COPING AND PURPOSE IN LIFE OF PATIENTS WITH CARDIAC DISEASE

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We hereby recommend that the dissertation prepared under our supervision by Norann Y. Planchock, R.N., B.S., M.S. entitled COPING AND PURPOSE IN LIFE OF PATIENTS WITH CARDIAC DISEASE

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DEDICATION

This study is dedicated to my family who has been a constant source of encouragement, love, and joy in my life.

To

my husband, Jerry,

our daughters, Marda and Leann,

and

my parents, Lewis and Lenora Yanosh.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Life strains and emotional stress are integral components of the human life. The manner in which people cope with stress can affect their psychological, physical, and social well-being (Coelho, Hamburg, & Adams, 1974; Cohen & Lazarus, 1979; Moos, 1977; Pearlin & Schooler, 1978). Frankl (1965) proposed that the ways in which individuals responded to stress producing events depended upon the individual's apprehension of their purpose or meaning in life.

Individuals who are confronted with the prospect of open heart surgery have encountered a stress-producing event. Preoperative cardiac individuals must use various methods of coping to help them overcome this stressful life situation. The nurse may be in a position to facilitate the patient's coping and finding meaning in life.

Definitions of nursing in the literature describe the nurse as helping individuals cope and find meaning in life. A definition of nursing proposed by Jones (1979) was that "nursing is caring which assists a person, family, or community in coping with their response to actual or

potential health" (p. 68). Travelbee (1971) viewed the nurse as facilitating coping when she referred to nursing as an interpersonal process in which individuals, families, and communities are assisted in preventing or coping with the experiences of illness and suffering. In Vaillot's (1966) viewpoint, it is appropriate for the nurse to assist patients to cope with crises by helping them find purpose in their lives.

Little is known about the role of coping in mediating psychological, physical, and social well-being (Folkman & Lazarus, 1980). Toffler (1970) stated that more must be learned about the methods by which people cope with decision-making and change. Toffler (1970) further stated:

> I gradually came to be appalled by how little is actually known about adaptivity, either by those who call for and create vast changes in our society, or by those who supposedly prepare us to cope with those changes. Earnest intellectuals talk bravely about "educating for change" or "preparing people for the future." But we know virtually nothing about how to do it. In the most rapidly changing environment to which man has ever been exposed, we remain pitifully ignorant of how the human animal copes. (pp. 2-3)

Statement of the Problem

The general problem of this study was: What is the relationship between coping methods and purpose in life of patients with cardiac disease? In addition, coping

methods and purpose in life were described in relation to Type A pattern behaviors.

Specific subproblems were:

1. Is there a relationship between problem-oriented and affective-oriented coping methods in patients with cardiac disease?

2. Is there a relationship between the coping methods and purpose in life of patients with cardiac disease?

3. Is there a relationship between the coping methods and Type A pattern behaviors in patients with cardiac disease?

4. Is there a relationship between purpose in life and Type A pattern behaviors in patients with cardiac disease?

Justification of Problem

Stress is an inevitable part of being human.

> Stress is a physical and emotional state always present in the person intensified when environmental change . . . occurs internally or externally to which he must respond. (Murray & Zenter, 1979, p. 229)

Stress is linked to disease although the nature of this linkage is obscure (Jalowiec & Powers, 1981). Individuals may be exposed to the same stressor, yet one individual becomes acutely ill, another chronically ill, and another does not respond to the stressor. Rabkin and Struening

(1976) pointed out that "exposure to stressors alone is almost never a sufficient explanation for the onset of illness . . . other factors that influence their impact require consideration" (p. 1018).

Attempts have been made to account for this variability. Lazarus, Cohen, Folkman, Kanner, and Schaefer (1980) identified that the way in which individuals cope with stress may affect their health directly or indirectly. An example of the deleterious effect on health of a particular kind of adaptive behavior is the association of Type A behavior patterns and coronary heart disease (Friedman & Rosenman, 1974; Glass, 1977). Relatively little is known of the "nature and substance of people's coping repertoires and even less of the relative effectiveness of different ways of coping" (Pearlin & Schooler, 1978, p. 2).

In the area of coping behaviors in general several populations have been studied. These groups included children (Murphy, 1964), college students (Krantz, 1983; Sidle, Moos, Adams, & Cady, 1969), open heart patients (Kimball, 1969), acute crisis victims (Hamburg, 1973), psychiatric inpatients (Bell, 1977), adults (Ilfeld, 1980); Pearlin & Schooler, 1978), adolescents (Beard, 1980), middle aged persons (Folkman & Lazarus, 1980), teachers (Needle,

Griffin, & Svendsen, 1981), hypertensive patients (Jalowiec & Powers, 1981), hemodialysis patients (Baldree, Murphy, & Powers, 1982), parents (Lewandowski, 1982), post-surgical patients (Andrew, 1970; Ziemer, 1983), hospice nurses (Chiriboga, Jenkins, & Bailey, 1983), and healthy, aged persons (Lazarus & Delongis, 1983).

There exists the growing conviction that coping skills play a key role in the efficacy of an individual's response to a threat or challenge. However, there is little information on variations in the use of the coping skills, according to the type and severity of the stress, the personal characteristics and traits of the person involved in a stress situation, or the degree to which the stress is attenuated (Billings & Moos, 1981). Moos and Tsu (1977) proposed that the ability to find a general purpose or pattern constituted a set of coping skills which individuals use to address a threat, harm/injury, or a challenge.

Frankl (1972) asserted that there was an increase in the number of individuals who complain of a sense of futility and emptiness, a feeling of meaninglessness which he described as "an existential vacuum." The individual's search for purpose in life may lead to tension rather than to equilibrium. This tension is,

> an indispensable prerequisite of mental health. . . . Mental health is based on a certain degree of tension, the tension between what one has already achieved and what one still ought to accomplish, or the gap between what one is and what one should become. (Frankl, 1963, pp. 164, 165-166)

The individual's discovery and apprehension of purpose in life provides the person with what Antonovsky (1979) called cognitive and emotional generalized resistance resources (GRRs). Antonovsky affirmed that people stay healthy--a concept he called salutogenesis--because they possess generalized resistance resources. Individuals who have a sense of themselves, their capacities, potentials, their meaning and purpose in this world, possess emotional GRRs which help them cope.

Hamburg and Adams (1967) asserted that an individual's appraisal of threatening or challenging elements rests heavily on the personal meaning it has, the past environment, and internalized dispositions. These authors stated that both clinical observations and systematic research have neglected to study ways in which individuals cope with the threatening implications of difficult experiences. Roskies and Lazarus (1980) stated that data are lacking on how individuals handle a variety of stress transactions over a period of time.

> We don't know the degree to which competent coping is purely situation-specific, or the degree to which

> it constitutes a trait and, if so, the characteristics and correlates of this trait. (Roskies & Lazarus, 1980, p. 56)

Coping abilities and purpose in life are complex phenomena. Why do some individuals adequately handle serious life crises, whereas other individuals succumb under minor stress? A search of the literature did not yield studies dealing with the relationship of the cardiac patient's perceptions of meaning or purpose in life and their ability to cope with that life. Many studies have been done attempting to link coping style of Type A individuals with cardiac disease. Studies were not found, however, dealing with the correlation of specific coping methods and purpose in life with Type A behavior patterns. The nursing literature stated that the nurse should be involved in helping individuals find purpose in life and cope with their life situations. The concepts of coping and purpose in life are intricate concepts which require further identification and investigation in order for nurses to determine nursing interventions that would assist the patients in meeting their goals, ascertaining their meaning in life, and maintaining health and/or preventing illness. If the growing conviction in the literature is true, that is, how individuals approach and cope with stress can affect their well-being, then the investigation of coping, purpose

in life, and Type A behavior patterns would be advantageous for humankind.

Theoretical Framework

The theoretical framework for this study utilized the concept of coping as defined by Lazarus (1966, 1981, 1984) and the concept of purpose in life as described by Frankl (1963, 1967, 1969).

Lazarus' Cognitive Theory of Coping

Coping was defined by Lazarus and Launier (1978) as

> the efforts, both action oriented and intrapsychic, to manage (i.e., master, tolerate, reduce, minimize) environmental and internal demands and conflicts among them, which tax or exceed a person's resources. (p. 311)

A significant aspect of this definition is that coping is not defined in terms of outcomes. Coping, as Lazarus and Launier (1978) viewed it, referred to efforts to manage demands, regardless of the success of those efforts. Folkman (1984) remarked that "the effectiveness of any given coping strategy is not inherent in the strategy" (p. 843).

Lazarus (1974) contended that the stressor itself was not as paramount as how the individual appraised the stressor. Lazarus' position regarding the importance of cognition was not a new concept. Wolff (1953) surmised this same thought when he wrote, "it is not the particular

nature of the forces, pressures, or preferences that engenders a threat for the individual in any particular society but how they are perceived" (p. 14).

Lazarus' theoretical approach was based upon the primacy of cognition. Lazarus, Averill, and Opton (1974) viewed appraisal as

> the process by means of which the stakes or potential outcome of a situation, and of the coping efforts adopted by the person to deal with it, are judged or evaluated. These appraisal processes are partly a function of the situation, as well as of the belief systems, cognitive styles, and other personal dispositions . . . that have developed over the person's lifetime. (p. 260)

The role of cognitive appraisal is "to mediate the relationship between the person and the environment" (Lazarus, 1982, p. 1019). The cognitive operations required for appraisal are attention to and evaluation of information in the stimulus configuration, storage, and retrieval of information in memory (Folkman, Schaefer, & Lazarus, 1979).

Three aspects of appraisal were identified. The process of evaluating the significance of a transaction for one's well-being was referred to as primary appraisal. The question the individual asked in this stage was, "Am I okay or in trouble?" (Folkman et al., 1979, p. 282). Lazarus (1966, 1981) identified three possible evaluations

of the primary appraisal. These evaluations were that the situation was irrelevant, benign-positive, or stressful.

A transaction that is judged to have no significance for well-being was appraised as irrelevant. A benign-positive appraisal signified that a transaction did not tax or exceed the individual's resources and positive results would occur. The transactions appraised as stressful were further defined as harm/loss, threat, or challenge. Harm/loss referred to injury or damage already done. Threat involved a potential harm or loss. Challenge denoted an opportunity for growth, mastery, or gain.

Secondary appraisal functioned in evaluating coping options and resources. In this stage the individual asked, "What can I do about the situation/problem?" Primary appraisal must precede secondary appraisal. However, secondary appraisal may be activated before primary appraisal has been completed. Secondary appraisal and primary appraisal processes interpenetrate each other and even seem to fuse. The main distinction consists of the content to which each is addressed (Folkman et al., 1979; Lazarus, 1981).

Reappraisal, the third component, occurs whenever the individual's original perception changes and reflects

the changing cues, information, and the changing individual.

> The nature and adequacy of these three appraisal processes . . . determine the extent to which coping is flexible, rational and effective or rigid, irrational and ineffective in meeting the threat or challenge. (Lazarus et al., 1974, p. 261)

A coping episode is never a static occurrence, but dynamic as new information and outcomes of previous responses are appraised.

The cognitive activity in appraisal is not necessarily realistic and does not imply anything about reflection, rationality, or awareness (Lazarus, 1982). Coping has two major functions, namely (a) to alter the person-environment relationship and (b) to regulate the stress and distress reaction. The first function was called instrumental or problem-solving; the second was palliation or emotion regulating. The problem solving function was more likely to be initiated if the degree of threat and the emotional tone was low (Lazarus, 1966). This function actively prepares against harm by arranging alternatives, building resistance, avoidance, or attack. The palliative function is more likely to be activated if the degree of threat and concomitant emotional tone is high. Problem solving and palliative functions are not mutually exclusive. When energies are centered on palliation or coping with the emotional response, there is less energy available

for the problem solving function of the coping process. If the problem is resolved through instrumental efforts, then there is no longer any reason to be threatened. If the palliative function is used, then the objective situation remains the same, however a more benign emotional reaction is created.

In addition to coping functions, Lazarus (1981) identified four main coping categories: information-seeking, direct action, inhibition of action, and intrapsychic processes. These broad coping modes can (a) serve both the problem-solving and emotion-regulatory functions, (b) be capable of being oriented to the self or to the environment, and (c) be concerned with either past or present (harm/loss) or future (threat or challenge).

Lazarus (1981) summarized his approach to coping as

> We treat a process of coping as a static state of mind rather than as a constant search for a way of comprehending what is happening, a way that seeks simultaneously to test reality and to retain hope. . . . If we look at the problem as a continuous effort at meaning (Frankl, 1955, 1963), we come close, I think, to the way Erikson (1956) views the struggle in aging to achieve integrity rather than despair. One does not usually arrive fixedly at one or the other pole of thought, but is constantly in tension between the two. (pp. 204-205)

Frankl's Theory of Purpose in Life

The second component of this theoretical framework is the concept of purpose in life as described by Frankl (1963, 1967, 1969). Frankl, a practicing psychiatrist and professor of psychiatry and neurology at the University of Vienna Medical School, solidified his ideas and observations into a theory called logotherapy while he was a prisoner in a Nazi concentration camp during World War II. In spite of the fear, torment, and apathy of the prisoners in concentration camps, which resulted from both physical and psychological causes, Frankl found that "man can preserve a vestige of spiritual freedom, of independence of mind, even in such terrible condition of psychic and physical stress" (p. 104). In the concentration camps there were many opportunities for choice. Frankl (1963) observed that

> the sort of person the prisoner became was the result of an inner decision and not the result of camp influences alone. Fundamentally, therefore, any man can, even under such circumstances, decide what shall become of him--mentally and spiritually. He may retain his human dignity even in a concentration camp. . . . It is this spiritual freedom--which cannot be taken away--that makes life meaningful and purposeful. (pp. 105-106)

The German philosopher Nietzsche (cited in Frankl, 1963) expressed this idea by stating that, "He who has a <u>why</u> to live for, can bear almost any <u>how</u>" (p. 162).

Frankl (1963) asserted that man's search for meaning is the primary motivational force in life. This meaning is unique and specific in that it must and can be fulfilled only by each individual. This concept is foundational in Frankl's (1963) approach to psychotherapy. His school of psychotherapy, called logotherapy, differed from Freudian psychoanalysis which centered on will to pleasure and from Adlerian psychology which focused on will to power (Frankl, 1962). Logotherapy means "therapy through meaning."

The basic premises of therapy through meaning are (a) the freedom of will, (b) the will to meaning, and (c) the meaning of life. Freedom of will, as opposed to determinism, implies freedom of the human will. However, Frankl (1967) asserted that

> the freedom of a finite being such as man is a freedom within limits. Man is not free from conditions, be they biological or psychological or sociological in nature. But he is, and always remains, free to take a stand toward these conditions; he always retains the freedom to choose his attitude toward them. (p. 3)

Man's freedom is not omnipotence or mere arbitrariness. Freedom is a negative concept which requires a positive counterpart. According to Frankl (1969), responsibleness is that positive complement. The individual's freedom is not only freedom from but freedom to something--freedom to the individual's responsibilities.

The second construct of logotherapy, the will to meaning, was described by Frankl (1978) as "man is always reaching out for meaning, always setting out on his search for meaning" (p. 24). The individual feels frustrated or empty if this will to meaning is not applied in life (Fabry, 1968). Frankl (1969) contended that

> man is pushed by drives but pulled by meaning, and this implies that it is always up to him to decide whether or not he wishes to fulfill the latter. Thus, meaning fulfillment always implies decision making. (p. 43)

The meaning of life, the third premise of logotherapy, implies that life has meaning under all conditions. Fabry (1968) stated that

> meaning can be found in activities and experiences is easily perceived. More difficult to see is Frankl's contention that meaning can also be found in a third area--man's attitudes; that indeed, the deepest meaning can be found here. Finding meaning in attitudes becomes important when man is facing Frankl's "tragic triad"--unavoidable suffering, inerasable guilt, and death. (p. 44)

Frankl (1965) believed that life can obtain its ultimate meaning not only in suffering but in the very process of facing death. In addition to suffering and death, Frankl (1967) identified work and love as values which give meaning to life. An individual can discover this meaning in life in three different ways: (a) by doing a deed, (b) by experiencing a value, and (c) by suffering.

Frankl identified several characteristics of man that make him human. One attribute was the spiritual or noetic dimension. "Within the frame of reference of logotherapeutic terminology 'spiritual' does not have a primarily religious connotation but refers to the specifically human dimension" (Frankl, 1962, p. 112). Logos means not only "meaning" but also "spirit" (Frankl, 1962). A second uniquely human characteristic is the capacity of self-transcendence.

> Man transcends himself either toward another human being or toward meaning. Love . . . is that capacity which enables him to grasp the other human being in his very uniqueness. (Frankl, 1969, p. 19)

Other unique attributes, as mentioned earlier, that make one human are freedom to choose, responsibleness, and ability to pursue meaning in life.

The pursuit or the will to meaning can be frustrated, called "existential frustration" by Frankl (1962). This existential frustration occurs in the spiritual (noogenic) core of man. This frustration does not "emerge from conflicts between drives and instincts but rather from conflicts between various values" (Frankl, 1962, p. 112). A manifestation of this existential frustration, according to Frankl, is boredom.

