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A Comparison of the Nurse's Perception of the Priority Needs of the Spouse as They Relate to Those Identified by the Spouse

Kathleen A. Johnston
Grand Valley State University

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Abstract

Twenty-five spouses of patients admitted to the Coronary Care Unit (CCU) with diagnoses of Myocardial Infarction (MI), Rule Out MI, or Angina Pectoris were asked to Q sort 45 "need statements" to reflect their priority needs within the first 72 hours of admission to the CCU. Seventeen nurses caring for the 25 patients were instructed to sort the statements as they felt the spouses would do so. The data were submitted to factor analysis and three factors emerged; the Shared Factor, the Nurse Factor, and the Spouse Factor. The majority of nurses in this study were associated with a factor different than the majority of the spouses. Only one nurse made up the same factor as the spouse s(he) was assessing. The spouse's assessment of the level of the patient's illness failed to predict which spouses were to be associated with which factor. Individualized assessment of the spouse's needs is essential if nurses are to help the family during this stressful period.

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CHAPTER I

Introduction

Patients admitted to the hospital with a diagnosis of a myocardial infarction (MI), rule out MI (R/O MI), or angina pectoris are placed in the Coronary Care Unit (CCU) for close observation and monitoring. Nurses in these units have become very attuned to the physical assessment of patients with cardiac disease and the use of a wide variety of highly technical equipment to aid in evaluating the patient's status.

The patient, however, is not only faced with the physical impact of illness, but is also affected psychologically as well. This stressful event may affect the perception s(he) has of her/himself as an individual and as a member of a family unit, leading to a state of crisis.

The family also may find itself in crisis. Each person in the family depends on role relationships to establish and maintain his/her identity and self esteem. Since roles are reciprocal, when one person leaves a system, each member of the system is affected. Therefore, when one member is hospitalized, each family member experiences stress (Williams, 1974). The family

member who is most likely to experience the greatest amount of stress is the spouse. Thus, the nurse is faced with a somewhat overwhelming task. (S)He must not only care for the patient using highly sophisticated equipment to assess the patient's physical status, but also must attempt to meet the psychological and educational needs of the patient and the spouse in this time of crisis.

With the financially induced staff reductions being undertaken in hospitals, it becomes even more important that the nurse is able to identify the top priority needs of the spouse. It is only if the high priority needs of the spouse are congruent with those identified by the nurse that the nurse can hope to begin meeting the needs of the spouse.

Research Questions

This study will examine the nurse's ability to determine the priority of the spouse's needs as compared to the spouse's perception of his/her own priorities. The following questions will be addressed:

1. Is there a relationship between the priority of needs identified by the spouses of patients with cardiac disease and the nurse's assessment of those priorities?

2. Does the nurse individualize his/her assessment of the priority needs of the spouse?

3. Does the spouse's perception of the severity of the patient's illness affect his/her prioritization of personal needs?

CHAPTER II

Review of the Literature

The review of the literature shows a growing awareness of the importance of identifying the needs of the family when caring for the patient. Hampe (1975) published one of the first research articles that looked at the needs of family members. In this study he interviewed twenty-seven spouses of terminally ill oncology patients in order to determine their most acute needs.

Eight needs of the grieving spouses were identified:

1. Need to be with the dying person.
2. Need to be helpful to the dying person.
3. Need for assurance of comfort of the dying person.
4. Need to be informed of the mate's condition.
5. Need to be informed of the impending death.
6. Need for comfort and support of family members.
7. Need to ventilate emotions.
8. Need for acceptance, support, and comfort from health professionals.

Twenty-five spouses identified all eight needs and the other two spouses identified five and seven needs, respectively. Following the mates' death, the spouses were re-interviewed. The death event did not alter the identified needs of the spouse. Eighty-seven percent of the needs identified in the second interview had been identified in the first interview.

Breu and Dracup (1978) repeated Hampe's study interviewing spouses of patients admitted to the coronary care unit. They identified the same eight needs felt by spouses going through the stages of anticipatory grief. They also discovered that these needs were not being consistently met by either the nursing or the medical staff.

Molter (1979) investigated the needs of the families when she interviewed 40 relatives of critically ill patients. She asked the family members to determine on a one to four scale, the importance of 45 "need" statements and asked whether those needs were met and by whom. The need receiving the rating "very important" most often was the need for hope. Others of high importance included receiving adequate and honest information and feeling that the staff are concerned about the patient. The family felt that the majority of needs were met consistently. Relatives, however, perceived the role of health care personnel to be patient-centered only.

Leske (1983) went a step further when she developed a Critical Care Family Needs Inventory based on Molter's study which asked family members of critcally ill patients to rate the importance of needs on a one to four scale. The nine top needs identified by 55 family members in Leske's study were among the top ten identified by Molter:

1. To feel there is hope.

2. To have questions answered honestly.

3. To know the prognosis.

4. To know specific facts concerning the patient's progress.

5. To have explanations given in terms that are understandable.

6. To receive information about the patient.

7. To be called at home regarding changes in the patient's condition.

8. To feel that the hospital personnel care about the patient.

9. To see the patient frequently.

Leske's study involved family members of twenty patients with multiple diagnoses including motor vehicle accidents, gun shot wounds, myocardial infarction, suicide attempt, Chronic Obstructive Pulmonary Disease, and rape. Leske recognized that there was a need to identify family needs in specific types of critical illness, utilizing a variety of samples in various geographical regions.

Daley (1984) subdivided the 46 need statements into six categories based on Breu and Dracup's study: (a) personal needs, (b) need to decrease anxiety, (c) need for support and ventilation, (d) need for information, (e) need to be with the patient, (f) need to be helpful. Forty family members of twenty-eight critically ill patients having varied diagnoses rated the statements on a one to four scale. The need to decrease

anxiety ranked the highest with the need for information second. "To know what is wrong with my family member" ranked the highest of all 46 statements. Personal needs ranked the lowest of the six major catagories. The need for knowledge has been frequently supported elsewhere in the literature (Gaglione, 1984; Mailick 1979, Pearlmutter, Locke & Bourdon, 1984; Roberts, 1976; Rosenthal, 1980).

Rasie (1980) undertook interviews and surveys among thirty patients in the Intensive Care Unit (ICU) and their relatives and found three recurring themes: (a) the families need to relive the critical incident that led to the patient's ICU admission, (b) a general fear of criticizing staff, and (c) the desire for medical information and the uncertainty about obtaining it.

Bedsworth and Molen (1982) studied twenty spouses of patients sustaining a myocardial infarction using a semi-structured interview technique. The researchers felt because an interdependent relationship exists within a family system, the family members, particularly the spouse, are profundly affected by such a crisis. Their study suggested that psychological stress is apparent in spouses of patients with an MI. They concluded that more knowledge about psychological stress in spouses of MI patients should make the nurses more sensitive to the needs of the patients and families during this kind of crisis.

Potter (1979) used a twenty-four item questionnaire based on a five point Likert scale to measure the sources of stress seventy-five families encountered while visiting in the intensive

care unit. Two items which were a source of stress at a statistically significant level were the lack of privacy in the ICU and the failure of nurses to find useful tasks for the family members to perform. The importance of involving families in the patients care has been documented throughout nursing literature (Gaglione, 1984; Rosenthal, 1980).

Gilliss (1984) studied stress in a group of patients and spouses at the time of hospitalization for coronary artery bypass and six months after surgery. Seventy-one couples were interviewed three to eight days after surgery. A second interview was conducted in the homes of forty-one of the couples originally studied. Spouses reported a significantly higher amount of subjective stress than did the patients ($p<.001$). The major stressor reported by the spouses was their lack of control of hospital events. They felt they could do little to comfort the patient. Other stressors included lack of privacy, being uninformed, and the misinformation provided by well-meaning friends regarding recovery.

To examine the effect that the nurse's awareness of stress provoking events had on the amount of patient perceived stress, Hoffman, Donokers and Hauser (1978) interviewed fifty patients and identified the amount and type of their stress. They then conducted inservice programs for the staff to make them aware of the stresses which had been identified by the patients. The researchers conducted interviews with a different group of fifty patients one

week later. Hoffman et. al found a significant reduction in patient perceived stress after the staff was made aware of the sources of patient stress. They concluded that if nurses are aware of what is stressful they can intervene effectively to reduce stress.

Stillwell (1984) interviewed thirty family members of patients admitted to the ICU unit using Molter's (1979) 45 need statements. She then asked the family members to rate the patients condition as good, fair, serious, or critical. From this study, she determined that there was a significant correlation between the families' perceived condition of the patients and the ranked importance of the need, "to see my family frequently." "The families' need to see their relative frequently increased as the perceived serverity of the patient's condition increased." (p. 241).

Doerr and Jones (1979) demonstrated the effect that the family's anxiety has on the patient when they studied twelve patients in the coronary care unit. Half of the patients were randomly assigned to the experimental group and half to the control group. The family members of the experimental group were given an information manual concerning the CCU and were given an opportunity to ask questions of the registered nurse working in the unit. Those in the control group were given neither the information manual nor the opportunity to ask the nurse questions. The State Anxiety Scale (Spielberger, 1970) was then used to measure the anxiety level of the patients.

Patients whose families were prepared for visitation showed a significantly lower score on the State Anxiety Scale than those whose family members were unprepared.

Substantial research has shown that the attitudes of family members has a profound effect on the patient's reactions to his medical regimen, his emotional adaptation to the illness itself, and his rehabilitation during the period of convalescence. (Adsett & Bruhn, 1968; Chatham, 1978; Lasater & Grisanti, 1975; Scwartz & Brenner, 1979; and Wishnie, Hackett & Cassem, 1971). Thus, if the nurse is to provide comprehensive holistic care s(he) must attempt to identify and meet the needs of the family in order to meet the needs of the patient.

Only two studies were found that looked at the ability of the nurse to identify the perceived needs of the patient or family. In Lauer, Murphy and Power's study (1982), 33 nurses and 27 cancer patients rated the degree of importance of learning 36 informational items. As a whole, the two groups of subjects ranked the importance of the items differently. Nurses placed high priority on the patient obtaining information on financial assistance, how to care for themselves at home and work, and how to talk to their family and friends about their concerns. Patients, on the other hand, felt it more important to know their diagnosis, the plan of care decided by their physician, how to care for themselves at home and work, and what their experiences during diagnostic procedures would be. There was more congruence between the patients and nurses with respect to learning about

treatment information.

