

1994

Spouse Adaptation After the Partner's Open Heart Surgery

Marietta J. Gardner
Grand Valley State University

Follow this and additional works at: <https://scholarworks.gvsu.edu/theses>



Part of the [Nursing Commons](#), and the [Psychology Commons](#)

ScholarWorks Citation

Gardner, Marietta J., "Spouse Adaptation After the Partner's Open Heart Surgery" (1994). *Masters Theses*. 162.

<https://scholarworks.gvsu.edu/theses/162>

This Thesis is brought to you for free and open access by the Graduate Research and Creative Practice at ScholarWorks@GVSU. It has been accepted for inclusion in Masters Theses by an authorized administrator of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.

SPOUSE ADAPTATION AFTER THE PARTNER'S OPEN HEART SURGERY

By

Marietta J. Gardner

A THESIS

Submitted to
Grand Valley State University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE IN NURSING

Kirkhof School of Nursing

1994

Thesis Committee Members

Louette R. Lutjens, Ph.D., R.N.

Kay Setter Kline, Ph.D., R.N.

Theresa Bacon-Baguley, Ph.D, R.N.

ABSTRACT

SPOUSE ADAPTATION AFTER THE PARTNER'S OPEN HEART SURGERY

By

Marietta J. Gardner

The purpose of this study was to describe the adaptation of male and female spouses after their partners' open heart surgery using the theory of person as an adaptive system. A descriptive correlational design was used to examine adaptation of male and female spouses to their partners' open heart surgery (criterion variable); and partners' health prior to surgery, length of time partner diagnosed with heart disease, number of years married, and general state of marital relationship prior to surgery as perceived by the spouse were predictor variables. The sample consisted of 20 male and 25 female spouses, 31 to 88 years of age. Data were analyzed using multiple regression analysis. The state of the marital relationship explained 28% of the variation in spouse adaptation ($p=.0018$). Other findings identified no significant difference between genders in scores for psychosocial adaptation. The domains of psychosocial adaptation which displayed the highest percentages of ineffective adaptation were psychological distress (82.1%) and social environment (68.8%), behaviors in the self-concept and interdependence modes, respectfully. Qualitative data revealed the behavioral modes demonstrating the greatest problems for male and female spouses were interdependence (M=35%; F=56%) and role function (M=20%; F=12%).

DEDICATED TO THE STAFF OF THE CARDIOTHORACIC INTENSIVE AND STEP-UP
UNITS AT MUNSON MEDICAL CENTER IN TRAVERSE CITY, MICHIGAN

ACKNOWLEDGEMENTS

I would like to thank The Cardiothoracic Surgeons of Grand Traverse for their assistance; my husband, Michael, and my sons, Scot, Mark and Ryan for their patience, understanding, and encouragement; my friend, Marianne Foster, for her collegial support and sense of humor; and my chairperson, Louette Lutjens, for her mentorship, patience, and expertise.

Table of Contents

List of Tables.....	vii
List of Appendices.....	ix
CHAPTER	
1 INTRODUCTION.....	1
2 THEORETICAL FRAMEWORK AND LITERATURE REVIEW.....	6
Theoretical Framework.....	6
Theoretical Definitions.....	10
Research Questions.....	11
Significance to Nursing.....	11
Literature Review.....	12
Theoretical Review.....	12
Empirical Review.....	13
Psychological Distress.....	13
Vocational Environment.....	15
Domestic Environment.....	16
Sexual Relationships.....	19
Social Environment.....	20
Extended Family Relationships.....	22
Health Care Orientation.....	23
3 METHODOLOGY.....	26
Study Design.....	26
Sample and Setting.....	26
Sample Characteristics.....	27
Measurement.....	33
Partner's Health Prior to Open Heart Surgery.....	33
Length of Time Partner Diagnosed with Heart Disease.....	34
Number of Years Married.....	34
General State of Marital Relationship.....	34
Adaptation.....	34
Descriptive Characteristics.....	37
Procedure for Data Collection.....	37
Human Subjects Consideration.....	38

4	RESULTS.....	39
	Data Analysis.....	39
	Variation in Spouse Adaptation.....	39
	Differences in Scores Between Male and	
	Female Spouses.....	40
	Psychosocial Spouse Adaptation.....	43
	Qualitative Data.....	44
	Interdependence.....	46
	Role Function.....	48
	Self-Concept.....	48
	Physiological.....	48
5	DISCUSSION/IMPLICATIONS/LIMITATIONS.....	49
	Relationship of the Findings to the Theoretical	
	Framework.....	49
	Relationship of the Findings to Other Studies.....	54
	Vocational Environment.....	55
	Domestic Environment.....	57
	Sexual Relationships.....	58
	Social Environment.....	59
	Extended Family Relationships.....	59
	Health Care Orientation.....	60
	Limitations and Recommendations.....	60
	Implications for Nursing.....	62
	APPENDICES.....	65
	REFERENCES.....	86

List of Tables

TABLE

1	Demographic Data on Spouses and Partners (N=45).....	28
2	Description of Sample by Education Level in Percentages (N=45).....	29
3	Description of Sample by Religious Affiliation in Percentages (N=45).....	30
4	Description of Sample by Status of Employment in Percentages (N=45).....	31
5	Description of Sample by Type of Employment in Percentages (N=45).....	32
6	Spouses' Perception of General State of Marital Relationship and Partners' Health 12 Months Prior to Surgery (N=45).....	33
7	Comparison of Reliability Coefficients for each of Seven Domains.....	36
8	Effects of Predictor Variables on Spouse Adaptation.....	40
9	Means and Standard Deviations for Male and Female Spouses.....	41
10	Means and Standard Deviations for the Seven Domain Scores of Male and Female Spouses.....	42
11	Results of t-Tests for PAIS-SR Domain Scores and Total Scores for Male and Female Spouses (N=45).....	43
12	Ranges of t-Scores for Male and Female Spouses (N=45).....	44
13	Percentages of Male and Female Spouses Responding to Worst Problem After Discharge Categorized by Adaptive Modes (N=31).....	45

List of Appendices

APPENDIX

A	Spouse Adaptation Model.....	65
B	"PAIS" Spouse Report.....	66
C	General Questions.....	78
D	Informed Consent.....	80
E	Verbal Script.....	81
F	Letter to Spouses Not in Attendance in Hospital.....	82
G	Introductory Letter.....	84
H	Postcard Reminder.....	85

CHAPTER ONE

INTRODUCTION

Cardiovascular disease is the leading cause of death in the United States (Advanced Cardiac Life Support, 1987). In an effort to reduce this mortality, advances in technology have evolved, including the rapid expansion of coronary artery bypass graft (CABG) surgery and valve repair (Gillis, Neuhaus & Hauck, 1990; Stanley & Frantz, 1988). Subsequently, open heart surgery (OHS) has come to represent a large proportion of the total surgical procedures performed in many hospitals (Cozac, 1988).

Commensurate with this increase in procedures performed, there is interest in the effect of OHS on the quality of life (Langeluddecke, Tennant, Fulcher, Barud, & Hughes, 1989). Quality of life is altered as patients experience many physical and emotional stressors during surgery, recovery and rehabilitation and begin to incorporate permanent behavioral changes into their life-style.

The person is an interdependent system (Roy & Andrews, 1991); therefore, OHS impacts not only the person, but also the family. Thus, illness or change in one member of the family is followed by change in other members and the family as a whole. Although all family members can experience the effect of this change in one of its members, the spouse remains the primary member within the family to experience this impact (Artinian, 1991). In Silva's (1987) research on the needs of spouses of general surgery patients, she concluded that, "if (spouse's

needs are) unmet, can result in feelings . . . that hinder individual family member's adaptation" (p. 30).

The impact of the OHS on the spouse and how the spouse adapts is important. The spouse can influence the partner's adjustment to and recovery from OHS (Artinian, 1992) and ultimately his/her partner's permanent life-style change process (Andrew & Parker, 1979; O'Connor, 1993). Not only is it important to consider the spouse's influence on the partner's recovery, but also for consideration is this surgery's impact on the spouse. Problems from and adjustments to environmental stimuli that are influencing one's spouse and interfering with family and marital functioning can cause stress. This stress may affect the spouse's health and well-being. In addition, stressors affecting the patient and spouse become critical to the family's well-being because the quality of family life is closely related to the health of its members (Norris & Grove, 1986).

Although there have been investigations focusing on the OHS's effect on the patient, only in recent years has there been research on how this surgery affects the spouse. Findings suggested that spouses of OHS patients: (a) report role change and/or role strain, including taking on new or additional responsibilities, experiencing fatigue and time constraints (Artinian, 1991, 1992; Sikorski, 1985; Stanley & Frantz, 1988); (b) report positive effects on the marital relationship, with an enhanced expression of feelings, appreciation of each other and a positive change in their partners' attitudes (Sikorski, 1985; Stanley & Frantz, 1988); (c) report negative effects on the marital relationship, such as worse interpersonal relationships

with their partners, including tension, conflict, and decreased cohesion (Artinian, 1991, 1992; Gillis et. al., 1990; Langeluddecke, et al., 1989; Sikorski, 1985); (d) declare sexual functioning to be less than satisfying and express concern about the safety, time of resumption and welfare of their partners' sexual activity (Artinian, 1992; Langeluddecke et al., 1989; Sikorski, 1985; Stanley & Frantz, 1988); (e) describe social and recreational activities being reorganized or modified to accommodate their partners' convalescent routine (Artinian, 1992; Langeluddecke et al., 1989; Sikorski, 1985; Stanley & Frantz, 1988); (f) convey adequate social support in their partners' early convalescence, but report a significant decline as time advanced after their partners' surgery (Artinian, 1991, 1992; Stanley & Frantz, 1988) and report a high level of satisfaction with their social support if married 30 years or longer (Stanley & Frantz, 1988); (g) describe psychological distress, such as fear, anger, vigilance, depression and anxiety, as well as symptoms of emotional and physical stress (Artinian, 1991, 1992; Langeluddecke, 1989; Sikorski, 1985; Stanley & Frantz, 1988); (h) report financial concerns following their partners' surgery (Artinian, 1991; Stanley & Frantz, 1988); and (i) describe perceptions of support and nonsupport from nurses during hospitalization (Artinian, 1991); the physician as the most important source of information; a lack of knowledge in the areas of prescribed medication, postoperative activities, fundamental aspects of coronary artery disease and its relationship to surgery; and concern with the future and losing their mates (Sikorski, 1985). Some of the gaps in the research related to spouses' perceptions after their partners' open heart surgery

include: (a) mixed findings related to spouses' perception of role change and/or strain and marital quality and satisfaction; (b) lack of findings on whether the partner's dependency affects the spouse's perception of marital quality and satisfaction; (c) limited findings on whether reported less than satisfying sexual functioning is a change since their partners' surgery; (d) contradictory findings as to whether the patients' recovery effect on spouses' and marriages' social activities is satisfactory or unsatisfactory; (e) limited findings on social support or its effect on spouse adaptation; (f) contradictory findings related to psychological distress in the spouse; (g) limited findings on reported financial concerns following their partners' surgery and its contributory effect; (h) limited findings on spouses' attitudes about health care in general, perceptions of health care professionals, quality of health information, and the nature of the spouses' expectancies about the partners' disorder and treatment after their partners' OHS; (i) limited findings on the relationship between the number of years married and spouse adaptation following OHS; and (j) no findings on the relationship of the partners' health prior to surgery, length of time partners diagnosed with heart disease, and general state of the marital relationship prior to surgery to spouse adaptation after their partners' open heart surgery.

Gender differences in perception of adaptation problems by spouses after their partners' OHS is a significant area where little information exists. Although research has discussed gender as a mediator of caregiving spouses' psychosocial outcomes (Rankin, 1992), no current research has been conducted to compare gender differences in spouses'

adaptation after their partners' open heart surgery.

Problem Statement

Health care providers need more knowledge about how spouses experience stimuli and adapt after their partners' open heart surgery. This knowledge can facilitate nursing management of stimuli and encourage adaptation, preoperatively, during recovery, and rehabilitation, that will lead to healthier outcomes for the patient, spouse, and family. Existing information on spouse adaptation is contradictory, limited or not available; consequently, quality nursing intervention is at risk. More information is needed to clarify the information that exists and address the gaps to provide nurses with an accurate knowledge base from which to plan care for these patients and their families.

Purpose

The purpose of this research was to describe the adaptation of male and female spouses after their partners' open heart surgery using the theory of person as an adaptive system. This study partially replicated research conducted by Stanley and Frantz (1988) and Artinian (1991, 1992) on adaptation of spouses of patients who have received coronary artery bypass graft surgery.

CHAPTER TWO

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Theoretical Framework

The theory of person as an adaptive system, derived from the Roy Adaptation Model (RAM) (Roy & Andrews, 1991), served as the theoretical framework for this study. Roy uses the concept of person to identify the recipient of nursing care. In this study, the recipients of care are the spouses of open heart surgery patients.

According to Roy, the environment is the world within and around the person and includes all conditions, circumstances, and influences that surround and affect the development and behavior of the person. This environment is dynamic and changing which stimulates the person to make adaptive responses (Roy & Andrews, 1991). The environment in this study has been changed by the partner's OHS; this affects and challenges the spouse to respond to these changed circumstances.

Roy describes health as a state and a process of being and becoming an integrated whole person (Roy & Andrews, 1991). One's health can be reflected by how one interacts with and adapts to environmental stimuli. Successful adaptation from this interaction between person and environment would promote integrity or wholeness within the person. Consider the impact of the partner's surgery on the spouse. Problems from and adjustments to this surgery affect the spouse and can interfere with family and marital functioning. Depending on the spouse's adaptation to this stressor, his/her health and well-being are at risk.