Individuals who are feeling the total and ultimate meaninglessness of their lives, an inner emptiness, and

a void are caught in the wide-spread phenomenon of an "existential vacuum." Frankl (1969) stated that lack of meaning in life "is indicative of emotional maladajustment" (p. 87). Frankl (1965) advocated logotherapy as the specific therapy for existential frustration, existential vaccum, or the frustration of the will to meaning. Logotherapy is concerned with making people responsible, since being responsible is an essential basis of human life.

Frankl (1969) rejected the concept of "homeostasis" or a tension-less state. Frankl (1969) claimed that

> a sound amount of tension, such as that tension which is aroused by a meaning to fulfill, is inherent in being human and is indispensible for mental well being. What man needs first of all, is that tension which is created by direction. (p. 28)

An individual should be challenged with meaning potentialities for him to actualize (Frankl, 1962). Meaning in life is not a general, abstract concept, but rather life holds specific, concrete, and very personal meanings for each individual.

The researcher's conceptualization of Lazarus' and Frankl's theories is presented in Figure 1. Frankl's existential vacuum and existential frustration are part of the internal/external environmental events in which Lazarus' challenge, threat, or harm exists. How the

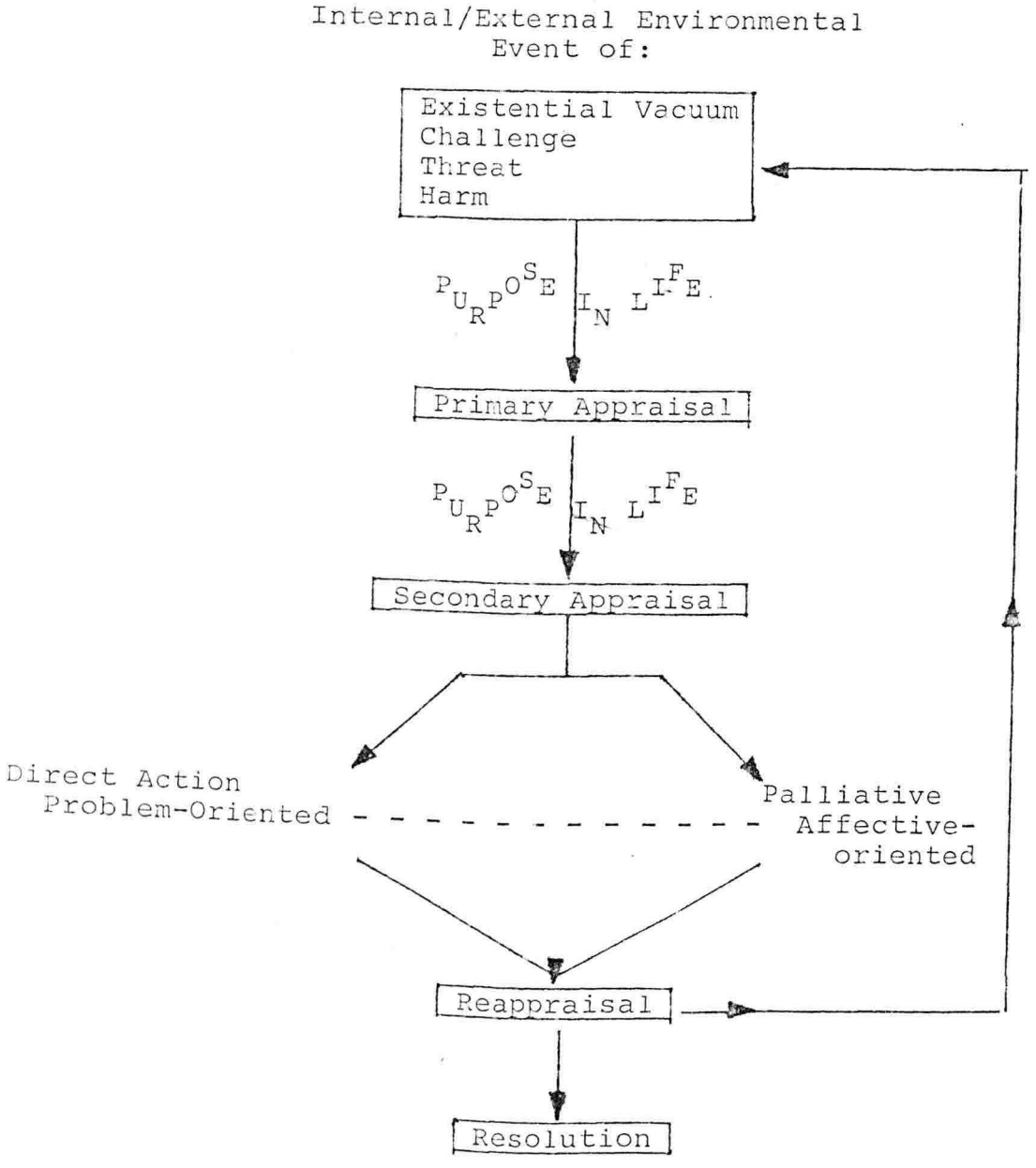

Figure 1. Conceptualization of Theoretical Framework

individual perceives an event is filtered through and influenced by the person's discovery of life's purpose and meaning. Outcomes of the primary appraisal are influenced by purpose in life. The coping methods chosen by the individual during the secondary appraisal phase are also filtered through and influenced by the individual's purpose in life.

One proposition derived from this theoretical framework was tested in the present study. The proposition was stated as follows: An individual who has discovered the unique meaning of life will choose problem-oriented coping methods to resolve the internal/external life strains.

Assumptions

The following were assumptions of the study:

1. Individuals are actively responsive to forces that impinge upon them (Pearlin & Schooler, 1978).

2. Coping and purpose in life are necessary to maintain wellness (Lazarus et al., 1980; Kotchen, 1960; Frankl, 1963).

3. Individuals are able to identify their coping strategies.

4. Purpose in life exists and is a positive force.

5. People generally have certain characteristic patterns of behavior (Moos & Tsu, 1976).

6. Open heart surgery is a stress-producing event.

Hypotheses

The following hypotheses were tested:

1. In patients with cardiac disease there is no significant relationship between the use of problem-oriented coping methods and the use of affective-oriented coping methods as measured by the Coping Scale.

2. There is no significant relationship between problem-oriented coping behaviors as measured by the Coping Scale and purpose in life as measured by the Purpose in Life scale in patients with cardiac disease.

3. There is no significant relationship between affective-oriented coping behaviors as measured by the Coping Scale and purpose in life as measured by the Purpose in Life scale in patients with cardiac disease.

4. There is no significant relationship between problem-oriented coping behaviors as measured by the Coping Scale and Type A pattern behavior as measured by the Short Rating Scale with patients who have cardiac disease.

5. There is no significant relationship between affective-oriented behaviors as measured by the Coping

Scale and Type A pattern behavior as measured by the Short Rating Scale in patients with cardiac disease.

6. There is no significant relationship between purpose in life as measured by the Purpose in Life scale and Type A pattern behavior as measured by the Short Rating Scale in patients who have cardiac disease.

Definition of Terms

The following terms were defined:

1. Purpose in life--

Theoretical definition--"the ontological significance of life from the point of view of the experiencing individual" (Crumbaugh & Maholick, 1964, p. 201).

Operational definition--the score on an attitude scale called Purpose in Life test which was developed by Crumbaugh and Maholick (1964). Scores 113 and above are high purpose, scores 91 and lower are low purpose in life.

2. Coping--

Theoretical definition--consisted of

> efforts, both action-oriented and intrapsychic to manage (that is, master, tolerate, reduce, minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources. (Lazarus & Launier, 1978, p. 311)

Operational definition--coping strategies or behaviors determined by the score received on the Coping

Scale (Jalowiec, 1979) which is classified into two subscales, problem-oriented, and affective-oriented.

2a. Problem-oriented--

Theoretical definition--those strategies, behaviors, or methods which attempt to deal with the problem or stressful situation itself.

Operational definition--the score received on the Problem-Oriented subscale of the Coping Scale. High values denote frequent use of this function for coping.

2b. Affective-oriented--

Theoretical definition--those strategies, behaviors, or methods that attempt to handle the emotions evoked by the situation.

Operational definition--the score received on the Affective-Oriented subscale of the Coping Scale. High scores indicate frequent use of this function for coping.

3. Type A Pattern Behavior--

Theoretical definition--

> a style of behavior characterized by some or all of the following: intense striving for achievement; competitiveness; easily provoked impatience; time urgency; abruptness of gesture and speech; overcommitment to vocation or profession; and excess of drive and hostility. (Jenkins, 1976, p. 1034)

Operational definition--the score obtained on the Short Rating Scale (SRS) developed by Bortner (1969). High scores indicate Type A behavioral pattern. Low scores denote Type B behavioral characteristics. Mid-range scores show a mixture of Type A/Type B behavioral characteristics.

4. Patient with cardiac disease--

Operational definition--an adult individual who is diagnosed with coronary artery disease and is scheduled to undergo coronary vein graft surgery within 48, but not less than 12 hours. This will be the patient's first experience with open heart surgery. The adult will be at least 30 years of age and have no mental confusion, dyspnea, or pain during data collection process. Additionally, the patient must be able to read, speak, and write English and agree to participate in the present study.

Limitations

The following were limitations of the study:

1. Nonrandom selection of subjects and sample size limited the generalizability.

2. Individuals who have Type A behavioral characteristics are not accurate evaluators of themselves (Rosenman, 1977b).

Summary

The ways in which people cope with stress and life strains can affect their psychological, physical, social, and spiritual well-being. How individuals view their purpose or meaning in life may influence their ability to cope. Lazarus' and Frankl's theories have been conceptually related in order to study coping and purpose in life of patients with cardiac disease.

CHAPTER 2

REVIEW OF THE LITERATURE

This study investigated the relationship of coping and purpose in life of patients who have cardiac disease. The review of the literature concerns the theoretical and empirical support for the hypotheses in this study. Three major areas of literature review are included. These three broad areas are: coping, purpose in life, and coronary heart disease.

Coping

Definition of Coping

The word coping is derived from the French word, couper, which means to strike, act, or move and denotes success or accomplishment (Hamburg, 1973). The term coping has been used by authors in an intuitive, everyday sense, and consequently a variety of definitions has evolved (Lazarus et al., 1974). Initially some confusion existed regarding the concept of coping because coping "had become entwined with the Freudian concept of defense mechanisms" (Hackett & Cassem, 1982, p. 212). The general connotation of coping is one that emphasizes cognitive

processes as well as adaptive behavior response mechanisms (Meichenbaum, Turk, & Burstein, 1975).

A variety of definitions exists in the literature for the term "coping." The definition of coping proposed by Lazarus and Launier (1978) was that coping consisted of

> efforts, both action-oriented and intrapsychic to manage (that is, master, tolerate, reduce, minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources. (p. 311)

A second broad definition was that coping was one's efforts to master a new situation or problem which may be threatening, frustrating, challenging, or gratifying (Lazarus et al., 1974; Murphy, 1962; White, 1974). Haan (1963, 1977) and Kroeber (1964) presented a more restrictive definition of coping. They separated coping from defense mechanisms and viewed coping as flexible, adaptive, oriented to reality, and moving towards the future. Concomitantly, these writers proposed that defense mechanisms distorted reality, were rigid, and pulled from the past.

In the literature the terms adaptation, mastery, coping, and defense appeared to be used interchangeably. White (1974) attempted to systematically describe and delineate the differences between these four terms. He viewed adaptation as the superordinate category and the concepts: defense, mastery, and coping, as strategies

of adaptation. These subordinate terms, according to White, had a more restrictive meaning. Defense, as the term implied, was to respond to danger or attack. White claimed that mastery was more confined to situations having a certain cognitive or manipulative complexity. These situations or problems were "not heavily freighted with anxiety" (White, 1974, p. 48). The restrictive meaning for coping was adaptation under relatively difficult conditions.

Coping Resources

Roskies and Lazarus (1980) identified coping not only as

> a reaction to stress, but also a shaper of the stress experience, and in determining whether or not a given event will be evaluated as potentially stressful, the appraisal of the person's coping resources is as important as the appraisal of the environment. (p. 45)

Pearlin and Schooler (1978) identified coping resources which are prerequisite for efficacious coping. Coping resources were comprised of substances such as social resources, psychological resources, and specific coping responses. Social resources included the interpersonal networks of the individual. Berkman (cited in Folkman et al., 1979) concluded that

> close positive relationships appear to facilitate good health and morale even under personal crises,

> and a group of persons which can be characterized as having elaborate social networks at their disposal generally live longer than isolates. (p. 285)

Psychological resources are made up of personality characteristics that reside within the individual and assist the person in withstanding the threats or harms induced by events and objects within the environment. Specific coping responses included "the behaviors, cognitions, and perceptions in which people engage when actually contending with their life-problems" (Pearlin & Schooler, 1978, p. 50).

Other broad categories of coping resources proposed were the individual's problem-solving skills, the health, energy, and morale level of the individual when confronted with a threatening or challenging event, and general and specific belief systems (Folkman et al., 1979; Moos & Tsu, 1977). Folkman et al. (1979) identified general and specific belief systems as critical to coping outcomes. "At the level of general belief, existential belief systems, such as faith in God, fate, or some higher natural order enable people to create meaning out of life" (p. 287). Other investigators (Bulman & Wortman, 1977; Dimsdale, 1974; Lipowski, 1970) have cited specific incidents of the importance of meaningful beliefs as a coping resource. An individual's coping resources are usually not constant

over time. However, some resources, such as belief systems, may be more resistant to change than energy level or morale (Folkman et al., 1979).

Assessment of Coping

There has been a variety of approaches to the assessment and measurement of coping. The measurement of coping has been one of the weak links in the efforts to study how the individual adapts (Lazarus & DeLongis, 1982). Cohen and Lazarus (1979) asserted that

> intervention research and practice related to prevention, treatment, and education require a knowledge of which coping patterns are successful, the ways in which they work, and the conditions under which they work. However, in order to gain this understanding, we need to be able to assess such patterns, and this is where technology is, as yet, quite inadequate to the task. (p. 222)

Individuals cope with life situations in a variety of ways. Menninger (1963) identified several methods that individuals used to cope with stress: laughing, crying, using food and food substitutes, using alcoholic beverages, sleeping, talking it out, working it off by physical exercise, fantasy, self-discipline, or making plans to alter the situation. Some methods are more appropriate or effective.

Several researchers have developed coping scales for the measurement of coping responses. One coping scale

was developed by Sidle, Adams, Cady, and Moos (1969). These investigators administered a questionnaire to college students in which the students were asked to rate the likelihood of using each method presented in the questionnaire. Sidle et al. (1969) identified 10 independent coping strategies: attempting to decrease tension by exercise, smoking, drinking, and eating; taking positive actions; preparing to expect the worse; involving self in other activities to divert attention; finding out more about the situation; trying to see the humorous side of the situation; making alternate plans to handle the problem; utilizing past experiences; talking with other people; and trying not to become too worried.

Vaillant (1976) classified coping behaviors in terms of mature and immature. Vaillant's study was a 30 years longitudinal study of 95 college men. Vaillant reported that there was a positive and dramatic correlation of mature adaptive responses with tangible career success, good social and psychological adjustments, and marked physical well-being. Immature defenses such as acting out and fantasy correlated negatively with good social adjustment.

After a comprehensive review of the literature, Bell (1977) identified the ways in which individuals cope with stress. Bell classified these various ways of coping into

two broad categories: long-term and short-term methods of coping. Short-term methods of coping dealt with a temporary strategy for relieving the stress. If the short-term strategies were used consistently, Bell asserted that the individuals did not deal with the reality of the situation. Long-term coping mechanisms were methods which dealt with stress by constructive and reality based efforts over a long period of time. Bell examined the relationship between stressful life events, mental illness, and mental wellness behaviors with her coping tool. Bell found that the experimental group of 30 psychiatric patients had a higher stressful life score within the last 6 months and used more short-term coping methods than the control groups of subjects with no history of psychiatric illness.

Bell's concept of short-term and long-term coping strategies is comparable to Lazarus' (1966) palliative and direct action modes respectively. The palliative, short-term methods have their place in helping individuals to cope. However, if they are used over a long period of time and interfere with the solution of a situation, they may become pathological (Murphy, 1964).

Billings and Moos (1981) developed a coping scale of 19 yes/no items. These investigators grouped the coping items into three categories: active-cognitive,

active-behavioral, and avoidance. The Cronbach's alpha for the entire set of coping items was .62. The coping scale was administered to a random sample of 294 families. In addition other scales were administered to determine social resources, symptom and mood levels, and negative life change events. These investigators found no correlation between the severity of the event and the coping response. A moderate correlation existed between the incidence of negative life events and mood and sympom criteria.

The Ways of Coping (Folkman & Lazarus, 1980) consisted of 68 yes/no items which described a broad range of behavioral and cognitive coping methods. Subcategories for this checklist scale were problem-focused and emotion-focused. This coping scale was designed to assess coping strategies in specific encounters and thus measure the process of coping as opposed to individual's personality traits or characteristics.

The Coping Inventory was developed by Zeitlin (1983) as a measure of adaptive behavior. The self-rating scale had 48 items divided equally into two categories: Coping with Self and Coping with the Environment. The items in each subscale were further divided into three bipolar dimensions: productive-nonproductive, active-passive, and

flexible-rigid. The scale was used with adolescents and adults. An observational form was used with children ages 3 to 16 years.