Lust (1984) interviewed families of patients in the Surgical Intensive Care Unit and found their greatest needs were (a) getting up-to-date information, (b) less restrictive visiting hours, and (c) to be allowed to assist in patient care. Other items which they identified as important were being near the patient in the waiting room and having support systems. Nurses were alsc interviewed. They saw the family as an important factor in patient care but many identified the lack of time as a hinderance to building a rapport with the family. In spite of this, nurses and families identified family needs which were similar.

Despite the ever increasing documentation of importance in considering the family in the care of the patient (Gearry, 1979; McGregor, Fuller, & Lee, 1981; Meleis, 1975) families are often considered to be a source of stress for the nurse (Cassem & Hackett, 1972; Dunkel & Eisendrath, 1983; Hay & Oken, 1972; Michaels, 1971; and Purtillo, 1978). Many obstacles to meeting the needs of the family have been posited: high workload, lack of availability of staff and family members, staff attitudes (Gardner & Stewart, 1978), lack of knowledge regarding how to deal with family members and the lack of understanding of their needs (Daley, 1984).

It has been documented that meeting the needs of family members is important to both the family's and the patient's well being. With limited time available, it is essential that the nurse is able to identify the needs of the spouse in the same priority ranking as the spouses if the nurse is to meet their needs.

CHAPTER III

Theoretical Framework

It is well recognized in the literature that acute illness places both the patient and the family in a stressful situation (Atkinson, Stewart & Gardner, 1980; Hodovanic, Reardon, Reese & Hedges, 1984; Kuenzi & Fention, 1975; Leavitt, 1982; Livsey, 1980; Williams, 1974; Zind, 1974). Heart disease and more specifically, acute myocardial infarction have been cited as conditions which have the potential of placing the patient and the family in a crisis situation (Aguilera & Messick, 1978; Dracup, Meleis, Baker & Edefsen, 1984; Gaglione, 1984; Pinneo, 1979).

"A crisis occurs when a person faces an obstacle to important life goals that is, for a time insurmountable through the utilization of customary methods of problem solving" (Caplan, 1961). Crises may be categorized into two groups: the expected, developmental, maturational crises that occur as a person grows and develops, and the unexpected, accidental, situational crises that are not anticipated (Barrell, 1974). It is in this latter category in which the hospitalized patient often finds (him)herself.

Walkup (1974) outlined the behaviors exhibited by a person (system) in a crisis situation, regardless of the cause: (a) A change occurs to a system in a dynamic equilibrium, (b) The system perceives the change as a disruption of the balance between internal needs and external demands, (c) The system mobilizes its habitual problem solving energies (internal resources)

and desires situational support (external resources) to attempt to resolve the imbalance, (d) Internal and external resources fail to resolve the problem demands, and (e) A state of crisis results.

Thus, not everyone will look at the same situation as a crisis. It depends on the person's perception of the change, the internal resources which the person has used in the past as well as the strength of those support systems which the person feels free to avail himself of during a time of change. This finding has been supported by others. "People do not respond identically to the same crisis situation. What may be a crisis situation for one person may not be a crisis for another, or for that matter, may not have been a crisis for the same person at some other time" (Barrell, 1974, p. 6). "Whether a situation or event becomes a crisis depends greatly on how the family defines or interprets the event in light of its own cultural and historical experiences" (Parad & Caplan, 1960).

According to crisis theory, intervention is most helpful during the early stages of disequilbirium, when the patient and family are in the acute phase of illness and hospitalization (Leavett, 1984). Gardner and Stewart pointed out the importance of nursing involvement during this time of crisis when they stated: "Appropriate staff interactions with families may lead to decreased anxiety, increased reassurance, better cooperation, improved rapport, mutual understanding and empathy, and improved patient care. Failure to interact appropriately with the family may lead

to heightened anxiety and fear, misunderstandings, mistrust, hostility, failure to obtain information about the patient and even lawsuits" (1978, p. 796).

McIver (1960) discussed the impact of crisis management on a person's physical status when he said, "The way in which a crisis is handled emotionally may significantly influence the eventual outcome of a case in terms of the extent of recovery and the degree of rehabilitation achieved." High levels of anxiety have been shown to increase cardiac irritability, cause withdrawal and lack of cooperation secondary to depression, and create a general state of agitation and subsequent fatigue (Kornfield, Maxwell & Mamrow, 1969).

One way to help a person avert a potential crisis or cope with a situation which is already of crisis proportion is to strengthen the external resources available to that person. In the case of the patient diagnosed with an MI, R/O MI or angina, the patient often looks to his external resources, his family, as a means of helping him deal with this stressful situation.

The problem arises, however, in the fact that the family is also faced with a change which upsets their equilibrium. The family members then use their internal resources plus external resources, if available, to help them cope with this change. Here, the nurse can be very instrumentatal in helping to strengthen the family's coping ability and, in turn, the patient's. If the family's basic needs can be met, more energy can be expended

towards the resolution of this crisis. Together, then the nurse and family can work to help the patient handle the crisis more effectively.

As with all nursing care, an assessment is the first important step to effective nursing intervention. This is no exception. If the nurse is to help the family in crises, their needs must be properly assessed. Because the identification of needs of the spouses of patients is so important for providing holistic care, this study will be undertaken to look at the congruence between the priority of needs identified by the spouse and the nurse's evaluation of their needs. If the needs are prioritized differently, it may point out the need for a more careful individualized assessment of the spouse's needs. On the other hand, general patterns may become evident which can be used to meet the needs of all spouses.

From past observations and based on a review of the literature and the above theoretical framework, the following hypotheses will be the basis of this research:

1. The nurses as a group will identify the needs of the spouses significantly differently than the spouses collectively will identify their needs.

2. The priority of needs identified by a particular spouse will be significantly different than the rank ordering of needs identified by the nurse caring for the patient.

3. Spouses who perceive that the patient is "critically ill" or "seriously ill" will identify significantly different patterns of needs than those who perceive the patient to be in "fair" or "good" condition.

In this study, the following definitions will be used: (a) Patient with Cardiac Disease--A person admitted with a diagnosis of MI, R/O MI or angina pectoris admitted to a Coronary Care Unit or Critical Care Unit, (b) Spouse--Wife or husband of the cardiac patient who visits the patient in the critical care unit and is over 21 years of age, (c) Needs--A requirement of the person, which if supplied, relieves or diminishes his immediate distress or improves his immediate sense of adequacy or well-being, (d) Perception of the severity of the patient's illness--Physical condition of the patient as identified by the spouse, and (e) Nurse--Registered nurse providing nursing care for the patient.

CHAPTER IV

Methods

Design & Instrument

A descriptive correlational research design employing Q methodology was used to address the three hypotheses outlined in Chapter Three. A 45 item Q sample was developed based primarily on the forty-five "family needs" identified by Molter (1979) in her original work. Leske (1983) developed a Critical Care Family Needs Inventory using these same needs and found the reliability to be .77 using Chronbach's alpha test. One additional need, "To know that information will remain confidential," was added to the needs list for this study. This item was added in response to concerns voiced by family members visiting the critically ill in the researcher's clinical experience. The need "To have visiting hours start on time" was eliminated due to the lack of specific visiting hours in the hospitals which took part in the study (See Appendix A for the list of needs).

Q technique was selected because of its effectiveness in ranking attitudes and judgements (Best, 1970). The invention of Q brought with it a means of examining situations and feelings about them as described through common communication. In this study, subjects were required to place a specific number of needs into each of nine piles which ranged from "least important" to "most important" (see Appendix B). Using this technique, subjects were instructed to place two needs in the least important

The main advantage to the Q technique is that it systematically deals with subjectivity. Using Q, opinion statements are derived from a concourse on a theoretic universe of discourse (Stevenson, 1978).

One major problem of the Q methodology posited by Polit (1983) is that most statistical tests assume that responses to items are independent of one another. This, however, does not pose a problem because factor analysis is a commonly accepted statistical procedure for summarizing a variety of Q sorts. Factor analysis does not rely on independence. Factors indicate clusters of persons who have ranked the statements in a comparable fashion. Explanations of factors are advanced in terms of commonly shared attitudes or perspectives (Brown, 1980).

Subjects

This research was conducted in two Midwestern community hospitals; one with a 19 bed ICU/CCU unit and the other, a six bed CCU. Subjects were the spouses of patients admitted with a diagnosis of Myocardial Infarction (MI), Rule Out MI, or Angina Pectoris and the nurses caring for these patients. Following Human Subjects Committee Approval, a convenience sample of the first twenty-five spouses to be admitted to one of the two identified hospitals was selected over a two month period. To participate spouses had to be at least twenty-one years of age, and be able to take part in the study within 72 hours of the patient's admission to the specialty unit. (Patients admitted with the diagnosis of

MI, R/O MI and angina pectoris are often unsure of their diagnosis during this first 72 hours after admission. It was assumed that the spouses of these patients have fears of permanent cardiac disability which places them in a homogenous group despite the difference in diagnostic labels.)

Demographic data concerning the spouse's age, sex, ethnic background, educational level, annual family income, and religion were obtained. In addition, they were asked to identify how ill they believed their spouses to be as well as how many times they had visited someone close to them in the hospital. This information is displayed in Table 1.

Seventeen nurses, caring for the twenty-five patients with one of the designated diagnoses, took part in the study. Since the study was designed to examine the nurses' assessment of the needs of twenty-five spouses and the individualization of their assessment, several nurses were asked to assess the needs of more than one spouse. Eleven nurses each placed the forty-five need statements as they thought one of the spouses would do so, four nurses sorted the Q cards for two spouses and two assessed the needs of three spouses.