Successful adaptation of the spouse to the partner's open heart surgery promotes integrity or a healthy state.

Within the RAM, the goal of nursing is to promote the health of individuals and society. Nursing acts to enhance the interaction of the person with the environment, promoting adaptation (Roy & Andrews, 1991). This goal of nursing can be applied to the OHS patient and spouse in recovery and rehabilitation. The nurse can assist spouses in adaptation by manipulating or teaching them to manipulate external or internal stimuli which would enhance their adaptation. In addition to manipulation (or when stimuli should or cannot be manipulated), the nurse can teach coping mechanisms to enhance the spouse's behavioral response to the changes in the internal or external environment influenced by the partner's open heart surgery.

Roy defines environmental stimuli as external (from the environment) and/or internal (from the self). These stimuli, or stressors, act upon the person, triggering a response. These stimuli can be classified as focal, directly confronting the person; contextual, contributing to the overall effect; and residual, whose effect is unclear (Roy & Andrews, 1991). In this study, the external stimulus that is most immediately confronting the spouse is his/her partner's open heart surgery. Contextual, or contributing, stimuli assessed include (a) the partner's health prior to OHS, (b) the length of time the partner has been diagnosed with heart disease, (c) the number of years married, and (d) the general state of the marital relationship.

How a person reacts to these stimuli depends on his/her ability to cope. This coping ability is defined as innate or acquired ways

of responding to the changing environment. These innate or acquired coping mechanisms are categorized by Roy into two major subsystems, the regulator and cognator subsystems. The regulator subsystem is the person's physiological response to the stressor; the cognator subsystem is the person's response to the stressor in the areas of information processing/perception, learning, judgment, and emotion (Roy & Andrews, 1991). When the spouse is reacting to the changes in the environment from the partner's open heart surgery, he/she can respond in the regulator subsystem (e.g., by the physiological stress response) and/or in the cognator subsystem (e.g., by his/her perception of the surgical event and its implications on his/her quality of life). Regulator coping mechanisms in the spouse of the OHS patient were assessed by spouse behaviors displayed in the physiological mode (e.g., sleeplessness). Cognator coping mechanisms in the spouse of the OHS patient were assessed by determining his/her health care orientation, which for this study's purpose was defined as perceptions of health care professionals, quality of health information, and the nature of the spouse's expectancies about his/her partner's disorder and treatment.

Depending on how the person copes in response to the stimulus, adaptive (effective) or ineffective responses can occur. Effective or ineffective adaptation was seen as behavior in the person's four modes of adaptation, physiological, self-concept, role function and interdependence. The physiological mode is the way a person responds as a physical being to environmental stimuli. Behavior is manifested in the cells, tissues, organs, and systems comprising the human body

(Roy & Andrews, 1991). For example, if the spouse reacts in an innate, stressful way to the stimulus of her partner's open heart surgery through the regulator coping subsystem, it may be seen as behavior in the physiological mode, such as gastric distress, increased heart rate, sleeplessness, fatigue, and so on.

The self-concept mode focuses specifically on the psychological and spiritual aspects of the person; it is the beliefs and feelings a person holds about oneself at a given time (Roy & Andrews, 1991). If the spouse is experiencing difficulty coping to the partner's OHS, psychological distress can occur and can be displayed as fear, nervousness, anxiety, anger, depression, guilt, worry, and so on. For this study, self-concept behaviors were assessed as psychological distress.

Focusing on the roles the person occupies in society is the role function mode. How well a person behaves related to society's expectations is an indication of role functioning (Roy & Andrews, 1991). If the partner's surgery interferes with the spouse's ability to do his/her work, the behavior would be seen within this mode. Financial problems created by inability to work or from the effect of the partner's OHS, as well as the effect of this surgery on the marriage and the roles within could be displayed in this mode. Therefore, role function was measured in this study through assessment of the vocational and domestic environment.

The interdependence mode contains behaviors related to the giving and receiving of love, respect, and value (Roy & Andrews, 1991). The partner's OHS can affect the spouse's physical and emotional giving

and receiving of love; this is assessed through the couple's sexual relationship. Because love, respect and value can be received outside the marriage through other relationships, social activities and social support are the interdependence behaviors measured by assessing the social environment and extended family relationships.

Roy describes adaptation as both a process and an end-product where the process of adaptation is one in which stressors produce an interaction called stress. The person responds to these stressors (or stress) in the process of adapting, producing effective or ineffective behaviors which then become the end-product, or adaptation. Adaptive responses are outcome behaviors that contribute to the general goals of the person, that is, survival, growth, reproduction, and mastery (Lutjens, 1991). Ineffective responses are outcome behaviors that neither promote nor contribute to the goals of adaptation. They may threaten the person's survival, growth, reproduction or mastery (Roy & Andrews, 1991).

Theoretical Definitions

Based on the theory of person as an adaptive system, theoretical definitions of the contextual stimuli (predictor variables) and adaptation, (the criterion variable), are as follows:

Partner's Health Prior to Open Heart Surgery

Spouse's perception of general health of his/her partner immediately prior to open heart surgery.

Length of Time Partner Diagnosed with Heart Disease

The episode of time from diagnosis of heart disease by a physician to the open heart surgery as perceived by the spouse.

Number of Years Married

The episode of time from marriage to the open heart surgery.

General State of the Marital Relationship

Spouse's perception of the general state of the marital relationship before the partner's open heart surgery.

Adaptation

The effective behaviors displayed by the spouse within the four adaptive modes in response to the partner's open heart surgery.

Research Questions

The research questions generated from the theory of person as an adaptive system that were examined are:

1. How much variation in spouse adaptation can be explained by the partner's health prior to open heart surgery, length of time partner diagnosed with heart disease, number of years married, and general state of marital relationship before the partner's surgery as perceived by the spouse?
2. Are there statistically significant ($p < .05$) differences in adaptation scores between male and female spouses?
3. In the domains of health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment, and psychological distress, which area(s) reflect the highest percentage of ineffective adaptation for spouses?

Significance to Nursing

The results of this study can have an impact on nursing care in the areas of preoperative education and preparation, postoperative

recovery, and rehabilitation of the patient, his/her spouse and the family. Based on research findings, the nurse could facilitate adaptation in known areas that cause stress by teaching the spouse to anticipate the stressors and providing him/her with coping mechanisms to assist with individual adaptation.

Findings that support a difference between male and female spouse responses would provide nurses with justification for alternative approaches related to the specific needs of the gender. This study also demonstrated the utility of the RAM in conducting clinical nursing research.

Literature Review

Theoretical Review

Limited studies have been done on the constructs of this model outside of Roy's research. Calvert (1988) used two key concepts to examine the relationship between human-pet interaction (environmental stimuli as a factor influencing adaptation) and loneliness (interdependence as a mode of response). Findings supported Roy's assumption that an individual's adaptive ability is influenced by the presence of environmental stimuli.

Frederickson, Jackson, Strauman, & Strauman (1991) studied the relationship between the physiological adaptive mechanisms and the effects related to processing information. Their findings supported the role of perception as a way of interpreting, translating, and altering incoming physiological stimuli and suggested that adaptation to a focal stimulus is connected to the contextual and residual stimuli. This research also supported Roy's concept of the cognator coping system

mediating and translating physiological stimuli according to the way clients perceive themselves which results in adaptation in the psychosocial modes. Finally, this research supported the interrelationship between the adaptive modes and strengthened the assumption that the individual is a biopsychosocial being.

Several research studies have used the RAM as a theoretical framework to (a) provide a basis for a program of research (Tulman & Fawcett, 1990); (b) guide nursing intervention (Bawden, Ralph, & Herrick, 1990; Fawcett, 1990); (c) provide the framework for recognizing the problem, constructing instruments, analyzing and interpreting the data and drawing implications from the findings (Artinian, 1991, 1992; Bradley & Williams, 1990; Huber, Medhat, & Carter, 1988; Selman, 1989; Silva, 1987; Smith, Mayer, Parkhurst, Perkins, & Pingleton, 1991; Tulman, Fawcett, Groblewski, & Silverman, 1990; Tulman, Fawcett, & McEvoy, 1991; & Varvaro, 1991).

Empirical Review

Psychological Distress. Psychological responses in spouses can be separated into effects seen in their partners' early versus late convalescence. In Stanley and Frantz's (1988) early convalescent study, 88% of spouses reported low level anger and 35% rated anxiety at a high level with 100% reporting this as a change since surgery. Spouses also reported fear (27%) and vigilance (73%) at high levels with 100% and 50% of the subjects, respectively, reporting this as a change since their partners' surgery. Artinian (1991) noted spouses' physical and mental stress response scores were normal at 48 hours and slightly below normal at 6 weeks; 3% of the subjects reported fear of leaving

their husbands alone. Sikorski (1985) found the early convalescent period to be an anxious and stressful time for wives with the majority of subjects reporting fatigue which was attributed to the stress of the preoperative and surgical periods, as well as anxiety due to unknown convalescent expectations.

A later convalescent study by Artinian (1992) found female spouses consistently experienced some physical and mental symptoms of stress through the first year after their partners' CABG surgery. Langeluddecke et al. (1989) noted 54% of spouses who experienced depression within the clinical range before surgery had improved significantly to only 25% of spouses experiencing depression within the clinical range 12 months later. Also noted were spouse state anxiety level scores which were generally high prior to surgery; one-third of these scores were above the 85th percentile. A statistically significant decrease ($p < .01$) was reported at 12 months with less than 20% of spouses scoring above the 85th percentile. As previously stated, Miller et al. (1990) declared an inverse relationship between couple marital functioning and level of spouse anxiety with spouse anxiety surfacing as a major predictor of spouse marital functioning.

Contradiction of findings in early versus late convalescent studies suggest further research is needed. Because previous studies have not explored gender differences, there may be significant differences in psychological responses between male and female spouses. Males may be less emotional and report higher levels of the more aggressive responses, such as anger. Further research is needed to address these

contradictions and omissions.

Vocational Environment. When attempting to determine spousal adaptation problems, one type of behavioral adjustment that has been reported is role change and/or strain by spouses following their partners' open heart surgery. Sikorski (1985) studied 30 wives of coronary artery bypass graft (CABG) surgery patients 2 to 3 weeks after their partners' surgery. They reported an increased number of household tasks which contributed to their fatigue. This was reportedly due to an increase in the amount of activities previously shared with or performed by their husband, such as mowing the lawn, putting out the garbage, driving the car, shopping, and housework. According to Stanley and Frantz (1988), in a study of 26 spouses whose partners had their first CABG surgery 4 to 10 weeks prior, one half of the spouses were performing an increased amount of household work, with 12% stating they were too tired to perform their daily work since their partners' surgery. Artinian (1991) described low to moderate levels of role strain in a sample of 86 female spouses of CABG patients with no significant difference ($p=.432$) between 48 hours and 6 weeks. A factor reported by spouses at 6 weeks that appeared to have contributed to this role strain was taking on new or additional responsibilities (24%). In a follow-up study in 1992 which retained 49 of the original sample of 86 female spouses of patients who had received CABG surgery, Artinian found spouses had difficulty arranging time to carry out their roles 1 year after surgery; this was more difficult than at the time of surgery or 6 weeks afterward. Additionally, 32% reported a change in their personal roles and responsibilities, such as changes in

employment (15% giving up job) and career goals or taking on new roles or responsibilities, such as cutting grass, working full time and performing heavy work. Conversely, Langeluddecke et al. (1988), in a study of 65 spouses of CABG surgery patients where data were collected before and 12 months after their partners' surgery, reported a statistically significant improvement ($p < .05$) in vocational functioning at 12 months compared to preoperatively. Specific data were not given as to whether taking on new roles or responsibilities or a change in role was assessed and if so, contributed to spouses' perception of improvement in function.

These mixed findings suggest that additional information is needed concerning vocational adjustment of spouses whose partners have had open heart surgery. Because these studies had only female or a majority of female spouses as the subjects, there is a gap in the literature as to comparisons of male and female adaptation after this surgery. Because male caregivers have been found to be less likely stressed by the dual responsibilities of work and caring for their wives (Rankin, 1992), male spouses may not experience the strain in the vocational environment female spouses have reported. This area needs further exploration.

Domestic Environment. In the area of the marriage or domestic environment, Stanley and Frantz (1988) explored dependency, friction and impaired communication. Dependency of the partner on the spouse was rated low by 65% of the subjects which represented a change in slightly over half (53%) of their subjects. Thirty-five percent rated their partners as being dependent on them and indicated this was a

change (100%) since their partners' surgery. The study found communication patterns were minimally influenced by the partners' surgery with 77% of the spouses indicating a high level of satisfaction with their ability to discuss feelings or concerns with their partners and 73% reporting this represented no change since their partners' surgery. Additionally, 77% of the spouses were highly satisfied with how they were getting along with their partner; 65% stated this was not a change since surgery. Other studies have addressed the domestic environment including a study during early convalescence by Sikorski (1985) which collected data from 30 women between the second and third week after their partners' CABG surgery. The majority of spouses reported better interpersonal relationships with their partners with enhanced expression of feelings and appreciation of each other and a positive change in their partners' attitudes. However, all of the spouses whose partners had post-surgical complications reported worse interpersonal relationships; they described their partners as self-protective, dependent, demanding, difficult to please and slow to progress. Artinian (1991) reported a lower marital quality score than normal at 48 hours with a significant decrease ($p=.037$) at 6 weeks; 24% cited partners' mental state as a concern and a few (1%) spouses reported a concern over family arguments and partners as being insensitive to their needs (4%). In Artinian's follow-up study (1992), spouses' perception of less than optimal marital quality, such as tension, conflict and decreased cohesion, remained unchanged during the first year after their partners' surgery. Langeluddecke et al. (1989) also reported spouses' attitudes toward domestic functioning

were not significantly improved one year after their partners' CABG surgery. In a 6 month study of 67 patient-spouse pairs where one partner had undergone cardiac surgery for the first time, Gillis et al. (1990) reported a significant decrease (95% confidence interval) in family functioning at 3 months. It was suggested that the threat to family functioning becomes internal at 3 months with the problem becoming how they, individually and collectively, respond to the changes wrought by surgery. By 6 months, they further stated, most patients and spouses have returned to usual patterns of interpreting their world and coping with it. Miller, Wikoff, McMahon, Garrett and Ringel (1990), in a study of 136 partner-spouse pairs which included partners who had their cardiac surgery or event within 1 year of the study, found the higher the couple marital functioning agreement, the lower the level of spouse anxiety. Spouse anxiety surfaced as a major predictor of spouses' perception of marital functioning. Confrontive coping strategies utilized by the spouse were found to be the greatest predictors of marital functioning as perceived by partner and spouse, independently and collectively, after cardiac surgery.

