be a significant variable in relationship to denial scores, Beta = -0.510, p < .01. Findings indicated that the lower the educational level of the subject, the higher the denial score.

Table 5

Correlations and Significant Values between the Variables of Age, Education, Sedation, and A-Trait in Relationship to Denial

Variable	Number of Grouped Pairs	<u>Beta</u>	Level of Significance
Age	2	-0.082	<u>p</u> > .05
Education	2	-0.510	<u>p</u> < .01
Sedation	2	-0.270	<u>p</u> > .05
A-Trait	2	-0.326	<u>p</u> > .05

#### Summary of Findings

Analysis of data revealed that there was no significant negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects when the trait anxiety was controlled. Even though the hypothesis was rejected, the direction of the relationship between the two variables of denial

and state anxiety went to the predicted direction in that as denial scores increased, state anxiety scores decreased. There was a significant positive relationship between state and trait anxiety scores as expected. The alpha reliability of the denial scale was computed to be .65.

Additional findings revealed a significant negative relationship between denial and state anxiety levels when trait anxiety was not controlled, indicating the need to control for trait anxiety. Age, sedation, and A-Trait were not significant variables in relationship to denial scores, but the education variable was found to be significant. Findings indicated that the lower the educational level of the subject, the higher the denial score. In relationship to state anxiety scores, age and sedation were not significant variables, but the education variable was found to be significant. Findings indicated that the higher the educational level of the subject, the higher the state anxiety score.

## CHAPTER 5

### SUMMARY OF THE STUDY

This study was conducted to determine if there was a negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects when the trait anxiety was controlled. This chapter presents a summary of the preceding chapters. A discussion of the findings is presented. Conclusions reached, based on the data analyzed, and implications for appropriate nursing use of the outcomes are suggested. Recommendations for further research are made.

#### Summary

Of all the features of coronary artery disease, none is emotionally more significant than its potential to kill. Approximately 2,000,000 to 2,500,000 people in the United States sustain acute myocardial infarctions each year and of that number, approximately 700,000 deaths occur (McBride & Moses, 1979). This reminds us that the primary threat an individual with any kind of heart trouble faces is that he/she may die.

Findings of research studies have indicated that many individuals use denial as a coping mechanism to

help them deal with the stressful experience of having a myocardial infarction. Findings also indicated that deniers experience less situational anxiety than non-deniers during stressful events. However, denial of fact can be maladaptive if the individual ignores necessary activity restrictions or fails to take prescribed medications.

Even though studies emphasize the frequent use of denial, a review of the literature was unsuccessful in locating a concise objective denial assessment tool. Thus, the focus of the present study was on the modification, development, and validation of an instrument to measure denial. In validating the measure of denial, the primary concern was with the extent to which the measure corresponded to situational (state) anxiety. Construct validity would be supported if one finds a denier experiencing less state anxiety than a nondenier.

Freud's (1946) theory of the mechanisms of defense and Spielberger's (1972) trait-state anxiety theory provided the theoretical framework for the present study. The directional hypothesis for the study was that with trait anxiety controlled, there is a negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects.

A sample of 30 male subjects with a clinically documented diagnosis of myocardial infarction was selected by the convenience method. This sample was drawn from coronary care units in three private hospitals in a Southwestern metropolitan area. Data were collected from the subjects utilizing the State-Trait Anxiety Inventory to measure state and trait anxiety levels and the Self-Appraisal Inventory, modified by the researcher, to measure denial levels. The Demographic Data, a questionnaire developed by the investigator, was used to describe the sample.

Findings revealed a significant negative relationship between the variables of denial and state anxiety when the trait anxiety variables was not controlled,  $F(27) = 5.928$ ,  $R = .418$  (one-tailed test of significance)  $p = .011$ . Subjects with higher denial scores had lower state anxiety scores. The alpha reliability of the denial scale was computed to be .65.

Data analysis did not show a significant negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects when the trait anxiety was controlled,  $F(27) = 2.339$ ,  $R = .690$ ,  $Beta = -0.216$  (one-tailed test of significance)  $p = .069$ . Even though the hypothesis was rejected, the

direction of the relationship between the variables of denial and state anxiety went to the predicted direction in that as denial scores increased, state anxiety scores decreased. There was a significant positive relationship between state and trait anxiety scores as expected.