Nurses taking part in the study were asked to report their age, sex, race, educational level, number of years in nursing, years worked in ICU and/or CCU, religion and classification of the patients' condition. (See Table 2) Both groups of subjects

Table 1

Demographic Data - Spouses

	N	%
Age		
31-40	1	4
41-50	7	28
51-60	9	36
61-70	3	12
71-80	5	20
Sex		
Male	4	16
Female	21	84
Ethnic Background		
Black	1	4
Caucasion	21	84
Native American	3	12
Educational Level (Years)		
0-8	4	16
9-12	11	44
13-17	9	36
18-	1	4

Annual Family Income		
$0-9,999	3	12
$10,000-14,999	3	12
$15,000-19,999	1	4
$20,000-24,999	3	12
$25,000-29,999	5	20
$30,000-	4	16
Not Reported	6	24
Religion		
Catholic	6	24
Protestant	17	68
Other	2	8
Judgement of Patient's Illness		
Critical	2	8
Serious	15	60
Fair	7	28
Good	1	4
Times Visited Hospital		
First Time	0	0
2-3	0	0
4-5	2	8
6 or more	23	92

Table 2
Demographic Data - Nurses

	N	%	N Spouse Assessed
Age			
21-30	9	53	12
31-40	4	24	7
41-50	3	18	5
51-60	0	0	0
61-70	1	6	1
Sex			
Female	16	94	23
Male	1	6	2
Ethnic Background			
Caucasion	25	100	25
Black	0	0	0
Hispanic	0	0	0
Native American	0	0	0
Educational Level			
Diploma	11	65	15
Associates Degree in Nursing	2	12	4
Bachelors Degree in Nursing	3	18	5
Masters of Arts (Non-Nursing)	1	6	1

Years in Nursing			
0-5	5	29	7
6-10	6	35	7
11-15	3	18	7
16-	3	18	4
Years Worked in ICU/CCU			
0-2	3	18	5
3-5	7	41	10
6-10	4	24	6
11-15	2	12	3
16-	1	6	1
Religion			
Protestant	11	65	16
Catholic	5	29	8
Jewish	0	0	0
Other	1	6	1
Judgement of Patient's Illness			
Critical		16	4
Serious		44	11
Fair		32	8
Good		8	2

appeared representative of the population from which the sample was drawn.

Seven spouses refused to participate in the study. Four wives stated they were too nervous to perform the Q sort, one husband stated he had difficulty reading, one wife was ill and had to go to the doctor herself during the course of the study, and one wife gave no reason for her lack of participation. Two nurses declined to participate stating that they did not know the spouses well enough to assess their needs.

Procedure

The researcher contacted the two hospitals daily to obtain information regarding the admission of patients with the required diagnoses and the availability of the spouse for participation in the research study. Upon identification of the persons who met the requirements of the study, the researcher briefly explained the purpose of the study and outlined the methodology of the Q sort prior to asking the spouse to read and sign a consent form (see Appendix C).

Upon signing the consent, the spouse was given 45 Q cards, each containing one of the statements listed in Appendix A. The cards were shuffled prior to sorting in order to mix the need statements. Directions for completing the Q sort were given both verbally and in written form (see Appendix D) using the same format. Sorting of the cards in order of importance was performed in either the family lounge or in the patient's room as

determined by the spouse's preference. Demographic data were then elicited (see Appendix E).

The nurses caring for the patients were instructed to sort the same 45 shuffled need statements according to how they thought the spouses would sort them. Following receipt of their consent, (see Appendix F for Nurse's consent form) a copy of the written directions were given to them as well as verbal instructions. Sorting took place at the nurses' station or in the employee lounge, at the nurse's discretion. Demographic data were later elicited (see Appendix G).

In order to maintain confidentiality, each subject was given a code number. All spouse numbers were three digit numbers with the number "one" as the first digit followed by consecutive numbering. The nurse subject received identification numbers beginning with the number "two". The two succeeding numbers matched those of the spouse that the nurse was attempting to assess. Thus, the first digit identified the spouse group, the second and third linked the spouse to the nurse who was assessing the spouse's needs.

Upon completion of the Q sort, the researcher recorded the placement of the need statements on a summary sheet (see Appendix H) using the numbers on the back of the need cards for identification. Approximately 1 to 1½ hours were required for completion of the Q sorts by the spouse and the nurse.

Data Analysis

Following the completion of data collection, the data were submitted to factor analysis using the CONCOURSE Computer program (Nesterenko and Wilson, 1980). Q-Factor analysis is a statistical/mathematical procedure for revealing how persons classify themselves. This process shows the extent to which the Q sorts, which have already been provided, fall into natural groupings by virtue of being similar or dissimilar to one another. If two persons are similar in expression of their subjectivity, (attitudes, beliefs, etc.) their Q sorts will resemble one another and they will both end up on the same factor. "Hence we do not classify them; they classify themselves on their own terms, which emerge as factors." (Brown, 1980, p. 208).

Kerlinger (1964) states, "Factor analysis has two basic purposes: to explore variable areas in order to identify the factors presumably underlying the variables; and as in all scientific work, to test hypotheses about the relations among variables" (1964, p. 685). Thus, it allows for the testing of theoretical expectations and the discovery of new correlations that were unnoticed previously.

In factor analysis, a square matrix made up of correlation coefficients is produced. Using Pearson Product--Moment Correlation Coefficients, every person's Q sort is correlated with every other Q sort. The matrix which results is a mirror image of itself with a diagnonal transversing from the upper left to the lower right.

At this point, factors were extracted using the centroid method of factor extraction. The centroid method, before the widespread use of computers, was the only feasible method for factor extraction due to its relative ease of computation. Now, however, principal components method and similar factor models have gained more favor due to their greater mathematical precision and the increased availability of computers. Despite this ongoing controversy, the interpretation for a given set of data will not differ in essential respects between the factor models (Nesterenko & Talbott, 1976). Psychologists often, in fact, prefer the centroid method because

> "the centroid method, by virtue of its permissiveness, is the sole method whereby any and all factor solutions can be examined without violating any assumptions, no one centroid solution being more sacred than any other. The principal components method, by way of contrast, has a best solution which maximizes the variance of each succeeding factor (Brown, 1980)."

As Thompson (1962) has pointed out, "computer technology will eventually make undisputable unique factor solutions possible; however, the fundamental problem as to whether mathematically exact solutions mirror reality will remain and judgemental methods will not thereby be outmoded." (Brown, 1980, p. 57).

As a result of the use of the centroid method, three factors were extracted. Determination of the number of factors to be

extracted was based on three criteria:

1. The Guilford-Lacy Criterion - The Guilford-Lacy criterion is defined by Stephenson as follows: A factor is statictically significant if the absolute value of the product of two highest loadings on the factor is greater than or equal to the standard error of a zero order correlation, or $1/\sqrt{N}$, where N in Q-methodology represents the number of Q sort items (Nesterenko & Talbott, 1976). In this example, the third factor was significant where the fourth was not.

2. The percent of variance added by each additional factor will become progressively lower, indicating that it is adding little to the solution. Thus, this must be taken into account when determining the appropriate number of factors.

3. Parsimony is the aim of factor analysis in that it helps to group people according to their thoughts, feelings, judgements, etc., when used with Q-methodology. Therefore, if too many factors are extracted, the meaning of the factor solution may be lost.

Following the determination that three factors were present, varimax rotation was undertaken. This method of rotation is orthogonal in that the angles between the axes are kept at 90 degrees which keep the correlation between the factors zero. Rotation, in factor analysis, in a sense, gives the researcher a new point of view that helps make similarities become obvious without changing the inherent value of the original data.

After varimax rotation persons were assigned to the various factors using two methods. The first was to determine if a person had a factor loading greater than +.4 on only one of the three factors. If so, that person would be considered to be associated with that factor. This is based on the idea that for a loading to be significant at the .01 level, it must exceed 2.58 times the standard error of a zero loading (Brown, 1980). In this case,

$$2.58\left(\frac{1}{\sqrt{45}}\right) = .386$$

For those persons who did not appear to be associated with a factor, a second test was performed.

The factor loadings for each person were examined to determine if they accounted for 50% of the variance across the three factors. If that was the case, that person was determined to make up that factor.

Next Spearman Weights were computed using the formula:

$$W = \frac{f}{1-f^2}$$

where f is the factor loading and w is the weight (Brown, 1980). This reflects how much the Q sort describes the factor. The Spearman weights in turn were multiplied by the raw data and from this, Z scores were computed. Z scores standardize the data, removing the arbitrary effect of the numbers of subjects associated with a factor. As a result, direct comparisons across factors for the same statement can be made. Z scores greater than or equal to 1 or less than or equal to -1 are considered to be significantly important and unimportant, respectively.

When the statements were placed in hierarchical order according to Z scores, the statements with the two highest Z scores were given a rounded factor score of +4, the next three a score of +3 etc., thus taking on the format of the original data collection and aiding in the comparisons between the three factors. Comparisons were made noting what all three factors had in common, what made each factor unique and how each set of two factors were different from the third.

Then, more subtle differences across the factors were noted through the determination of the standard error of differences. In calculating this, the realiability of a factor was estimated first, using the formula:

$$r_A = \frac{.8\ p}{1 + (p - 1).8}$$

where p is the number of persons defining the factor, .8 is their estimated average reliability coefficient, and r_A is the reliability of the factor. From this, the standard error of the factor scores were calculated:

$$SE_{fs} = S_x \sqrt{1 - r_A}$$

where S_x is the standard deviation of the forced distribution, r_A is the factor reliability, and SE_{fs} is the standard error of the factor scores. In order to determine what scores were significantly different between factors the standard error of the differences was tabulated:

$$SED_{x-y} = \sqrt{SE_x^2 + SE_y^2}$$

In order to be able to accept a factor score as significantly different, the scores had to differ by an amount in excess of 2.58 (SED_{x-y}) (Brown, 1980).

The Chi-square test was used to determine if there was a significant correlation between the demographic data of the subjects and the way in which they identified with a factor.

CHAPTER V

Results

Identification of the Factors

Twenty-five spouses of patients with cardiac disease sorted 45 need statements using the Q technique. Seventeen nurses sorted the same statements as they felt the 25 spouses had done so. The data were submitted to factor analysis and three distinct factors emerged. Forty-one (41) of the 50 subject responses were associated with one of these three factors accounting for 50.7% of the variance. (See Appendix I for factor make up.)