There are conflicting reports as to whether the partner's surgery has a positive or negative overall perceived effect on the marriage or domestic environment. There were no studies on the effect of the relationship, preoperatively, on domestic behaviors, postoperatively. Because gender differences between spouses could influence the perspective of the domestic environment, significant gaps remain in the research in these areas.

Another variable affecting the domestic environment is the spouse's

perception of financial problems. Although information in the literature is limited on spouses' perceptions of problems with finances following open heart surgery, the reports appear to be consistent. In a study by Stanley and Frantz (1988), economic adequacy was judged to be highly inadequate by 48% of the subjects. The cost of the partners' surgery was identified as having a definite impact on the economic situation. Only 3% of spouses reported depleted finances as a concern at 48 hours and 6 weeks in Artinian's study in 1991. In her follow-up study (1992), 15% of the spouses described activities that were relinquished 1 year after their partners' surgery which some stated included giving up their jobs or homes and moving to apartments. However, no statement was made correlating this relinquishment to a financial concern.

Although information on the spouses' perception of problems with finances is consistent, it is limited. Because gender differences continue to be a gap in the literature, it is unknown if the traditional role of financial supporter by the man changes the perception of the economic impact or how financial problems contribute to the effect of the partner's surgery on the spouse.

Sexual Relationships. Sexual functioning has been reported to be less than satisfying as perceived by spouses of patients who have had OHS. Artinian (1992) described findings where 27% of spouses communicated changes in activities done as couples with some claiming they had decreased sexual activity at 1 year. In a study by Langeluddecke et al. (1989), spouses reported sexual functioning not significantly improved 12 months after their partners' surgery.

Although Stanley and Frantz (1988) found 58% of the spouses claimed a low level of satisfaction with the overall sexual relationship, only 8% stated this was a change since their partners' surgery. Also reported was a 54% claim of low satisfaction with frequency of sexual relations; this was a 23% change since their partners' surgery. In Sikorski's (1985) study, 20% of the subjects reported a concern about the safety, time of resumption and the welfare of their partners' sexual activity.

Although overall, the sexual relationship has been reported to be less than satisfying as perceived by spouses of patients who have had OHS, it remains unclear whether this dissatisfaction is a change since their partners' surgery. Another gap in the literature is the assessment of the difference between male and female spouse perceptions of the sexual relationship after their partners' surgery. Because the male is often seen as the sexual aggressor and he is not the one physically affected, sexual functioning could be perceived differently by the male partner after his spouse has open heart surgery. More research is needed in this area.

Social Environment. In 1985, Sikorski found wives reported social and recreational activities were reorganized or modified to accommodate their partners' early convalescent routine. Although Stanley and Frantz (1988) published results reflecting a 58% spousal satisfaction with social activities outside the home, 42% were less than satisfied with 38% declaring this as a change since their partners' surgery. Those who did not have a change in social activity since their partners' surgery reported a high level of satisfaction, while spouses who did

report a change in their level of social activity tended to have a low level of satisfaction. Twenty-seven percent of CABG patients' spouses in a study by Artinian (1992) reported changes in couples' activities with some reporting fewer family gatherings or involvement in other social activities, and others discussing spending more time with their partners and developing more social and leisure activities. Although 52% declared they did not give up any activities because of their partners' health state, 33% of the spouses relinquished recreational or social activities, such as going alone to social activities and avoiding parties or other social events. Some (15%) spouses reported missing personal enjoyments such as having time to themselves and inability to plan in advance. Spouses also reported incorporating new activities into their lives with 40% now engaging in exercise, such as walking or bike activity and 36% developing new diversional activities, such as joining a senior's group, bowling or playing cards with friends. Finally, Artinian reflected that 23% of this sample did not develop new activities because of their partners' health state. Although Langeluddecke et al. (1989) reported that recreational functioning was significantly improved ($p < .01$) 12 months after their partners' surgery, low levels of residual impairment remained with the spouses' post-operative recreational impairment related to their partners' depression at 1 year.

Contradictions exist in the literature as to whether the effect of the mate's OHS on the spouse's or marriage's social activities is satisfactory or unsatisfactory as perceived by the spouse. Because male caregivers reported life going on as normal and minimal involvement

in caregiving (Rankin, 1992), they might not give up personal enjoyments as some female spouses have indicated.

Extended Family Relationships. Because social support is not differentiated in the literature as to who is or is not included, for the purpose of this study, social support and extended family relationships will be used interchangeably. Social support, as perceived by the spouse, is described differently in reports presented early versus late convalescence. In Stanley and Frantz's (1988) study 4-10 weeks after CABG surgery, 77% of the spouses reported a high level of satisfaction with social support; 65% stated this was not a change since surgery. A significant association between change in social support and number of years married ($\chi^2 = 3.7, p < .05$) was demonstrated with 94% of the spouses who had been married 30 years or longer reporting a high level of satisfaction with social support. Although Artinian reported in an earlier study in 1991 fairly high levels of social support with no significant difference between 48 hours and 6 weeks, her follow-up study in 1992 displayed a significant decline in social support over a 1 year time span. In a study by Langeluddecke et al. (1989), an improvement in extended family functioning 12 months after surgery was minor and not statistically significant.

Research indicates that although social support is stated as adequate in early convalescence, a significant decline is reported as time advances after the partner's surgery. Whether this decline affects spouse adaptation has not been determined. Because gender differences in perception of social support or extended family

relationships have not been addressed in the literature, it has not been determined whether female spouses have stronger support systems than male spouses or whether differences in their support systems affect their adaptation. Further research is needed to assess the effect of OHS on the extended family relationships as perceived by the spouse.

Health Care Orientation. Health care orientation is primarily concerned with attitudes about health care in general, perceptions of health care professionals, quality of health information, and the nature of the patient's (or spouses's) expectancies about his/her (or partner's) disorder and its treatment (Derogatis, 1986). Current research on spouse adaptation after OHS in relation to health care orientation has addressed the nurse's support role, the health care professional's role as an important source of information, and the content of information in which spouses declared they were lacking.

In 1991, Artinian described spouse perceptions of support from nurses during hospitalization of the spouse's partner for OHS. Thirty percent thought nurses were supportive when they gave explanations and 16% found nurses supportive when they gave reassurance. Seven percent found nurses who permitted flexible visiting hours supportive. Seven percent also found nurses supportive when they displayed certain behavioral manifestations such as making an extra effort and having an excellent bedside manner. A small number of spouses found nurses supportive when encouraging them to call the hospital at any time or when they provided competent care to their partners, such as giving pain medications promptly.

Artinian also described spouse perceptions of nonsupport from

nurses during hospitalization. Spouses (12%) described nonsupportive behavioral manifestations, such as answering questions abruptly, unwilling to answer a request, making light of their concerns, being in a rush, or acting businesslike and distant. Twelve percent stated nurses were nonsupportive when they did not provide competent care, such as the nurse taking forever to answer the call light, not giving pain medication when requested, or not giving explanations of their partners' care/treatment.

Sikorski's (1985) study found 36% of the spouses declared the physician as the most important source of information received prior to hospitalization. The nurse was not found to be an important source of information. Sixty-four percent ranked the most frequent source of information an individual who was familiar with or had similar surgery.

Sikorski also found by the questions that were asked in his study that spouses desired more specific information about prescribed medication and displayed lack of information about the purpose of previously prescribed medication after surgery and normal convalescent expectations for the partner, such as pain and edema. The two postoperative activities for their partners which 90% of spouses lacked information were resumption of sexual activity and driving a car. Spouses also lacked knowledge about the fundamental aspects of coronary artery disease and its relationship to surgery, with the majority (>50%) believing CABG surgery as a cure for the disease. Sixty percent of spouses were concerned with losing their partners and 43% were concerned about the future.

Current research is limited in the area of health care orientation. More information is needed concerning spouses' attitudes and perceptions about their own personal health, the quality of and expectations for their partners' medical care and treatment, their partners' illness and recovery outcomes, and the adequacy and quality of information about their partners' illness and treatment. Because gender differences can affect attitudes and perceptions, research that is gender specific is a significant gap in the literature.

Limitations and gaps remain in the literature as to how spouses perceive and adapt to their partners' open heart surgery. Gender differences in perception remain an area where little information exists and is a significant gap in the current research. Little to no information exists on variables identified as predictors in variation of spouse adaptation. Therefore, this study addressed the gaps in the literature related to spouse perception by assessing the variables, psychological distress, vocational environment, domestic environment, sexual relationships, social environment, extended family relationships, and health care orientation. It also assessed the effect of the partner's general health state prior to surgery, length of time the partner has been diagnosed with heart disease, number of years married, and the general state of the marital relationship before the partner's surgery on the spouse's adaptation. By comparing perceptions of male and female spouses, this study addresses the gap of gender differences that currently exists in the literature.

CHAPTER THREE

METHODOLOGY

Study Design

A cross-sectional descriptive correlational research design was used to examine adaptation, the criterion variable, of male and female spouses to their partners' OHS; and partners' health prior to surgery, length of time partner diagnosed with heart disease, number of years married, and general state of marital relationship prior to surgery as perceived by the spouse as predictor variables. Data from spouses were obtained 30 days after their partners' surgery through the use of a seven-part questionnaire and 14 general descriptive questions.

Sample and Setting

The target population for this study was a heterogenous sample consisting of 20 male and 25 female spouses of patients who underwent open heart surgery. Convenience sampling facilitated attainment of a reasonable, yet small, sample size in the short time that was feasible for data collection.

Spouses of all patients who underwent open heart surgery from August 1, 1993 to May 1, 1994 at a 350-bed, acute-care medical center in Northwestern Michigan and met the eligibility criteria were included in the sample. Selection took place by approaching 37 female and 27 male spouses for verbal consent at their partners' discharge from the hospital; data were collected 30 days later when 28 female and 21 male

spouses returned questionnaires. Three female spouses were omitted from the study due to an immediate death in the family, the partner being readmitted for additional surgery, and the spouse being admitted to the hospital for surgery of a herniated disc. One male spouse was omitted because he sought emergency treatment for a bleeding ulcer. The final sample of 45 spouses was divided into two groups based on the gender of the spouse.

Eligibility criteria included:

1. The partner must have undergone his or her first open heart surgery; the spouse must not have had open heart surgery.
2. The spouse must have been identified on the partner's medical record and verbally by the partner.
3. The spouse must have been able to speak, read, and understand English.
4. There must not have been a cardiac arrest event by the partner during or after the surgery.
5. Spouses and partners must have been married and living together, without the immediate threat of separation or divorce.

Sample Characteristics

Spouses of patients who underwent open heart surgery were 45% male and 55% female. Ages of male and female spouses ranged from 31 to 88 years with a mean age of 62.54 years (SD=13.36). The ages of their partners ranged from 35 to 83 years with a mean of 64.22 years (SD=11.06) (see Table 1).

The number of years married ranged from 1 year or less to 55 years with a mean of 30.96 years (SD=17.39). The length of time the partner had been diagnosed with heart disease was stated as between 1 month or less and 180 months (15 years) with a mean of 23.58 months (a little less than 2 years) (SD=42.93) (see Table 1).

Table 1

Demographic Data on Spouses and Partners (N=45)

	Range	Mean	SD
Age of Spouse (yrs.)	31-88	62.54	13.36
Age of Partner (yrs.)	35-83	64.22	11.06
Time married (yrs.)	<1-55	30.96	17.39
Time diag. heart dis.(mos.)	<1-180	23.58	42.93

The largest percentage (44%) of the spouses were high school graduates; 20% had taken some technical or college classes. The largest percentage (42%) of their partners also were high school graduates. Twenty six percent had less than a high school diploma and 11% had taken some technical or college classes (see Table 2).

Table 2

Description of Sample by Education Level in Percentages (N=45)

	Spouse	Partner
Less than H.S. Graduate	15.6	26.7
H.S. Graduate	44.4	42.2
Technical/Some College	20.0	11.1
College Graduate	6.7	6.7
Some Master's Work	2.2	2.2
Master's Degree/PhD.	4.4	4.4

Note: Total missing responses= 6 (spouse= 3, partner= 3)

Religious affiliation of spouses was 60% Protestant, 18% Catholic, 13% other, and 4% no affiliation. Religious affiliation of their partners was similar, 60% Protestant, 24% Catholic, 7% other, and 7% unaffiliated (see Table 3).