In further analysis of data, it was found that age and sedation were not significant in relationship to denial and state anxiety scores. However, education was found to be a significant variable in relationship to both denial and state anxiety scores. Statistical results indicated that the lower the educational level of the subject, the higher the denial score. It was also determined that the higher the educational level of the subject, the higher the state anxiety score. Additional findings revealed that there was no significant relationship between the variable of A-Trait to denial scores. However, the direction of the relationship between the two variables of A-Trait and denial went to the anticipated direction in that as denial scores increased, trait scores decreased.

### Discussion of Findings

The findings in a study by Bigos (1981) substantiated the conclusions of previous studies that denial is effective in decreasing anxiety in postmyocardial infarction patients (Gentry et al., 1972; Hackett et al., 1968). Bigos (1981) classified subjects as deniers and nondeniers, based on their complaints of fear and apprehension during the coronary care unit stay. Bigos reported that nondeniers had significantly higher scores than deniers on the state subscale of the State-Trait Anxiety Inventory. Findings of the present study being reported here did indicate that subjects with higher denial scores had lower state anxiety (A-State) scores; although, this relationship failed to reach significance when trait anxiety was controlled.

Even though the relationship between the two variables of denial and state anxiety went in the predicted direction, one can only speculate the reason for failure to reach a level of significance. One must question the sample size and also the reliability of the denial measurement. A review of the literature was unsuccessful in locating a self-administered denial measurement, so the Self-Appraisal Inventory was modified by the

researcher from the Hackett-Cassem Denial Scale. This was the first time the Self-Appraisal Inventory was utilized and the sample size was small. The alpha reliability of the denial scale was computed to be .65 which indicates promise. However, revisions must be made to increase the reliability and establish validity. One must also increase the sample size. Kerlinger (1973) emphasized that as sample size increased, the chances of detecting a significant relationship improved.

Another possible reason for failure to reach significance may have been that the subjects were tested during the wrong time frame. Bigos (1981) reported that nondeniers had significantly higher scores than deniers on the state subscale of the State-Trait Anxiety Inventory on day 5 of the hospital stay ( $p = .04$ ). Nondeniers had higher mean scores than deniers on the state subscale on day 1, but the difference was not statistically significant ( $p = .07$ ). In a study by Froese, Hackett, Cassem, and Silverberg (1974), it was reported that although the deniers were consistently rated as less anxious than nondeniers, the only significant difference came at days 3-4. Deniers showed a significant reduction in anxiety

by day 3 to day 4 of hospitalization, a fall that continued to be significant through days 8-10. On the basis of these two studies, one must consider the possibility that the subjects in the present study were evaluated during the wrong time frame. Perhaps the sample should have been tested 24-48 hours later or over the first 5 days after admission to the coronary care unit.

The possibility of the sample being untypical of the population in that 33% of the subjects had more than a high school education should also be considered when discussing the failure to reach a significant level. The present study reported the educational level to be a significant variable in relationship to both denial and state anxiety scores. Statistical results indicated that the higher the educational level of the subject, the lower the denial score. Review of the literature was unsuccessful in locating a study that addressed the relationship of educational level to denial.

The present study also determined that the higher the educational level of the subject, the higher the state anxiety score which would support the views of Rosen and Bibring (1966). These two investigators felt that the ideology of higher education, which emphasizes

openness to knowledge and search for complicated cause-effect relationships, appeared powerful in the development and persistence of anxiety in white-collar subjects who were known to have advanced academic degrees. In the present study 10% of the subjects had completed some college and 23% had a college degree. These subjects, who represented 33% of the sample, not only obtained higher scores on the State-Trait Anxiety Inventory, but also displayed, on clinical observation by the researcher, a greater number of emergent behaviors of anxiety than those subjects with a lower educational level. Because of their higher state anxiety levels, these subjects may have skewed the results of the study. In actuality, do 33% of male patients hospitalized in a coronary care unit for a myocardial infarction have more than a high school education? Does the sample in the present study accurately represent the population? Because of the small sample size and the sampling method that was utilized, the sample in this study might be untypical of the population with regard to educational levels. Had the sample size been larger than 30 subjects, a greater scope of educational levels might have occurred; thus, a significant level may have been reached.

In addition to the educational variable, it would have also been of interest to investigate the relationship of the socioeconomic status to denial and anxiety scores as one cannot simply assume that the higher the educational level, the higher the socioeconomic level. The socioeconomic status could be based upon occupation and income as well as education. In a study by Rosen and Bibring (1966), it was revealed that in patients with a first heart attack, the display of anxiety was more frequent in white-collar workers than in blue-collar workers.