The first factor was made up of six spouses and seven nurses and will be referred to as the "Shared" factor (see Table 3 for demographic data of those who made up this factor). Factor One accounted for 16.9% of the variance. The reliability of this factor was .98. Nurses 6, 7, and 12 were, in actuality, the same nurse assessing the needs of three spouses. Likewise, Nurses 1 and 14 were Q sorts provided by one nurse evaluating two spouses. Nurse 5 was associated with this factor when assessing the needs of Spouse 5 as well as on Factor 3 when assessing the needs of another spouse. Although there were near equal numbers of spouses and nurses comprising this factor, only one nurse, Nurse 1, made up the same factor as the spouse she was assessing. In fact, this was the only nurse out of the entire study who shared the factor with the paired spouse.

Table 3
Demographic Data of Person's Comprising Factor 1

Subject	Age (Years)	Sex	Ethnic Background	Educational Level (Years)	Annual Family Income	Religion	Level of Illness
Spouse 1	41-50	Female	Caucasian	9-12	$25,000-29,999	Protestant	Serious
Spouse 10	51-60	Female	Caucasian	9-12	$30,000-	Protestant	Fair
Spouse 17	51-60	Male	Caucasian	0-8	$10,000-14,999	Other	Critical
Spouse 18	51-60	Female	Caucasian	9-12	-----	Protestant	Serious
Spouse 20	51-60	Female	Caucasian	9-12	$10,000-14,999	Protestant	Serious
Spouse 23	31-40	Female	Caucasian	17-	$30,000-	Catholic	Serious

Subject	Age (Years)	Sex	Ethnic Background	Educational Level	Years in Nursing	Years in ICU/CCU	Religion	Level of Illness
Nurse 1	21-30	Female	Caucasian	ADN	6-10	3-5	Protestant	Fair
Nurse 4	41-50	Female	Caucasian	Diploma	16-	3-5	Protestant	Serious
Nurse 5	31-40	Female	Caucasian	Diploma	11-15	11-15	Protestant	Fair
Nurse 6	21-30	Female	Caucasian	BSN	0-5	0-2	Protestant	Serious
Nurse 7	21-30	Female	Caucasian	BSN	0-5	0-2	Protestant	Serious
Nurse 12	21-30	Female	Caucasian	BSN	0-5	0-2	Protestant	Serious
Nurse 14	21-30	Female	Caucasian	ADN	6-10	3-5	Protestant	Good

The second factor will be referred to as the "Spouse" factor. Fifteen spouses and no nurses comprised this factor accounting for 15.2% of the variance (refer to Table 4 for demographic data). Reliability of this factor was .98.

The third factor, the "Nurse" factor, was made up of one spouse and twelve nurses accounting for 18.6% of the variance (see Table 5 for demographic data). Reliability of the "Nurse" factor was .98. Nurses 3, 1, and 22 were, in fact, one nurse evaluating the needs of three different spouses. Nurse 2 and Nurse 18 were associated with this factor as well as the group of nine persons not described by a factor.

Three spouses and six nurses made up this latter group (see Table 6). Five of those, two spouses and three nurses, had factor loadings which were too low across all three factors. This demonstrated that they did not identify with any of the three factors. Four subjects, one spouse and three nurses were split across two or three factors which demonstrated that they identified with more than one of the factors described.

Table 4
Demographic Data - Factor 2

Subject	Age (Years)	Sex	Ethnic Background	Educational Level (Years)	Annual Family Income	Religion	Level of Illness
Spouse 2	71-80	Female	Native American	13-17	$30,000-	Protestant	Fair
Spouse 3	61-70	Female	Black	0-8	----	Protestant	Fair
Spouse 6	41-50	Female	Caucasian	13-17	$25,000-29,999	Protestant	Serious
Spouse 7	51-60	Male	Native American	9-12	$25,000-29,999	Protestant	Serious
Spouse 8	51-60	Female	Caucasian	13-17	$20,000-24,999	Catholic	Serious
Spouse 9	71-80	Female	Caucasian	9-12	----	Protestant	Fair
Spouse 11	41-50	Female	Caucasian	17-	$10,000-14,999	Protestant	Serious
Spouse 12	51-60	Female	Caucasian	0-8	$0-9,999	Protestant	Fair
Spouse 13	71-80	Male	Native American	13-17	----	Protestant	Serious
Spouse 14	41-50	Female	Caucasian	9-12	$20,000-24,999	Catholic	Serious
Spouse 15	41-50	Female	Caucasian	13-17	$30,000-	Catholic	Serious
Spouse 16	41-50	Female	Caucasian	9-12	----	Protestant	Good
Spouse 21	61-70	Female	Caucasian	9-12	----	Protestant	Serious
Spouse 24	51-60	Female	Caucasian	13-17	$20,000-24,999	Protestant	Critical
Spouse 25	71-80	Female	Caucasian	9-12	$25,000-29,999	Protestant	Serious

Table 5
Demographic Data - Factor 3

Subject	Age (Years)	Sex	Ethnic Background	Educational Level (Years)	Annual Family Income		Religion	Level of Illness
Spouse 4	41-50	Female	Caucasian	13-17	$25,000-29,999		Catholic	Fair

Subject	Age (Years)	Sex	Ethnic Background	Educational Level	Years in Nursing	Years in ICU/CCU	Religion	Level of Illness
Nurse 2	41-50	Male	Caucasian	ADN	11-15	11-15	Catholic	Serious
Nurse 3	31-40	Female	Caucasian	Diploma	11-15	3-5	Catholic	Serious
Nurse 9	31-40	Female	Caucasian	Diploma	11-15	3-5	Catholic	Fair
Nurse 11	21-30	Female	Caucasian	Diploma	0-5	3-5	Protestant	Serious
Nurse 13	21-30	Female	Caucasian	Diploma	0-5	3-5	Protestant	Good
Nurse 15	21-30	Female	Caucasian	Diploma	6-10	3-5	Protestant	Fair
Nurse 18	41-50	Female	Caucasian	Diploma	16-	6-10	Protestant	Critical
Nurse 19	31-40	Female	Caucasian	BSN	6-10	6-10	Agnostic	Serious
Nurse 21	21-30	Male	Caucasian	Diploma	0-5	0-2	Catholic	Fair
Nurse 22	31-40	Female	Caucasian	Diploma	11-15	3-5	Catholic	Critical
Nurse 23	61-70	Female	Caucasian	Masters (Non-Nursing)	16-	16-	Protestant	Serious
Nurse 24	21-30	Female	Caucasian	BSN	0-5	0-2	Catholic	Serious

Table 6
Demographic Data of Persons Not Associated With A Factor

Subject	Age (Years)	Sex	Ethnic Background	Educational Level (Years)	Annual Family Income	Religion	Level of Illness
Spouse 5	51-60	Female	Caucasian	13-17	$0-9,999	Catholic	Fair
Spouse 19	71-80	Male	Caucasian	0-8	$0-9,999	Protestant	Serious
Spouse 22	61-70	Female	Caucasian	9-12	$15,000-19,999	Protestant	Serious

Subject	Age (Years)	Sex	Ethnic Background	Educational Level	Years in Nursing	Years in ICU/CCU	Religion	Level of Illness
Nurse 8	21-30	Female	Caucasian	Diploma	6-10	3-5	Protestant	Serious
Nurse 10	21-30	Female	Caucasian	Diploma	6-10	6-10	Catholic	Fair
Nurse 16	41-50	Female	Caucasian	Diploma	16-	6-10	Protestant	Fair
Nurse 17	31-40	Female	Caucasian	Diploma	11-15	11-15	Protestant	Critical
Nurse 20	31-40	Female	Caucasian	Diploma	6-10	6-10	Protestant	Critical
Nurse 25	41-50	Male	Caucasian	ADN	11-15	11-15	Catholic	Fair

Table 7 outlines the statement array in order of importance from the most important to least important as described by those on Factor 1. Those statements with a Z score greater than .95 were considered of utmost importance, while those less than -.95, the least important. Tables 8 and 9 demonstrate the statement ordering of those persons comprising factors 2 and 3, respectively.

Commonalities Across All Factors

Three statements had a Z score greater than 1.09 across all three factors: "To have questions answered honestly", "To be assured the best care possible is being given to your spouse" and "To see your spouse frequently." These three items thus had significant importance to 22 of the 25 spouse or at least 88% of the spouses and were identified by the nurses as important to 19 of the 25 spouses or at least 75% of the spouses. No statements were considered significantly unimportant (Z -.95) by persons making up all three factors.

Factor 1

Statements which persons associated with the "Shared" factor identified as significantly important but were not identified as important by those making up the other two factors were: "To talk to the doctor every day (Z = 1.91) and "To know why things are being done for your spouse" (Z = 1.44). Four statements were identified as unimportant solely by those comprising Factor 1, "To be told of other people who could help with problems" (Z = -1.02), "To have the pastor visit" (Z = -1.12), "To be told

Table 7

Factor 1 Statement Array

Need Statements	Factor Scores Z	Rounded
35. To be given explanations that are understandable	1.91	4
3. To talk to the doctor every day	1.91	4
5. To have questions answered honestly	1.63	3
43. To see your spouse frequently	1.45	3
13. To know why things are being done for your spouse	1.44	3
17. To be assured that the best care possible is being given to your spouse	1.21	2
19. To know exactly what is being done for your spouse	.93	2
42. To know specific facts about your spouse's progress	.90	2
41. To feel that the hospital personnel care about your spouse	.86	2
39. To be called at home about changes in the patient's condition	.80	2
16. To know how your spouse is being treated medically	.79	2

1.	To know the prognosis	.74	1
44.	To have the waiting room near your spouse	.57	1
38.	To be told about transfer plans as they are being made	.56	1
28.	To be assured it is alright to leave the hospital for a while	.56	1
4.	To have a specific person to call at the hospital when you are unable to visit	.52	1
23.	To have a telephone near the waiting room	.52	1
10.	To visit at any time	.45	1
12.	To have friends nearby for support	.38	0
9.	To have directions as to what to do at the bedside	.28	0
6.	To have visiting hours changed for special conditions	.27	0
40.	To receive information about your spouse every day	.15	0
2.	To have the arrangement of the coronary care unit and equipment in it explained to you before going into the unit for the first time	.10	0
27.	To have someone be concerned with your spouse's health	.09	0
29.	To talk to the same nurse every day	-.06	0