Table 3

Description of Sample by Religious Affiliation in Percentages (N=45)

	Spouse	Partner
Protestant	60.0	60.0
Catholic	17.8	24.4
Other	13.3	6.7
None	4.4	6.7

Note: total missing responses= 3 (spouse= 2, partner= 1)

Fifty-three percent of the spouses were retired, 27% were currently employed, 18% were never employed, and 2% were disabled (see Table 4). Of the spouses employed, 5% were semi-professional or tradesmen, 7% were semi-skilled or unskilled, and 2% were self-employed. Of the retired spouses, 11% had been employed as tradesmen, 9% were professional, and the rest had been employed as semi-professional (2%), semi-skilled (2%), government (2%), or self-employed (2%) workers. Eighteen percent of the spouses had never been employed outside the home (see Table 5). In comparison, 47% of the partners who underwent surgery were retired, with 24% still employed, 24% having never been employed, and 4% disabled (see Table 4). Of the partners who were employed, 13% were tradesmen, 4% were semi-skilled, and the remaining were professional (2%), unskilled (2%), or self-employed (2%) workers. Of the retired partners, 9% were declared professional with the

remainder declared to have been employed either as tradesmen (2%), semi-skilled (2%) or self-employed (2%) workers. Twenty-four percent of the partners stated they had never been employed outside the home (see Table 5).

Table 4

Description of Sample by Status of Employment in Percentages (N=45)

	Spouse	Partner
Employed	26.7	24.4
Retired	53.3	46.7
Never Employed	17.8	24.4
Disabled	2.2	4.4

Table 5

Description of Sample by Type of Employment in Percentages (N=45)

	Spouse	Partner
Still Employed	2.2	---
Employed, Professional	---	2.2
Employed, Semi-professional	4.4	---
Employed, Tradesman	4.4	13.3
Employed, Semi-skilled	6.7	4.4
Employed, Unskilled	6.7	2.2
Employed, Self	2.2	2.2
Retired	24.4	31.1
Retired, Professional	8.9	8.9
Retired, Semi-professional	2.2	---
Retired, Tradesman	11.1	2.2
Retired, Semi-skilled	2.2	2.2
Retired, Government	2.2	---
Retired, Self-employed	2.2	2.2
Never Employed, Home	17.8	24.4
Disabled	2.2	4.4

More than half (76%) of the spouses described the general state of the marital relationship prior to surgery as good to excellent. Twenty-two percent (22%) stated the marital relationship had been fair.

Over half (53%) of the spouses rated their partners' health in the 12 months prior to open heart surgery as good to excellent; twenty percent rated their partners' health as fair, 9% rated poor, and 16% rated very poor (see Table 6).

Table 6

Spouses' Perception of General State of Marital Relationship and Partner's Health 12 Months Prior to Surgery (N=45)

	Very Poor	Poor	Fair	Good	Excellent
State of Marital Relship.	0%	0%	22%	38%	38%
Partner's Health prior	16%	9%	20%	42%	11%

Measurement

The contextual stimuli, partner's health prior to open heart surgery, length of time partner diagnosed with heart disease, number of years married, and general state of marital relationship prior to the surgery were treated as predictor variables in this study.

Questions pertaining to these variables were placed in the first part of the general question area (see Appendix C).

Partner's Health Prior to Open Heart Surgery

This research variable was measured by asking the spouse to rate, on a scale of 1-4, the partner's health during the preceding 12 months prior to open heart surgery, with 1= Very Poor, 2= Poor, 3= Fair, and 4= Good.

Length of Time Partner Diagnosed with Heart Disease

This research variable was measured by asking the spouse to state the length of time the partner had been diagnosed with heart disease.

Number of Years Married

This research variable was measured by asking the spouse to state the number of years married.

General State of Marital Relationship

This research variable was measured by asking the spouse to rate, on a scale of 1-4, the general state of the marital relationship prior to the partner's surgery, with 1= Very Poor, 2= Poor, 3= Fair and 4= Good.

Adaptation

The criterion variable, adaptation, was measured by the seven-part, self-report, Psychosocial Adjustment to Illness Scale (PAIS-SR). The original PAIS-SR tool is designed to assess the quality of a patient's, or with minor adjustments in format, spouse's or other relative's, psychosocial adjustment to a current medical illness or its residual effects. It contains seven primary domains to adjustment: (a) health care orientation, (b) vocational environment, (c) domestic environment, (d) sexual relationships, (e) extended family relationships, (f) social environment, and (g) psychological distress. Questions are designed to assess the quality of adjustment in each of these primary adjustment areas. A total of 46 items are included with each item rated on a 4-point (0-3) scale of adjustment. Higher ratings indicate poorer adjustment on the PAIS-SR. Scale direction is alternated on the even numbered items to reduce position response

biases.

The seven-part PAIS-SR was used to assess the quality of a spouse's adaptation to the partner's OHS during early convalescence. Although most productive applications of this instrument are found in chronic or protracted conditions, it is appropriate to use the PAIS-SR for the assessment of adjustment to rehabilitative regimens, or long-lasting residual effects of the original condition, as in the case of the patient rehabilitating and making life-style changes from open heart surgery.

Scoring the PAIS-SR was completed by compiling the seven domain sums and converting to standardized area t-scores; these t-scores were then summed to generate the PAIS-SR total score. Respondents with a PAIS Total Score equal to or greater than a t-score of 62 indicate clinical levels of psychosocial maladjustment (Derogatis, 1986)--ineffective adaptation in this study.

Reliability. Cronbach's alpha was used to establish internal consistency reliability of the PAIS-SR for this study. The reliability for the total 46-item instrument was .62. Previous internal consistency reliability data for the total instrument is not available so no comparisons can be made. Reliability coefficients also were computed for the seven domains. They were (a) health care orientation: alpha = .62, (b) vocational environment: alpha = .58, (c) domestic environment: alpha = .77, (d) sexual relationship: alpha = .73, (e) extended family: alpha = .46, (f) social environment: alpha = .66, and psychological distress: alpha = .87 (see Table 7). Internal consistency reliability coefficients for the seven PAIS-SR domains

reported for a normative sample of 61 cardiac patients are (a) health care orientation: $\alpha = .47$, (b) vocational environment: $\alpha = .76$, (c) domestic environment: $\alpha = .77$, (d) sexual relationship: $\alpha = .83$, (e) extended family: $\alpha = .62$, (f) social environment: $\alpha = .80$, and (g) psychological distress: $\alpha = .85$ (Derogatis, 1986) (see Table 7). A lack of homogeneity between samples is probably reflected in the fact that only 3 of the 7 reliability coefficients of this sample compared closely to the normative sample.

Table 7

Comparison of Reliability Coefficients for each of Seven Domains

	This sample N=45	Normative Sample N=61
Health Care Orientation	.62	.47
Vocational Environment	.58	.76
Domestic Environment	.77	.77
Sexual Relationship	.73	.83
Extended Family	.46	.62
Social Environment	.66	.80
Psychological Distress	.87	.85

Validity. Factor analysis was used to determine construct validity for 120 lung cancer patients. In this analysis, seven substantive dimensions were identified accounting for 63% of the variance. Interrelationships among the separate domains show little correlation

with each other and a greater correlation with the total scores. Predictive validity, the usefulness of an instrument to predict or discriminate among specific outcomes, was statistically significant with the PAIS on 5 of the 7 domains and the total score when administered to the 120 lung cancer patients (Conoley & Kramer, 1989).

Descriptive Characteristics

The PAIS-SR questionnaire is followed by 14 general descriptive questions. The first four are questions related to the predictor variables. Of the remaining nine questions, one, gender of spouse, pertains to research question 4. The next eight questions were used to describe the sample in terms of age of spouse, age of partner, education of spouse, education of partner, religion of spouse, religion of partner, occupation of spouse and occupation of partner. Question #14 asked the general question, "What has been the worst problem for you since your husband/wife has come home from the hospital?".

Procedure For Data Collection

Subjects were recruited by the researcher in the hospital setting at the patient's discharge. Selection of subjects for study were done according to previously stated eligibility criteria. This researcher reviewed the partner's medical records and interviewed the partner to determine if the spouse met the eligibility criteria. If criteria were met, the researcher met with the spouse and partner on the day of discharge from the hospital. At this meeting, the spouse and partner were approached in a friendly manner. After a brief introduction, an explanation of the purpose of the study and a letter of support from the cardiothoracic surgeons was offered. Time was allotted for

questions which were answered honestly. Selected spouses who agreed to participate in the study were part of the sample. Although 25 spouses were targeted to be assigned to each group according to gender (male or female), 25 females and 20 males were obtained. If the partner was not accompanied by the spouse during his/her discharge, a letter of introduction, explanation, and purpose of the study, as well as the cardiothoracic surgeons' letter of support, were given to the partner or mailed to the home for the spouse to review. The researcher's phone number was included for additional questions.

Thirty days after the partner's discharge from the hospital, the PAIS-SR with an introductory letter and informed consent were mailed to the participant. A self-addressed, stamped envelope was provided for return mailing. If there was no initial response, this mailing was followed by postcard reminders 2 weeks later.

Human Subjects Consideration

Before data collection began, the proposal was submitted to and approved by Grand Valley State University Human Research Review Committee and the study hospital. There was minimal risk to the subjects in this study. Fatigue or boredom was a risk due to the number of questions that needed to be answered on the tool. Psychologic or emotional distress resulting from self-disclosure, introspection, and anger at the type of questions being asked was also a potential risk. These risks are minimal in comparison to the knowledge that subjects provided to assist nurses and other health care providers to help others adapt to life adjustments after their partners' surgery.

CHAPTER FOUR

RESULTS

Data Analysis

The purpose of this study was to describe the adaptation of male and female spouses after their partners' open heart surgery. The sample consisted of 45 spouses; 45% were male and 55% were female.

Variation in Spouse Adaptation

The first research question under consideration was how much variation in spouse adaptation can be explained by partner's health prior to open heart surgery, length of time partner diagnosed with heart disease, number of years married, and general state of marital relationship before the partner's surgery as perceived by the spouse? Pearson correlation coefficients were computed to determine the relationships between the predictor variables and the criterion variable, spouse adaptation. As seen in Table 8, the general state of the marital relationship as perceived by the spouse had the highest correlation ($R = -.50$, $p < .001$) with the PAIS-SR measure of spouse adaptation. The negative correlation indicated that the better the state of the marital relationship pre-surgery, the better the adaptation of the spouse post-surgery (higher scores on the PAIS-SR indicate psychological distress--ineffective adaptation in this study).

To achieve maximum explanation of variation in spouse adaptation, all four predictor variables were entered in a multiple regression analysis. The coefficient of determination, R^2 , indicates that 28%

of the variance can be explained by the pre-surgical state of the relationship, ($F=3.73$, $p=.0115$); none of the other predictor variables, partner's health prior to open heart surgery, length of time partner diagnosed with heart disease, or number of years married, accounted for a significant portion of the variance in spouse adaptation scores.

Table 8

Effects of Predictor Variables on Spouse Adaptation (N=44)

Variable(s) entered on step number

1. MARRELSP state of marital relationship
2. TIMEDXWK time since diagnosis of heart disease
3. YRSMARR number of years of marriage
4. PARTHLTH partner's health 12 mos. prior to OHS

Multiple R .52611
R Square .27679
Adjusted R Square .20262
Standard Error 22.42150

Variable	B	SE B	Beta	t	p
TIMEDXWK	-.007804	.082589	-.013461	-.094	.9252
PARTHLTH	-2.166878	2.961848	-.108723	-.732	.4688
YRSMARR	.199995	.211488	.138481	.946	.3501
MARRELSP	-16.460799	4.904276	-.508651	-3.356	.0018
(constant)	430.137574	19.207095		22.395	.0000

Differences in Scores between Male and Female Spouses

The second question asked if there were significant ($p<.05$) differences between the adaptation scores of male and female

spouses. T-tests compared the PAIS-SR total scores and scores in each of the seven PAIS-SR domains between male and female spouses. The means and standard deviations of PAIS-SR total scores of the two groups are shown in Table 9. The t-test showed no significant difference between genders in PAIS-SR total scores, $p=.913$.

Table 9

Means and Standard Deviations for Male and Female Spouses

	Male (N=20)		Female (N=25)	
	M	SD	M	SD
PAIS-SR Total Score	359.60	27.33	360.44	23.79

Note: $t=-.11$; $p=.91$

The means and standard deviations of each of the seven domain scores with respect to gender are shown in Table 10. The t-tests showed no significant ($p>.05$) difference between genders in each of the domain scores (see Table 11).

Table 10

Means and Standard Deviations for The Seven Domain Scores^a of
Male and Female Spouses

	Male (N=20)		Female (N=25)	
	M	SD	M	SD
Health Care Orient.	49.95	9.41	50.56	8.92
Vocational Environ.	34.95	7.05	36.00	5.42
Domestic Environ.	39.15	13.24	42.52	10.28
Sexual Relation.	49.10	9.79	48.40	9.08
Extended Family	51.95	6.04	55.68	6.76
Social Environ.	64.25	8.89	60.68	8.48
Psychological Distr.	70.25	5.51	66.60	7.55

Note: ^a t-scores of 62 or greater are indicative of psychosocial ineffective adaptation (Conoley & Kramer, 1989).

Table 11

Results of t-Tests for PAIS-SR Domain Scores and Total Scores
for Male and Female Spouses (N=45)

Domain	t	p
Health Care Orient.	-.22	.83
Vocational Environ.	-.56	.58
Domestic Environ.	-.96	.34
Sexual Relation.	.02	.88
Extended Family	.88	.35
Social Environ.	.05	.83
Psychological Distr.	1.37	.25
Total	-.11	.91

Note: df = 43

Psychosocial Spouse Adaptation

The third research question investigated, "Among the domains of health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment, and psychological distress, which domain(s) reflect ineffective adaptation for spouses?" According to Conoley and Kramer (1989), "A t-score of 62 or higher indicates clinical levels of psychological distress" (p.670). Table 12 displays the percentages of effective and ineffective adaptation for male and female spouses according to

domain. The domains which reflected the highest percentages were psychological distress (82.1%) and social environment (68.8%). Vocational environment was the only domain that did not reflect ineffective adaptation of spouses (0%).