Utilization of denial by several subjects in the present study was clinically observed by this investigator. Several of the subjects informed this investigator that they "felt fine" and were not seriously ill even though their physician had told them that they had experienced a heart attack. However, these individuals were following the prescribed treatment plan, so the investigator felt that these subjects were moderate rather than major deniers. These subjects obtained scores in the 45-55 range on the Self-Appraisal Inventory. These individuals tended to obtain lower state anxiety scores and exhibited fewer emergent behaviors of anxiety than subjects with lower denial scores.

Results showing age not to be a significant variable in relationship to state anxiety of postmyocardial infarction patients corresponded with results obtained by Rosen and Bibring (1966). In a similar study conducted by Byrne (1979), age failed to correlate significantly with any measure of state or trait anxiety in 120 survivors of acute myocardial infarction.

The present study revealed that sedation was not a significant variable in relationship to state anxiety. Bigos (1981) reported that previous studies have not addressed the effect of drug intake on anxiety. In the study by Bigos, the researcher considered the possibility that the lower mean state anxiety score for the group of subjects hospitalized for more than one myocardial infarction may have been due to the fact that they had a significantly higher intake of sedatives than the group hospitalized for their first myocardial infarction. The subjects in the present study were hospitalized for their first myocardial infarction. It is important to note that only 16.7% of the subjects in this study received sedation. Of those subjects receiving sedation, none of them initiated the request

for the sedation. The request was either initiated by the attending physician or the nurse. This finding suggests that the health care professional rather than the patient felt that there was a need for sedation.

There was no significant correlation between age and the subject's use of denial. This finding supports the results obtained by other researchers (Croog et al., 1971; Hackett et al., 1968). In addition, the present study supported previous findings that the use of sedatives is not related to denial scores (Froese et al., 1974; Rosen & Bibring, 1966).

Findings of the present study revealed that there was no significant relationship between the variable of A-Trait to denial scores at the .05 level of significance. However, the relationship was significant at the .10 level. Furthermore, the direction of the relationship between the two variables of A-Trait and denial went to the anticipated direction in that as denial scores increased, trait anxiety scores decreased. This finding suggests that the denial level may be related to the trait anxiety pattern of the individual. This relationship needs further study to determine if the trait anxiety pattern of the individual

is perhaps a better predictor of the level of denial than the state (situational) anxiety level.

### Conclusions and Implications

Findings revealed that there was no significant negative relationship between denial and state anxiety levels of second day postmyocardial infarction male subjects ( $n = 30$ ) when the trait anxiety was controlled. However, the findings did reveal that the direction of the relationship between the two variables of denial and state anxiety went to the predicted direction in that as denial scores increased, state anxiety scores decreased. There was a significant positive relationship between state and trait anxiety scores as expected. Additional findings revealed a significant negative relationship between denial and state anxiety levels when trait anxiety was not controlled. One must conclude that trait anxiety, the stable individual level of anxiety proneness, is an important variable to control.

Education was found to be a significant variable in relationship to both denial and state anxiety scores. It was determined that the lower the educational level of the subject, the higher the denial score. It was

also found that the higher the educational level of the subject, the higher the state anxiety score. One can conclude that in the 30 second day postmyocardial infarction male subjects, education was a predictive variable in regard to both state anxiety and denial levels when trait anxiety was controlled.

It is important for the reader to remember that the focus of the present study was on the modification, development, and validation of an instrument to measure denial. In validating the measure of denial, the primary concern was with the extent to which the measure corresponded to state anxiety. Since statistical results did not reveal a significant negative relationship, one must conclude that the construct validity of the denial instrument was not established at .05 level of significance. However, some evidence of construct validity is suggested by the relationship between denial and state anxiety scores at the .069 level.

Implications drawn from the conclusions indicated the need for further study in developing, refining, and improving measurements such as the Self-Appraisal Inventory to measure denial levels. The Self-Appraisal Inventory has shown promise with an alpha reliability

of .65, but revisions must be made to increase the reliability and establish validity. An inventory, such as the Self-Appraisal Inventory, would provide the nurse with objective data in regard to the presence and degree of denial in the postmyocardial infarction patient. With this information, the nurse would be in a better position to make a nursing diagnosis of denial and to identify specific nursing interventions for the patient.