14.	To feel there is hope	-.07	0
21.	To feel accepted by the hospital staff	-.09	0
32.	To have a bathroom near the waiting room	-.22	-1
37.	To help with your spouse's physical care	-.56	-1
33.	To be alone at times	-.56	-1
26.	To have another person with you when visiting the coronary care unit	-.70	-1
11.	To know which staff members could give what type of information	-74	-1
25.	To talk about the possibility of your spouse's death	-.96	-1
34.	To be told about someone who could help with family problems	-.97	-1
18.	To have a place to be alone while in the hospital	-1.00	-2
31.	To be told of other people who could help with problems	-1.02	-2
24.	To have the pastor visit	-1.12	-2
7.	To talk about negative feelings such as guilt or anger	-1.19	-2
8.	To have good food available in the hospital	-1.24	-2
15.	To know about different types of staff members caring for your spouse	-1.26	-2
36.	To be told about chaplain services	-1.32	-3
30.	To be encouraged to cry	-1.34	-3

20.	To have comfortable furniture in the waiting room	-1.34	-3
22.	To have someone help with financial problems	-1.61	-4
45.	To know that information will remain confidential	-1.66	-4

Table 8

Factor 2 Statement Array

Need Statements	Factor Scores Z	Rounded
39. To be called at home about changes in the patient's condition	1.84	4
19. To know exactly what is being done for your spouse	1.57	4
17. To be assured that the best care possible is being given to your spouse	1.56	3
42. To know specific facts about your spouse's progress	1.51	3
1. To know the prognosis	1.50	3
16. To know how your spouse is being treated medically	1.30	2
5. To have questions answered honestly	1.11	2
14. To feel there is hope	1.01	2
41. To feel that the hospital personnel care about your spouse	.99	2
43. To see your spouse frequently	.95	2
10. To visit at any time	.92	2
27. To have someone be concerned with your spouse's health	.83	1

35.	To be given explanations that are understandable	.76	1
13.	To know why things are being done for your spouse	.58	1
40.	To receive information about your spouse once a day	.44	1
37.	To help with your spouse's physical care	.43	1
38.	To be told about transfer plans as they are being made	.40	1
28.	To be assured it is alright to leave the hospital for a while	.29	1
24.	To have the pastor visit	.27	0
44.	To have the waiting room near your spouse	.12	0
8.	To have good food available in the hospital	.11	0
23.	To have a telephone near the waiting room	.10	0
4.	To have a specific person to call at the hospital when you are unable to visit	.04	0
3.	To talk to the doctor every day	.03	0
15.	To know about the different types of staff members caring for your spouse	.03	0
9.	To have directions as to what to do at the bedside	.01	0

2.	To have the arrangement of the coronary care unit and equipment in it explained to you before going into the unit for the first time	-.40	0
12.	To have friends nearby for support	-.53	-1
45.	To know that information will remain confidential	-.61	-1
25.	To talk about the possibility of your spouse's death	-.63	-1
34.	To be told about someone who could help with family problems	-.63	-1
21.	To feel accepted by the hospital staff	-.65	-1
36.	To be told about chaplain services	-.67	-1
20.	To have comfortable furniture in the waiting room	-.69	-1
32.	To have a bathroom near the waiting room	-.74	-2
31.	To be told of other people who could help with problems	-.82	-2
11.	To know which staff members could give what type of information	-.85	-2
6.	To have visiting hours changed for special conditions	-1.05	-2
22.	To have someone help with financial problems	-1.06	-2
26.	To have another person with you when visiting the coronary care unit	-1.13	-2

29.	To talk to the same nurse every day	-1.40	-3
33.	To be alone at times	-1.52	-3
18.	To have a place to be alone while in the hospital	-1.71	-3
30.	To be encouraged to cry	-1.81	-4
7.	To talk about negative feelings such as guilt or anger	-1.83	-4

Table 9

Factor 3 Statement Array

Need Statements	Factor Scores Z	Rounded
5. To have questions answered honestly	1.81	4
17. To be assured that the best care possible is being given to your spouse	1.60	4
35. To be given explanations that are understandable	1.43	3
14. To feel there is hope	1.35	3
27. To have someone be concerned with your spouse's health	1.25	3
41. To feel that the hospital personnel care about your spouse	1.18	2
40. To receive information about your spouse once a day	1.10	2
42. To know specific facts about your spouse's progress	1.09	2
16. To know how your spouse is being treated medically	.99	2
43. To see your spouse frequently	.98	2
19. To know exactly what is being done for your spouse	.96	2

39.	To be called at home about changes in the patient's condition	.94	1
13.	To know why things are being done for your spouse	.87	1
25.	To talk about the possibility of your spouse's death	.83	1
3.	To talk to the doctor every day	.80	1
1.	To know the prognosis	.70	1
28.	To be assured it is alright to leave the hospital for a while	.53	1
10.	To visit at any time	.20	1
45.	To know that information will remain confidential	.17	0
24.	To have the pastor visit	.16	0
12.	To have friends nearby for support	-.21	0
30.	To be encouraged to cry	-.23	0
21.	To feel accepted by the hospital staff	-.26	0
31.	To be told of other people who could help with problems	-.28	0
33.	To be alone at times	-.31	0
34.	To be told about someone who could help with family problems	-.35	0
29.	To talk to the same nurse every day	-.38	0
18.	To have a place to be alone while in the hospital	-.38	-1

11.	To know which staff members could give what type of information	-.44	-1
6.	To have visiting hours changed for special conditions	-.45	-1
2.	To have the arrangement of the coronary care unit and equipment in it explained to your before going into the unit for the first time	-.50	-1
44.	To have the waiting room near your spouse	-.53	-1
36.	To be told about chaplain services	-.56	-1
7.	To talk about negative feelings such as guilt or anger	-.60	-1
4.	To have a specific person to call at the hospital when you are unable to visit	-.69	-2
9.	To have directions as to what to do at the bedside	-.78	-2
38.	To be told about transfer plans as they are being made	-.83	-2
22.	To have someone help with financial problems	-.87	-2
26.	To have another person with you when visiting the coronary care unit	-.92	-2
23.	To have a telephone near the waiting room	-.95	-2
37.	To help with your spouse's physical care	-1.00	-3
15.	To know about the different types of staff members caring for your spouse	-1.13	-3

32.	To have a bathroom near the waiting room	-1.77	-3
20.	To have comfortable furniture in the waiting room	-2.23	-4
8.	To have good food available in the hospital	-2.30	-4

about chaplain services" (Z = -1.32) and "To know that information will remain confidential (Z = -1.66).

Factor 2

Two need statements were identified as significantly important by persons making up the "Spouse" factor which were not identified by either of the other two factors: "To be called at home about changes in the patient's condition" (Z = 1.84) and "To know the prognosis" (Z = 1.50). Need statements which spouses on Factor 2 stated were unimportant but were not identified as such by the other two factors were: "To have visiting hours changed for special conditions" (Z = -1.05), "To have another person with you when visiting the coronary care unit" (Z = -1.13), "To talk to the same nurse every day" (Z = -1.40) and "To be alone at times" (Z = -1.71).

Factor 3

There were only two statements that the "Nurse" factor found important which no other factors identified. These were: "To have someone concerned with your spouse's health" (Z = 1.25) and "To receive information about your spouse once a day" (Z = 1.10). There were three statements that the "Nurse" factor identified as significantly unimportant which were not identified as such by either of the other groups. These included: "To have a telephone near the waiting room" (Z = -.95), "To help with your spouse's physical care" (Z = -1.00) and "To have a bathroom near the waiting room" (Z = -1.77).

Comparisons Between Two Factors

Certain items were reported as very important and/or very unimportant across two factors but did not have a Z score > .95 or < -.95 on the third. Thus two factors reflected like feelings towards these items but the people on the third thought differently.

There were no items identified as very important by persons on both the "Shared" factor and the "Spouse" factor. However, persons on both factors identified four items that were significantly unimportant to them: "To talk about negative feelings such as guilt or anger", "To have a place to be alone while in the hospital", "To have someone help with financial problems," and "To be encouraged to cry." The "Shared" and the "Spouse" factors were composed of 21 of the 25 spouses who took part in the Q sort or 84% of the spouses. On the other hand, only 7 nurse responses made up these factors or 28% of the nurse subjects saw these needs as least important.

The "Shared" and the "Nurse" factors, collectively were made up of seven (7) of the 25 spouses or 28% of the spouse subjects, and 19 of the 25 nurse responses (76%). Persons on both factors shared the feeling that having explanations that were understandable was very important. Among the things that were very unimportant to subjects on both factors were good food, knowing about the different staff members caring for their spouse and comfortable furniture.

The "Spouse" factor and the "Nurse" factor together were made up of 73% of the spouses and 63% of the nurses. These two factors most distinctly separated the spouses and the nurses with 15 spouses and no nurses comprising the "Spouse Factor", and 12 nurses and 1 spouse loading on the "Nurse Factor." Persons making up both of these factors identified that it was very important to feel there was hope, to know how the spouse was being treated medically, to know exactly what was being done for the spouse, and to feel that hospital personnel care. In fact, the "Nurse" factor identified nine of the ten top needs identified by the spouse factor within a Z score of .94. All of the ten top needs were seen as important by the nurse factor above a Z score of .7 with knowing the prognosis as least important of those needs identified by the "Nurse" factor. The "Spouse" and "Nurse" factors did not share any of the same least important needs.

Finer Differences Among the Factors

From the factor reliabilities, the standard error of the differences (SED) were computed in order to determine those items which were sorted significantly different between the three factors. Scores that differed by 2.58 X SED were considered significantly different ($p<.01$) or in this case, those that differed by a rounded factor score of two or more (see Table 10). Using this format, the more subtle differences between factors became evident.