Table 12

Ranges of t-scores^a for Male and Female Spouses (N=45)

	t	n	Percent
Psychological Distress	63-77	37	82.1
Vocational Environment	<62	45	0.0
Social Environment	62-71	31	68.8
Domestic Environment	62-66	4	8.8
Extended Family	64-73	4	8.8
Sexual Relationship	62-68	4	8.8
Health Orientation	62-72	6	13.2

Note: ^a t-scores of 62 or greater are indicative of psychosocial ineffective adaptation (Conoley & Kramer, 1989).

Qualitative Data

Qualitative data from the open-ended question assessing what was the worst problem for the spouse after his/her partner's OHS was analyzed by content analysis. The investigator listed the spouses' comments and categorized them according to the RAM adaptive modes,

physiological, self-concept, interdependence, and role function (see Table 13). Some comments had several themes, but one main theme was extracted so only one mode was determined for each response. The number of men and women responding in each adaptive mode was then summed and percentages were determined. Two of the 20 male spouses and one female spouse in the study declined to answer this question. Six (30%) male spouses and four (16%) female spouses stated there were no problems. Male spouses claimed no physiological problems since their partners' hospital discharge.

Table 13

Percentages of Male and Female Spouses Responding to Worst Problem After Discharge Categorized by Adaptive Modes (N=31)

	Male (N=12)		Female (N=19)	
	No.	Percent	No.	Percent
Physiological	0	0.0	1	4.0
Self-concept	1	5.0	1	4.0
Interdependence	7	35.0	14	56.0
Role Function	4	20.0	3	12.0

Note: Six men (30%) and four women (16%) commented "no problem", "it works O.K.", "I haven't had any", "none of any importance", "none serious, or "nothing specific".

The behavioral modes demonstrating the worst problems for female and male spouses were in the areas of interdependence (M=35%; F=56%) and role function (M=20%; F=12%). A few concerns were also mentioned in the self-concept and physiological modes.

Interdependence. Female spouses reported interdependency problems by a presence of male partners' dependency behaviors, lack of partners' initiative-taking behaviors, presence of the female spouses' affection-seeking behaviors, lack of partners' behaviors in the receiving of affection, lack of independence in the female spouses, and a presence of financial problems. Dependency problems were reflected by a few of the spouses' stating, "He has complete dependency on me" and "Too much responsibility has been put on my shoulders". Other female spouses reported dependency behaviors by having to assume their partners' previous duties, such as "I'm driving the car because he can't" and "I'm tired of hauling everything but I don't want him to do it".

Some female spouses reported problems with their partners' initiative-taking behaviors such as, "It doesn't appear he is really trying to recover; is his pain real or an excuse not to exercise and resume some of his normal activities?" and "(I'm) just trying to get him motivated to do his exercises or the things he is supposed to do". One female spouse conveyed, "He isn't taking real good care of himself."

Affection-seeking behaviors were displayed by female spouses caring for their male partners. One spouse declared, "(My worst problem is) making sure I give him the proper care and attention; making him feel as comfortable as possible". One spouse's concern was nutritional,

disclosing, "Because my husband's appetite is poor, it is hard to find things nutritious for him". One female spouse conveyed her partner's receiving of affection as a behavior problem with, "My husband doesn't want me to touch him."

One female spouse's own loss of independence was a problem. She disclosed, "(I fear) leaving him alone when I had things to be done, worried he would have a heart attack while I was gone". The most frequent response of an interdependence problem for female spouses was (n=5) finances with one wife conveying, "Insurance isn't covering large portions which we can't afford".

Male spouses disclosed interdependence problems by declaring a loss of their own independence, presence of affection-giving behaviors to their partners, for example, presence of an overall concern for the health of their female partners, and a problem with finances. A loss of independence by male spouses was conveyed as a problem through statements, such as "(I don't like) being restricted to interior of home and not being able to get outside more", "(I have) a loss of time for work and hobbies" and a complaint of "being confined".

Presence of affection-giving behaviors was related by male spouses stating they were "caring for wife's infection in left leg", taking the wife to the emergency room "when she had hives for three weeks", and disclosing, "Every time she moans I find myself . . . asking if she is O.K I worry that she is in pain from the healing". One male spouse expressed concern about his partner's health, relating, "(I worry about) her not getting better and slowly going down hill." One male described "the cost of drugs" as a financial problem.

Role Function. Female spouses disclosed role function problems with reports of a lack of time in meeting all of their roles, an inability to assume partners' work role, and taking on more duties within their roles. Statements concerning role function problems included, "(I'm not) having enough time to get everything done, take care of him, and our 33 year old retarded son", "(My) husband is owner of own company and no one can do his job or cares to", and "(We've had) lots of company . . . extra cooking".

Male spouses also related role function problems. They declared they were taking on new responsibilities (e.g., "doing the housework and trying to prepare meals"), had a lack of time for "doing my chores", and were frustrated in taking on a nursing role, relating, "I'm just not a very good nurse".

Self-Concept and Physiological. Two spouses revealed problems with self-concept behaviors. One female spouse declared "having a short fuse with other people outside the family" and one male spouse reflected "worry and concern about her (his wife's) complete recovery". Although only one female spouse declared physiological behavioral problems with "not getting enough sleep", a few other male and female spouses mentioned "being tired" and "a loss of sleep".

CHAPTER FIVE
DISCUSSION/IMPLICATIONS/LIMITATIONS

Relationship of the Findings to the Theoretical Framework

Roy and Andrews (1991) define person as an adaptive system and use the concept of person to identify the recipient of nursing care. In this study, the recipients of care were the male and female spouses of open heart surgery patients.

In the conceptual model for this study, the environment which consists of internal and external stimuli, act upon the person, triggering a response. All of the study participants' partners had received open heart surgery, the focal stimulus, which triggered an adaptation response. Findings in this investigation suggested that the contextual stimulus, general state of the marital relationship before the partner's surgery, contributed to the spouse's overall adaptation response. The finding that the contextual stimuli, partner's health prior to open heart surgery, length of time diagnosed with heart disease, and number of years married, did not significantly correlate with the PAIS-SR measure of spouse adaptation, suggested that these variables do not influence spouse adaptation following their partners' open heart surgery. According to Roy and Andrews (1991), "contextual stimuli are important because often they are tied to the meaning a person attaches to the situation" (p.34). How spouses perceive their marital relationships affects their adaptation to their partner's

open heart surgery. A marital relationship that is perceived as poor may be dominating the spouse's coping mechanisms, leaving little reserve to cope with the focal stimulus of open heart surgery.

The stimuli from the internal and external environment activate cognator and regulator coping mechanisms that act to maintain the person's adaptation with respect to the four adaptive modes. The focal stimulus, open heart surgery, and the contextual stimuli, partner's health prior to open heart surgery, length of time partner diagnosed with heart disease, number of years married, and general state of marital relationship, activated the male and female spouses' cognator and regulator coping mechanisms to maintain adaptation within the four adaptive modes. The activity of the cognator coping system was measured by the spouses' perceptions in health care orientation which also affected adaptation. The finding that 86.8% of male and female spouses had effective adaptation in the health care orientation domain probably contributed to the result that only 2 of 7 domains selected a large percentage (>50%) of ineffective adaptation. For example, spouse perceptions of whether they received adequate information on how to care for their partner may have affected how they adapted in the home environment after discharge. The activity of the regulator coping system was measured by the spouse's physiological response. The finding that only 4% of the female and no male spouses reported the worst problem after discharge as being physiological, may reflect the spouse effective adaptation response of only 29% (2 out of 7) of the domains demonstrating greater than 50% of the spouses reporting ineffective adaptation scores.

Roy and Andrews (1991) stated that it is not possible to directly observe the functioning of the cognator and regulator coping mechanisms; only the responses produced by these systems can be observed. The behaviors that result from the cognator and regulator coping mechanisms can be observed in four adaptive modes, self-concept, role function, interdependence, and physiological. The male and female spouses' responses were assessed in the adaptive modes by measuring their responses in the PAIS-SR domains of psychological distress (self-concept), vocational environment and domestic environment (role function), sexual relationships, and social environment and extended family relationships (interdependence). Activity of the regulator coping mechanism was only measured in the physiological adaptive mode qualitatively in this study.

This study investigated which domain(s) and therefore, adaptive modes, would reflect ineffective adaptation for spouses. The domains which reflected the highest levels of ineffective adaptation were psychological distress and social environment. Vocational environment was the only domain that did not reflect ineffective adaptation of spouses. Therefore, the adaptive modes reflecting the highest ineffective responses were the self-concept and interdependence modes. The self-concept mode is the level of adaptation behavior relative to a person's beliefs and feelings about himself or herself; the perception of self plays a major part in everything a person does (Roy & Andrews, 1991). Therefore, it is not surprising that this would be one of the modes reflecting the highest percentage of ineffective adaptation for male and female spouses in response to their partners'

open heart surgery. When one is faced with the major stimulus of having one's partner receive open heart surgery, one's self-integrity can be threatened by concern as to how this stimulus will affect one's own personal being and self-esteem.

The interdependence mode is defined as the close relationships of people; the purpose of these relationships is to achieve affectional adequacy, the feeling of security in nurturing relationships. Social activities provide an environment for nurturing these relationships. When one's partner is recovering from open heart surgery and one's attention is focused on assisting his/her rehabilitation, it is not surprising that there is little time for interest and participation in leisure time activities and hobbies.

Qualitative data analysis also revealed that the interdependence mode revealed the worst behavioral problems for male and female spouses post-operatively. Female spouses reported their partners' dependency, lack of initiative-taking and affection-receiving, as well as their own loss of independence as major problem areas. They also reported seeking affection with and caring for their spouses.

Male spouses also declared a loss of their own independence, and the giving of affection to and overall concern for their partners. They did not report their partners' dependency, lack of initiative-taking, or affection-receiving behaviors as major problem areas. Perhaps a reason for the difference in male and female spouses' perceptions of dependency as a problem is the fact that it has traditionally been the female in the relationship who is more dependent on the male. Therefore, the male spouse may not perceive the female's

dependence as a problem where the female who traditionally had not been used to the male being dependent, would see this as a major problem.

The absence of male spouses reporting a lack of initiative-taking and affection-receiving behaviors by their female partners could mean that females are either more resilient or that males are less perceptive to these behaviors. Perhaps because the female has been the traditional caretaker in the family, it might be easier for her to care for herself, as well as receive care.

An area where both female and male spouses reported having problems in the interdependence mode was finances. With more households having both spouses working and actively contributing to the income, it is not surprising that whether the male or female partner is debilitated, it becomes a financial strain.

The next mode to display the most behavioral problems was role function. Both male and female spouses disclosed a lack of time in meeting their role duties and taking on new roles and responsibilities. This again is not surprising when one's partner is debilitated, the partner's duties and responsibilities need to be assumed which means there is less time for one's own role duties.

Only two spouses stated self-concept behaviors of worry and anger as being the worst problem for them since their partners' discharge from the hospital. This is surprising since the domain that received the highest percentage of ineffective adaptation responses was psychological distress which measured self-concept behaviors. Because this question was worded to receive one main concern, perhaps these

behaviors were present but not the first or dominant problem to come to mind.

Because only lack of sleep was mentioned as a problem in the physiological mode, one has to wonder if there is a focus on the partner's physiological problems post-operatively, not allowing "room" to focus on the spouse. Perhaps the spouse felt he/she could not have physiological problems; otherwise, who would care for them both? One of them had to be physically strong.

Roy defines adaptation as both a process and an end-product where the process of adaptation is one in which stressors produce an interaction called stress. The person responds to these stressors in the process of adapting, producing effective or ineffective behaviors which then become the end-product, or adaptation. Another purpose of the current investigation was to determine if there was a significant difference in adaptation between male and female spouses. In other words, were the male and female adaptive systems different in their response to their partners' open heart surgery? T-tests of PAIS-SR total and domain scores demonstrated no significant difference between gender adaptation responses. The output, adaptation scores, of male and female adaptive systems were not different. Spouses, whether male or female, adapted similarly to the same focal stimulus, open heart surgery.

Relationship of the Findings to Other Studies

Psychological Distress. Stanley and Frantz's (1988) early convalescent study found that 88% of spouses reported low-level anger, 35% high-level anxiety, 27% high-level fear and 73% high-level

vigilance. In 1991, Artinian also noted spouses' physical and mental stress response scores were slightly below normal at 6 weeks. Sikorski (1985) found the early convalescent period to be an anxious and stressful time for wives with the majority of subjects reporting fatigue. Findings from this study support Stanley and Frantz's, Artinian's and Sikorski's discoveries, in that 82.1% of male and female spouses scored ineffective adaptation in the psychological distress domain in early convalescence. As in Stanley and Frantz's investigation, this study found worry to be at a high-level with at least one spouse reporting this as her worst problem since her partner's discharge. Although anger was reported by only one female spouse as the worst problem for her following her partner's discharge, it may suggest that covert anger might possibly be a underlying symptom of other spouses' psychological distress. This study's finding of spouses reporting lack of sleep causing fatigue supported Sikorski's discovery that the early convalescent period is a time for reported fatigue by spouses of open heart patients. This study supported no significant difference between genders in psychological distress.

Vocational Environment. Sikorski's (1985) and Stanley and Frantz's (1988) investigations reported spouses taking on an increased number of household tasks, some previously performed by their husbands. Artinian's (1991) early convalescent study described taking on new or additional responsibilities contributed to role strain in the spouse. Although the vocational environment in this study reflected no ineffective adaptation responses for male or female spouses, qualitative data supported previous findings. Twenty percent male and 12% female

spouses related role function problems such as taking on new roles, duties and responsibilities.

