

ADJUSTMENT TO STROKE: LEARNED HELPLESSNESS  
& ATTRIBUTIONS OF SPOUSES

By

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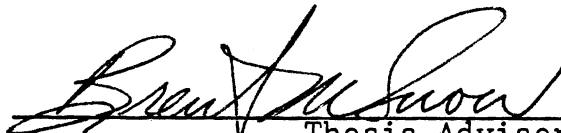
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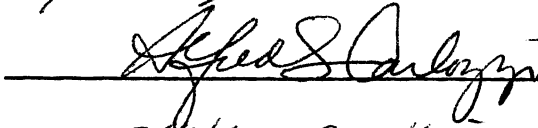
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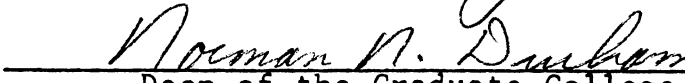
  
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## Chapter I

### The Problem

#### Introduction to the Problem

It has long been recognized that family involvement and adjustment are key elements in the recovery and subsequent adjustment of individuals with disability (Campion, 1984; Greif & Matarazzo, 1982). Despite evidence concerning the importance of the family, literature pertaining to treatment of families of individuals with disabilities is scant. Most available literature focuses on a specific intervention strategy or technique to be used during specific phases of the family's recovery and adjustment but lacks a consistent framework from which the family may be assessed and treated through all phases of recovery. The theory of learned helplessness (Seligman & Maier, 1967), especially as it is reformulated to include attribution theory (Abramson, Seligman, & Teasdale, 1978), may lend such a framework.

#### Background of the Problem

The theory of learned helplessness was first described in 1967 by animal learning researchers at



the University of Pennsylvania (Seligman & Maier, 1967). These researchers found that when dogs were exposed to inescapable electric shocks, they showed a disruption in behavior evidenced by the inability to learn responses to terminate the shock in later trials. This disruption in behavior had three components: (a) a motivational deficit, described as a failure to initiate escape responses, (b) a cognitive or associative deficit, described as an inability to learn from occasional successful escape responses, and (c) an emotional deficit, described as a passive acceptance of the shock (Seligman & Maier, 1967; Overmier & Seligman, 1967). The researchers proposed that the dogs learned in the initial trial that shock was inescapable regardless of their response. This learning generalized to subsequent trials and the dogs actually learned to be helpless, not initiating escape responses when escape was actually possible (Overmier & Seligman, 1967).

This original theory evidenced some weaknesses when applied to humans and, in 1978, was reformulated to include attribution theory (Abramson, Seligman, & Teasdale, 1978). Attribution theory examined individuals' beliefs as to whether factors within the

person or factors within the environment determine outcomes (Heider, 1958). Later work by Weiner (1974) proposed an attributional theory of achievement motivation which included Heider's dimension of causation for success or failure and called it the internal-external (locus) dimension. Weiner (1974) also added a second dimension of causes or attributions called the stable-unstable (stability) dimension, which identified if the cause was chronic or transient. In combining attribution theory with learned helplessness, it was proposed that when an individual was presented with an uncontrollable event, the individual attributed helplessness to a cause (Abramson et al., 1978). The particular type of cause or attribution chosen determined if the individual would learn to be helpless in future events.

According to this reformulation, attributions occurred in three dimensions. Attributions were internal or external, global or specific, and stable or unstable. The first dimension described the locus of one's attributions. Internal attributions were made when the cause of helplessness was due to characteristics within the individual as opposed to characteristics of the environment or situation

(external). The reformulation proposed that internal attributions, as opposed to external attributions, for aversive events were associated with a subsequent loss of self-esteem. Abramson et al. (1978) described global attributions as the belief that helplessness occurred across all situations rather than in isolated situations (specific). If the individual attributed the cause of the uncontrollable event to global factors, then generalized helplessness would occur (Peterson, 1982). The third dimension involved stability. A stable attribution was the belief that factors affecting helplessness would persist over time rather than being transient (unstable). Peterson and Seligman (1984) noted that "the more enduring the attributed cause, the more long-lasting the helplessness following uncontrollability (p. 4). Peterson and Seligman (1984) further proposed and supported empirically that internal, stable, and global attributions, in conjunction with actual aversive events, precede the development of depression. They theorized that attention to individuals with these types of attributions would be a practical means of predicting who was at risk for depression as these individuals would be considered to have a depressive