#### Recommendations for Further Study

Based on the findings of this study, the following recommendations for future studies are made:

1. A study be conducted to determine if there is a difference in denial and state anxiety levels of postmyocardial infarction patients over the first 5 days after admission to a coronary care unit.
2. A similar study be performed in other geographical areas.
3. A similar study be replicated using a larger sample size to obtain a greater scope of educational levels and improve chances to detect a significant relationship.

4. In a similar study, revisions be made of the Self-Appraisal Inventory prior to testing the subjects.

5. A similar study be conducted to determine if the socioeconomic status of the subject is a significant variable in relationship to denial and state anxiety levels.

6. A study be conducted to identify the predictive power of the trait anxiety pattern, the state anxiety level, and the educational level of the subject in relationship to the denial level.

APPENDIX A



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

1810 Inwood Road  
 Dallas Inwood Campus

HUMAN SUBJECTS REVIEW COMMITTEE

Name of Investigator: Karen Robinson Center: Dallas  
 Address: Box 325 Date: 5/12/82  
1810 Inwood Road  
Dallas, Texas 75235

Dear Ms. Robinson

Your study entitled Denial and Anxiety in Second Day  
Myocardial Infarction Patients

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:

XX No special provisions apply.

Sincerely,

*Estelle D. Kurtz*  
Chairman, Human Subjects  
Review Committee

at Dallas

PK/sml/3/7/80

APPENDIX B



P.O. Box 22479, Denton, Texas 76204 (817) 383-2302, Metro 434-1757, Tex-An 834-2133

THE GRADUATE SCHOOL

June 16, 1982

Miss Karen Rae Robinson  
Box 325, 1810 Inwood Road  
Dallas, TX 75235

Dear Miss Robinson:

I have received and approved the Prospectus for your research project. Best wishes to you in the research and writing of your project.

Sincerely yours,



Robert S. Pawlowski  
Provost

ap

cc Dr. Anne Gudmundsen  
Dr. Shirley Ziegler

APPENDIX C

TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE \_\_\_\_\_

GRANTS TO Karen R. Robinson  
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.

With trait anxiety controlled, is there a relationship  
between denial and state anxiety levels of second day post  
myocardial infarction male subjects?

The conditions mutually agreed upon are as follows:

1. The agency (~~name~~) (may not) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (~~name~~) (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 \_\_\_\_\_

Date: 6/3/82

\_\_\_\_\_  
Signature of Agency Personnel

Karen Robinson  
Signature of Student

Shirley M. Fiegler  
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.

TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE \_\_\_\_\_

GRANTS TO Karen R. Robinson  
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.

With trait anxiety controlled, is there a relationship  
between denial and state anxiety levels of second day post  
myocardial infarction male subjects?

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 Will appreciate an abstract of the study.

Date: 4/22/82

Signature of Agency Personnel

Karen Robinson  
Signature of Student

Shirley M. Sigler  
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.

TEXAS WOMAN'S UNIVERSITY  
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE \_\_\_\_\_  
GRANTS TO Karen R. Robinson  
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.

With trait anxiety controlled, is there a relationship  
between denial and state anxiety levels of second day  
postmyocardial infarction male subjects?

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 (~~to have~~) a conference with the student when the report is completed.
4. The agency is willing (~~to allow~~) to allow the completed report to be circulated through interlibrary loan.

5. Other Copies of findings from study. Each individual supervisor will have to give permission for verbal discussion.

Date: 20th of May, 1982 \_\_\_\_\_  
Signature of Agency Personnel

Karen Robinson \_\_\_\_\_  
Signature of Student      Shirley M. Lickley  
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.

APPENDIX D

Date:

To: Dr. \_\_\_\_\_

From: Karen Robinson, R.N.

\_\_\_\_\_ has been selected as a prospective study subject. He meets the criteria as set forth in the research study "Denial and Anxiety in Second Day Myocardial Infarction Patients." I would like your permission to contact this patient to administer the Self-Appraisal Inventory and the State Trait Anxiety Inventory to him.

Yes, you may contact this patient.

No, please do not contact this patient.

\_\_\_\_\_, M.D.

APPENDIX E

Verbal Explanation to Subjects

Hello, my name is Karen Robinson. I am a registered nurse and currently conducting a research study in partial fulfillment of the requirements for a master's degree at Texas Woman's University. The purpose of my study is to gain further knowledge of a patient's feelings when he has experienced a heart attack.