Artinian's follow-up study (1992) found spouses had difficulty arranging time to carry out their roles 1 year after surgery which was more difficult than at the time of surgery or 6 weeks afterward. This investigation supported Artinian's finding with male and female spouses declaring a lack of time for duties and responsibilities, but has no comparison data for early versus late convalescence.

Perhaps the reason the Vocational Environment domain scores did not reflect ineffective adaptation is that the role function problems were not addressed in these specific questions. The PAIS-SR's questions in this domain had to do with vocational impairment, personal performance evaluation, time lost on the job, vocational investment, vocational goals and interpersonal conflicts. The spouse could have subjectively interpreted job to mean anything. To one spouse it may mean work only outside the home, to another it may mean work duties around the home, and to another it may appear to not apply if not employed outside the home environment. There were no questions that addressed taking on new roles or responsibilities or having enough time for duties. There also were a total of 59 responses that were missing in this domain which suggested confusion as to what was being asked of the respondents.

Comparison of male and female spouse scores demonstrated no significant difference in vocational environment adaptation scores. Although previous research suggested that male caregivers are less likely stressed by the dual responsibilities of work and caring for

their wives (Rankin, 1992), these data did not support this finding. In fact, qualitative data revealed male spouses (20%) reported more role function problems than female spouses (12%).

Domestic Environment. This investigation's finding of female spouses reporting their partners' dependency behaviors was consistent with Stanley and Frantz's (1988) study which found 35% of spouses rating their partners as being dependent on them since surgery. This study's low percentage of 8.8% of spouses reporting ineffective adaptation in the domestic environment was consistent with Stanley and Frantz's and Sikorski's (1985) studies which also reported high-levels of satisfaction with family communication, high quality relationships between spouses and their partners, and a positive change in their partner's attitudes. This study's findings was inconsistent with Artinian (1991, 1992), Langeluddecke et al. (1989), and Gillis et al. (1990) who reported lower marital quality throughout the first year following their partner's surgery. The fact that 75.6% of spouses in this study reported good to excellent states of their marital relationship prior to surgery and that the state of the marital relationship contributed to the PAIS-SR adaptation scores, probably explains the low percentage of ineffective adaptation scores in the domestic environment domain one month postoperatively. Presumably, when a marital couple enters into a stressful situation, such as open heart surgery, with a strong, positive relationship, they are less likely to demonstrate lower marital quality in the postoperative recovery period. This supports Miller et al. (1990) who reported that the higher the couple marital functioning agreement, the lower the

level of spouse anxiety. For consideration, however, is the possibility that the stress of open heart surgery strengthened the relationship. If one is at risk of losing one's partner, it could strengthen the bond.

Reports of financial problems in this investigation were consistent with Stanley and Frantz (1988) and Artinian (1991, 1992) who identified inadequate economic adequacy in the recovery period. Because the declaration of financial problems was the most frequent problem in the interdependence mode for female spouses, one wonders if the traditional role of financial supporter by the man affected the female's perception of the economic impact of the surgery. There were no gender differences in spouse adaptation scores in the domestic environment domain.

Sexual Relationships. Because this investigation revealed a small percentage (8.8%) of ineffective adaptation in the sexual relationship domain, these findings conflict with previous findings (Artinian, 1992; Langeluddecke, et al., 1989; Sikorski, 1985; Stanley & Frantz, 1988) where sexual functioning has been reported to be less than satisfying as perceived by the spouses of patients who have had OHS. For consideration in this study, however, is the fact that there were 22 female and 7 male spouse responses that were either omitted or stated as "not applicable" in the sexual relationship section. Because the questions were worded to relate to sexual problems that have developed since their partner's illness, not surgery, respondents might have responded relating to when their partner was diagnosed with heart disease, not since the onset of surgery. Therefore, they might perceive

sexual changes that happened even 2 to 3 weeks prior to not apply to the present. Also, respondents might have discontinued sexual relations a long time ago due to various reasons and not have perceived a change or loss of sexual interest, because it wasn't there in the first place. There was no significant difference between male and female spouse responses relating to the sexual relationship.

Social Environment. The finding in this study that 68.8% of male and female spouses reported ineffective adaptation in the social environment is consistent with Sikorski (1985) who found wives reported social and recreational activities were reorganized or modified to accommodate their husbands' early convalescent routine. Stanley and Frantz (1988) found 42% of spouses were less than satisfied with social activities outside the home and Artinian (1992) described changes in couples' activities with some reporting missing personal enjoyments. Although previous research has suggested male caregivers report life going on as normal and being only minimally involved in caregiving (Rankin, 1992), this investigation did not reveal any significant difference between male and female spouses in giving up social activities.

Extended Family Relationships. This study's finding that 8.8% of male and female spouses declared ineffective adaptation in the extended family relationships domain is consistent with previous research which describes social support as adequate in early convalescence (Artinian, 1991; Stanley & Frantz, 1988). Because number of years married was not revealed in this study as a statistically significant predictor of spouse adaptation, it did not support previous

findings by Stanley and Frantz that found a significant association between number of years married and social support. Due to the small sample size in this investigation, it was impossible to perform multiple regression analysis on each domain. Because there was no statistically significant difference in male and female spouse scores in extended family relationships, there was no data to suggest stronger support systems between genders.

Health Care Orientation. Findings in this study of 13.2% spouses reporting ineffective adaptation in health care orientation supported previous findings by Artinian (1991) that described spouse perceptions of nonsupport from nurses during hospitalization. Because there was no statistically significant difference between spouse health care orientation scores, there are no findings to suggest that gender differences affect spouses' attitudes and perceptions about their own or their partners' health care.

Limitations and Recommendations

The main limitation of convenience sampling is that available subjects may be highly atypical of the population with regard to the critical variables being measured (Polit & Hungler, 1991). Therefore, the results of this study are limited to the study participants and cannot be generalized to the entire population of spouses whose partners have undergone OHS. Random sampling procedures with larger sample sizes in future research would enhance generalizability. If the sample would have been larger, it would have been possible to use multiple regression analysis for each domain to determine if the predictor variables explained any variation in the adaptation score for each

domain.

This research contributed to the literature by explaining male and female spouse differences in adaptation. However, because the small sample size is the major limitation of this study, a suggestion for further research is to use larger sample sizes to determine gender differences.

Although the PAIS-SR tool has been used in previous research with cardiac, mixed cancer, and diabetic patients, there is limited information in the literature which describes its use with spouses of patients. Although the tool was adapted for use with spouses, there is limited previous application in the literature. Also the self-report version which was used in this study is limited to the subjects' interpretation. Because many item responses were missing or reported as not applicable and the interviewer is not present to clarify, the results become questionable. A few respondents wrote, "question worded poorly" or placed a "?" beside an item indicating confusion with what was being asked. The vocational environment and sexual functioning domains reflected the most confusion with unanswered items, "not applicable", etc. Because of the questions relating to the partner's illness and not surgery, there could be a significant difference in time frame reference by respondents depending on when their partners were diagnosed with heart disease or when they considered their partners ill. It is recommended to revise the tool so that references to items relate to the partner's surgery. It is also recommended to have the investigator present for subjects to ask questions.

Overall, the theoretical framework used in this study assisted

this researcher in developing an enhanced explanation, description and understanding of this research. One area that provided some initial confusion was determining where the variable of health care orientation fit conceptually. Roy and Andrews (1991) imply that the cognator coping mechanism is perceptions and attitudes which can not be directly observed, but is displayed through behavior in one of the four modes of adaptation. When measuring health care orientation, which are attitudes and perceptions, it was a challenge to determine where this variable would best fit in the theoretical framework. Because there were no observed behaviors and perceptions were being processed, health care orientation didn't seem a good fit to the theoretical design. When one doesn't trust health care deliverers, there would eventually be behavior to demonstrate this. But this domain was not measuring behavior, only perceptions and attitudes which affect behavior. This researcher decided that verbalization of perceptions via written responses to the instrument demonstrated functioning of the spouses' cognator coping mechanism.

Implications for Nursing

Nursing education needs to focus on areas of adaptation by teaching assessment and diagnosis of these common problems and implementation of measures to assist spouses to cope their partners' surgery. Because this investigation suggested that the general state of the marital relationship before a spouse encounters a stressor contributes to the spouse's overall adaptation response, nurses should be taught to include the state of the marital relationship in their preoperative assessment.

Considering implications for nursing practice, the goal of

interventions within the Roy Adaptation Model is to promote adaptive processes and a healthy outcome state. Interventions consist of management of stimuli to elicit adaptive processes that will lead to healthy outcomes. Support groups may strengthen functional support for spouses by providing a positive contextual stimulus where spouses can learn new coping skills and express feelings related to adapting to difficult changes after their partners' OHS.

Because the highest levels of ineffective adaptation for spouses were psychological distress (self-concept mode) and social environment (interdependence mode), nursing interventions should focus on these domains. Goals must be set in collaboration with the spouse and interventions should be focused on the stimuli that are influencing the behaviors being observed (Roy & Andrews, 1991). For example, if a spouse is describing psychological distress, the nurse needs to identify the stimulus(i) causing this distress. Interventions should then focus on this stimulus(i), and, through the use of counseling, support groups, and/or patient education, the nurse can assist the spouse in adaptation.

Because there were no data to support a significant difference between gender adaptation responses, nurses should approach spouses in a consistent manner. Previous interventions that were successful should be supported and used, regardless of gender.

Because this study's findings supported previous research which suggested that spouses need assistance in helping them adapt to the stress of their partner recovering from open heart surgery, nurse administrators of home care agencies should establish protocols that

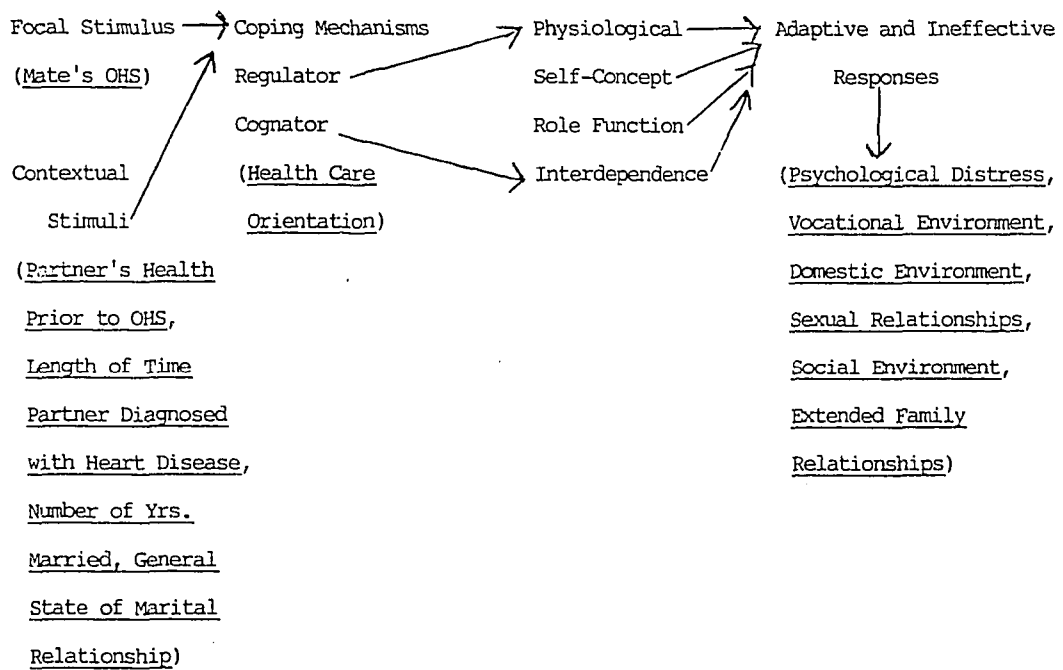
provide the home care nurse with a structure for supporting spouses as well as patients after discharge from the hospital. Because length of hospital stay continues to decline, it is the nurse in the community setting that must meet the needs of patients and families.

Further research is needed to bridge the gap between the Roy Adaptation Model and clinical nursing practice. Research that has a theoretical base provides a broader format to enhance understanding beyond the clinical experience. The future of knowledge development is dependent on the link between theory and research.

APPENDICES

APPENDIX A

MALE AND FEMALE SPOUSES



SPOUSE ADAPTATION

APPENDIX B

"PAIS" SPOUSE REPORT

Psychosocial Adjustment to Illness Scale

Copyright 1978, 1983 by Leonard R. Derogatis, Ph.D.
(reproduced under license by the author)

Instructions: The present form contains a set of questions concerning the effects that your spouse's recent illness has had on you. We are interested in knowing what effects it has had on your relationships and performance at home and on your job, as well as on family and personal relationships. Other questions deal with its effects on your social and leisure time activities, and how you have felt emotionally.

In answering each question, please put a check mark in the box alongside the answer that best describes your experience. Please answer all the questions and try not to skip any. If none of the answers to a question match your experience exactly, please choose the answer that comes closest to the experience you have had.

The time we would like you to refer to is the past 30 days, including today. Answer each question in terms of what your experience has been during this time. In the event your spouse is a patient in the hospital, please report your experiences for the 30 days before he/she entered the hospital.

Some questions in the form assume that you are married; others ask about family relationships. If you are close to the patient but are not the patient's spouse, please answer questions that use the word "spouse", assuming the question to mean "partner". Try to answer all questions that do apply to you.

Section II asks questions about your job performance. If you have either part-time or full-time employment, please answer in terms of your job. If you are primarily a student, answer in terms of your school work. If you are a housewife, answer as though housework, neighbors, etc. are your work environment.