Table 10

Comparison of the Rounded Factor Scores for the Need Statements

Need Statements	Rounded Factor Scores		
	Factor 1	Factor 2	Factor 3
1. To know the prognosis.	1	3	1
2. To have the arrangement of the coronary care unit and equipment in it explained to you before going into the unit for the first time.	0	0	-1
3. To talk to the doctor every day.	4	0	1
4. To have a specific person to call at the hospital when you are unable to visit.	1	0	-2
5. To have questions answered honestly.	3	2	4
6. To have visiting hours changed for special conditions.	0	-2	-1
7. To talk about negative feelings such as guilt or anger.	-2	-4	-1
8. To have good food available in the hospital.	-2	-0	-4

9.	To have directions as to what to do at the bedside.	0	0	-2
10.	To visit at any time.	1	1	1
11.	To know which staff members could give what type of information.	-1	-2	-
12.	To have friends nearby for support.	0	-1	0
13.	To know why things are being done for your spouse.	3	1	1
14.	To feel there is hope	0	2	3
15.	To know about the different types of staff members caring for your spouse.	-2	0	-3
16.	To know how your spouse is being treated medically.	2	2	2
17.	To be assured that the best care possible is being given to your spouse.	2	3	4
18.	To have a place to be alone while in the hospital.	-2	-3	-1
19.	To know exactly what is being done for your spouse.	2	4	2
20.	To have comfortable furniture in the waiting room.	-3	-1	-4

21.	To feel accepted by the hospital staff.	0	-1	0
22.	To have someone help with financial problems.	-4	-2	-2
23.	To have a telephone near the waiting room.	1	0	-2
24.	To have the pastor visit.	-2	0	0
25.	To talk about the possibility of your spouse's death.	-1	-1	1
26.	To have another person with you when visiting the coronary care unit.	-1	-2	-2
27.	To have someone be concerned with your spouse's health.	0	1	3
28.	To be assured it is alright to leave the hospital for awhile.	1	1	1
29.	To talk to the same nurse every day.	0	-3	0
30.	To be encouraged to cry.	-3	-4	0
31.	To be told of other people who could help with problems.	-2	-2	
32.	To have a bathroom near the waiting room.	-1	-2	-3
33.	To be alone at times.	-1	-3	0
34.	To be told about someone who could help with family problems.	-1	-1	0

35.	To be given explanations that are understandable.	4	1	3
36.	To be told about chaplain services.	-3	-1	-1
37.	To help with your spouse's physical care.	-1	1	-3
38.	To be told about transfer plans as they are being made.	1	1	-2
39.	To be called at home about changes in the patient's condition.	2	4	1
40.	To receive information about your spouse once a day.	0	1	2
41.	To feel that the hospital personnel care about your spouse.	2	2	2
42.	To know specific facts about your spouse's progress.	2	3	2
43.	To see your spouse frequently.	3	2	2
44.	To have the waiting room near your spouse.	1	0	-1
45.	To know that information will remain confidential.	-4	-1	0

Those items which persons making up the "Nurse" factor identified as not important but those comprising the other factors thought was at least moderately important ($p < .01$) were: "To have a specific person to call at the hospital when you are unable to visit", "To have directions as to what to do at the bedside", "To help with your spouse's physical care", and "To be told about transfer plans as they are being made." On the other hand, those associated with the "Nurse Factor" considered being able to talk about the spouse's death and being told of other people who could help with problems as significantly more important than those making up the other two factors.

Summary

This research study set out to test three hypotheses. The first was: The nurses as a group will identify needs of the spouses significantly differently than the spouses collectively will identify their needs. The Q sort data collected from 25 spouse subjects and 25 nurse responses were factor analyzed and three distinct factors were extracted; a "Shared" factor, a "Spouse" factor, and a "Nurse" factor. The hypothesis was accepted--nurses did not identify the spouse's needs in the same way that they, themselves, did. Similarities across the factors were noted which will be discussed further in the next chapter. Despite these similarities, three themes ran through the data; the nurses and spouses on different themes.

The second hypothesis, the priority needs identified by a particular spouse will be significantly different than the rank ordering of needs identified by the nurse caring for the patient, was supported in this study. Only one of the 25 nurses was associated with the same factor as the spouse whose needs were being identified. Even though the "Shared" factor was made up of six spouses and seven nurses, only one of those nurses ordered the needs in a like fashion to the paired spouse.

The third hypothesis reads as follows: Spouses who perceive that the patient is "critically ill" or "seriously ill" will identify significantly different patterns of needs than those who perceive the patient to be in "fair" or "good" condition. The Chi Square test was used and no relationship between the judgement of the patient's illness and the spouse's association with a factor was found at a .05 level. Thus, this hypothesis was rejected in favor of the null hypothesis.

CHAPTER VI

Discussion

Twenty-five spouses of patients admitted to the coronary care unit with a diagnosis of Myocardial Infarction (MI), Rule Out MI, or Angina Pectoris were asked to sort 45 "need statements" using Q methodology. Seventeen nurses caring for the twenty-five patients were instructed to sort the need statements as they felt the spouses would order them. Factor analysis was used to determine if the need ordering of the two groups was similar.

The hypothesis that there was a significant difference between the way in which the spouses identified their needs and the way in which nurses identified the spouse's needs was supported by this study. This was demonstrated by the fact that the majority of the nurses made up a factor separate from the majority of the spouses. What was interesting was the fact that, although the nurses appeared to order the spouses' needs differently, they appeared to be able to identify the spouses most important needs. (Nine of the ten top needs identified by the "Spouse" factor were identified by the "Nurse" factor within a Z score of .94). In fact, the needs identified as important in this study were similar to those identified by Molter (1979) and Leske (1983) in their earlier works concerning the needs of family.

The nurses differed from the spouses most dramatically in the identification of the least important needs. Nurses identified

comfort needs such as having a bathroom and telephone near the waiting room as among the least important to the spouses. On the other hand, spouses associated with the "Shared" and "Spouse" factors rated these as being moderately important. Two other comfort needs which the nurses considered unimportant, good food and comfortable furniture, were identified as such by the spouses comprising the "Shared" factor but took on at least moderate importance to the 15 spouses making up the "Spouse" factor. Perhaps in the past, not enough attention has been placed on the value of meeting the basic comfort needs of the spouse during this very stressful time. Maslow's hierarchy of needs (1968) supports the need for caring for basic needs, such as having a bathroom near the waiting room or good food, before higher levels of self-actualization can become a reality. Likewise, if these basic needs are met, greater energy can be channeled into the resolution of the crisis state brought on by admission of the patient to a critical care unit.

Another need that nurses placed less importance on than the spouses did was the need to help with the spouse's physical care. The nurses identified this need as unimportant whereas 22 of the 23 spouses associated with a factor (96%) thought it was at least moderately important. Nursing literature addresses the value of involving the family in the care of the patient. However, in this study, nurses felt that it was much less important than the other needs. Perhaps nurses do not think that they should

burden families by encouraging them to participate in their spouse's care or they may see this as part of "their job" that should not be relegated to the family members. Replication of this study in other localities would be beneficial to determine if other spouse subjects placed the same level of importance on this need. If so, the act of physically doing something for the patient may help spouses better cope with this stressful situation.

Spouses comprising Factors 1 and 2 (95% of the spouses who were described by a factor) identified three needs as unimportant which the nurses making up the "Nurse" factor identified as moderately important. The spouses agreed that they cared least about such supportive assistance as help with financial problems, being encouraged to cry or talking about negative feelings. The same three needs were identified among the five least important needs discovered in Molter's study (1979), also. Nursing literature has stressed the importance of the nurses' role in helping families verbalize their fears, and the importance of offering support to the families under stress when, in fact, it is suggested in this study that these needs are among the least important to the spouses.

Molter (1979) posits that the reason that spouses felt such a lack of need for financial help might be due to the intense worry about the patient, that far outshadowed the worry over financial problems. The thoughts of the financial drain on the family can not take precedence when a family member's life is in a delicate balance.

What is probably more disturbing is the spouse's conception that it is unimportant to talk about negative feelings or to be encouraged to cry. Crisis theory emphasizes the value of a strong support system in dealing with persons in a crisis provoking situation. Nursing has considered holistic care of the patient and the family to be of great importance; caring for the psychological and spiritual needs as well as the physical. Why then do spouses consider these needs to be unimportant?

Molter (1979) discussed the fact that relatives, in her study, frequently stated that they did not expect health care personnel to be concerned about them. They stated that the primary responsibility of the staff was to care for the patient, especially when time was limited. The Q cards were not given to the subjects with emphasis on needs which could be met by the health profession. Perhaps, however, the spouses, being informed that the researcher was a nurse, may have ordered the needs with that mind set. It seems reasonable to conclude that spouses do not expect nor even desire this support from the health professionals. Within the first 72 hours of hospitalization, the spouses most likely do not feel they know the health team well enough to share their innermost feelings. Hopefully these needs are being met in some other way, if not by the health profession. Family members or other significant persons may act as the support system for the spouse. In which case, the needs of the support system should be studied in order to better support the spouses' support systems.

More subtle differences between the factors were detected when standard error of the differences were calculated. Using this method it became apparent that spouses making up Factors 1 and 2 considered the following items to be significantly more important than the nurses comprising Factor 3 ($p < .01$): "To have a specific person to call at the hospital when you are unable to visit", "To have directions as to what to do at the bedside", and "To be told about transfer plans as they are being made." These all involve family members as active participants in the health team. At least in this sample, most of the nurses were not aware that these items were as important to the spouses as they were. Thus it is unlikely that these needs were given as high a priority as necessary to support the spouse during this stressful experience.

Conversely, needs which those comprising the "Nurse" factor placed as significantly more important than spouses, although not evaluated by any factor as very important, were being able to talk about the spouse's death and to be told of other people who could help with problems. Possible reasons for placement of these needs in a less important pile is obscure. However, talking about the possibility of the spouse's death may interfere with the denial process, a stage of grieving which may protect the spouse in this crisis situation. Perhaps the reason that the spouse cares less about being informed of people who can help with family problems is the family's reliance on one another for support. Normally,

the family finds strength within itself to meet the family's needs. (Hall & Weaver, 1974) During the early stages of hospitalization, perhaps family members continue to look to themselves for support and resolution of problems.