A new measure of coping with daily problems was developed by Stone and Neale (1984) for use in longitudinal studies. Eight coping categories were identified: distraction, situation redefinition, direct action, catharsis, acceptance, social support, relaxation, and religion. Stone and Neale used open-ended questions and collected information on a daily basis regarding the individual's mood, daily experiences, health, and coping responses. The tool for measuring daily coping had low internal consistency because the subjects may only check a few items that were applicable to the daily problem. These investigators questioned the relevance of internal consistency with such scales.

Various approaches to the measurement of coping have been reported. The assessment of coping will always have to contend with the issue of self-report versus observational and inferential techniques (Lazarus, 1981).

Relevant Research

Historically, methods of coping were first investigated with individuals experiencing acute crises situations: by

severely burned individuals (Cobb & Lindemann, 1943), by individuals experiencing bereavement and loss (Lindemann, 1944), by parents of fatally ill children (Chodoff, Friedman, & Hamburg, 1964), and by surgical patients (Janis, 1958). There is marked variability in individuals' coping strategies and abilities in managing the variety of stressors. Meichenbaum et al. (1975) asserted that individuals' coping skills are neither specific to situations nor uniformly successful.

Hamburg, Hamburg, and DeGoza (1953) studied patients with severe burns. These authors reported that the severely burned patients who verbalized their feelings and sought information adjusted better to their physical impairment. Visotsky, Hamburg, Goss, & Lebovitz (1961) studied paralytic polio victims and found that patients who verbalized more, adjusted to their condition better than the polio patients who did not verbally interact.

However, Wolff, Hofer, and Mason (1964) found in their study of parents with fatally ill children that the parents who denied the severity of the child's illness coped better and secreted less 17-hydroxycorticosteroid than the parents who verbally accepted the seriousness of the child's illness.

Janis (1958) and Janis and Mann (1977) asserted that information can aid patients by alerting them to the threats and discomforts of the postoperative period. Information helps the patients to make inner preparations which these authors called "the work of worrying." Research findings have shown both supporting and conflicting evidence. A detailed, accurate account about what to expect postoperatively was not found to reduce ratings of postoperative negative mood (Vernon & Bigelow, 1974). Langer, Janis, and Wolfer (1975) found that preoperative detailed information reduced the number of pain medications postoperatively but did not influence length of hospital stay. In another study (Wilson, 1977), preoperative information about procedures and sensations to be expected was proposed to be effective in reducing length of hospital stay. Johnson and Leventhal (1974) found that information about sensations to be expected in an endoscopic examination significantly reduced gagging during the procedure but had no identifiable effects on other measures of behavioral adjustment.

Cohen and Lazarus (1973) studied the relationship between preoperative stress, information level, and coping strategies of 61 surgical patients. Their findings suggested that individuals who knew the most about their

surgery had vigilant coping strategies and had the most complicated postoperative recovery periods. A possible explanation suggested by Cohen and Lazarus for this finding was that the vigilant groups were more anxious preoperatively and more demanding with the doctors which led to longer hospitalizations. Cohen and Lazarus' study did not find any relationship between coping dispositions, life stress, and anxiety. Cohen (1975) later replicated these findings.

Kornfeld, Heller, Frank, and Moskowitz (1974) found that patients who appeared self-assured and in control preoperatively had a greater incidence of delirium after open-heart surgery. These investigators explained this phenomenon as: individuals who actively seek out information to cope with their situations were thrust into a situation where there was nothing they could do to actively master the situation. Thus, their coping styles proved to be maladaptive in the postoperative situation. Accurate information about procedures or sensation to be expected does not demonstrate consistent effects in improving outcomes.

Miller and Mangan (1983) pointed out that the "patient's level of psychophysiological arousal was lower when the level of preparatory information was consistent with their

coping styles" (p. 223). Individuals who were information avoiders were less aroused with low information and individuals who were information seekers were less aroused with high information. Studies by Andrew (1970), Wolfer and Davis (1970), Auerbach, Kendall, Cuttler, and Levitt (1976), and Wilson (1977) acknowledged that there may be significant interactions between the type of information presented and the personality characteristics of the patient.

The effectiveness of a coping strategy is judged by how well the strategy prevents stressors or difficult circumstances from resulting in emotional stress and not necessarily how well the strategy removes the problems (Pearlin & Schooler, 1978). Pearlin and Schooler conducted a study with 2,300 subjects. These researchers investigated the coping behaviors used in dealing with the life strains commonly experienced in the roles of parenting, marriage, managing a household, and occupation. Their findings revealed that coping interventions were more effective when dealing with problems within the close interpersonal roles of marriage, parenting, and managing a household. Pearlin and Schooler found 11 of the identified 17 coping responses to be statistically significant when comparing the efficacious use of the coping mechanisms

by the two sexes. Also, the affluent and the better educated were found to make more efficient use of coping mechanisms than the less affluent and less educated. There was no difference in the efficacious use of coping responses with regard to age (age range was 18-65 years).

Ilfeld (1980) reported that age (18-64 years) was related to a greater use of acceptance and a lessened use of seeking outside help. Billings and Moos (1981), in a sample of 194 families with mean ages of 45.0 years for the men and 43.5 years for the women, found that age was unrelated to either the method of coping or the focus of coping. Folkman and Lazarus (1980) stated that they found no relation between age and scores on problem-focused or emotion-focused coping subscales in a middle-aged (45-64 years) community sample. Individuals over the age of 65 years were underrepresented in these studies.

McCrae (1982) investigated age differences in the use of coping methods. McCrae concluded that older people (65 to 90 years) coped similarly to the ways in which younger people coped. In McCrae's sample, middle-aged (50 to 64 years) and older individuals were less inclined than the younger (24 to 49 years) people to rely on immature mechanisms of hostile reaction and escape fantasy.

In another study, McCrae (1984) attempted to assess the influence of losses, threats, and challenges on the choice of coping strategies. This type of stressful transaction appraised by the subjects (N = 255) had a consistent and significant effect on the choice of coping strategies. If the transaction was appraised as a loss, then faith, fatalism, and expression of feelings were dominant. When the subjects were confronted with a threat, the wishful thinking, faith, and fatalism were used more frequently. McCrae (1984) found that in situations appraised as a challenge, many coping strategies were used, such as rational action, perseverance, positive thinking, intellectual denial, humor, or drawing strength from adversity.

The coping process was considered to be an extremely broad concept. A variety of classifications existed on which the coping behaviors fall on two sides of a continuum: direction action--palliative action, problem-oriented--affective-oriented, long-term--short-term, and mature-immature. Other classifications are based on cognitive, behavioral, or avoidance activities. The review of literature revealed that the concept is complex in substance and nature of individuals' coping strategies. Lazarus (1981) asserted that

> we must make efforts in coping theory and research to evaluate adaptational effectiveness of the diverse patterns of coping, but obviously this can be done only after we have done the basic work of identifying such patterns as they appear in all sorts of individuals, populations, and conditions. (p. 206)

Purpose in Life

An individual is a unity with at least three aspects or dimensions: the somatic, or physical; the mental, or psychological; and the spiritual (Frankl, 1963, 1965). Frankl called the spiritual dimension, noetic, that is "that dimension in man which is exclusively human, and the religious connotation is misleading because the noetic dimension exists in everyone" (Frankl, cited in Fabry, 1968, p. 19).

The concept of purpose or meaning in one's existence is a central concept in Frankl's (1963) logotherapy. Frankl's position is in sharp contrast to the world view presented by Camus (1955) who believed that man can live without meaning. Camus (1955) stated that "(Life) . . . will be lived all the better if it has no meaning" (p. 40). However, Camus, the one who advocated meaninglessness, was very active in the French Underground. One of Camus' main characters, Dr. Rieux, in The Plague in 1948, viewed his purpose in life as "there are sick people and they need curing" (p. 117) and the plague "helps man to arise

above themselves" (p. 115). Both of these comments would be congruent with Frankl's therapy through meaning.

The concept of meaning in life has been described with various terms. Weisskopf-Joelson (1968) described meaning in life as being based on a feeling of integration and relatedness. The experience of one's life as meaningful has been described as a feeling of fulfillment and significance (Maslow, 1964). A sense of meaningless is reflected in feelings of alienation and nothingness (Camus, 1948). Describing the experiences of one's life as meaningful implies that one is committed to, values or believes in the experience of, meaning in life (Fabry, 1968). Also stating that one has a meaning in life implies an understanding of that meaning (Battista & Almond, 1973). Frankl (1963) asserted that this understanding represents some goal or purpose in life for which the person sees himself as striving.

Battista and Almond (1973) have identified five approaches to the exploration of the phenomena of meaning in life: philosophical, relativistic, psychological, transactional, and phenomenological. The philosophical approach states that meaning or purpose in life "develops only from the commitment to and fulfillment of the intrinsic meaning of life" (Battista & Almond, 1973, p. 414). The

relativistic approach postulates that meaning in life can be attained by a commitment to any system of beliefs. The psychological models examine the development of meaning in life "as a function of the resolution of inherent needs or stages of development through the interaction of the individual with his social environment" (Battista & Almond, 1973, p. 415). The transactional approach to meaning in life is founded on the concept of social roles, that is, how the individual perceives himself as fulfilling his meaning in life is based on the congruence between an individual and the society in which he lives. Finally, the phenomenological model is "concerned with the process by which an individual evaluates himself . . . and perceives himself as progressing toward his goals" (Battista & Almond, 1973, p. 420).

Frankl's (1969) concept of meaning of life would be categorized as a philosophical approach. Frankl postulated that the individual has to commit (will to meaning) oneself to discovering the individual's unique purpose in life.

Assessment of Purpose in Life

Several researchers have developed questionnaires to measure the concept, purpose in life. One of the first

attempts to quantify the existential concept of meaning was developed by Kotchen (1960). Kotchen analyzed the literature for the traits pertinent to mental health as conceived by the existential writers, such as Frankl, Sartre, Tillich, May, Allport, and Kierkegaard. Kotchen identified seven characteristics which gave life meaning. The attributes which appeared to be present in good mental health were: (a) uniqueness, (b) responsibility, (c) self-affirmation, (d) courage, (e) transcendence, (f) faith-commitment, and (g) world view. After constructing an attitude scale with items representing these seven components, Kotchen administered the questionnaire to five sample groups of 30 men each: lock ward mental patients, parole mental patients, chronic physical patients, the man-in-the-street, and college undergraduates. The results supported the hypothesis of the study:

> the five groups of subjects responded to the questionnaire of existential mental health (total scores) in the same order into which they fell on the basis of operational-pragmatic criteria of mental health. (Kotchen, 1960, p. 181)

Shostrom's (1965) Personal Orientation Inventory (POI) was developed based on Maslow's (1953) concept of self-actualization. The POI was developed to differentiate self-actualized and non self-actualized individuals according to differences in their beliefs and value orientations,

rather than on their experience of a meaningful life (Battista & Almond, 1973).

The Purpose in Life (PIL) test was developed by Crumbaugh and Maholick (1964) to examine Frankl's concepts of logotherapy, that is noogenic neurosis and existential vacuum. Battista and Almond (1973) stated that the PIL

> represents a more satisfactory approach to the development of an operational definition of a meaningful life, but still contains serious flaws. . . . Difficulties arise from the unequal distribution of items (five measure the individual's ability to see his life within some framework, nine measure the individual's satisfaction with life, one considers both simultaneously, and five items reflect certain value orientations presumed to be present in individuals with positive life regard) . . . and the failure to control for the effects of social desirability or denial in answering the questionnaire. (Battista & Almond, 1973, p. 411)

In a study of purpose in life of hemodialysis patients investigated by Hubbard (1981), the Marlowe-Crowne Social Desirability Scale was administered along with the PIL to 31 hemodialysis patients. Hubbard found that the hemodialysis patients' mean score of social desirability ($\underline{M}$ = 23.646) was consistent with other dialysis popualtions but higher than the normal population ($\underline{M}$ = 13.72). The hemodialysis patients' mean score on the PIL pretest was similar to the mean of Crumbaugh's (1968) and Yarnell's (1971) PIL norms.

The PIL's development studies (Crumbaugh & Maholick, 1964; Crumbaugh, 1968) indicate, however, that under most conditions few subjects show evidence of distorting the answers with socially acceptable responses. Snavely's (cited in Crumbaugh, 1972) study suggested that PIL scores were only minimally influenced by social desirability.

A fourth measure of meaning in life is the Life Regard Index developed by Battista (1971). Battista's approach to studying meaning in life followed the psychological models. The Life Regard Index is a 28-item test with a 5-point scale and has two subscales of 14 items each. The Framework Scale measures the ability of an individual to see life within some perspective or context and to have derived a purpose in life from this perspective. The Fulfillment Subscale measures the degree to which an individual sees himself as having fulfilled or as being in the process of fulfilling his framework or life goals. Battista administered the Life Regard Index and a modified version of the Crowne-Marlow Social Desirability Scale to 229 medical students. "The data revealed social desirability to be mildly correlated with positive life regard, but to account for only 4% of the variation of the Index" (Battista & Almond, 1973, p. 413).

Battista (1971) also administered the Self-Actualizing Value Scale of the Personal Orientation Inventory and the Purpose-in-Life Test to 30 subjects selected from the initial 229 subjects who had received the Life Regard Index. Both the POI and the PIL were able to statistically differentiate between the positive and negative life regard groups ($p < .01$). "This suggests that all three tests measure closely related phenomena . . . suggesting the validity of the underlying concept of a meaningful life" (Battista & Almond, 1973, p. 413).

Another instrument, Seeking of Noetic Goals (SONG) was constructed by Crumbaugh (1977) as a measure of the strength of motivation to find meaning and purpose in life. The PIL and the SONG were viewed as a measure of two complimentary aspects of life attitudes. Crumbaugh hypothesized that, according to the theory of logotherapy, if an individual has found meaning in life, then the individual would have little motivation to search for more. Conversely, if the individual had not discovered meaning in life, then he would have a greater degree of motivation to search for meaning in life. The two instruments were administered to 10 groups: 7 groups were patient populations, such as methadone patients; 3 groups of patients at various stages of alcohol rehabilitation, and

4 groups of neuropsychiatric patients; and 3 normal sample groups comprised of nonpatients such as seminary students and 2 groups of college students. The SONG proved to be a reliable and valid tool in the sample groups. A negative correlation, as predicted, existed between the PIL and the SONG. These findings were further substantiated by Reker and Cousins (1979).

Finally, the Life Attitude Profile (LAP) was developed by Reker and Peacock (1981) as a multidimensional instrument for assessing the existential meaning and purpose in life and the strength of motivation to find meaning and purpose. Seven factors were conceptually identified as: (a) life purpose, (b) existential vacuum, (c) life control, (d) death acceptance, (e) will to meaning, (f) goal seeking, and (g) future meaning to fulfill. Further analyses of the data revealed three higher order factors accounting for 67% of the variance, conceptually identified as: (a) Striving for Meaning, (b) Noological Actualization, and (c) Existential Transcendence. The LAP adhered to Frankl's (1963) theoretical perspective.

Relevant Research

Ferlita and May (1976) agreed with Frankl that man's most basic drive is his search for meaning in life. Man's search for meaning in life is often depicted in

cinematography as that of a pilgrimage. These authors asserted that

> The man who stays on the road hopes in time to reach his destination. The man who despairs of ever reaching it feels time like a weight upon his back, and he sits down by the side of the road. (p. 5)

Crumbaugh and Maholick (1964) studied 225 subjects, comprised of 2 nonpatient and 3 patient samples. The results demonstrated that the PIL significantly distinguished between nonpatient and patient groups. There was a "progressive drop in scores to match the level of pathology assumed by the nature of the group" (p. 207).

Crumbaugh (1968) studied 1,151 subjects and found the PIL to discriminate between "normal" and psychiatric groups and between four "normal" groups ranging from highly successful professional and business people (N = 230), active Protestants (N = 142), college undergraduates (N = 417), and indigent nonpsychiatric hospital patients (N = 16).

Crumbaugh, Raphael, and Schrader (1970) found a group of trainees of Dominican Sisters to achieve higher PIL scores (N = 56; M = 119.27) than motivated business and professional subjects (N = 230; M = 118.9). This finding suggested "that a high degree of purpose and meaning in life is both possessed and needed for success in the order" (p. 207).

Yarnell (1971) investigated the relationship between PIL scores and various measures of personality of normal and schizophrenic subjects. The subjects were 40 Air Force men taking psychology courses and 40 hospitalized male schizophrenics at a Veterans Administration Hospital. There was a statistically significant difference between the PIL scores of the Air Force men ($\underline{M}$ = 110.03, $\underline{SD}$ = 12.7) and the patients ($\underline{M}$ = 81.88, $\underline{SD}$ = 26.47). The scores on the PIL test were not related to age or IQ.

Crumbaugh (1968) and Dorries (1970) did note a relationship of sex differences and mean PIL scores. Meier and Edwards (1974) administered the PIL and Frankl Questionnaire to 200 randomly chosen nonpatient subjects. The subjects were divided into age groups with equal numbers of males and females. "Age groups were found through ANOVA to differ in Purpose in Life Test scores, but no sex differences or age x sex interaction were found" (p. 386).

Acuff (1968) in his study of purpose and meaning in life in the older population showed that retired professionals (specifically, clergymen and professors) typically maintained a satisfactory level of adjustment and that demoralization need not accompany professional disengagement. Acuff found that general life adjustment was largely independent of professional engagement after retiring.

These findings support the premise that purpose in life is not identifiable with adjustment.