"explanatory style" (Peterson & Seligman, 1984). Individuals do not have 100% consistency in the internality, stability, and globality of their explanations, but more consistency can be expected for explanatory style than for many other personality traits (Mischel, 1968). However, according to Peterson and Seligman (1984) reality of life situations may over-ride style in determining explanations. For instance, the demographics of low economic status or religious beliefs may influence the attributions made by individuals in similar circumstances. Peterson and Seligman (1984) stated that explanatory style "should be treated as a dependent variable that can be modified by life events, as well as an independent variable that modifies future events" (p. 8). Demographics may comprise some of the life events which alter attributions. There is growing evidence that illness may also influence attributions.

Attribution theory and this reformulation theory of learned helplessness have been applied in various areas of health and medicine examining attributions of chronic kidney dialysis patients (Pritchard, 1974), diabetic patients (Lowery & Ducette, 1976), and myocardial infarction patients (Cromwell, Butterfield,

Brayfield & Curry, 1977). Although various instruments were used, it was clear that dimensions of attributions varied from one category of illness to another as observed by Watts (1982) who stated, "patterns of attribution may vary from one specific illness to another" (p. 145).

Few studies exist that examine the application of theory to individuals with the specific illness or diagnosis of stroke. Stroke is the second leading cause of disability in the United States. A stroke is a disruption in blood supply to the brain, interrupting the supply of needed nutrients to the brain tissue (American Heart Association, 1981). When the blood supply to a portion of the brain is disrupted, that portion of the brain tissue dies. Whatever function that portion of the brain served must then be compensated by another portion of the brain; if this cannot be accomplished, that function is lost. Strokes are responsible for hospitalizing approximately 440,000 victims each year and it has been estimated that there are over two million individuals with stroke in the United States today (Lavin, 1985).

The effects of strokes are many with the combinations being as numerous and varied as the

individuals who have strokes. The effects may be divided into three large categories: (a) cognitive/perceptual, (b) behavioral/emotional, and (c) physical. Cognitive/perceptual changes which may be experienced include attention and memory deficits, impaired receptive or expressive language functioning, impaired judgement, visual/spatial deficits, deficits in sequencing and abstract reasoning, inflexibility, inability to integrate new tasks and skills into behavior, as well as an inability to carry out a plan of action. Behavioral/emotional impairments or disabilities may include agitation, poor emotional control, impulsivity, self-centeredness, apathy, depression, suspiciousness, temper tantrums, and withdrawal. Physical impairments or disabilities may effect muscle movement, sensation, sight, hearing, taste, and control of bowel, bladder and sexual functions (Blackby, 1985; Howard, 1985; Lavin, 1985; Symington, 1984). Considering the various combinations of disabilities which may be experienced following a stroke and considering Watts' (1982) observation that patterns of attributions may vary from one illness to another, the question arises as to whether there are common attributions made by individuals with strokes or

their family members. No studies exist which examine the attributions of individuals with strokes or their family members.

The importance of family members' involvement and support in the recovery of an individual with a disability has been well established (Campion, 1984; Greif & Matarazzo, 1982). The family is confronted with a unique and uncontrollable event when disability occurs to one of its members. According to Kozy and Tarvin (1985), when disability occurs:

family system functioning becomes unbalanced and upset and the system attempts to stabilize itself. . . We must recognize that little in the past coping experiences of most families has prepared them to deal with a crisis of such magnitude and long duration (p. 98).

Greif and Matarazzo (1982) further noted the effects of the family:

Disability affects not only patients but also those with whom their lives are intimately connected; most notably, spouses and other family members. These individuals, as well as the patient, experience considerable change and stress as a result of the patient's impaired functioning

(p. 103).

A study of Parmelee (1983) suggested that the effect of serious illness or disability for the spouse may be different than for other family members. She noted that spouses who act as caregivers receive less assistance from others than children or other relatives who act as caregivers. Her study also suggested that individuals receiving care from their spouse perceived more negative affect and negative behavior from these caregivers than a control group who had children or others acting as caregivers. When the uncontrollable events of a stroke occur, the spouse makes attributions concerning the cause of uncontrollability or helplessness for this event. The question then arises, do the types and patterns of attributions made by spouses of individuals with strokes effect their acceptance of the disability?