We appreciate the time you have taken to do this form. Please check again to make sure you have completed all the items. If you have any questions about the form, please ask. If you are responding by mail, please write them in the space provided below. Please return the form as soon as you have completed it.

THANK YOU.

Section I

1. Which of the following statements best describes your usual attitude about taking care of your health?

- () a. I am very concerned and pay close attention to my personal health.
- () b. Most of the time I pay attention to my health care needs.
- () c. Usually, I try to take care of health matters but sometimes I just don't get around to it.
- () d. Health care is something that I just don't worry too much about.

2. Your spouse's illness probably requires some special attention and care on your part. Would you please select the statement below that best describes your reaction.

- () a. I do things pretty much the way I always have done them and I don't worry or take any special considerations for my spouse's illness.
- () b. I try to do all the things I am supposed to do to take care of my spouse, but lots of times I forget or I am too tired or busy.
- () c. I do a pretty good job taking care of my spouse's present illness.
- () d. I pay close attention to all the needs of my spouse's present illness and do everything I can to take care of him/her.

3. In general, how do you feel about the quality of medical care available today and the doctors who provide it?

- () a. Medical care has never been better, and the doctors who give it are doing an excellent job.
- () b. The quality of medical care available is very good, but there are some areas that could stand improvement.
- () c. Medical care and doctors are just not of the same quality they once were.
- () d. I don't have much faith in doctors and medical care today.

4. During your spouse's present illness you have received treatment from both doctors and medical staff. How do you feel about them and the treatment you have received from them?

- () a. I am very unhappy with the treatment he/she has received and don't think the staff has done all they could have for my spouse.
- () b. I have not been impressed with the treatment he/she has received, but I think it is probably the best they can do.
- () c. The treatment has been pretty good on the whole, although there have been a few problems.
- () d. The treatment and the staff have been excellent

5. When they are ill, different people expect different things about their illness, and have different attitudes about being ill. Could you please check the statement below which comes the closest to describing your feelings.

- () a. I am sure that my spouse is going to overcome the illness and its problems quickly and get back to being his/her self.
- () b. My spouse's illness has caused some problems for me, but I feel he/she will overcome them fairly soon, and get back to the way he/she was before.
- () c. My spouse's illness has really been a great strain, both physically and mentally, but he/she is trying very hard to overcome it, and I feel sure that my spouse will be back to his/her old self one of these days.
- () d. My spouse feels worn out and very weak from the illness and there are times when I don't know if he/she is really ever going to be able to overcome it.

6. Being ill can be a confusing experience, and some patients and the people close to them feel that they do not receive enough information and detail from their doctors and the medical staff about their illness. Please select a statement below which best describes your feelings about this matter.

- () a. The doctor and the medical staff have told me very little about my spouse's illness even though I have asked more than once.
- () b. I do have some information about my spouse's illness but I feel I would like to know more.
- () c. I have a pretty fair understanding about my spouse's illness and feel that if I want to know more I can always get the information.
- () d. I have been given a very complete picture of my spouse's illness and the doctor and the medical staff have given me all the details I wish to have.

7. In an illness such as your spouse's, people have different ideas about the treatment and what to expect from it. Please select one of the statements below which best describes what you expect about your spouse's treatment.

- () a. I believe the doctors and medical staff are quite able to direct my spouse's treatment and feel it is the best treatment he/she could receive.
- () b. I have trust in the doctor's direction of my spouse's treatment; however, sometimes I have doubts about it.
- () c. I don't like certain parts of the treatment which are very unpleasant, but the doctors say he/she should go through it anyway.
- () d. In many ways I think the treatment is worse than the illness, and I am not sure it is worth going through it.

8. In an illness such as your spouse's, patients and the people close to them are given different amounts of information about their treatment. Please select a statement from those below which best describes information you have been given about your spouse's treatment.

- ☐ a. I have been told almost nothing about my spouse's treatment and fell left out about it.
- ☐ b. I have some information about my spouse's treatment, but not as much as I would like to have.
- ☐ c. My information concerning treatment is pretty complete, but there are one or two things I still want to know.
- ☐ d. I feel my information concerning treatment is very complete and up-to-date.

Section II

9. Has your spouse's illness interfered with your ability to do your job (schoolwork)?

- ☐ a. No problems with my job.
- ☐ b. Some problems, but only minor ones.
- ☐ c. Some serious problems.
- ☐ d. Spouse's illness has totally prevented me from doing my job.

10. How well do you physically perform your job (studies) now?

- ☐ a. Poorly.
- ☐ b. Not too well.
- ☐ c. Adequately.
- ☐ d. Very well.

11. During the past 30 days, have you lost any time at work (school) due to your spouse's illness?

- ☐ a. 3 days or less.
- ☐ b. 1 week.
- ☐ c. 2 weeks.
- ☐ d. More than 2 weeks.

12. Is your job (school) as important to you now as it was before your spouse's illness?

- ☐ a. Little or no importance to me now.
- ☐ b. A lot less important.
- ☐ c. Slightly less important.
- ☐ d. Equal or greater importance than before.

13. Have you had to change your goals concerning your job (education) as a result of your spouse's illness?

- ☐ a. My goals are unchanged.
- ☐ b. There has been a slight change in my goals.
- ☐ c. My goals have changed quite a bit.
- ☐ d. I have changed my goals completely.

14. Have you noticed any increase in problems with your co-workers (students, neighbors) since your spouse's illness?

- ☐ a. A great increase in problems.
- ☐ b. A moderate increase in problems.
- ☐ c. A slight increase in problems.
- ☐ d. None.

Section III

15. How would you describe your relationship with your husband or wife (partner, if not married) since his/her illness?

- ☐ a. Good.
- ☐ b. Fair.
- ☐ c. Poor.
- ☐ d. Very poor.

16. How would you describe your general relationships with the other people you live with (e.g. children, parents, aunts, ect.)?

- ☐ a. Very poor.
- ☐ b. Poor.
- ☐ c. Fair.
- ☐ d. Good.

17. How much has your spouse's illness interfered with your work and duties around the house?

- ☐ a. Not at all.
- ☐ b. Slight problems, bu easily overcome.
- ☐ c. Moderate problems, not all of which can be overcome.
- ☐ d. Severe difficulties with household duties.

18. In those areas where your spouse's illness has caused problems with your household work, how has the family shifted duties to help you out?

- ☐ a. The family has not been able to help out at all.
- ☐ b. The family has tried to help but many things are left undone.
- ☐ c. The family has done well except for a few minor things.
- ☐ d. No problems.

19. Has your spouse's illness resulted in a decrease in communication between you and members of your family?

- ☐ a. No decrease in communication.
- ☐ b. A slight decrease in communication.
- ☐ c. Communication has decreased and I feel somewhat withdrawn from them.
- ☐ d. Communication has decreased a lot and I feel very alone.

20. Some people with a spouse who is ill like yours feel they need help from other people (friends, neighbors, family, etc.) to get things done from day-to-day. Do you feel you need such help and is there anyone to provide it?

- ☐ a. I really need help but seldom is anyone around to help.
- ☐ b. I get some help, but I don't count on it all the time.
- ☐ c. I don't get all the help I need all of the time, but most of the time help is there when I need it.
- ☐ d. I don't feel I need such help, or the help I need is available from my family or friends.

21. Have you experienced any physical illness since your spouse's illness was diagnosed?

- ☐ a. No physical disability.
- ☐ b. Slight physical disability.
- ☐ c. Moderate physical disability.
- ☐ d. Severe physical disability.

22. An illness such as your spouse's can sometimes cause a drain on the family's finances; are you having any difficulty meeting the financial demands of your spouse's illness?

- ☐ a. Severe financial hardship.
- ☐ b. Moderate financial problems.
- ☐ c. Slight financial drain.
- ☐ d. No money problems.

Section IV

23. Sometimes having an illness can cause problems in a relationship. Has your spouse's illness led to any problems between the two of you?

- ☐ a. There has been no change in our relationship.
- ☐ b. We are a little less close since his/her illness.
- ☐ c. We are definitely less close since the illness.
- ☐ d. We have had serious problems or a break in our relationship since my spouse's illness.

24. Sometimes when family members or close friends are ill, people report a loss of interest in sexual activities. Have you experienced less sexual interest since your spouse's illness.

- ☐ a. Absolutely no sexual interest since illness.
- ☐ b. Marked loss of sexual interest.
- ☐ c. Slight loss of sexual interest.
- ☐ d. No loss of sexual interest.

25. Illness sometimes causes a decrease in sexual activity. Have you experienced any decrease in the frequency of your sexual activities?

- ☐ a. No decrease in sexual activities.
- ☐ b. Slight decrease in sexual activities.
- ☐ c. Marked decrease in sexual activities.
- ☐ d. Sexual activities have stopped.

26. Has there been any change in the pleasure or satisfaction you normally experience from sex.

- ☐ a. Sexual pleasure and satisfaction have stopped.
- ☐ b. A marked loss of sexual pleasure or satisfaction.
- ☐ c. A slight loss of sexual pleasure or satisfaction.
- ☐ d. No change in sexual satisfaction.

27. Sometimes an illness will cause an interference in a person's ability to perform sexual activities even though they are still interested in sex. Has this happened to you, and if so, to what degree?

- ☐ a. No change in my ability to have sex.
- ☐ b. Slight problems with my sexual performance.
- ☐ c. Constant sexual performance problems.
- ☐ d. Totally unable to perform sexually.

28. Sometimes an illness will interfere with a couple's normal sexual relationship and cause arguments or problems between them. Have you and your partner had any arguments like this, and if so, to what degree?

- ☐ a. Constant arguments.
- ☐ b. Frequent arguments.
- ☐ c. Some arguments.
- ☐ d. No arguments.

Section V

29. Have you had as much contact (either personally or by telephone) with members of your family outside your household since your spouse's illness?

- ☐ a. Contact is the same or greater since illness.
- ☐ b. Contact is slightly less.
- ☐ c. Contact is markedly less.
- ☐ d. No contact since illness.

30. Have you remained as interested in getting together with these members of your family since your spouse's illness?

- ☐ a. Little or no interest in getting together with them.
- ☐ b. Interest is a lot less than before.
- ☐ c. Interest is slightly less.
- ☐ d. Interest is the same or greater since illness.

31. Sometimes, when people are ill, they are forced to depend on members of the family outside their household for physical help. Do you need physical help from them, and do they supply the help you need?

- ☐ a. I need no help, or they give me all the help I need.
- ☐ b. Their help is enough, except for some minor things.
- ☐ c. They give me some help, but not enough.
- ☐ d. They give me little or no help even though I need a great deal.

32. Some people socialize a great deal with members of their family outside their immediate household. Do you do much socializing with these family members, and has your spouse's illness reduced such socializing?

- ☐ a. Socializing with them has been pretty much eliminated.
- ☐ b. Socializing with them has been reduced significantly.
- ☐ c. Socializing with them has been reduced somewhat.
- ☐ d. Little or no socializing, or slight or no effect of illness.

33. In general, how have you been getting along with these members of your family recently?

- ☐ a. Good.
- ☐ b. Fair.
- ☐ c. Poor.
- ☐ d. Very poor.

Section VI

34. Are you still as interested in your leisure time activities and hobbies as you were prior to your spouse's illness?

- ☐ a. Same level of interest as previously.
- ☐ b. Slightly less interest than before.
- ☐ c. Significantly less interest than before.
- ☐ d. Little or no interest remaining.

35. How about actual participation? Are you still actively involved in doing those activities?

- ☐ a. Little or no participation at present.
- ☐ b. Participation reduced significantly.
- ☐ c. Participation reduced slightly.
- ☐ d. Participation remains unchanged.

36. Are you still interested in leisure time activities with your family (e.g., playing cards and games, taking trips, going swimming, etc.) as you were prior to your spouse's illness?

- ☐ a. Same level of interest as previously.
- ☐ b. Slightly less interest than before.
- ☐ c. Significantly less interest than before.
- ☐ d. Little or no interest remaining.

37. Do you still participate in those activities to the same degree you once did?

- ☐ a. Little or no participation at present.
- ☐ b. Participation reduced significantly.
- ☐ c. Participation reduced slightly.
- ☐ d. Participation remains unchanged.

38. Have you maintained your interest in social activities since your spouse's illness (e.g., social clubs, church groups, going to the movies, etc.)?

- ☐ a. Same level of interest as previously.
- ☐ b. Slightly less interest than before.
- ☐ c. Significantly less interest than before.
- ☐ d. Little or no interest remaining.

39. How about participation? Do you still go out with your friends and do those things?

- ☐ a. Little or no participation at present.
- ☐ b. Participation reduced significantly.
- ☐ c. Participation reduced slightly.
- ☐ d. Participation remains unchanged.

Section VII

40. Recently, have you felt afraid, tense, nervous, or anxious?

- ☐ a. Not at all.
- ☐ b. A little bit.
- ☐ c. Quite a bit.
- ☐ d. Extremely.

41. Recently, have you felt sad, depressed, lost interest in things, or felt hopeless?

- ☐ a. Extremely.
- ☐ b. Quite a bit.
- ☐ c. A little bit.
- ☐ d. Not at all.

42. Recently, have you felt angry, irritable, or had difficulty controlling your temper?

- ☐ a. Not at all.
- ☐ b. A little bit.
- ☐ c. Quite a bit.
- ☐ d. Extremely.

43. Recently, have you blamed yourself for things, felt guilty, or felt like you have let people down?

- ☐ a. Extremely.
- ☐ b. Quite a bit.
- ☐ c. A little bit.
- ☐ d. Not at all.

44. Recently, have you worried much about your spouse's illness or other matters?

- ☐ a. Not at all.
- ☐ b. A little bit.
- ☐ c. Quite a bit.
- ☐ d. Extremely.