> Many individuals show poor adjustment in the face of a high level of purpose, while many adequately adjusted persons possess an average or lower level of meaning. Thus Frankl considers existential vacuum a human condition and not a mental illness. (Crumbaugh, 1972, pp. 419-420)

Soderstrom and Wright (1977) concluded that a mature religious commitment helped youth (ages 18 to 30 years) in their search for meaning in life. The results of the study showed that intrinsically motivated students, committed students, and true believers had significantly higher PIL mean test scores than did extrinsically motivated students, uncommitted students, and unbelievers.

A study was conducted by Jacobson, Ritter, and Mueller (1977) on the ideas of purpose and meaning in life of individuals in a 30-day inpatient treatment program for adult alcoholics. The results showed a significant increase in PIL scores and significant correlations between the PIL and the Aesthetic and Religious subscale of the Study of Values Test on the second administration only.

Reker (1977) examined the relationship of the PIL test to variables of self-concept, locus of control, and two Edwards Personality Inventory (EPI) scales in 48 federal penitentiary male inmates. Results showed a

correlation to self-esteem, age, IQ, family relation, and the two EPI traits: Plans and Organizes Things and Carefree. The PIL scores had an inverse relationship with internal locus of control. This sample scored significantly lower ($\underline{M}$ = 102.46) than Crumbaugh and Maholick's (1981) sample of "normal" subjects ($\underline{N}$ = 805, $\underline{M}$ = 112.42).

Grant (1980) compared the purpose in life scores of oncology patients with Crumbaugh's (1968) study of 230 successful business and professional subjects. The oncology patients scored lower ($\underline{M}$ = 107.3) than the reported mean of the "normal" or control group ($\underline{M}$ = 118.9).

Floyd (1980) studied the finding and seeking of meaning in life in the Mexican-American nursé. Floyd found that the Mexican-American nurses' ($\underline{N}$ = 104) mean score was 116.5 which was considered by Crumbaugh to be of high purpose.

Phillips (1980) studied the relationship between purpose in life, depression, and locus of control. Based on test scores the sample of 134 college students was divided into four groups: depressed externals, depressed internals, nondepressed externals, and nondepressed internals. The data showed that 75% of the subjects in the depressed external group were correctly classified by using discriminant analysis of the 20 PIL items. Phillips

concluded that the depressed external individuals were most identifiable from their existential malaise or emptiness which was reflected on the PIL.

Stones and Philbrick (1980) examined the purpose in life of 100 English speaking South African young people. These South African individuals (ages 18-30 years) were tested upon entrance into a religiously oriented group, such as, Jesus People, Hara Krisnha, Devine Light Mission, and seminary students. The PIL was retested after a 4-month period of group membership. The mean score (77.78) was dramatically lower than the reported norms for a number of "normal" population samples in America. The retest showed a mean score of 114.64. "These scores suggest the possibility of maladjustment . . . in members of these particular groups" (Stones & Philbrick, 1980, p. 741).

Paloutzian (1981) studied changes in purpose in life following religious conversion. The sample consisted of 91 college students who were divided into five groups based upon their religious experiences. Religious experiences included people turning to "born again" religion, faith-healing, the transcendental meditation variety of Hinduism, mysticism, and varieties of Eastern religions. Results indicated that converts scored higher on purpose in life than nonconvert controls. A general sense of

values was related to a higher sense of purpose in life.

A number of investigations in recent years have examined Frankl's (1963) concepts of the will to meaning and existential vacuum. The research tools discriminate between patient populations and nonpatient populations. Correlations have been found between specific personality characteristics, such as depression, locus of control, religious experiences, and value orientations. No consistent correlations have been found between age, gender, occupational status, or educational level.

Coronary Heart Diseases

In the United States alone, approximately 600,000 Americans die each year from coronary heart disease (CHD) and, of these deaths, 35% occur in persons less than 65 years of age (American Heart Association, 1984; Havlik & Feinleib, 1979). Coronary heart disease represents two-thirds of all cases of cardiovascular disorder. Coronary heart disease is characterized by damage to the coronary arteries caused by atherosclerosis. This process is characterized by thickening of the arterial walls and a decrease in the elasticity of the arterial walls. Coronary heart disease is also called coronary artery

disease, arteriosclerosis, or ischemic heart disease and includes the clinical disorders of sudden death, angina pectoris, and myocardial infarction (Goldband, Katkin, & Morell, 1979).

Much of the basic research on coronary heart disease has focused on the identification of factors that might increase an individual's risk of developing CHD. Data collected in various epidemologic studies (Brand, Rosenman, Sholtz, & Friedman, 1976; Dawber & Kannel, 1961; Jenkins, 1971) indicate various factors associated with high risk factors of coronary heart disease. The traditional risk factors so far identified include age, elevated systolic and diastolic blood pressure, elevated serum cholesterol, elevated low-density lipoproteins and reduced high-density lipoproteins, increased cigarette smoking, presence of diabetes mellitus, family history of coronary heart disease, and obesity (Brand et al., 1976; Gordon & Verter, 1969; Rosenman et al., 1975). There is considerable controversy surrounding some of the risk factors (Friedman, 1979). "The majority of cardiac patients do not have excessive levels of serum cholesterol; only a small number are hypertensive; and even fewer are diabetic" (Glass, 1977, p. 177). Noting that traditional risk factors account for only about one-half of the CHD incidence in middle-aged

American men, Keys et al. (1971) concluded that other variables may contribute significantly to CHD incidence.

In the search for other contributing causes of CHD, a large body of research has been undertaken to identify nontraditional--psycholosocial--factors that increase the risk of experiencing clinical CHD events (Jenkins, 1971, 1976). A variety of psychosocial variables had been postulated. Several researchers (Groen & Drory, 1967; Sales & House,1971; Theorell & Rahe, 1972) conducted studies showing life dissatisfaction to be associated with incidence of coronary heart disease. Acute stress such as the loss of a significant other was shown by Engel (1970) to be associated with the onset of coronary heart diseases. Greene, Goldstein, and Moss (1972) and Kavanaugh and Shephard (1973) found associations between acute depression or a loss, and the occurrence of myocardial infarctions. Also, higher life change scores in a 6-month period preceded 515 coronary events, compared to a similar period 1 year before (Rahe, Romo, Bennett, & Siltanen, 1974). "The results of all of these studies are somewhat equivocal, however, because of their retrospective designs and their lack of appropriate control groups" (Goldband et al., 1979, p. 352). In a review of over 160 papers on coronary heart disease, Jenkins (1971) concluded that "social and

psychological factors cannot be ignored in future epidemiologic studies of coronary disease" (p. 215).

Type A Behavior Pattern

One of the earliest descriptions of individuals with coronary heart disease came from Sir William Osler. Osler (1897) described the nature of individuals who suffered from angina pectoris as

> men of muscular, even athletic build . . . men of ease and luxury than of temperance and labor . . . more frequently among the rich, or in persons of easy circumstances . . . prominent individuals . . . more wise men than fools . . . more physicians. (pp. 12-22)

Recently, the most extensive work in the area of coronary prone behavior was that of Rosenman et al. (1964) and Rosenman et al. (1975). These investigators postulated the existence of a personality type which they called Type A. Rosenman (1977a) described the Type A behavior pattern (TABP) as

> a particular action-emotion complex that is possessed and exhibited by an individual who is engaged in a relatively chronic and excessive struggle to obtain an unlimited number of things from his environment in the shortest period of time or against the opposing efforts of other things or persons in the same environment. (p. 15)

Type A behavioral pattern was originally considered as an individual personality trait that interacted with environmental stimuli. Now the TABP is conceptualized to be a set of observable responses to the internal/external

environment (Chesney & Rosenman, 1982). These responses include behavioral tendencies such as ambitiousness, aggressiveness, competitiveness, chronic impatience, and an unusually strong sense of time urgency as well as behaviors such as muscle tenseness, alertness, vigorous speech production, and a rapid pace in most activities. Type A behavioral pattern is a characteristic way of responding to and coping with stress. Thus, it differs from anxiety and other manifestations of psychopathology (Chesney & Rosenman, 1982). Rosenman (1977a) stated that

> it is important to distinguish Type A behavior from the concept of "stress," which has different meanings to different people. The Type A behavior pattern is neither a stress situation nor a distressed response, but is rather a style of overt behavior by which such individuals confront their life situation. (p. 16)

Initially, the converse Type B pattern appeared to be equivalent to "not Type A" (Price, 1982). Subsequent research has shown that the Type B behavior pattern was relaxed, unhurried, patient, interested in progress and achievement, but tended to flow with the stream of life rather than constantly struggle against it (Jenkins, 1978). Thus, the Type A behavior characteristics represent a way of responding to and coping with stress (Chesney & Rosenman, 1982).

The Review Panel on Coronary-Prone Behavior and Coronary Heart Disease (1981) evaluated all available research and theory linking behavior to coronary heart disease. The panel accepted

> the available body of scientific evidence as demonstrating that type A behavior . . . is associated with an increased risk of clinically apparent CHD in employed, middle-aged U.S. citizen. This risk is greater than that imposed by age, elevated values of systolic blood pressure and serum cholesterol, and smoking appears to be of the same order of magnitude as the relative risk associated with the latter three of these factors. (p. 1200)

Assessment of Type A Behavior Pattern

Assessment of TABP is best observed under "conditions that impose appropriate stress on the subject" (Chesney & Rosenman, 1982, p. 13). The Structured Interview (SI) was the first and consistently most effective measurement tool for assessing TABP (Chesney, Eagleston, & Rosenman, 1980; Rosenman, 1977b; Rosenman et al., 1964). This assessment technique was developed to classify subjects as Type A or Type B for the Western Collaborative Group Study (WCGS) (Rosenman et al., 1964). The Structured Interview provides a subjective global assessment of the subject's voice and psychomotor mannerisms as well as verbal content (MacDougall, Dembroski, & Musante, 1979; Rowland & Sokol, 1977). Despite the subjective nature of these judgments,

the interrater reliability in classifying subjects ranges from .64 to .85 (Caffrey, 1968; Jenkins, Rosenman, & Friedman, 1968; Matthews, Glass, Rosenman, & Bortner, 1977). Stability of the pattern over a period of 12 to 20 months was found to be .82 (Jenkins et al., 1968). Versions of the SI have been developed for college students (Dembroski, 1977), women (Waldron, 1978), and children (Matthews, 1977; Matthews & Angula, 1980).

In an attempt to assess TABP objectively and efficiently several self-report questionnaires have been developed. The most extensively used and cross-validated paper and pancil test for assessment of TABP was the Jenkins Activity Survey (JAS) (Jenkins, Rosenman, & Friedman, 1967). This questionnaire was specifically designed to mimic the Structured Interview and was used in the WCGS. The JAS had three subscales: Speed and Impatience, Hard-Driving, and Job Involvement. The classification of the TABP by the JAS showed about 65%-70% classification agreement with the SI (Dembroski, 1977).

Other questionnaires developed for classification of TABP were Bortner's Short Rating Scale (Bortner, 1969) and the Framingham Type A Scale (Haynes, Levine, Scotch, Feinleib, & Kannel, 1978). Bortner's Short Rating Scale correctly classified 70% of a test group of subjects

(Bortner, 1969) and 75% of the subjects in a larger study conducted in Belgium (Kittel et al., 1978). A 10-item scale developed for the Framingham Study has been found to have a lower-although still significant, correlation with the SI assessment (Chesney, Black, Chadwick, & Rosenman, 1981). The accuracy of self-reports concerning the presence or absence of Type A behavior has been questioned. Rosenman (1977b) had observed that "many Type A's even believe they lack the very qualities (Type A traits) from which they already suffer a surfeit" (p. 86).

Bortner and Rosenman (1967) developed a test battery in an attempt to assess Type A behavior pattern by sampling the components of the pattern more directly. Components that the test battery assessed were: time consciousness and the tendency to sacrifice accuracy for speed. The test battery and Bortner's Short Rating Scale (Bortner, Rosenman, & Friedman, 1970) were administered to a group of sons whose fathers had been classified as Type A or Type B in the Western Collaborative Group Study. The sons of Type A fathers scored significantly higher than the sons of Type B fathers. The authors concluded that "paternal influence may be a factor in the development of Pattern A behaviors" (Bortner & Rosenman, 1967, p. 42).

Relationship of TABP to Prevalence and Incidence of CHD

The association between the incidence of CHD and TABP was established in the findings of the Western Collaborative Group Study (WCGS) (Rosenman, Brand, Sholtz, & Friedman, 1976). In this prospective study of 3,154 men, ages 39-59 years, followed for 8 1/2 years, about 50% of the study population was comprised of men classified by Structured Interview as Type A. The individuals assessed at the beginning of the study as possessing TABP were 2.35 times as prone to clinical coronary heart disease (angina and myocardial infarction) than those subjects who were classified as Type B, the counterpart of Type A (Rosenman et al., 1976).

Another large prospective study which supported a relationship between TABP and the incidence of CHD was the Framingham Study (Haynes, Feinleib, Levine, Scotch, & Kannel, 1978; Haynes, Feinleib, & Kannel, 1980; Haynes & Feinleib, 1982). Between 1965 and 1967, 1,822 men and women were administered an extensive questionnaire from which the Framingham Type A Scale was developed. From this larger sample, 750 women and 580 men, aged 45-64 years who were free of CHD initially were followed for 8 to 10 years. The Framingham Type A Scale showed that Type A

women developed 2.14 times as much CHD and 3.32 times as much angina as Type B women. Among the men, Type A behavior was associated with a two-fold risk of angina, myocardial infarction, and CHD in general as compared to Type B behavior; the relationship being stronger among white collar compared to blue collar workers. As in the WCGS, these associations between Framingham Type A Scale and CHD incidence remained significant despite adjustments for standard risk factors (Haynes et al., 1980).

A third large study was the Chicago Heart Association Detection Project in Industry (Shekelle, Schoenberger, & Stamler, 1976). The sample consisted of 4,108 men and women (ages 25-64 years). Results indicated that Type A (measured by Jenkins Activity Survey) scores were unrelated to many traditional CHD risk factors--serum cholesterol, serum uric acid, relative weight, and hypertension (in men and younger women). Type A scores were correlated with the number of cigarettes smoked/day, socioeconomic status, hypertension in middle-aged women, and prevalence of myocardial infarctions. Other results showed that both men and women ages 45-64 years have lower mean type A scores than men and women ages 25-44 years.

The assessment tools, JAS, SI, and Bortner's Short Rating Scale have been used in studies in many other

countries and have been found to be correlated with coronary heart disease (Heller, 1979; Kittle et al., 1978; Jenkins, 1978; Zyzanski, 1977). However, the research in the other countries has studied mostly similar groups--middle-class, middle-aged men. The data are insufficient for women, older individuals, and rural populations (Review Panel, 1981).

Coping and Type A Behavior Pattern

Several studies have investigated the relationship of TABP and coping. One hypothesis was that a psychologically challenging situation would evoke differences between Type A and Type B individuals. In a study by Dembroski, MacDougall, Herd, and Shields (1979), when instruction minimized the difficulty and importance of a reaction time task, small differences between Type A's and Type B's were found in cardiovascular responses. However, when the instructions directly emphasized the difficulty of the task and the need to do well, there was a significant difference between the cardiovascular response of the two types.

Goldband's (1980) study showed that in contrast to their responses to psychologically threatening situations, Type A and Type B individuals have not shown cardiovascular

differences in response to physical stressors. This finding supported a similar finding by Lott and Gatchel (1978): Type A and Type B individuals had no difference in cardiovascular responses to a cold pressor test.

An investigation of whether Type A and Type B individuals differ in how they cognitively coped with stress was conducted by Pittner and Houston (1980). Jenkins (1979) contended that this is "among the most promising categories of variables deserving intensive study" (p. 26). Pittner and Houston (1980) tested 218 male undergraduate students for Type A behaviors. The results showed that Type A subjects cognitively coped with the stressful situations in a different manner than did Type B subjects. The Type A individuals appeared to use more suppression in both conditions of threat: threat of shock and threat to self-esteem, and more denial in threat to self-esteem than did Type B individuals. The results suggested that when

> subjectively distressed, Type A individuals are more likely to consciously try to cope with the situation--that is, consciously try to suppress thinking about the aversive aspects of the situation. (Goldband, 1980, p. 156)

The relationship of coping and defense to TABP was investigated by Vickers, Hervig, Rahe, and Rosenman (1981) to understand the dynamics of TABP and psychological

factors associated with CHD risks. The sample consisted of 238 intact pairs of adult male twins with a mean age of 48 years (range 42 to 57 years). Type A behavior was assessed with the Structured Interview and the Jenkins Activity Survey. Coping and defense assessment was measured by scales developed by Joffe and Naditch (1977) based upon the conceptual models developed by Haan (1963) and Kroeber (1964). The scales were comprised of items selected from the California Psychological Inventory (Gough, 1969). Results showed that the JAS subscale, Job Involvement, was related to high coping scores and low defense scores. The JAS subscale, Speed and Impatience, was related to high defensiveness. The Hard Driving Subscale was related to low coping scores. "One implication is that TABP may be associated with increased CHD risk only when combined with low coping skills and high defense (Vickers et al., 1981, p. 381).