Although it is tempting to look at spouses as one group, they, in fact, divided themselves into two factors with three spouses not even making up one of the three factors. Three needs identified as very important to the spouses on Factor 1 but not on Factor 2 were: "To have explanations that are understandable", "To talk to the doctor every day", and "To know why things are being done." These all pertain to informational needs of the spouse which do not appear to be a great deal different than those identified by the "Spouse" factor. Those needs which the spouses on the "Shared" factor described as least important but were not identified as such by the "Spouse" factor included:

To be told about someone who could help with family problems

To be told of other people who could help with problems

To have the pastor visit

To have good food available in the hospital

To know about the different types of staff members caring for your spouse

To be told about chaplain services

To have comfortable furniture in the waiting room

To know that information will remain confidential

It can be assumed from these findings that spouses associated with the "Shared" factor required less support from others than those making up the "Spouse" factor. Demographic data obtained from persons associated with each factor failed to reveal significant differences in age, sex, etc. between the two groups. Thus it substantiates the need to assess each spouse as an individual rather than to group them all together as a class of people. It is important to become aware of those needs which most spouses identify as important but the need for individualizing the assessment can not be over stressed.

In this study, only one nurse was associated with the same factor as the spouse s(he) was assessing. Thus, it demonstrates that the family assessments were not appropriately individualized. Of the seven nurse responses that made up Factor 1, only four of those represented different nurses. One of those responded in like fashion when assessing three spouses and a second nurse assessed two spouses similarly. During the Q sort nurses stated they had difficulty assessing the needs of the spouses because they felt they barely knew them during their short stay in CCU. Further research in this area should include the nurse's statement as to the length of time that s(he) has had contact with the spouse. This may help to point out the reason that they feel they do not know the spouse; is it due to not enough contact time with the family or the feeling that understanding the needs of the family is of low priority? The nurses did state that they

thought their first priority was to care for the patient rather than to involve the spouses in the care of the patient.

It was surprising to note that the spouse's interpretation of the seriousness of the patient's illness did not affect the ordering of the spouses' needs. The spouses comprising Factor one stated they felt the patient's condition was critical or serious five times and good/fair one time. Those of Factor 2 rated their spouse's condition serious/critical ten times to five times as good/fair; a non-significant difference. Perhaps the spouses, due to the fact that the patient was in a critical care unit, had similar feelings about the severity of the spouse's illness even though they rated the patient's condition differently. Otherwise perhaps there really is no difference between the spouse's perception of the patient's condition and the needs of the spouse. Further study in this area should be done to clarify this issue.

It was interesting to note that seven spouses identified the patient as more ill than the nurse did, ten assessed the level of illness the same as the nurse, and eight less ill than the nurse assessed. Thus, spouses did not appear to consistently over or under estimate the patient's severity of illness.

Care must be taken not to generalize the results of this study to the general population. Although the subjects appeared relatively representative of the spouses and nurses in this community, further research replicating this study in larger and smaller hospitals and in other localities would be beneficial.

Further use of Q methodology with interpretation by factor analysis could be of great benefit in studying complex psychosocial issues of great importance to nurses.

Many spouses who took part in this study stated that they enjoyed sorting the Q cards. Several mentioned that they had learned a great deal about themselves during the sorting. So not only is this technique helpful in understanding more about patients, spouses, and health professionals, but it also is beneficial as an introspective tool, a way of helping people better understand their own feelings and attitudes.

Studies which could easily evolve from this one include those that look at the change in the spouse's needs as patients are transferred out of the critical care areas, those that look at needs of spouses with various diagnoses, and ones that examine the support network of the family as it relates to need assessment, to mention only a few. By understanding the needs of the family, the nurse can provide support to the family in ways which are appropriate to their needs. In turn, if the needs of the family are met, the patient's needs can be better met. Thus, achieving a more holistic approach to patient care.

Appendix A

Forty-Five Need Statements Used in Q Sort

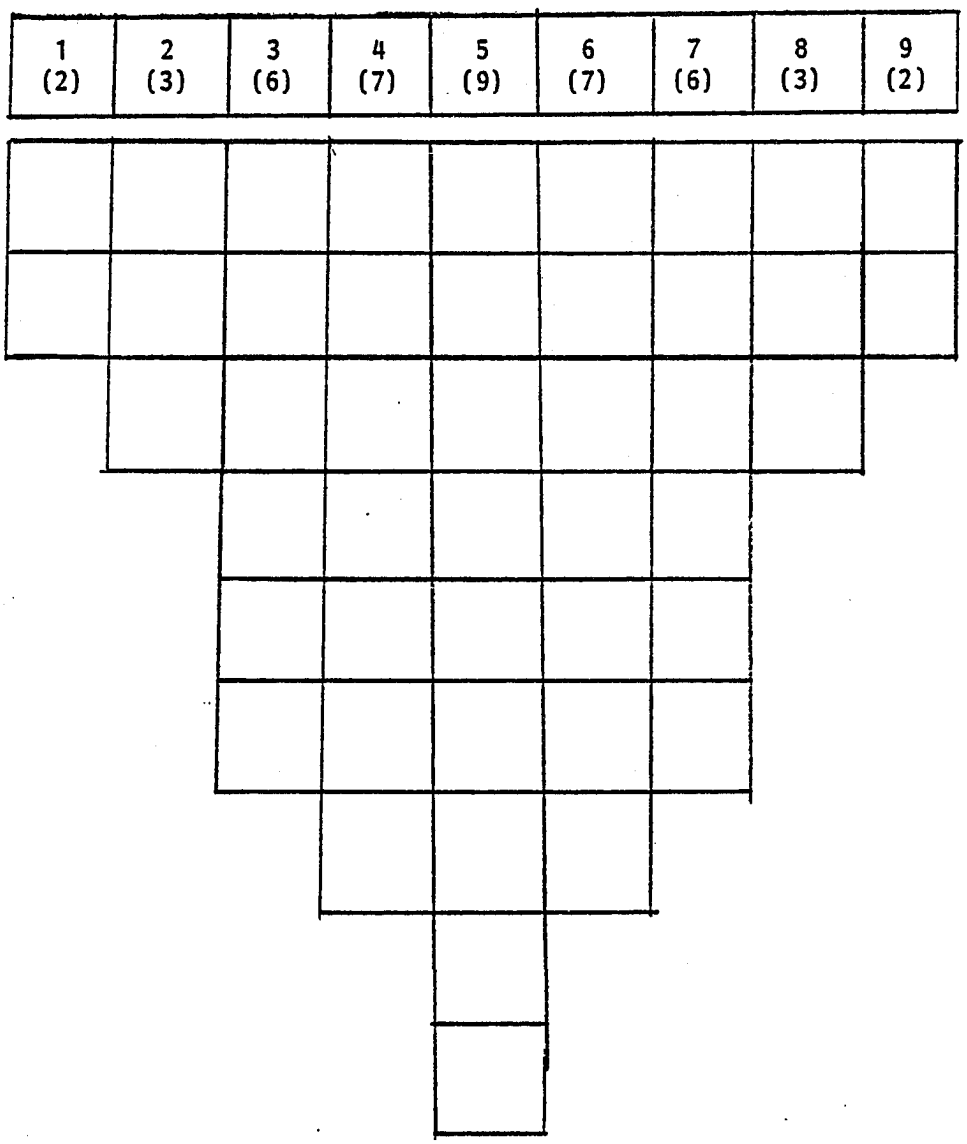
1. To know the prognosis.
2. To have the arrangement of the coronary care unit and equipment in it explained to you before going into the unit for the first time.
3. To talk to the doctor every day.
4. To have a specific person to call at the hospital when you are unable to visit.
5. To have questions answered honestly.
6. To have visiting hours changed for special conditions.
7. To talk about negative feelings such as guilt or anger.
8. To have good food available in the hospital.
9. To have directions as to what to do at the bedside.
10. To visit at any time.
11. To know which staff members could give what type of information.
12. To have friends nearby for support.
13. To know why things are being done for your spouse.
14. To feel there is hope
15. To know about the different types of staff members caring for your spouse.
16. To know how your spouse is being treated medically.
17. To be assured that the best care possible is being given to your spouse.

18. To have a place to be alone while in the hospital.
19. To know exactly what is being done for your spouse.
20. To have comfortable furniture in the waiting room.
21. To feel accepted by the hospital staff.
22. To have someone help with financial problems.
23. To have a telephone near the waiting room.
24. To have the pastor visit.
25. To talk about the possibility of your spouse's death.
26. To have another person with you when visiting the coronary care unit.
27. To have someone be concerned with your spouse's health.
28. To be assured it is alright to leave the hospital for a while.
29. To talk to the same nurse every day.
30. To be encouraged to cry.
31. To be told of other people who could help with problems.
32. To have a bathroom near the waiting room.
33. To be alone at times.
34. To be told about someone who could help with family problems.
35. To be given explanations that are understandable.
36. To be told about chaplain services.
37. To help with your spouse's physical care.
38. To be told about transfer plans as they are being made.
39. To be called at home about changes in the patient's condition.
40. To receive information about your spouse once a day.

41. To feel that the hospital personnel care about your spouse.
42. To know specific facts about your spouse's progress.
43. To see your spouse frequently.
44. To have the waiting room near your spouse.
45. To know that information will remain confidential.

Appendix B

Arrangement of the Q Sort



Piles	1	2	3	4	5	6	7	8	9
	Least Important				Moderately Important				Most Important

Appendix C

Spouse's Informed Consent

I, _____, herewith agree to participate as a subject in the investigation of Priority Family Needs under the supervision of Kathleen Johnston, R.N., B.S.N. The investigation aims to compare how the nurse prioritizes the needs of the spouses of patients with cardiac problems and how the spouse would identify those same needs. I understand that I will participate in a Q sort technique in which I will be asked to place forty-five (45) "need" statements into nine (9) piles according to their importance to me. This procedure will take approximately forty minutes and will be performed in the visitor's lounge. There are no expected risks and all information will be kept confidential. I understand I will be able to withdraw from participation in this investigation at any time and that my withdrawal will in no way effect the care given to my spouse. By participating in this study, I will be contributing to new knowledge that may benefit spouses of patients in the future.