45. Recently, have you been feeling down on yourself or less valuable as a person?

- ☐ a. Extremely.
- ☐ b. Quite a bit.
- ☐ c. A little bit.
- ☐ d. Not all all.

46. Recently, have you been concerned that your spouse's illness has caused changes in his/her appearance that make him/her less attractive.?

- ☐ a. Not all all.
- ☐ b. A little bit.
- ☐ c. Quite a bit.
- ☐ d. Extremely.

APPENDIX C

General Questions

I would like some general information about you so I can understand how different people feel about these questions.

Directions: Please put a check mark in the box alongside the answer that is best related to you and/or your mate or fill in the blank.

1. How would you rate your husband/wife's health during the 12 months prior to open heart surgery?

☐ a. Very Poor
☐ b. Poor
☐ c. Fair
☐ d. Good
☐ e. Excellent
2. State the length of time your husband/wife has been diagnosed with heart disease_____.
3. State the number of years you and your husband/wife have been married_____.
4. How would you rate the general state of your marital relationship prior to your husband/wife's surgery?

☐ a. Very Poor
☐ b. Poor
☐ c. Fair
☐ d. Good
☐ e. Excellent
5. What is your gender?

☐ a. Male
☐ b. Female
6. State your age_____.
7. State your husband/wife's age_____.

8. What is your highest level of education?

- ☐ a. Less than high school graduate
- ☐ b. High school graduate
- ☐ c. Technical/college classes
- ☐ d. Graduate from college
- ☐ e. Some master's classes
- ☐ f. Master's, Ph.D graduate

9. What is your husband/wife's highest level of education?

- ☐ a. Less than high school graduate
- ☐ b. High school graduate
- ☐ c. Technical/college classes
- ☐ d. Graduate from college
- ☐ e. Some master's classes
- ☐ f. Master's, Ph.D graduate

10. What is your religion?

- ☐ a. Protestant
- ☐ b. Catholic
- ☐ c. Jewish
- ☐ d. Other
- ☐ e. None

11. What is your husband/wife's religion?

- ☐ a. Protestant
- ☐ b. Catholic
- ☐ c. Jewish
- ☐ d. Other
- ☐ e. None

12. State your occupation (specify)_____.

13. State your husband/wife's occupation (specify)

_____.

14. What has been the worst problem for you since your husband/wife has come home from the hospital?

APPENDIX D

Informed Consent

I understand that this is a study of how a partner's open heart surgery affects the spouse. The knowledge gained is expected to help nurses to provide health care in a manner which will be responsive to the needs of spouses whose partners have had this surgery.

I also understand that:

1. participation in this study involves answering a questionnaire 30 days after my partner's discharge from the hospital regarding how things are going with me, my partner, my family and my friends.
2. Drs. Stirling, Drake and Augelli are not involved in this research and this study will not affect my or my partner's care.
3. there are no risks to me or my partner, as well as no direct benefit to either of us as a result of this study.
4. the information I provide will be kept strictly confidential and the data will be coded so that identification of participants will not be possible.
5. a summary of the results will be made available to me upon request.

I acknowledge that:

"I have been given the opportunity to ask questions regarding this research and that these questions have been answered to my satisfaction."

"I understand that my participation in this study is voluntary and that I may withdraw at any time, without affecting the care of my partner or myself.

"I hereby authorize the release of information obtained in this study to scientific literature. I understand that I will not be identified by name.

"I have been given Marietta Gardner's phone number so I may contact her at any time if I have questions."

"I acknowledge I have read and understand the above information and agree to participate in this study by returning this consent and accompanying questionnaire."

APPENDIX E

Verbal Script

Hello Mr./ Mrs._____. My name is Marietta Gardner and I am a nurse here at Munson Medical Center. My title is Resource Clinician and I provide educational and clinical support for nurses taking care of patients who are receiving testing or treatment for heart disease. These patients may include those who have received open heart surgery. I am also working on my Master's Degree in Nursing at Grand Valley State University.

I have worked in critical care for many years and have taken care of patients in the emergency room, during heart catheterization, in the coronary care unit, and in the intensive care unit after open heart surgery. While taking care of patients in these settings, I have always been interested in the families of our patients. One area of particular interest to me is how a partner's open heart surgery affects the spouse.

Therefore, I am conducting a study which examines the effect of open heart surgery on the spouse. I am asking spouses of patients who have had their first open heart surgery to participate. Your participation will involve completing a questionnaire which will be sent to you 30 days after your husband/wife's discharge from the hospital. It contains a set of questions concerning the effect your husband/wife's surgery has had on you. I am interested in knowing what effect it has had on your relationships and performance at home and on your job, as well as on family and personal relationships. Other questions deal with its effects on your social and leisure time activities, and how you have felt emotionally. It will take approximately 20-30 minutes to complete.

There are no risks for you or your husband/wife by participating in this study. Completing the questionnaire may increase your awareness of how you feel. You will be contributing to an enhanced understanding of the needs of spouses who are in your situation in the future.

Your participation is strictly voluntary. If you decide to participate or not to participate, you may withdraw at any time. Your decision to participate or not to participate will have no influence on the care you or your husband/wife receives.

Should you decide to participate, your answers will be kept confidential. The results of all the participants will be compiled but there will be no identification of specific answers with specific participants.

Do you have any questions about the study? Would you be interested in participating? (If yes), a questionnaire will be sent to your home 30 days after your husband/wife's discharge. (If no), thank you for your time.

APPENDIX F

Letter to Spouses Not in Attendance in Hospital

Date

Dear Mr./Mrs. _____:

My name is Marietta Gardner and I am a nurse at Munson Medical Center. My title is Resource Clinician and I provide educational and clinical support for nurses taking care of patients who are receiving testing or treatment for heart disease. These patients may include those who have received open heart surgery. I am also working on my Master's Degree in Nursing at Grand Valley State University.

I have worked in critical care for many years and have taken care of patients in many settings. While taking care of patients, I have always been interested in the families of our patients. One area of particular interest to me is how a partner's open heart surgery affects the spouse.

Therefore, I am conducting a study which examines the effect of open heart surgery on the spouse. I am asking spouses of patients who have had their first open heart surgery to participate. Your participation would involve completing a questionnaire which will be sent to you 30 days after your spouse's discharge from the hospital. It contains a set of questions concerning the effect your spouse's surgery has had on you. I am interested in knowing what effect it has had on your relationships and performance at home and on your job, as well as on family and personal relationships. Other questions deal with its effects on your social and leisure time activities, and how you have felt emotionally. It will take approximately 20-30 minutes to complete.

There are no risks for you or you spouse by participating in this study. Completing the questionnaire may increase your awareness of how you feel. You will be contributing to an enhanced understanding of the needs of spouses who are in your situation in the future.

Your participation is strictly voluntary. If you decide to participate or not to participate, you may withdraw at any time. Your decision will have no influence on the care you or your partner receives.

Should you decide to participate, your answers will be kept confidential. The results of all the participants will be compiled

but there will be no identification of specific answers with specific participants.

Do you have any questions about the study? If so, please feel free to contact me at my home telephone number, (616) 943-4433, at any time. Please call collect if it is long distance.

A questionnaire along with informed consent, will be sent to you in approximately 30 days. If you decide to participate, a self-addressed, stamped envelope will be provided for return mailing. Thank you for your time.

Sincerely,

Marietta Gardner RN
5828 Joanne Ct.
Traverse City, MI 49684

APPENDIX G

Introductory Letter

Date

Dear Study Participant:

Approximately 30 days ago, you were approached about participating in a study of the effects of open heart surgery on the spouse. Enclosed you will find an informed consent. Please read the information and if you agree to participate, return the consent and accompanying questionnaire in the self-addressed, stamped envelope to me by _____. Please call me at my number listed below (collect, if long distance) if you have any further questions.

In anticipation of your cooperation and participation, I would like to thank you ahead of time. The knowledge gained in this important study will help other spouses in your situation in the future.

Sincerely,

Marietta Gardner, RN
5828 Joanne Ct.
Traverse City, Mi 49684
(616) 943-4433

APPENDIX H

Postcard Reminder

Date

Dear Study Participant:

Approximately two weeks ago a form containing a set of questions was sent to you asking the effects that your spouse's Open Heart Surgery has had on you.

If you have already completed and returned this questionnaire, thank you. If not, I would appreciate your doing so and returning it by _____. It is very important that your responses be included in my study.

Thank you again for your cooperation and participation in this research project.

Sincerely,

Marietta Gardner RN
Graduate Nursing Student
Grand Valley State University

LIST OF REFERENCES

References

- Advanced Cardiac Life Support. (1987). American Heart Association.
- Andrew, G. M., & Parker, J. O. (1979). Factors related to the early phase of rehabilitation following aortocoronary bypass surgery. Research in Nursing & Health, 6, 107-16.
- Artinian, N. T. (1991). Stress experience of spouses of patients having coronary artery bypass during hospitalization and 6 weeks after discharge. Heart & Lung, 20, 52-9.
- Artinian, N. T. (1992). Spouse adaptation to mate's CABG surgery: 1-year follow-up. American Journal of Critical Care, 1(2), 36-42.
- Bawden, M., Ralph, J., & Herrick, C. A. (1990). Enhancing the coping skills of mothers with developmentally delayed children. Journal of Child Psychiatric Nursing, 4(1), 25-8.
- Bradley, K. M., & Williams, D. M. (1990). A comparison of preoperative concerns of open heart surgery patients and their significant others. Journal of Cardiovascular Nursing, 5(1), 43-53.
- Calvert, M. (1988). Human-pet interaction and loneliness: A test of concepts from Roy's Adaptation Model. Nursing Science Quarterly, 2, 194-202.
- Conoley, J. C., & Kramer, J. J. (1989). The Tenth Mental Measurements Yearbook. Lincoln: The University of Nebraska Press.
- Cozak, J. (1988). The spouse's response to coronary artery bypass graft surgery. Critical Care Nurse, 8, 65-71.

- Derogatis, L. R. (1986). The psychosocial adjustment to illness scale. Journal of Psychosomatic Research, 30(1), 77-91.
- Fawcett, J. (1990). Preparation for caesarean childbirth: Derivation of a nursing intervention from the Roy Adaptation Model. Journal of Advanced Nursing, 15, 1418-25.
- Fawcett, J., & Tulman, L. (1990). Building a programme of research from the Roy Adaptation Model of Nursing. Journal of Advanced Nursing, 15, 720-25.
- Frederickson, K., Jackson, B., Strauman, T., & Strauman, J. (1991). Testing hypotheses derived from the Roy Adaptation Model. Nursing Science Quarterly, 4, 168-74.
- Gilliss, C. L., Neuhaus, J. M., & Hauck, W. W. (1990). Improving family functioning after cardiac surgery: A randomized trial. Heart & Lung, 19, 648-54.
- Huber, P., Medhat, A., & Carter, M. (1988). Prosthetic problem inventory scale. Rehabilitation Nursing, 13, 326-9.
- Langeluddecke, P., Tennant, C., Fulcher, G., Barid, D., & Hughes, C. (1989). Coronary artery bypass surgery-impact upon the patient's spouse. Journal of Psychomatic Research, 33, 155-59.
- Lutjens, L. (1991). Callista Roy: An Adaptation Model. Newberry Park, CA: Sage.
- Miller, S. P., Wikoff, R., McMahon, M., Garrett, M. J., & Ringel, K. (1990). Marital functioning after cardiac surgery. Heart & Lung, 19, 55-61.
- Norris, L. O., & Grove, S. K. (1986). Investigation of selected

- psychosocial needs of family members of critically ill adult patients. Heart & Lung, 15, 194-9.
- O'Connor, A. M. (1983). Factors related to the early phase of rehabilitation following aortocoronary bypass surgery. Research in Nursing & Health, 6, 107-16.
- Polit, D. F., & Hungler, B. P. (1991). Nursing Research (4th Ed.). Philadelphia: J. B. Lippincott.
- Rankin, S. H. (1992). Psychosocial adjustments of coronary artery disease patients and their spouses: Nursing implications. Nursing Clinics of North America, 27, 271-84.
- Roy, S. C., & Andrews, H. A. (1991). The Roy Adaptation Model: The Definitive Statement. Norwalk, Connecticut: Appleton & Lange.
- Selman, S. W. (1989). Impact of total hip replacement on quality of life. Orthopedic Nursing, 8(5), 43-9.
- Sikorski, J. M. (1985). Knowledge, concerns, and questions of wives of convalescent coronary artery bypass graft surgery patients. Journal of Cardiac Rehabilitation, 5(2), 74-85.
- Silva, M. C. (1987). Needs of spouses of surgical patients: A conceptualization within Roy's Adaptation Model. Scholarly Inquiry for Nursing Practice, 1, 29-50.
- Smith, C. E., Mayer, L. S., Parkhurst, C., Perkins, S. B., & Pingleton, S. K. (1991). Adaptation in families with a member requiring mechanical ventilation at home. Heart & Lung, 20, 349-56.
- Stanley, M. J., & Frantz, R. A. (1988). Adjustment problems of

- spouses of patients undergoing coronary artery bypass graft surgery during early convalescence. Heart & Lung, 17, 677-82.
- Tulman, L., & Fawcett, J. (1990). A framework for studying functional status after diagnosis of breast cancer. Cancer Nursing, 13(2), 95-9.
- Tulman, L., Fawcett, J., Groblewski, L., & Silverman, L. (1990). Changes in functional status after childbirth. Nursing Research, 39, 70-5.
- Tulman, L., Fawcett, J., & McEvory, M. D. (1991). Development of the inventory of functional status-cancer. Cancer Nursing, 14(5), 254-60.
- Varvaro, F. (1991). Women with coronary artery disease: An application of Roy's Adaptation Model. Cardiovascular Nursing, 27(6), 31-5.