Your participation would be helpful in that assistance would be given to the health profession. As a result of my study, nurses may be able to provide better patient care with a better understanding of the patient's feelings. If you want to participate, you will need to complete three questionnaires. There are 20 items to answer on each questionnaire. It is important to give your first reaction to the statement and then circle the number of the answer which best indicates how you feel about the statement. There are no right or wrong answers. After completing the questionnaires, I will have you complete a form that asks your age, education level, and number of prior heart attacks (not counting this hospitalization). Please do not write your name on any of the questionnaires. Completion and return of

the questionnaires will suffice as your consent to participate in the study. The length of time required to complete the questionnaires will be approximately 20 minutes.

Possible risks or discomforts that you may experience include the following:

1. You may become tired during the testing experience. If this occurs, you may withdraw from the study.

2. Loss of anonymity. A code number will be used on the questionnaires. Your name will not appear on any forms or in the report of findings. Confidentiality is guaranteed.

Potential benefits of the study will include the following:

1. Health care workers will be better able to understand the feelings of individuals who have just experienced a heart attack and thereby be able to give better care.

2. You may be able to understand and organize your thoughts and feelings better at the end of the tests.

If you want to participate, I will need to obtain the following information from your medical record:

(a) medications that you are currently receiving, (b) your diagnosis, and (c) verification that you do not have complications.

I, the researcher, offer to answer all of your questions regarding the study. If alternative procedures are more advantageous to you, I will explain them.

You will be free to withdraw from this study at any point should you so desire. Your participation or nonparticipation will not influence the treatment given to you at this institution.

Thank you for your attention.

Karen Robinson, R.N., B.S.N.

APPENDIX F

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CON-  
STRUED AS INFORMED CONSENT TO BE A STUDY PARTICIPANT.

Code No. \_\_\_\_\_

DEMOGRAPHIC DATA--PART I

Age: \_\_\_\_\_

Education: (Check highest completed)

Elementary \_\_\_\_\_

Some high school \_\_\_\_\_

Completed high school \_\_\_\_\_

Some college \_\_\_\_\_

College degree \_\_\_\_\_

Number of prior heart attacks: \_\_\_\_\_  
(not counting this hospitalization)

Code No. \_\_\_\_\_

## DEMOGRAPHIC DATA--PART 2

List sedative medications subject is receiving.

State medication frequency.

State the number of hours (prior to administration of questionnaires) that the subject received a sedative medication.

State the person who initiated the sedation request. (Subject, family member, nurse, etc.).

This form will be completed by the investigator!

APPENDIX G

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CON-  
STRUED AS INFORMED CONSENT TO BE A STUDY PARTICIPANT.

Code No. \_\_\_\_\_

### SELF-APPRAISAL INVENTORY

Directions: A number of statements which people have used to describe how they feel are given below. Please carefully read each statement. Circle the number of the answer which best indicates how you feel about these statements. Please give your first reaction to the statement. There are no right or wrong answers.

Please answer according to the following key:

- 1--strongly agree
- 2--agree
- 3--disagree
- 4--strongly disagree

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. I am seriously ill.  | 1 | 2 | 3 | 4 |
| 2. When the pain first began, I did not feel the need to see a doctor.                        | 1 | 2 | 3 | 4 |
| 3. Since being in the hospital, I feel that my doctor has placed too many restrictions on me. | 1 | 2 | 3 | 4 |
| 4. I have a concern about death.  | 1 | 2 | 3 | 4 |
| 5. I worry that I will be an invalid.   | 1 | 2 | 3 | 4 |
| 6. Since I feel fine, I think that my doctor should send me home.                             | 1 | 2 | 3 | 4 |
| 7. Since being in the hospital, I have not been worried about anything.                       | 1 | 2 | 3 | 4 |

Please answer according to the following key:

- 1--strongly agree
- 2--agree
- 3--disagree
- 4--strongly disagree

- |     |  |   |   |   |   |
|-----|--|---|---|---|---|
| 8.  | In the past when I have been ill or faced any sort of danger, I have not been worried. | 1 | 2 | 3 | 4 |
| 9.  | I feel afraid when the monitor alarm goes off.   | 1 | 2 | 3 | 4 |
| 10. | I am afraid that the chest pain will come back.  | 1 | 2 | 3 | 4 |
| 11. | I wish that the doctors and nurses would tell me more often that I am doing well.      | 1 | 2 | 3 | 4 |
| 12. | I don't really believe that there is anything wrong with my heart.                     | 1 | 2 | 3 | 4 |
| 13. | The proverb, "let sleeping dogs lay" reflects my attitude toward life.                 | 1 | 2 | 3 | 4 |
| 14. | I feel the need to learn more about heart attacks.                                     | 1 | 2 | 3 | 4 |
| 15. | I, myself, decided that I needed to see a doctor.                                      | 1 | 2 | 3 | 4 |
| 16. | At present my main worry is my health.   | 1 | 2 | 3 | 4 |
| 17. | Others helped me decide that I needed to see a doctor.                                 | 1 | 2 | 3 | 4 |
| 18. | To avoid worrying about the future, I put my life in the hands of fate.                | 1 | 2 | 3 | 4 |
| 19. | My family is more worried about my health than I am.                                   | 1 | 2 | 3 | 4 |
| 20. | I feel that I need to follow my doctor's instructions.                                 | 1 | 2 | 3 | 4 |

Copyright © applied for:

Karen Robinson

210 35th Avenue North

Fargo, North Dakota 58102

APPENDIX H

## HACKETT-CASSEM DENIAL SCALE

1. Delay in consulting for symptoms of MI (time from symptom onset till action is taken).  
0 (0-1 hr), 1 (1-5 hr), 2 (5-24 hr), 3 (24 hr or more)
  2. Others helped patient decide that medical care was needed.  
0 (no), 1 (maybe), 2 (definitely)
  3. Patient minimizes present symptoms (i.e., symptoms present at interview).  
0 (not at all), 1 (occasionally), 2 (frequently), 3 (always)
  4. Patient alludes to there being nothing really wrong with him and that he is ready to go home.  
0 (none), 1 (mild), 2 (moderate), 3 (extreme)
  5. Patient (past or present) displaced source of symptoms to organs other than heart.  
0 (never), 1 (occasionally), 2 (frequently), 3 (always)
  6. Patient prefers to complain of symptoms unrelated to cardiovascular system.  
0 (no), 1 (moderately), 2 (persistently)
  7. Patient complains about, criticizes, or chides physician for excessive and unnecessary restrictions in the CCU.  
0 (none), 1 (mild), 2 (moderate), 3 (extreme)
- 8-13. Did the patient admit fear at any time to one of the following:
- |                                      | Yes | No |
|--------------------------------------|-----|----|
|                                      | —   | —  |
| 8. death                             | 0   | 1  |
| 9. another MI or equivalent          | 0   | 1  |
| 10. invalidism                       | 0   | 1  |
| 11. monitor alarm going off          | 0   | 1  |
| 12. static/irregularities on monitor | 0   | 1  |
| 13. at the peak of symptoms          | 0   | 1  |
14. Patient makes *specific* requests for reassurance (which demand answers, e.g., "I'm doing well, aren't I?").  
0 (frequently), 1 (occasionally), 2 (never)
  15. Patient dreams while in hospital.  
0 (yes), 1 (no)
  16. Patient repeats same story in stereotyped way.  
0 (no), 1 (yes)
  17. Patient verbally denies fear of danger connected with present or past events, e.g., service, accidents, illnesses.  
0 (not at all), 1 (occasionally), 2 (frequently), 3 (always)
  18. Patient describes and deals with past life stresses and tension by using denial.  
0 (none), 1 (mild), 2 (moderate), 3 (major)
  19. Patient shrugs or makes dismissive gestures when speaking of distressing events.  
0 (not at all), 1 (occasionally), 2 (frequently), 3 (always)
  20. Patient history or words reveal a present or past style of fitting with danger, risk-taking, etc.  
0 (never), 1 (frequently), 3 (always)
  21. Patient displays at least on the surface a carefree, cheerful, jovial approach to life.  
0 (none), 1 (mild), 2 (moderate), 3 (extreme)
  22. Patient's behavior in hospital is characterized by nonchalance, coolness, imperturbability.  
0 (never), 1 (frequently), 3 (always)
  23. Patient resorts to clichés in describing attitudes toward life stress, debunks worry, says it gets nowhere, there is no point to it, etc.  
0 (never), 1 (once), 2 (two or more times)
  24. Patient refers to self by nicknames connoting strength, indestructability, ruggedness, roughness, immunity to bad luck.  
0 (never), 1 (once), 2 (more than once)
  25. Patient puts self into the hands of fate or providence (so as to exempt self from any concern for future) or considers self lucky (leads charmed life).  
0 (never), 1 (once), 2 (more than once)
  26. Patient displaces fear for his own illness to family, older patients, weaker patients, women, children, etc. (e.g., "It's my wife I'm worried about, not my heart.")  
0 (never), 1 (occasionally), 2 (frequently)
  27. Patient projects illness or weakness to family, wife, children, others (e.g., "My wife was afraid, but I wasn't.")  
0 (never), 1 (projects and worries for them), 2 (projects but does not worry)