Humphries, Carver, and Neuman (1983) investigated the cognitive characteristics of the Type A individual. The subjects (N = 160) were selected based on scores on the JAS and randomly assigned to 1 of 4 experimental groups. Results showed that Type A's focused their attention preferentially on stimulus attributes that occurred with greater frequency during acquisition and were less likely to attend

to attributes that appeared less often. Matthews and Brunson (1979) found a reliable tendency for Type A individuals to focus attention on (experimentally defined) central tasks and to suppress attention on peripheral ones. Humphries et al. (1980) concluded that individuals classified as Type A and Type B process information differently and that this processing difference must be elicited by a situational challenge.

The continuing search for risk factors associated with angina, myocardial infarction, and CHD has led to a recognition of psychological factors as well as physiological factors. Rosenman et al. (1964) proposed the concept that a particular type of behavior pattern might play a strategic role in coronary artery disease. Several large prospective studies have supported a relationship between these two factors. Continued research efforts aimed at the development of reliable and valid assessment measures is required in order to study TABP related to other variables such as coping.

Summary

The review of the literature has shown that individuals cope with life situations in various ways. The two basic classification of coping strategies deal with (a) strategies

aimed at solving the problem or crisis and (b) strategies aimed at helping the individual deal temporarily with the emotions triggered by the crisis or problem. Individuals may use both strategies simultaneously.

An individual's comprehension of purpose or meaning in life is a motivational force that pulls that individual toward certain responses. It appears from the literature that Frankl's will to meaning would entail the objective problem-oriented coping strategies. Also, the second concept of Frankl's logotherapy, freedom of will, appears to be involved with the objective problem-oriented coping strategies. Man is free to choose from alternatives how he will respond or what his attitude will be in a specific situation.

A set of overt behavior responses by which some individuals respond to their life situation has been studied extensively in patients with coronary heart disease. There is no conclusive evidence in the literature that this behavior response (called Type A behavior pattern) is causally linked with coronary heart disease. However, there is strong evidence demonstrating an association between the Type A behavior pattern and CHD. The Type A behavior pattern is an example of a relatively stable coping pattern that often leads to instrumentally effective coping

strategies, particularly in the occupational setting (Roskies & Lazarus, 1980), but also doubles the risk of CHD (Rosenman et al., 1975).

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

This investigation was a descriptive, correlational study. Descriptive research is "one way of explaining or describing phenomena in terms other than causal" (Brophy, 1981, p. 44). A correlational study is one form of descriptive research and is "often conducted in an exploratory context" (Brophy, 1981, p. 45). A one-way correlational design (Shelley, 1984) was used to examine the variables of coping, purpose in life, and Type A behavior. The use of a descriptive, correlational design makes it possible to determine not only the magnitude of the relationship between two or more nonmanipulated variables, but also the direction of the relationship (Brophy, 1981).

Setting

The study setting included two hospitals located in a Southern city, population of approximately 300,000 persons. Approximately six to eight individuals undergo open heart surgery each week in this geographical area. The cardiovascular surgeons who performed the open heart surgeries had privileges at both of the hospitals.

Population and Sample

The population for this study was 53 cardiac patients who had coronary artery bypass surgery from mid-February through March of 1984. The following constituted the criteria for inclusion in this study.

1. Age of 30 years or older.
2. First experience with open heart surgery.
3. Absence of mental confusion, dyspnea, and pain during data collection process.
4. Ability to read, speak, and write English.
5. Scheduled to undergo open heart surgery within 48 hours, but not less than 12 hours.
6. Agreement to participate in the study.

The first 30 patients who met the criteria constituted the sample for the study. Kerlinger (1973) viewed this method of sample selection as a nonprobability sample. This form of sample selection, also called convenience sampling, is the most commonly used type of nonprobability sampling (Shelley, 1984).

Protection of Human Subjects

In compliance with the rules and regulations of the Texas Woman's University Human Subjects Review Committee, the following steps were taken.

1. Prior to the initiation of the study, permission was obtained from the dissertation committee according to the guidelines published by the Texas Woman's University Human Subjects Review Committee (Appendix A) and from the graduate school (Appendix B).

2. Prior to the collection of data, agency permissions were obtained from the selected hospitals (Appendix C).

3. In compliance with the protection of anonymity and confidentiality guidelines, the subject was asked not to write his/her name on any sheet. Data were reported as group data so that no individual was identified. Subjects were informed of this right.

4. Subjects in this study were asked to answer questions on three questionnaires and complete one demographic data sheet. Each subject was informed of his/her freedom to withdraw consent and discontinue participation at any time without penalty. Care of the patient was not affected by participation or refusal to participate in this study.

5. The possible risks or discomforts were:

(a) A significant period of time was required to complete the questionnaires.

(b) Some of the questions may have made the subjects uncomfortable and may have been difficult to answer.

The possible benefits were:

(a) In answering the questions the subjects may have become aware of various coping strategies and may have re-evaluated their purpose in life.

(b) The results of the study may help other cardiac patients who are awaiting open heart surgery.

Instruments

Four instruments were used for data collection: Demographic Data Sheet (Appendix D), Coping Scale (Appendix E), Purpose in Life Test (Appendix F), and Short Rating Scale (Appendix G). The Demographic Data Sheet was developed by the researcher to collect information about characteristics of the sample. The purpose of the Coping Scale, developed by Jaloweic (1981), was to identify coping strategies used by the patients. The Purpose in Life Test, developed by Crumbaugh and Maholick (1964), was administered to measure Frankl's (1963) concept of purpose in life. The purpose of the Short Rating Scale, developed by Bortner (1969), was to identify Type A behavioral characteristics of the subjects.

Demographic Data Sheet

The Demographic Data Sheet was developed by the researcher. It was used to describe the sample and requested

the following information: age, gender, race, education, family income, and occupation.

Coping Scale

The second instrument was a Coping Scale developed by Jalowiec (1979) to assess coping styles and strategies. This instrument lists 40 different coping behaviors. The Coping Scale contains two subscales: Problem-Oriented Coping and Affective-Oriented Coping. The Coping Scale uses a Likert-type format with a 5-point scale that ranges from "almost always' to "never." Five points were assigned to almost always responses; 1 point to never responses. The maximum possible score is 200; minimum possible score is 40. Subjects were asked to rate each method or strategy according to degree of use.

The Coping Scale contains a 15-item Problem-Oriented Coping Subscale and a 25-item Affective-Oriented Subscale. The maximum possible score is 75 for the problem-oriented; 125 for the affective-oriented. High scores on the subscales indicate high degree of use of the coping methods. These subscales were classified as to affective-oriented or problem-oriented methods by a panel of 20 volunteer judges who were familiar with aspects of behavioral research on stress and coping. Overall agreement by the

judges was 85%, agreement on the problem-oriented items was 88%, and agreement on the affective-oriented items was 82% (Jalowiec & Powers, 1981).

Content validity was empirically supported by an extensive review of the literature on coping (Jalowiec & Powers, 1981). The test-retest method was used by Jalowiec and Powers to determine the reliability of the Coping Scale in a pilot study comprised of 28 adult volunteers. "Spearman's rank ordering of the test-retest data indicated that the instrument was reliable (r_s (N = 26) = .79, p <.001)" (Jalowiec & Powers, 1981, p. 11).

Purpose in Life

A third instrument used was the Purpose in Life test. The Purpose in Life (PIL) test was developed by Crumbaugh and Maholick (1964) based on logotherapy or treatment through finding meaning in life. The scale measures existential vacuum as postulated by Frankl. Existential vacuum is not a neurosis or abnormality, but rather a human condition. The instrument is composed as a Likert attitudinal scale which consists of 20 items rated from low purpose to high purpose; scoring on each item ranged from 1 to 7. The possible scoring range is 20 to 140. The individual was requested to circle the number that would be most nearly

true for him/her. The numbering extends from one extreme to its opposite kind of feeling. The higher numbers (5, 6, and 7) denote a meaning of purpose in life. The lower numbers on the test (1, 2, and 3) imply an existential frustration or vacuum. Neutral implies no judgment on the item either way.

The PIL has been used with 14 other instruments and several variables--such as age, sex, education, intelligence--to study relationships. Both construct and criterion (or concurrent) validity have been assessed for the instrument (Crumbaugh, 1968; Yarnell, 1971).

In relation to construct validity, Crumbaugh (1968) was able to predict the mean order of four "normal" populations. The "normal" populations were successful business and professional personnel, active Protestant parishioners, college undergraduates, and indigent nonpsychiatric hospital patients. These findings were significant with a $p < .00$. Also, the difference in variance was significant at the .01 level.

To further investigate the construct validity of the PIL, Yarnell (1971) studied the relationship between PIL scores and various measures of personality of normal and schizophrenic subjects. Yarnell's results for "normals" were quite similar to Crumbaugh's (1968), however, the

schizophrenics in Yarnell's study scored much lower than Crumbaugh's sample.

The measures used for concurrent or criterion validity were:

1. Correlation between the PIL scores and the therapists' rating of the degree of purpose and meaning in life demonstrated by their patients (r = .38 with N = 50).

2. Correlation between PIL scores and ratings by ministers of the degree of purpose and meaning exhibited by their participating parishioners (r = .47 with N = 120) (Crumbaugh, 1968). According to Borg and Gall (1971), correlations from .35 to .65 are statistically significant beyond the 1% level.

Several reliability calculations were reported in the literature. The split-half (odd-even) correlation of the PIL (N = 225) was .81, Spearman-Brown corrected to .90 (Crumbaugh & Maholick, 1964). Crumbaugh (1968) found the reliability, determined by the odd-even method, to be .85 when studying 120 Protestant, nonpatient parishioners. The Spearman-Brown corrected to .92. A test-retest reliability coefficient of .83 (N = 57) was obtained by Meier and Edwards (1974) for the PIL. Using the test-retest method, the PIL was found to be a reliable

instrument with hemodialysis patients (r = .74, N = 31) (Hubbard, 1981).

Various major instruments have been correlated with the PIL. Frankl's Questionnaire (FQ) which was an informal series of questions used by Frankl to estimate the presence of existential vacuum had a correlation of .68 (N = 136) with the PIL (Crumbaugh & Maholick, 1964). The correlation between the PIL and the Srole Anomie Scale was .34 (N = 45). This moderate correlation suggested that, "while the concepts of existential vacuum and anomie overlap, they are not the same" (Crumbaugh, 1968, p. 79). There was a moderate relationship between the PIL and four of the California Personality Inventory scales: self-acceptance (.40), sense of well-being (.52), achievement via conformance (.63), and psychological mindedness (.47). The PIL correlated with the Gordon Personal Profile in the areas of responsibility (.39) and emotional stability (.43). The PIL correlated with Cattell's 16-Personality Factor Test on the factors of anxiety (r = -.52) and self-confidence (r = .44) (Crumbaugh et al., 1970). There was a low correlation between the PIL and the MMPI (Minnesota Multiphasic Personality Inventory) except on the K (validity) scale (r = .39, N = 45) and the D (depression) scale (r = -.30, N = 45).

> Since the K scale is a measure of defensiveness, the indication is that subjects who have a high degree of "purpose in life" tend to have adequate defenses. (Crumbaugh & Maholick, 1964, p. 205)

The negative correlation between the PIL and the D scale indicated "that lack of meaning can be both a cause and an effect of depression, and that both lack of purpose and depression can result from other causes" (Crumbaugh & Maholick, 1964, p. 205).

There has been no significant relationship found between the PIL and the Allport-Vernon-Lindzey Scale of Values (Crumbaugh & Maholick, 1964), the Washington Social Intelligence Scale, the Buhler Goals of Life Inventory, the Cattell Motivational Analysis Test, and the Kerr and Sperholl Empathy Test (Crumbaugh et al., 1970). Finally, no consistent relationship between PIL scores and the variable of age, sex, intelligence, and education have been reported (Crumbaugh & Maholick, 1981).

Crumbaugh and Maholick (1981) interpreted scores of 113 or above as the individuals at present having a definite purpose or meaning in life. Individuals who scored 91 or below were thought to lack a clear meaning and purpose in life.

Type A Behavior Pattern

The fourth instrument used in the present study was the Short Rating Scale of Pattern A Behavior (SRS) by Bortner (1969). This instrument lists 14 pairs of two adjectives--semantic differential--chosen to represent two kinds of behavior. On the scale the pairs of adjectives are separated by a horizontal line of 1 1/2 inch in length. The subjects are asked to draw a vertical line at the point where they believe they would be situated between the two behaviors. The rating scales are scored by measuring the vertical line to the nearest 1/16 of an inch from the non-Type A behavior. The possible range of scores for each item is 0-24. The higher scores represent the Type A behavior pattern.

Of the 14 items on Bortner's (1969) rating scale, seven items were identified which constituted the most efficient combination for assessing Pattern A behaviors. This scale demonstrated concurrent validity by the significant correlations between interview classification of Type A behavior pattern by Rosenman and Friedman and the self rating of the individuals on the scale. Bortner (1969) reported 64% to 75% agreement with the interview ratings. Having individuals rate themselves as to Pattern A behavior is one of the common criticisms against self-administered

questionnaires for assessing Pattern A behaviors. Frequent arguments are that subjects familiar with the concept of Pattern A behavior might tend to bias their responses.

> Similarly, bias might be introduced into the responses of subjects who have already had a myocardial infarction because of frequent exhortations to "slow down and take it easy." (Bortner, 1969, p. 89)

Bortner's scale was used to predict Type A or Type B patterns and was found to agree with the predictions of the interview method in 75%-78% of the cases (Rowland & Sokol, 1977). Content validity was empirically supported by the high correlation ($p < .01$) between those individuals who had previously been classified as Pattern A and Pattern B behaviors.

Pilot Study

A pilot study was conducted March-April of 1983 to identify any problems in the research design and to ascertain the feasibility of the tools for use. The sample for the pilot study consisted of 37 health individuals in the community, ranging from 30 to 49 years of age. There were 17 females, 19 males, and 1 questionnaire had no response on the Demographic Data Sheet for male/female.

Six of the nine hypotheses from the pilot study were retained as the hypotheses of the present study. The other three null hypotheses from the pilot study were omitted in the present study because there were no statistically significant differences. The three hypotheses omitted dealt with the variables of gender, education, and income.

In the pilot study, Bortner's (1969) Short Rating Scale of seven items was used to measure Type A behavior pattern. This scale was initially chosen because (a) the seven items were identified by Bortner as "constituting the most efficient combination for assessing Pattern A behaviors" (Bortner, 1969, p. 87), (b) the researcher did not want to have a large battery of tests that would appear cumbersome and time consuming to the individuals, and (c) the researcher wanted to identify the TABP as efficiently as possible to help rule out this pattern of behavior as a confounding variable. For the sample of 37 subjects in the pilot study, the Cronbach's alpha was .4 which is a low correlation. One item on the scale--few interests/many interests--correlated negatively. The Bortner rating scale with the 14 items was pilot tested for reliability with a similar population. The Cronbach's alpha (N = 47) was.69. One item--few interests/many

interests--again had a significant negative correlation. When this item was omitted from the reliability analysis, the Cronbach's alpha was .75 for the remaining 13 items. The 13 item rating scale was tested for reliability with a group of senior undergraduate students. Spearman's rank ordering of the test-retest data was .81 (N = 17, $p < .001$). The split half (odd-even) correlation was .86 (N = 23) for the test. The retest split half (odd-even) correlation was .84 (N = 20). Therefore, the present study used 13 items to identify TAPB.

An additional change from the pilot study was made on the Demographic Data Format. Previously, terms such as manager, nonmanager, salaried, hourly, and other had been used to describe occupations. This appeared to be confusing to the individuals in the pilot study. Therefore, the Demographic Data Sheet was changed to include occupations such as retired, own your own business, professional, management, clerical, laborer, work in the home.

Collection of Data

The study data were collected from mid-February through March of 1984. Information was obtained from the operating room schedule regarding which patients were scheduled for coronary vein graft surgery the next day. The patients

were then assessed as to the criteria for the study. The assessment information was obtained from the patients' charts, the nurses caring for the patients, or directly from the patients. The individuals who met the criteria were invited to participate in the study via an Explanation to the Subjects (Appendix H).

The routine practice by the physicians was to admit the patients who were to have open heart surgery the afternoon of the day before surgery. Therefore, 26 patients agreed to participate in the study and completed the questionnaires the afternoon prior to the scheduled surgery. Four of the patients completed the questionnaires in the late afternoon 2 days before surgery. Two of these four patients had been hospitalized for cardiac catheterizations after which the decision had been made to stay and have surgery. The other two patients had been admitted 2 days before surgery because they were referred by physicians in other towns within the state.

After the patients received the "Explanation to the Subjects" and had consented to participate in the study, they received the four questionnaires, a pencil, and a large envelope addressed to the researcher. A time was established with the patient as to when the researcher should return and gather the completed questionnaires.

The questionnaires were completed at the patient's convenience during the afternoon. Upon completion of the questionnaires, the patients inserted the questionnaires into the large envelope. All questionnaires were gathered by 7 p.m. When the questionnaires were gathered, the patients were thanked again for their participation and were given an opportunity to ask any questions they might have regarding the study and the upcoming surgery.

Treatment of Data

The information gathered by means of the Demographic Data Sheet was used to describe the characteristics of the sample. Frequency distributions and percentages were done to compile the information obtained.

The null Hypotheses 1 through 6 were treated by using the Spearman rank correlation coefficient. "The efficiency of the Spearman rank correlation when compared with the most powerful parametric correlation, the Pearson r, is about 91%" (Hotelling & Pabst, cited in Siegel, 1956, p. 213). The Spearman rank correlation is a measure of association that does not depend upon a bivariate normal distribution which is an essential assumption for the Pearson product-moment. In order to reject Hypotheses 1 through 6, the Spearman rank correlations need to have a probability associated with it equal to or less than .05.