I have read and fully understand the foregoing information.

_____ _____

Date Subject's Signature

_____

Witness

Appendix D

Directions for the Q Sort

Q sort is a technique used to prioritize opinions, feelings, judgements, values, or beliefs. In this study, you will be asked to place forty-five (45) cards on which are written "need" statements into nine (9) different piles from least important to most important.

1. Before you begin, read through all of the "needs" statements to get a general idea of the needs you will be asked to sort.

2. Next, divide the cards into three broad piles. The pile to the right should contain those "needs" which you feel are most important to you, the one to the left for those least important and those in the middle for only the moderately important needs.

3. Place the nine identifying cards in order (one to nine) in front of you. Notice these identify the nine piles into which you will be asked to place the need statements. Under each pile number you will find the number of cards which you should place in each of the nine piles. Place only that number cards in that pile. For example, place two cards in pile one and nine, three cards in piles two, and eight, etc.

4. Now, out of your most important pile, select THE TWO MOST important needs. Place these in pile number nine.

5. Out of your least important pile, select THE TWO LEAST important needs.

6. Now from your most important pile, select the next three most important needs and place in pile eight, etc. moving from most important to least important until all of the cards are placed in one of the nine piles.

7. If you wish to change the position of any of the cards, you may do so at any time.

If you have an questions or comments, please speak with the researcher. Thank you for your opinion, your time, and your patience.

Appendix E

Code #_____

Demographic Data of the Spouse

Please place an X next to the appropriate response or fill in the blank provided. This information will remain confidential and will help the researcher learn how different people interpret their needs.

Age: _____ 21-30
_____ 31-40
_____ 41-50
_____ 51-60
_____ 61-70
_____ 71-80
_____ 80-

Sex: _____ Male
_____ Female

Ethnic Background: _____ Black
_____ Caucasian
_____ Hispanic
_____ Native American
_____ Other (Specify)

Educational Level: _____ 0-8 years
_____ 9-12 years
_____ 13-17 years
_____ 17- years

Code # _____ (continued)

Occupation: _____

Gross Annual Income of family:

_____ 0-$9,999

_____ $10,000-$14,999

_____ $15,000-$19,999

_____ $20,000-$24,999

_____ $25,000-$29,999

_____ $30,000-

Religion:

_____ Catholic

_____ Jewish

_____ Protestant (Specify)

_____ Other (Specify)

How ill do you feel your spous is?

_____ Critical

_____ Serious

_____ Fair

_____ Good

How many times have you visited someone close to you in the Hospital?

_____ This is the first time

_____ 2-3 times before

_____ 4-5 times before

_____ 6 or more times

Appendix F

Nurse's Informed Consent

I, _____, herewith agree to participate in the investigation of Priority Family Needs under the supervision of Kathleen Johnston, R.N., B.S.N. The investigation aims to compare how the nurse prioritizes the needs of the spouses of patients with cardiac disease and how the spouse would prioritize those same needs. I understand that I will participate in a Q sort technique in which I will be asked to place forty-five (45) "need" statements into nine (9) piles according to how I think_____ would identify those needs. There are no expected risks and all information will be kept confidential. I understand that I will be able to withdraw from participation in the investigation at any time and that my withdrawal will have no adverse effect on me. By participating in this study, I will be contributing to new knowledge that may be used to provide more effective care to patients with cardiac disease and their families in the future.

I have read and fully understand the foregoing information.

_____ _____

Date Subject's Signature

_____

Witness

Appendix G

Code #_____

Demographic Data of the Nurse

Please place an X next to the appropriate response or fill in the blank provided. This information will remain confidential and will help the researcher learn how different nurses interpret the needs of the spouse's of cardiac patients.

Age: _____ 21-30
_____ 31-40
_____ 41-50
_____ 51-60
_____ 61-70

Sex: _____ Male
_____ Female

Race: _____ Caucasian
_____ Black
_____ Hispanic
_____ Native American
_____ Other (Specify)

Educational Level: _____ Diploma
_____ ADN
_____ Bachelors
_____ Masters

Number of Years in Nursing _____ 0-5

_____ 6-10

_____ 11-15

_____ 16 or more

Years Worked in an ICU and/or CCU _____ 0-2

_____ 3-5

_____ 6-10

_____ 11-15

_____ 16 or more

Religion: _____ Protestant (Specify)

_____ Catholic

_____ Jewish

_____ Other (Specify)

How would you classify the condition of the patient?

_____ Critical

_____ Serious

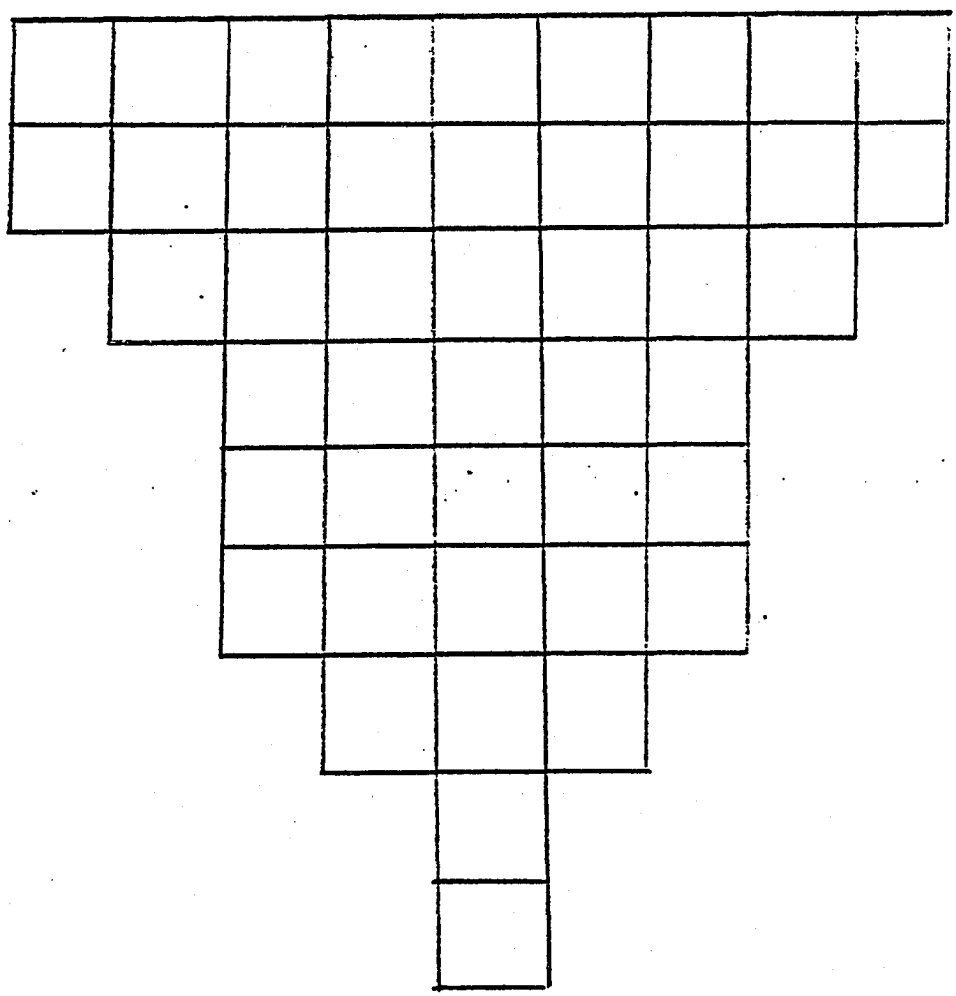
_____ Fair

_____ Good

Appendix H

Code #_____

Data Collection Sheet



Piles 1 2 3 4 5 6 7 8 9

Least Important — Moderately Important — Most Important

Appendix I

Varimax Factor Matrix

	Factor 1	Factor 2	Factor 3
Spouse 1	.572 *	.374	.383
Spouse 2	.365	.506 *	.277
Spouse 3	.106	.606 *	.209
Spouse 4	.360	.367	.656 *
Spouse 5	.018	.336	.334
Spouse 6	.363	.608 *	.305
Spouse 7	.237	.512 *	.304
Spouse 8	.171	.537 *	.310
Spouse 9	.492	.599 *	.058
Spouse 10	.458 *	.206	.336
Spouse 11	-.020	.553 *	.314
Spouse 12	.103	.704 *	.325
Spouse 13	.288	.420 *	.315
Spouse 14	.303	.750 *	.129
Spouse 15	.374	.471 *	.114
Spouse 16	.421	.535 *	.247
Spouse 17	.493 *	.310	.325
Spouse 18	.547 *	.204	.177
Spouse 19	.110	.052	.082
Spouse 20	.639 *	.231	.370
Spouse 21	.163	.492 *	.080
Spouse 22	.415	.500	.452
Spouse 23	.545 *	.300	.442

Spouse 24	.449	.590 *	.441
Spouse 25	.410	.566 *	.242
Nurse 1	.682 *	.384	.151
Nurse 2	.236	.282	.685 *
Nurse 3	.260	.290	.763 *
Nurse 4	.547 *	.462	.177
Nurse 5	.559 *	.135	.532
Nurse 6	.658 *	.170	.132
Nurse 7	.637 *	.357	.170
Nurse 8	-.536	-.251	-.484
Nurse 9	.342	.120	.829 *
Nurse 10	.520	.223	.510
Nurse 11	.034	.171	.824 *
Nurse 12	.505 *	.262	.199
Nurse 13	.269	.212	.752 *
Nurse 14	.620 *	.228	.201
Nurse 15	.186	.580	.624 *
Nurse 16	.351	.167	.344
Nurse 17	.048	.262	.008
Nurse 18	.399	.118	.435 *
Nurse 19	.334	.288	.541 *
Nurse 20	.413	.192	.423
Nurse 21	.455	.066	.491 *
Nurse 22	.443	.225	.709 *

Nurse 23	.198	.211	.591 *
Nurse 24	.378	.175	.534 *
Nurse 25	.473	.276	.506

* Signifies factor with which subject associated

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