28. Patient displaces his concern from his physical condition to a financial problem.  
0 (no), 1 (occasionally), 2 (frequently)
29. Patient, soon after being greeted, expresses concern for interviewer's health.  
0 (no), 1 (occasionally), 2 (frequently)
30. Ability to describe (physical features of) physicians and other people.  
0 (normal or good), 1 (stereotypic), 2 ("can't describe")
31. Patient avoids direct questions.  
0 (no), 1 (yes)

APPENDIX I

## HARVARD MEDICAL SCHOOL    ◆    MASSACHUSETTS GENERAL HOSPITAL

THOMAS P. HACKETT, M.D.  
*Eben S. Draper*  
*Professor of Psychiatry*



*Chief of Psychiatry*  
*Massachusetts General Hospital*  
*Boston, Massachusetts 02114*  
*617-726-2981*

January 26, 1982

Karen Robinson, R.N.  
 Box 325  
 1810 Inwood Road  
 Dallas, TEXAS 75283

Dear Ms. Robinson:

You have my permission to use the Hackett-Cassem Denial Scale in your study. There have been no modifications since it was originally used. There are some other people around the country who are using it and they have probably made modifications. I will enclose the names of a few of these; also you will find a copy of the scale.

I wish you good luck in your work and would appreciate knowing of your outcome.

Sincerely,

Thomas P. Hackett, M.D.

TPH:pmd  
 Enclosures

HARVARD MEDICAL SCHOOL      ◆      MASSACHUSETTS GENERAL HOSPITAL

THOMAS P. HACKETT, M.D.  
*Eben S. Draper*  
*Professor of Psychiatry*



*Chief of Psychiatry*  
*Massachusetts General Hospital*  
*Boston, Massachusetts 02114*  
*617-726-2931*

August 11, 1982

Karen Robinson, R.N.  
Box 325  
1810 Inwood Road  
Dallas, TEXAS 75235

Dear Ms. Robinson:

Thank you for your letter of August 4th, 1982. You have my permission to modify the Hackett-Cassem Denial Scale into a self-administered questionnaire. Please let me know the result. I am most interested in the outcome.

Sincerely,

A handwritten signature in cursive script that reads 'Thomas P. Hackett'.

Thomas P. Hackett, M.D.

TPH:pmd

APPENDIX J

State-Trait Anxiety Inventory

A copy of this instrument may be obtained from the following publisher:

Consulting Psychologists Press

577 College Avenue

Palo Alto, California 94306

#### REFERENCES CITED

- Ayres, S. M., & Gregory, J. J. Cardiology: A clinico-physiologic approach. New York: Appleton-Century-Crofts Educational Division/Meredith Corp., 1971.
- Bigos, K. M. Behavioral adaptation during the acute phase of a myocardial infarction. Western Journal of Nursing Research, 1981, 3(2), 150-171.
- Billing, E., Lindell, B., Sederholm, M., & Theorell, T. Denial, anxiety, and depression following myocardial infarction. Psychosomatics, 1980, 21, 639-645.
- Billings, C. K. Management of psychologic responses to myocardial infarction. Southern Medical Journal, 1980, 73, 1367-1371.
- Braunwald, E., Alpert, J. S., & Ross, R. S. Acute myocardial infarction. In K. J. Isselbacher, R. D. Adams, E. Braunwald, R. G. Petersdorf, & J. D. Wilson (Eds.), Harrison's principles of internal medicine (9th ed.). New York: McGraw-Hill Book Co., 1980.
- Byrne, D. G. Anxiety as state and trait following survived myocardial infarction. British Journal of Social and Clinical Psychology, 1979, 18, 417-423.
- Cassem, N. H., & Hackett, T. P. Psychiatric consultation in a coronary care unit. Annals of Internal Medicine, 1971, 75(1), 9-14.
- Cook, R. L. Psychosocial responses to myocardial infarction. Heart and Lung, 1979, 8, 130-135.
- Croog, S. H., Shapiro, D. S., & Levine, S. Denial among male heart patients. Psychosomatic Medicine, 1971, 33, 385-397.
- Elliott, S. M. Denial as an effective mechanism to allay anxiety following a stressful event. Journal of Psychiatric Nursing and Mental Health Services, 1980, 12(10), 11-15.