In addition, Hypothesis 1 was treated by the $\underline{z}$ test between proportions. The proportions of problem-oriented and affective-oriented responses were examined for a difference in the use of these strategies. The application of this technique was appropriate to situations in which sample 1 and 2 are the same groups of persons observed at two different points in time or on two unrelated variables (Glass & Stanley, 1970). The critical values against which the $\underline{z}$ compared at the .05 level of significance was $_{.975}\underline{z} = 1.96$ and $_{.025}\underline{z} = -1.96$.

CHAPTER 4

ANALYSIS OF DATA

This chapter presents a description of the sample and the findings of the study which are structured according to the six hypotheses, the three instruments, and additional findings. The chapter closes with a summary of the findings of the study.

Description of Sample

The study sample consisted of 30 patients with coronary artery disease who were scheduled to have coronary vein graft surgery. The sample was selected by a nonprobability sampling technique which utilized a sample of convenience method. The population for the study was 53 patients (mean age = 61.45 years) who were scheduled to have coronary vein graft surgery. The population was comprised of 33 males (mean age = 59.25 years) and 20 females (mean age = 64.85 years). Two patients, one male and one female, refused to participate in the study. The man had just decided to have surgery and was unsure of this decision. The woman stated that she was unable to concentrate on the survey because all she could do at that time was pray.

Of these 53 patients, 30 patients met the designated criteria and were selected for the study. The ages of this sample ranged from 30 years of age to 83 years with a mean age of 59.73 years. The gender of the sample was 21 males (70%) whose mean age was 58.1 years and 9 females (30%) whose mean age was 63.4 years. Twenty-six (86.7%) of the subjects were married, 3 (10%) were widowed, and 1 (3.3%) was divorced. The race of the majority of the sample (96.7%) was white; 1 individual (3.3%) was black. The educational level of the sample was 9 (30%) at the elementary level, 13 (73.3%) at the high school level, 3 (10%) in junior college, 4 (13.3%) graduated from a baccalaureate program, and 1 (3.3%) completed graduate education. The income level of the subjects was 12 (40%) had a family income less than $15,000, 11 (36.7%) listed an income of between $15,000 and $30,000, and 7 (13.3%) stated that they had an income greater than $30,000.

Almost one-half of the sample (46.7%) listed retirement as their occupational status. Other occupations listed were 7 (23.3%) stated they owned their own business, 3 (10%) were in management, the professional and labor categories had 2 (6.7%) individuals each, and the clerical and work in the home categories each had 1 person (3.3%).

The description of the sample by demographic variables is shown in Table 1.

Table 1

Description of Sample by Demographic Variables
(N = 30)

Variables	Number	Percentage
Age		
30-49	4	13.3
50-59	9	30.0
60-69	12	40.0
70-83	5	16.7
Gender		
Male	21	70.0
Female	9	30.0
Race		
White	29	96.7
Black	1	3.3
Marital Status		
Married	26	86.7
Widowed	3	10.0
Divorced	1	3.3
Education		
Elementary	9	30.0
High school	13	73.3
Junior college	3	10.0
Baccalaureate degree	4	13.3
Graduate school	1	3.3
Income		
Under $15,000	12	40.0
$15,000 to $30,000	11	36.7
Over $30,000	7	13.3
Occupation		
Retired	14	46.7
Own your own business	7	23.3
Management	3	10.0
Professional	2	6.7
Laborer	2	6.7
Clerical	1	3.3
Work in the home	1	3.3

Findings

Hypothesis 1

Hypothesis 1 stated: In patients with cardiac disease there is no significant relationship between the use of problem-oriented coping methods and the use of affective-oriented coping methods as measured by the Coping Scale. Hypothesis 1 was treated by using the Spearman rank correlation coefficient. There was no significant relationship between the use of the problem-oriented and affective-oriented coping methods (r_s = .0317, p = .434). This null hypothesis was accepted.

In addition, Hypothesis 1 was treated by using the z test between the proportions of problem-oriented and affective-oriented coping methods. There was no significant difference between the use of problem-oriented and affective-oriented coping methods (z = 0.2425, p = .405). The absence of a correlation between the problem-oriented and affective-oriented scales for this sample implied that the coping strategies described in these two subscales were independent of each other.

Hypothesis 2

Hypothesis 2 stated: There is no significant relationship between problem-oriented coping methods as

measured by the Coping Scale and purpose in life as measured by the Purpose in Life test in patients with cardiac disease. Hypothesis 2 was treated by using the Spearman rank correlation coefficient. There was no significant relationship between problem-oriented coping methods and purpose in life (r_s = .2858, p = .063). This null hypothesis was not rejected. The inference for this sample was that the use of problem-oriented coping methods was not related to how the individuals perceived their purpose in life.

Hypothesis 3

Hypothesis 3 stated: There is no significant relationship between affective-oriented coping methods as measured by the Coping Scale and purpose in life as measured by the PIL in patients with cardiac disease. Hypothesis 3 was tested with the Spearman rank correlation coefficient. A negative relationship existed between affective-oriented methods and purpose in life which was not significant (r_s = -.1018, p = .296). This null hypothesis was retained. The implication for this sample was that the individual's purpose in life was not associated with the individual's use of affective-oriented coping methods.

Hypothesis 4

Hypothesis 4 stated: There is no significant relationship between problem-oriented coping methods as measured by the Coping Scale and Type A pattern behavior as measured by the Short Rating Scale with patients who have cardiac disease. The Spearman rank correlation coefficient was used to test Hypothesis 4. A significant relationship was found to exist between problem-oriented coping methods and Type A pattern behavior (r_s = .3879, p = .017). This null hypothesis was rejected. The implication for this sample was that the individuals with a higher Type A behavioral score also used problem-oriented coping methods more frequently than individuals with lower Type A behavioral scores.

Hypothesis 5

Hypothesis 5 stated: There is no significant relationship between affective-oriented methods as measured by the Coping Scale and Type A pattern behavior as measured by the Short Rating Scale in patients with cardiac disease. Hypothesis 5 was treated by using the Spearman rank correlation coefficient. A negative relationship existed between affective-oriented methods and Type A pattern behavior which was not a significant relationship (r_s = -.2667,

p = .077). This hypothesis was not rejected. For this sample the indication was that individuals with high Type A behavioral scores tended to use less affective-oriented coping methods.

Hypothesis 6

Hypothesis 6 stated: There is no significant relationship between purpose in life as measured by the Purpose in Life test and Type A behavior as measured by the Short Rating Scale in patients who have cardiac disease. The Spearman rank correlation coefficient was used to test this relationship. There was a significant relationship between purpose in life and Type A behavior (r_s = .4543, p = .006). This null hypothesis was rejected. The meaning for this sample was that the individuals who had perceived their lives to be purposeful also viewed themselves as having more Type A behavior characteristics. A summary of the statistical results of testing the six hypotheses is displayed in Table 2.

Instruments

Coping Scale

An analysis of the reliability coefficients of the Coping Scale and the two subscales--problem-oriented and

Table 2

Summary of Statistical Results of Testing the Six Null Hypotheses

Hypothesis	Variables	r_s	p
1	problem-oriented/affective-oriented	.0316	.434
2	problem-oriented/PIL	.2858	.063
3	affective-oriented/PIL	-.1018	.296
4	problem-oriented/Type A	.3879	.017*
5	affective-oriented/Type A	-.2667	.077
6	PIL/Type A	.4543	.006*

*Significant at .05 level.

affective-oriented--was performed on the scores of the study sample. The standardized alpha was .62 and .64 for the problem-oriented and affective-oriented subscales, respectively. The overall standardized alpha for the Coping Scale was .624.

Among the 10 most frequently used coping methods were praying and trusting in God, maintaining some control, drawing on past experiences, looking at the problem objectively, thinking through ways to handle the situation, and trying to find purpose or meaning in the situation. Several of the least frequently used coping methods were: using drugs or alcohol, using meditation or yoga, resigning oneself to the situation because "it's your fate," taking out your tension on someone or something else, and blaming someone else for your problem. Eight of the top 10 ranked items were problem-oriented, while 9 of the lowest ranked items were affective-oriented coping methods. The rank ordering of the 10 most frequently used and the 10 least frequently used coping methods is shown in Table 3.

Total scores for the Coping Scale ranged from 79 to 132, with a mean score of 111.53 (SD = 11.799). The highest possible score was 200. The mean score for the problem-oriented subscale was 51.633 (SD = 6.815), while the mean

Table 3

Rank Order of the Top 10 and the Lowest 10 Coping Methods according to Degree of Use in 30 Preoperative Coronary Vein Graft Patients

Rank	Coping Method	Item Mean*	Function
1	Pray and trust in God	4.3	Affective
2	Try to maintain some control over the situation	4.233	Problem
3	Draw upon past experiences to help you handle the situation	4.133	Problem
4	Look at the problem objectively	4.1	Problem
5	Think through different ways to handle the situation	4.067	Problem
6	Find out more about the situation so that you can handle it better	3.8	Problem
7	Hope that things will get better	3.77	Affective
8	Try out different ways of solving the problem	3.73	Problem
9	Break the problem down into smaller pieces	3.66	Problem

Table 3 (continued)

Rank	Coping Method	Item Mean*	Function
10	Try to find meaning in the situation	3.63	Problem
31.5	Daydream	1.93	Affective
31.5	Do nothing in the hope that the problem will take care of itself	1.90	Affective
33.5	Let someone else solve the problem	1.83	Problem
33.5	Withdraw from the situation	1.83	Affective
35.5	Blame someone else for your problem	1.80	Affective
35.5	Take out your tensions on someone or something else	1.80	Affective
37	Resign yourself to the situation because it's your fate	1.66	Affective
38	Meditation, yoga, biofeedback	1.50	Affective
39	Drink alcoholic beverages	1.33	Affective
40	Take drugs	1.00	Affective

*Maximum mean score per item was 5.0; minimum was 1.0.

score for the affective-oriented subscale was 59.9 (SD = 8.938). The highest attainable scores for the problem-oriented and affective-oriented subscales were 75 and 125, respectively.

The raw scores of the two subscales were converted to proportional scores because of the unequal item distribution on the coping Scale. Thus, the mean proportion for the problem-oriented subscale was .688 (SD = .09). The mean proportion for the affective-oriented scale was .479 (SD = .07). Twenty-nine of the individuals utilized problem-oriented coping methods more frequently than they used affective-oriented coping methods. The z test between proportions (Glass & Stanley, 1970) was used to test if this difference was significant. There was no statistically significant difference between the use of problem-oriented and affective-oriented coping methods for the study sample ($z = 0.2425$, $p = .405$).

Purpose in Life Test

An analysis of the reliability of the Purpose in Life test was performed on the scores of the study sample. Using the standardized item alpha, the obtained values indicate that the PIL is a reliable tool when used in a population of cardiac patients awaiting coronary vein graft surgery (standardized alpha = .83).

The mean score for this sample was 113.36 (SD = 12.72). The total scores ranged from 74 to 134 of a possible score of 140. Of the 20 items on the PIL, 8 items had a mean score greater than 6.0. Highest possible mean score per item was 7.0. The two lowest ranking items were every day is constantly new (M = 4.83) and life to me seems always exciting (M = 3.77). The 10 remaining items had mean scores of 5.13 to 5.97. The ranking of the items with mean scores greater than 6 and lower than 5 is shown in Table 4.

Short Rating Scale

The split-half correlation for the Short Rating Scale yielded an internal consistency coefficient of .51, corrected by the Spearman-Brown formula to .67. Total scores for the Short Rating Scale ranged from 66 to 230 with a mean score of 174.2 (SD = 38.69). The highest possible score for the Short Rating Scale was 312. The study sample perceived themselves as never late, fast doing things, and wanting a good job recognized by others. The lowest ranking Type A behaviors were anticipates what others are going to say, empathic in speech, ambitious, and hard driving. The ranking of the Type A behaviors for the study sample is noted in Table 5.

Table 4

Rank Order of the Eight Highest and the Two Lowest Purpose in Life Test Items

Rank	Item	Item Mean
1	With regards to suicide, I have never given it a second thought	6.53
2	If I should die today, I would feel that my life has been worthwhile	6.33
3	I am a very responsible person	6.3
5	In life I have very clear goals and aims	6.2
5	My personal existence is very purposeful	6.2
5	In thinking of my life, I always see a reason for being here	6.2
7.5	After retiring, I would do some of the exciting things I always wanted to do	6.1
7.5	I have discovered clear-cut goals and a satisfying life purpose	6.1
19	Everyday is cosntantly new and different	4.83
20	Life to me seems always exciting	3.77

Table 5

Ranking of Type A Behavior Pattern for Study Sample
($\underline{N}$ = 30)

Rank	Item	Item Mean*
1	Never late	20.3
2	Fast doing things	17.15
3	Wants a good job recognized by others	16.33
4	Always rushed	16.07
5	Goes "all out"	13.78
6	Tries to do many things at once	13.74
7	Expresses feelings	13.38
8	Competitive	13.26
9	Impatient	12.41
10	Hard driving	12.26
11	Ambitious	11.63
12	Empathic in speech and actions	8.48
13	Anticipates what others are going to say	8.44

*Maximum mean score per item was 24.

Additional Findings

Using the Mann-Whitney U test, no significant difference was found between the gender of the individual and the coping, problem-oriented, affective-oriented, purpose in life, and Type A behavior scores. Application of the Kruskal-Wallis test showed no significant difference between the age or the income level of the individual and the coping, problem-oriented, affective-oriented, and purpose in life scores. There was a significant difference between age and Type A scores ($\chi^2 = 8.311$, $p = .04$). Post hoc analysis (Daniel, 1978) indicated a significant difference between age groups 50-59 years ($n = 12$) and 70-83 years ($n = 5$). There was no difference between income levels and age. The mean scores on the study instruments--Coping Scale, Purpose-in-Life, and Short Rating Scale--by the demographic variables of age, gender, and income level are depicted in Table 6. The statistical results of the variables of gender, age, and income in relation to coping, problem-oriented, affective-oriented, purpose in life, and Type A behavior scores are shown in Appendix I.

Summary of Findings

The results of the study are summarized in the following statements.

Table 6

Mean Scores on the Study Instruments by Demographic Variables

(N = 30)

Variable	Coping Scale	Problem-Oriented	Affective-Oriented	Purpose in Life	Type A
Age:					
30-49 (n = 4)	118	51.75	66.25	115.5	178.25
50-59 (n = 9)	113.55	51.77	61.77	112.66	193.88
60-69 (n = 12)	112.25	54.16	58.08	113.25	175.75
70-83 (n = 5)	101	45.2	55.8	113.2	131.8
Gender:					
Male (n = 21)	110.85	51.47	59.38	114.33	176
Female (n = 9)	113.11	52	61.1	111	170
Income Level:					
< $15,000 (n = 12)	107.08	50.83	56.25	113.1	167.91

Table 6 (Continued)

Variable	Coping Scale	Problem-Oriented	Affective-Oriented	Purpose in Life	Type A
$15,000-$30,000 (n = 11)	110.36	49.63	60.72	113.68	172.18
>$30,000 (n = 7)	121	56.14	64.85	113.28	188.14

1. There was no significant relationship or difference between the use of problem-oriented coping methods and the use of affective-oriented coping methods.

2. No significant relationship existed between the use of problem-oriented coping methods and Purpose in Life test scores.

3. There was not a significant relationship between the use of affective-oriented coping methods and Purpose in Life test scores.

4. A significant relationship was found between problem-oriented coping methods and scores on the Short Rating Scale for Type A behaviors.

5. A negative relationship which was not significant existed between affective-oriented coping methods and the scores on the Short Rating Scale.

6. The scores on the Purpose in Life test and the Short Rating Scale showed a significant relationship.

7. The Coping Scale and the two subscales--Problem-Oriented and Affective-Oriented--exhibited moderate internal homogeneity for this sample of cardiac patients.

8. The Purpose in Life test was found to be a reliable research tool for this study sample.

9. The Short Rating Scale demonstrated moderate internal consistency with this sample of cardiac patients.

10. There was no significant difference found between the gender of the individual or the family income with the scores on the Coping Scale, Problem-Oriented subscale, Affective-Oriented subscale, Purpose in Life test, and the Short Rating Scale for Type A behaviors.

11. There was a significant difference found between the age of the individual and the score on the Short Rating Scale.

12. No significant difference was found between age and the scores on the Coping Scale, Problem-Oriented subscale, Affective-Oriented subscale, and Purpose in Life tests.

CHAPTER 5

SUMMARY OF THE STUDY

The final chapter of this study is comprised of a summary of the study and a discussion of the findings. The chapter also includes a discussion of conclusions and lists recommendations for further study.

Summary

The problem of this study was to ascertain the relationship between coping methods and purpose in life of patients with cardiac disease. Frankl's (1963) concept of purpose in life and Lazarus' theory of cognitive appraisal and coping formed the framework for this study. The sample for the study was a convenience sample comprised of 30 patients who were to undergo coronary vein graft surgery at one of two hospitals located in the Southern part of the United States. The hypotheses were tested using the Spearman rank correlation coefficient. The instruments of the study--Coping Scale, Purpose in Life Test, and Short Rating Scale for Type A Behavior--were evaluated for reliability. Differences in specific demographic variables and scores on the instruments were treated using the Mann-Whitney U and the Kruskal-Wallis one-way analysis of variance.