- Foster, S., & Andreoli, K. G. Behavior following acute myocardial infarction. American Journal of Nursing, 1970, 70, 2344-2348.
- Freud, A. Ego and mechanisms of defense. New York: International Universities Press, 1946.
- Froese, A., Hackett, T. P., Cassem, N. H., & Silverberg, E. L. Trajectories of anxiety and depression in denying and nondenying acute myocardial infarction patients during hospitalization. Journal of Psychosomatic Research, 1974, 18, 413-420.
- Gentry, W., Foster, S., & Haney, T. Denial as determinant of anxiety and perceived health status in the coronary care unit. Psychosomatic Medicine, 1972, 34, 39-44.
- Goldberger, E. Textbook of clinical cardiology. St. Louis: C. V. Mosby Co., 1982.
- Hackett, T. P., & Cassem, N. H. Factors contributing to delay in responding to the signs and symptoms of acute myocardial infarction. The American Journal of Cardiology, 1969, 24, 651-658.
- Hackett, T. P., & Cassem, N. H. Development of a quantitative rating scale to assess denial. Journal of Psychosomatic Research, 1974, 18, 93-100.
- Hackett, T. P., Cassem, N. H., & Wishnie, H. A. The coronary care unit: An appraisal of its psychological hazards. New England Journal of Medicine, 1968, 279, 1365-1370.
- Kerlinger, F. Foundations of behavioral research (2nd ed.). New York: Holt, Rinehart, and Winston, 1973.
- Kiening, M. M. Denial of illness. In C. E. Carlson & B. Blackwell (Eds.). Behavioral concepts and nursing interventions (2nd ed.). Philadelphia: J. B. Lippincott Co., 1970.
- Kucharski, A. Psychologic stress in myocardial infarction. American Family Physician, 1978, 17, 154-157.

- Lee, R. E., & Ball, P. A. Some thoughts on the psychology of the coronary care unit patient. American Journal of Nursing, 1975, 75, 1498-1501.
- Levy, R. I. Prevalence and epidemiology of cardiovascular disease. In P. B. Beeson, W. McDermott, & J. P. Wyngaarden (Eds.). Textbook of medicine (15th ed.). Philadelphia: W. B. Saunders Co., 1979.
- McBride, H., & Moses, D. Acute myocardial infarction. New York: Appleton-Century-Crofts, 1979.
- Olin, H. S., & Hackett, T. P. The denial of chest pain in 32 patients with acute myocardial infarction. Journal of the American Medical Association, 1964, 190(11), 103-107.
- Phipps, W. J., Long, B. C., & Woods, N. F. Medical-surgical nursing: Concepts and clinical practice. St. Louis: C. V. Mosby Co., 1979.
- Polit, D. F., & Hungler, B. P. Nursing research: Principles and methods. Philadelphia: J. B. Lippincott Co., 1978.
- Pranulis, M. F. Coping with an acute myocardial infarction. In W. D. Gentry & R. B. Williams (Eds.). Psychological aspects of myocardial infarction and coronary care. St. Louis: C. V. Mosby Co., 1975.
- Roberts, S. L. Behavioral concepts and the critically ill patient. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976.
- Rosen, J. L., & Bibring, G. L. Psychological reactions of hospitalized male patients to a heart attack. Psychosomatic Medicine, 1966, 28, 308-321.
- Scalzi, C. Nursing management of behavioral responses following an acute myocardial infarction. Heart and Lung, 1973, 2, 62-69.
- Sobel, D. E. Personalization on the coronary care unit. American Journal of Nursing, 1969, 69, 1439-1442.

- Spielberger, C. D. Anxiety--current trends in theory and research. New York: Academic Press, 1972.
- Spielberger, C. D., Gorsuch, R. L., & Lushene, R. E. STAI manual for the state-trait anxiety inventory. Palo Alto, Ca.: Consulting Psychologists Press, 1970.
- Weinstein, E. A., & Kahn, R. L. Denial of illness. Springfield: Charles C. Thomas, Publisher, 1955.
- Weisman, A. D. On dying and denying. New York: Behavioral Publications, 1972.