The results of the study are summarized in the following statements:

1. There was no significant relationship or difference between the use of problem-oriented coping methods and the use of affective-oriented coping methods in patients with cardiac disease.

2. No significant relationship existed between the use of problem-oriented coping methods and Purpose in Life test scores for the study sample.

3. There was not a significant relationship between the use of affective-oriented coping methods and Purpose in Life test scores in patients with cardiac disease.

4. A significant relationship was found between problem-oriented coping methods and scores on the Short Rating Scale for Type A behaviors in patients with cardiac disease.

5. A negative but not significant relationship existed between affective-oriented coping methods and the scores on the Short Rating Scale for patients with cardiac disease.

6. The scores on the Purpose in Life test and the Short Rating Scale showed a positive significant relationship.

7. The Coping Scale and the two subscales--Problem-Oriented and Affective-Oriented--exhibited moderate internal homogeniety for this sample of cardiac patients.

8. The Purpose in Life test was found to be a reliable research tool for this sample.

9. The Short Rating Scale demonstrated moderate internal consistency with this sample of cardiac patients.

10. There was no significant difference found between the gender of the individual or the family income with the scores on the Coping Scale, Problem-Oriented subscale, Affective-Oriented subscale, Purpose in Life test, and the Short Rating Scale for Type A behaviors.

11. There was a significant difference found between the age of the individual and the score of the Short Rating Scale.

12. No significant difference was found between age and the scores on the Coping Scale, Problem-Oriented subscale, Affective-Oriented subscale, and Purpose in Life tests.

Discussion of Findings

Hypotheses

Regarding Hypothesis 1 there was no significant relationship or difference between the use of problem-oriented

coping methods and the use of affective-oriented coping methods in patients with cardiac disease. A correlation was expected between the two scales since both scales measure strategies thought to be used together in normal coping. However, since the correlation was low (.03), it was concluded that the scales are independent. Each measures a different aspect of the coping process. This finding was consistent with the study of coping in a middle-aged sample by Folkman and Lazarus (1980).

The studies by Baldree et al. (1982) and Jaloweic and Powers (1981) showed a significant difference between the use of problem-oriented and affective-oriented coping strategies. There was no significant difference between the use of problem-oriented and affective-oriented coping strategies in the sample of cardiac patients in the present study. One explanation for this difference is that the other two studies used a different statistical test, the dependent t-test, to compare the difference in proportion scores. If it is true that problem-oriented and affective-oriented coping methods are unrelated variables, then a test such as a z-test between proportions or the McNemar test would be more appropriate. Lazarus (1966, 1981) has indicated the necessity for a balance

between the problem-oriented and affective-oriented coping methods to preserve health and well-being.

Although there was no difference in the use of coping methods, the majority (97.3%) of the sample used problem-oriented coping methods more frequently than they used affective-oriented methods. It was expected that affective-oriented coping methods might be used more by the patients waiting to undergo coronary vein graft. Folkman and Lazarus (1980) observed that work-related stressors were correlated with increased problem-oriented coping while health related stressors were associated with increased affective-oriented coping. One reason for problem-oriented coping methods used more frequently by the sample in this study is that the sampling technique was non-random. Those patients who agreed to participate had made the decision to have surgery and were actively using problem-focused methods. Two patients refused to participate in the study. It might be inferred from their reasons for nonparticipation that they were using affective-focused coping strategies.

The most frequently used coping methods the patients used were praying and trusting God and trying to maintain some control. Baldree et al. (1982) noted that these two strategies ranked in the top three in their study of 35

hemodialysis patients. Lazarus and DeLongis' (1983) comments explained this occurrence by stating:

> at least two broad types of beliefs seem relevant to stress and coping, namely, beliefs about personal control over events and existential beliefs such as faith in God, fate, or some higher natural order. These beliefs arise as part of the effort to create meaning out of life and to maintain hope. (p. 252)

A method of coping that was never used by the patients was the use of drugs. The use of drugs ranked last in the studies by Baldree et al. (1982) and Jaloweic and Powers (1981). Other strategies which ranked low were drinking alcoholic beverages and meditation, yoga, or biofeedback. These behaviors may be considered socially unacceptable ways of coping for the present study sample. A questionnaire may not be appropriate for ascertaining negative or less socially approved coping strategies. However, Sidle et al. (1969) found that a list of coping methods was essentially uncorrelated with the Marlow-Crowne Social Desirability Scale (MCSDS). These authors suggested that "a pencil and paper measure is capable of eliciting information about less-approved ways of coping" (Sidle et al., 1969, p. 231).

Regarding Hypothesis 2, no significant relationship existed between problem-oriented coping scores and Purpose in Life test scores in patients with cardiac disease.

Lazarus (1966) claimed that problem solving methods would be used in situations where the threat and the emotional tone were low. If general and specific beliefs influence primary appraisal as suggested by Folkman (1984), then individuals who perceived their lives as purposeful would be more likely to appraise the situation in terms of challenge--an opportunity for growth, mastery, or gain. McCrae (1984) found that individuals who are facing a threat to their health or well-being more often take concrete actions, seek help, and persevere in a course of action. Therefore, it was expected that a relationship would exist between coping methods and purpose in life. The primary reason for finding no relationship in the present sample may have been the small sample size. Another possibility may have been the nonrandomized sampling technique. A third reason for this finding may be related to what Folkman and Lazarus (in press) suggested from their study of college students that "threat and challenge appraisal are independent and likely to occur simultaneously during the anticipatory stage of a stressful event" (cited in Folkman, 1984, p. 842).

Regarding Hypothesis 3, there was no significant relationship between the use of affective-oriented coping

methods and purpose in life scores in patients with cardiac disease. This finding was not in agreement with the findings of the pilot study. The results of the pilot study showed a significant inverse relationship between healthy individuals' reported use of affective-oriented strategies and purpose in life scores (r (37) = -.3054, p = .033). This result may be explained by McCrae's (1984) study in which individuals, when confronted with a threat to their health, controlled their feelings by trying to avoid thinking about their problems and by using wishful thinking and humor.

Another possibility is that the Affective-Oriented Scale is comprised of items that are positively and negatively oriented. The item that ranked first in the study sample was the affective-oriented item--praying and trusting in God. However, of the top 10 items frequently used, 8 were problem-oriented. Of the 10 coping items rarely used, 9 were affective-oriented methods and considered as ineffective coping mechanisms by this sample. Therefore, the subjects' scores on the Affective-Oriented scale were independently related to the Purpose in Life test scores because (a) the positive affective-oriented items were used frequently while the negative items were considered

ineffective coping mechanisms, (b) the subjects were in an immediate stress situation that would influence their health and, thus, positive affective-oriented items would be chosen to help control their feelings, and (c) when individuals confronted with surgery are evaluating their purpose in life, these thoughts are influenced by both problem-oriented and affective-oriented strategies.

Regarding Hypothesis 4, a significant relationship was found between the frequency of use of problem-oriented coping methods and scores on the Short Rating Scale for Type A behaviors. This finding supported Jenkins' (1971) statement that individuals with coronary artery disease try to maintain strong control over the situation. The study sample had ranked "try to maintain some control" as the second most frequently used coping method. Jenkins cited a study by Barry in which patients with coronary disease were found to be more orderly and well-planned than the comparison group of creative professional men who were more spontaneous and flexible. Vickers et al. (1981) studied Type A behavior patterns (measured by the Jenkins Activity Survey) and coping and defense. Their results were not conclusive and did not support a consistent relationship between TABP and defense and coping

mechanisms. Type A behaviors were suggested by Rosenman (1977a) to be action-oriented overt behaviors that individuals developed as a style to confront their life situations. Therefore, problem-oriented strategies which focus on dealing with the situation directly are more likely to be used with a coping style that is action-oriented.

Regarding Hypothesis 5, a negative but not significant relationship existed between affective-oriented coping methods and the scores on the Short Rating Scale in patients with cardiac disease. Unfortunately, no studies were found in the literature that allowed a direct comparison of data. Stone and Neale (1984) defined both the problem-focused and emotion-focused coping strategies into smaller, discrete categories. These investigators noted an inverse relationship between direct action (one form of problem-focused coping) and emotion-focused coping. Individuals with higher scores on the Short Rating Scale may use direct action behaviors at the expense of the affective-oriented strategies and, thus, a negative relationship would exist between the affective-oriented coping scores and the Type A behavior pattern complex.

Regarding Hypothesis 6, there was a significant relationship between the scores on the Purpose in Life test

and the Short Rating Scale in patients with cardiac disease. This finding is consistent, to some extent, with Frankl's (1969) will to meaning and Rosenman's (1977a) description of certain Type A behaviors. Frankl asserted that man who has high purpose is always striving to discover the unique meaning that existence has for him. Frankl further claimed that today's "affluent society is an undemanding society by which people are spared tension" (p. 45). What one needs "first of all is that tension which is created by direction" (Frankl, 1969, p. 48), thus leading to meaning fulfillment and high purpose. According to Rosenman (1977a), individuals with Type A behavior exhibit certain styles of characteristics. Among these behaviors are striving, responding to challenges, and action-oriented behaviors. Possibly these behaviors result in higher Type A scores and higher purpose in life scores; thus, the correlation between the two scores.

Instruments

Coping Scale

The Coping Scale and the two subscales--Problem-Oriented and Affective-Oriented--exhibited moderate internal homogeneity for this sample of cardiac patients. One explanation for this finding is the necessity to increase the

number of items in each subscale. The assessment tool for coping developed by Folkman and Lazarus (1980) demonstrated a higher internal consistency for the problem-focused subscale and the emotion-focused subscale. This may be due to the increased number of items: problem-focused had 27 items and emotion-focused had 41 items. However, the findings of this study are consistent with the results experienced by Billings and Moos (1981) and Stone and Neale (1984). Billings and Moos' scale for measuring coping had an overall alpha of .62. These investigators further stated that "typical psychometric estimates of internal consistency may have limited applicability in assessing the psychometric adequacy of measures of coping" (Billings & Moos, 1981, p. 145). Stone and Neale's (1984) questionnaire for assessing coping had an average overall alpha of .57. These investigators attributed the moderate alpha to the finding that not all strategies are used in daily encounters with problems. Thus, the reliability of the scale is decreased when some items are omitted.

Purpose in Life Test

The Purpose in Life test was found to be a reliable tool with this sample of cardiac patients. The PIL has consistently been shown to be a psychometrically sound

instrument (Crumbaugh & Maholick, 1969; Hubbard, 1981; Meier & Edwards, 1974; Reker, 1977).

Short Rating Scale

The Short Rating Scale demonstrated moderate internal consistency with this sample of cardiac patients. One reason for this finding may be the age of the sample subjects. The Review Panel on Coronary-Prone Behavior (1981) reported that

> it appears that life span development, with its varying stressors, and the effects of age itself present a problem for developing truly long-term reliability of measurement of the Type A behavior pattern. (p. 1211)

Age appeared to be a variable that influenced the reliability of the Short Rating Scale. This was evidenced by obtaining alphas (Cronbach, 1951) of .84 (N = 17, age 21-38), .75 (N = 37, age 30-49), and .51 (N = 30, age 30-83) on the Short Rating Scale when administered to the various samples in the pilot study and the sample for this study. Little information was available in the literature regarding the relationship of life span and the Type A behavior pattern.

Demographic Variables

Coping Scores and Demographic Variables

In general the demographic variables of age, gender, and income level did not have a significant effect on the Coping Scale scores and the two subscales--Problem-Oriented and Affective-Oriented. The finding of no significant difference in the age of the individual and the scores of problem-oriented or affective-oriented coping are consistent with Baldree et al. (1981), Billings and Moos (1981), Folkman and Lazarus (1980), and Jalowiec and Powers (1980). However, the age range studied by these researchers was 64 years of age and younger. McCrae (1982) found in his sample of 255 subjects (ages 24 to 91 years) that older people coped in much the same manner as younger people. McCrae noted two differences between the younger and older persons. Middle aged and older people consistently tended to rely less on hostile reactions and escape fantasies as compared to the younger individuals (McCrae, 1982).

Conventional beliefs assume that males tend to be more analytic and task-oriented or problem-focused and that females tend to be more emotionally responsive and sensitive or more emotion-focused (Billings & Moos, 1981). In the present study, the females tended to have a higher

mean score on the Problem-Oriented and Affective-Oriented subscale and consequently on the overall Coping Scale scores. However, there was no significant difference between the male and female coping scores.

The finding of the present study is in agreement with some researchers (Baldree et al., 1981; Jalowiec & Powers, 1980). This finding is not consistent with Billings and Moos (1981), Folkman and Lazarus (1980), and Stone and Neale (1984). Billings and Moos (1981) noted a significant gender difference (N = 194 couples); however, the magnitude of the difference was relatively small. Folkman and Lazarus (1980) identified that men used more problem-oriented coping than women but only at work and in situations appraised as requiring acceptance and more information. These researchers also noted that there was no gender difference in the use of emotion-focused coping. Stone and Neale (1984) found that "men used significantly more direct action, whereas women used more distraction, catharsis, seeking social support, relaxation, religion, and other types of coping" (p. 898).

Income level was not found to have a significant effect on coping scores. Material resources are thought to influence coping and outcomes (Antonovsky, 1979; Folkman

et al., 1979). Pearlin and Schooler (1978) concluded that effective coping modes were "unequally distributed in society, with men, the educated, and the affluent making greater use of the efficacious mechanisms" (p. 2). Billings and Moos' (1981) study revealed that the amount of income was positively related to action-oriented, problem-focused coping.

Purpose in Life Scores and Demographic Variables

The demographic variables of age, gender, and income level had no significant effect on the PIL scores. The finding regarding age as being nonsignificant is in agreement with the findings of Crumbaugh (1968), Crumbaugh and Maholick (1964), and Yarnell (1971). However, Murphy (cited in Meier & Edwards, 1974) noted differences in mean PIL scores when the subjects were grouped into specific age groups. Meier and Edwards (1974) found that individuals younger than 25 years of age scored significantly lower on the Purpose in Life test. Reker and Cousins (1979) noted no significant correlation between age and PIL scores "although there was a tendency for older females to have higher purpose and meaning in life (r = .13, p <.078)" (p. 90).

Purpose in Life test scores were unaffected by the gender of the subjects. The men had a higher mean score (M = 114.3) than the women (M = 111). This difference was not significant. However, scores of 112 or above denote purpose and scores between 92-111 imply indecisiveness regarding purpose or meaning in life. Studies reported thus far are divided as to the relationship of gender to PIL score. Crumbaugh (1968) and Doerries (1970) identified gender differences. Crumbaugh (1968) noted that males scored significantly higher than females. Crumbaugh suggested that the gender differences in his study could be a result of the uneven distribution of males and females among the groups (males, n = 214; females, n = 16). Doerries (1970) found just the opposite. Dorries noted that women had significantly higher PIL scores than men (males, n = 60; females, n = 62). Other researchers (Crumbaugh & Maholick, 1964; Hubbard, 1981; Reker & Cousins, 1979) did not find gender related to PIL scores.

The income level was not found to have a significant effect on PIL scores. The finding that demographic variables such as age, gender, and income level are not related to PIL scores would support Frankl's theory that the will to meaning is a human condition not bound by ascribed factors

such as age and gender or achieved factors such as income or education.

Short Rating Scale for Type A Scores and Demographic Variables

The demographic variables of gender and income had no significant effect upon the Short Rating Scale scores for Type A behavioral characteristics. The majority of the research examining Type A behaviors has almost exclusively focused on white males between the ages of 35 and 64 years, mostly middle-class individuals, in an industrialized society. The Chicago Heart Association Detection in Industry Study (Shekelle et al., 1976) reported that 3,667 white males scored higher than 1,149 white females on Type A behavior scores. Black males (n = 265) scored higher than black females (n=266). However, when these groups were adjusted for differences in socioeconomic class (measured by occupation and education), men did not differ significantly in Type A scores from women. The implication is that other factors are more influencing or predictable of TABP than the factor of gender.

The Short Rating Scale for Type A behavioral pattern was found to be significantly different between age groups. The older age group had lower Type A scores than the younger

age group. This finding is consistent with the Chicago Heart Association Detection Study (Shekelle et al., 1976). These investigators reported an inverse relationship with higher Type A scores being observed in younger ages. However, in studies where the age range was restricted, such as the Western Collaborative Group Study (WCGS), no correlation with age was noted for the Type A scale (Rosenman et al., 1975).

The mean score for the present study sample was 174.2 (SD = 38.69) on the Short Rating Scale with 13 items. Bortner's (1969) study used a WCGS subsample which had been classified by Structured Interview as to Type A or Type B behavior pattern. On the Short Rating Scale, using 14 items, the individuals (N = 47) classified as Type A according to the SI had a mean score of 211.58 (SD = 30.28); the Type B individuals' mean score was 178.21 (SD = 35.79). Heller (1979) found similar results with 50 middle-aged men who had a myocardial infarction and 50 matched control subjects with no evidence of CHD. Using Bortner's 14 items, the subjects with myocardial infarction had a mean score of 174.3 (SD = 42). This was significantly higher than the control subjects (M = 155.3, SD = 37). Thus, the study sample would be classified as Type B if compared with Bortner's (1969) study or be classified as Type A if compared with Heller's (1969) study.

Conclusions and Implications

Based on the findings of the present study, the following conclusions and implications were derived:

1. The proposition of this study which stated that an individual who has discovered the unique meaning of life will choose problem-oriented coping methods to resolve internal/external life strains, was not fully supported by the findings of this study. The sample of the study had high purpose which would confirm Frankl's (1969) premise that meaning must be discovered. The trend toward significance with the use of problem-oriented coping methods and purpose in life seems to support Frankl's and Lazarus' theories and the proposition of this study. The implication is that more research and knowledge are required in the area of coping and purpose in life before nurses can implement effective, predictive interventions to help patients cope and discover purpose in life.

2. Initially, the framework for the study was conceptualized in a linear model. The coping process is not a linear process. It is dynamic, fluid, and moves back and forth between primary and secondary appraisal and between problem-oriented and affective-oriented coping strategies. The three outcomes of the secondary appraisal

are resolution, maladaptation or ineffective coping, and reappraisal. The reappraisal of the internal/external environment occurs at a different point in time than the first encounter with the harm, threat, challenge, or existential vacuum. The reappraisal initiates the process once again. This conceptualization of the coping process is in the form of a helix in which maturation constantly occurs (Figure 2). Purpose in life, as proposed initially, is a filter through which the cognitive appraisals are executed.

3. The three tools, Coping Scale, Purpose in Life test, and Short Rating Scale, used in the study were reliable. Many questions arise as to the moderate reliability and validity regarding the measurement of Type A behavior pattern in an older population. More research is needed in the areas of life span development and coping and Type A behaviors.

The coping instrument in the present study measured retrospective performances as perceived by the patients in stress situations. Since coping is a process, an instrument is required that will assess coping over a variety of life experiences. Newer tools have been developed to measure the coping process in daily

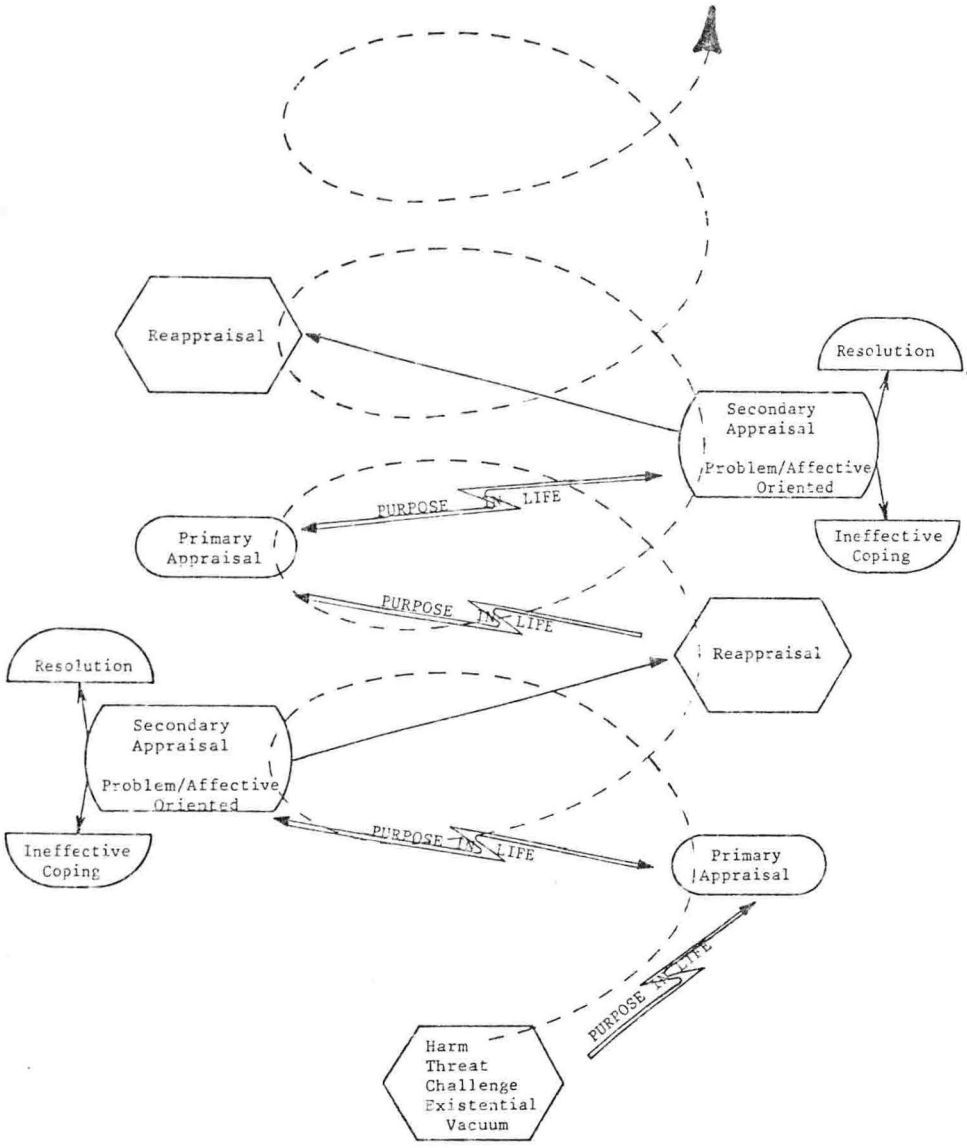

Figure 2. Revised conceptualization of the theoretical framework.

experiences (Folkman & Lazarus, 1980; Stone & Neale, 1984). These tools need refinement and to be tested with various populations. These newer tools might be more advantageous for nurses to use in assessing the coping responses of patients.

4. The limitations of the present study were considered a factor in the data interpretation. The non-random sample being small might have influenced the statistical results and the generalizability of the findings. A larger, random sample is needed. No conclusions could be made on the second limitation regarding individuals with Type A behavior pattern as inaccurate evaluators of themselves. The researcher did not know the subjects well enough to evaluate this limitation for the sample. However, in the pilot study where the researcher knew the individuals, the responses given by the individuals did seem inconsistent with the researcher's observations of the subjects' behaviors. More research needs to be done on designing tools to identify Type A behavior pattern that would be brief and easy to administer.

Recommendations for Further Study

Based on the conclusions and implications of this study, the following recommendations were made:

1. A similar study should be conducted using a larger, randomly selected sample with a coping instrument for process-oriented coping and a longitudinal design that would assess the individuals at various times--preoperative, postoperative, and during rehabilitation phases.

2. A study should be conducted using a larger, randomly selected sample of individuals' developmental phase or 65 years of age and older to ascertain coping strategies, Type A behavioral characteristics, and purpose in life.

3. A similar study should be conducted to examine coping, purpose in life, and Type A behavior pattern in specific and discrete age groups.

APPENDIX A

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

PROSPECTUS FOR DISSERTATION

This prospectus proposed by: Norann Planchock

_____ and entitled:

Coping and Purpose in Life
Of Patients with Cardiac Disease

Has been read and approved by the members of (~~his~~/hers) Research Committee.

This research is (check one):

X Is exempt from Human Subjects Review Committee review because

Study requirements are within Category I (no risk) according to the guidelines published in the Federal Register, 1/26/81, Part X, effective 7/27/81.

_____ Requires Human Subjects Review Committee review because _____

_____

Research Committee:

Chairperson Helen A. Bush

Member Barbara Vaughan-Wrobel

Member Patricia N. Mahon

Member Adelaide Griffin

Member David D. Marshall

APPENDIX B

TWU
Texas Woman's University
P.O. Box 22479, Denton, Texas 76204 (817) 383-2302, Metro 434-1757
THE GRADUATE SCHOOL

March 29, 1984

Mrs. Norann Y. Planchock
1125 Gooseberry Cr.
Shreveport, LA 71118

Dear Mrs. Planchock:

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,

Barbara J. Cramer

Barbara J. Cramer
Provost, ad interim

BJC:rh

cc Dr. Helen A. Bush
Dr. Anne Gudmundsen

APPENDIX C

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE _____

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

Coping and Purpose in Life of Patients with Cardiac Disease

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 _____

_____

2-17-84
Date

_____
Signature of Agency Personnel

Norann Planchock
Signature of Student

Helen A. Bush Ph.D., R.N.
Signature of Faculty Advisor

*Fill out & sign 3 copies to be distributed: Original-student; 1st copy-Agency; 2nd copy-TWU School of Nursing

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE _____

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

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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 _____

2-17-84
Date

Norann Planchock
Signature of Student

Signature of Agency Personnel

Helen A. Bush M.S.N., R.N.
Signature of Faculty Advisor

*Fill out & sign 3 copies to be distributed: Original-student; 1st copy-Agency; 2nd copy-TWU School of Nursing

APPENDIX D

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY.

Demographic Data Sheet

Instructions:

Please complete the following items to the best of your ability. The information obtained will be kept confidential. Do not put your name on any sheet. When you have completed the questionnaires and the Data Sheet, place them in the envelope provided. Your cooperation is greatly appreciated. Thank you.

Age:_____

Sex: _____ female
_____ male

Marital Status:

_____ never married
_____ married
_____ separated
_____ divorced
_____ widowed

Race/Ethnic Group:

_____ Caucasian
_____ Black
_____ Hispanic
_____ other (please specify)
_____

Educational Level:

_____ elementary school
_____ high school
_____ junior college
_____ college
_____ graduate school
_____ Other (please specify)
_____

Family Income:

_____ under $15,000
_____ $15,000 to $30,000
_____ $30,001 to $45,000
_____ over $45,000

Occupational Status:

_____ retired
_____ own your own business
_____ professional
_____ management
_____ clerical
_____ laborer
_____ work in the home

APPENDIX E

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY

COPING SCALE

People react in many ways to stress and tension. Some use a single way to handle stress, while others use a combination of coping methods. I am interested in finding out what things people do when faced with stressful situations.

Please estimate how often you use the following ways to cope with stress by checking the appropriate number for each item.

1--Never
2--Occasionally
3--About half the time
4--Often
5--Almost Always

		1	2	3	4	5
1.	Worry	—	—	—	—	—
2.	Cry	—	—	—	—	—
3.	Work off tension with physical activity or exercise	—	—	—	—	—
4.	"Hope that things will get better"	—	—	—	—	—
5.	Laugh it off, figuring that "things could be worse"	—	—	—	—	—
6.	Think through different ways to solve the problem or handle the situation	—	—	—	—	—

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY.

1--Never
2--Occasionally
3--About half the time
4--Often
5--Almost Always

		1	2	3	4	5
7.	Eat, smoke, chew gum	—	—	—	—	—
8.	Drink alcoholic beverages	—	—	—	—	—
9.	Take drugs	—	—	—	—	—
10.	Try to put the problem out of your mind and think of something else	—	—	—	—	—
11.	Let someone else solve the problem or handle the situation for you	—	—	—	—	—
12.	Daydream, fantasize	—	—	—	—	—
13.	Do anything just to do something, even if you're not sure it will work	—	—	—	—	—
14.	Talk the problem over with someone who has been in the same type of situation	—	—	—	—	—
15.	Get prepared to "expect the worst"	—	—	—	—	—
16.	Get mad, curse, swear	—	—	—	—	—
17.	Accept the situation as it is	—	—	—	—	—
18.	Try to look at the problem objectively and see all sides	—	—	—	—	—

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY.

1--Never
2--Occasionally
3--About half the time
4--Often
5--Almost Always

		1	2	3	4	5
19.	Try to maintain some control over the situation	—	—	—	—	—
20.	Try to find purpose or meaning in the situation	—	—	—	—	—
21.	Pray; "put your trust in God"	—	—	—	—	—
22.	Get nervous	—	—	—	—	—
23.	Withdraw from the situation	—	—	—	—	—
24.	Blame someone else for your problems or the situation you're in	—	—	—	—	—
25.	Actively try to change the situation	—	—	—	—	—
26.	Take out your tensions on someone or something else	—	—	—	—	—
27.	Take off by yourself; "want to be alone"	—	—	—	—	—
28.	Resign yourself to the situation because "things look hopeless"	—	—	—	—	—
29.	Do nothing in the hope that the situation will improve or the problem "will take care of itself"	—	—	—	—	—

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY.

1--Never
2--Occasionally
3--About half the time
4--Often
5--Almost Always

		1	2	3	4	5
30.	Seek comfort or help from family or friends	—	—	—	—	—
31.	Meditate; use yoga, bicfeedback, "mind over matter"	—	—	—	—	—
32.	Try to find out more about the situation so you can handle it better	—	—	—	—	—
33.	Try out different ways of solving the problem to see which works the best	—	—	—	—	—
34.	Resign yourself to the situation because it's "your fate" so there's no sense trying to do anything about it	—	—	—	—	—
35.	Try to draw on past experience to help you handle the situation	—	—	—	—	—
36.	Try to break the problem down into "smaller pieces" so you can handle it better	—	—	—	—	—
37.	Go to sleep, figuring "things will look better in the morning"	—	—	—	—	—
38.	Set specific goals to help you solve the problem	—	—	—	—	—
39.	"Don't worry about it, everything will probably work out fine"	—	—	—	—	—

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY.

1--Never
2--Occasionally
3--About half the time
4--Often
5--Almost Always

	1	2	3	4	5
40. Settled for the next best thing to do what you really wanted (P)	__	__	__	__	__

University of Illinois at Chicago

HEALTH SCIENCES CENTER

College of Nursing
DEPARTMENT OF MEDICAL-SURGICAL NURSING

845 South Damen Avenue
Chicago, Illinois 60612
312 996-7900
Mailing Address: P.O. Box 6998
Chicago, Illinois 60680

April 26, 1983

Norann Planchock, RN, MSN
1125 Gooseberry Circle
Shreveport, LA 71118

Dear Ms. Planchock:

Thank you for the interest you expressed in the Jalowiec Coping Scale. I have enclosed a copy of the tool plus preliminary psychometric information.

Permission is granted to used the coping scale, under my copyright, for your doctoral study with cardiac patients. You already seem to be aware that I ask users of the scale to share coping and demographic data with me for psychometric evaluation (probably spoke to K. Baldwin at TWU?). I have enclosed a list which delineates the information I will need when your data collection is completed.

If I can be of any further help, let me know. Good luck with your study.

Sincerely,

Anne Jalowiec

Anne Jalowiec, RN, MSN

AJ/vmd

Enclosure

APPENDIX F

The Purpose-in-Life test is a copyrighted instrument and may be obtained from the following company:

Psychometric Affiliates

1620 East Main Street

Murfreesboro, Tennessee 37130

APPENDIX G

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY.

Short Rating Scale

DIRECTIONS: Each of us belongs somewhere along the line between these two extremes. For example, most of us are neither the most competitive nor the least competitive person we know. Make a vertical line intersecting the horizontal line where you think you belong between each of the paired behaviors.

1.	Never late	_____	Casual about appointments
2.	Not competitive	_____	Very competitive
3.	Anticipates what others are going to say (nods, finishes for them)	_____	Good listener, hears others out
4.	Always rushed	_____	Never feels rushed even under pressure
5.	Can wait patiently	_____	Impatient when waiting
6.	Goes "all out"	_____	Casual
7.	Takes things one at a time		Tries to do many things at once, thinks about what you're going to do next

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS INFORMED CONSENT TO ACT AS A SUBJECT IN THIS STUDY.

8.	Emphatic in speech (may pound desk)	_____	Slow, deliberate talker
9.	Wants a good job recognized by others	_____	Only cares about satisfying self no matter what others may think
10.	Fast (eating, walking, etc.)	_____	Slow doing things
11.	Easy going	_____	Hard driving
12.	"Sits" on feelings	_____	Expresses feelings
13.	Satisfied with job or present situation	_____	Ambitious

Adapted from: R. W. Bortner, A short rating scale as a potential measure of pattern A behavior. Journal of Chronic Disease, 1969, 22, 87-91.

APPENDIX H

Explanation to the Subjects

The following information was given to each potential subject involved in this study:

1. I am Norann Planchock, a nurse and a doctoral student at Texas Woman's University in the College of Nursing.

2. I am conducting a study to see how cardiac patients have responded to situations in the past and how they perceive their purpose in life.

3. The study involves answering four questionnaires which take approximately 15 minutes. The care you receive will not be affected by your participation or by your refusal to participate in this study.

4. The possible risks or discomforts may be:

(a) A significant period of time will be required to complete the questionnaire.

(b) Some of the questions may make you uncomfortable and be difficult to answer.

5. Your name will not be used in any report about the results of this study. Your answers will be presented as a group and not by individuals.

6. The possible benefits may be that:

(a) In answering the questions, you may become

aware of various coping strategies and re-evaluate their purpose in life.

7. Do you have any questions?

8. Will you agree to participate in the study?

APPENDIX I

Statistical Results of Demographic Variables and
and Questionnaire Scores

Variable	Coping	Problem	Affective	PIL	Type A
Gender	$z = -.56$[a]	$z = -.566$	$z = -.79$	$z = .294$	$z = .385$
Age	$X^2 = 3.292$[b]	$X^2 = 6.08$	$X^2 = 6.14$	$X^2 = 2.52$	$X^2 = 8.28$*
Income	$X^2 = 5.57$	$X^2 = 4.09$	$X^2 = 3.07$	$X^2 = 1.44$	$X^2 = 1.39$

[a]The sampling distribution of U for $n > 20$ approaches the normal distribution; critical value of $z \geq 1.96$ and ≤ 1.96.

[b]The sampling distribution of H for samples > 25 is distributed as chi-square with $df = k-1$; X^2 ($df = 3$) > 7.82.

*Level of significance is .04.

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