Two concepts closely related to acceptance of disability include self-esteem (Linkowski & Dunn, 1974), and depression (Worden, 1982). Linkowski and Dunn (1974) have demonstrated a positive correlation between acceptance of disability and self-esteem and, as noted earlier, internal attributions are reported to correlate with a loss of self-esteem (Abramson et al.,



1978). It may be that spouses who make internal attributions are less accepting of their mates' disabilities. In addition, Worden (1982) stated that feeling depressed and hopeless after a loss

is a transient phenomenon for many, but when these feelings of hopelessness blossom out and become symptoms of irrational despair, then this can indicate an exaggerated grief response (p. 60).

Kerr (1977) described five stages of family adjustment to a disability, the third of which was the stage of mourning. In this stage, "the family begins to recognize that life will never be exactly the same and begins to confront issues of loss, change, and rebuilding" (Kerr, 1977, p. 17). She reported that this mourning must be resolved in order for the family to move on in a healthy direction of adjustment. It has been noted that some families and spouses do not adjust or accept disability as well as others (Blackby, Symington, 1984). It may be that those spouses who experience an exaggerated grief response or remain depressed explain their mate's stroke and its effects in the pattern of internal, stable, and global attributions, which has been identified by Peterson and

Seligman (1984) as a risk factor for the development of depression. A spouse may possess characteristics, other than attributions, which influences acceptance of disability, however.

Broden (1970) suggests that the aged may respond differently to loss of physical function than someone younger. The demographic variable of education has been found to positively correlate with acceptance of disability (Thomas, Davis, & Hochman, 1976). In addition, Safilios-Rothchild (1970) also hypothesized that there is greater adjustment among those with more personal resources.

#### Statement of the Problem

Little information is available concerning attributions made by spouses of individuals with stroke and the relationship between the attributions made and the acceptance of their mate's disability. Little information is also available concerning the relationship of demographics with the attributions and the level acceptance of disability of these individuals.

#### Purpose of the Study

The purpose of this study, therefore, was to examine the relationship among demographics, the types

and patterns of attributions made, and the level of acceptance of spouses of individuals with a stroke.

#### Research Question

The study examined the following question:

What is the relationship among demographics of spouses of individuals with stroke, internal, stable, and global patterns of attributions made, and the level of disability acceptance?

#### Study Hypothesis

There is a relationship among demographics of spouses of individuals with stroke, their attributional scores, as measured by the CAVE Technique (Peterson & Seligman, 1984), and their level of acceptance of disability, as measured by the modified AD scale, (Linkowski, 1971).

#### Definition of Terms

Acceptance of disability - a process involving changes in the value systems of those affected by a disability as measured by the Acceptance of Disability Scale (Linkowski, 1969).

Attributions - the reason or cause the spouse gives for a particular situation which may be categorized into a pattern of internal-external, global-specific, and/or stable-unstable as measured by

the CAVE Technique for Assessing Explanatory Style.

Learned helplessness theory - a theory which proposes that an individual faced with an uncontrollable event has an emotional, cognitive, and motivational disruption in behavior which may be generalized to future events (Seligman & Maier, 1967).

Stroke - an interruption in blood supply to a portion of the brain which causes death of brain tissue and loss of whatever function (cognitive, physical, or behavioral) that tissue served. This will be documented by the medical diagnosis on the medical records.

#### Delimitations of the Study

A delimitation of the study is that caution must be used in generalizing to those other than spouses of individuals with strokes who have participated in this study. Although attributions that spouses of individuals with strokes make may be similar throughout the United States, the amount of spouse involvement and education during rehabilitation varies from program to program and may influence the spouses' attributions.

#### Limitations of the Study

Two limitations involving validity are inherent in the study design. The first limitation is that the subjects will participate on a voluntary basis. Those

unwilling to participate may somehow be different in other ways than demographics, which is all that will be examined. The second limitation involves the instruments. There is a potential for the measures to be reactive and the subjects may answer as they think is desirable rather than is accurate.

#### Organization of the Investigation

Chapter II presents an extensive review of the literature and research results which are related to this study. Chapter III describes the sample under investigation, the instruments used to measure the variables, and the procedures used to collect and analyze the data.

Chapter IV presents the statistical analysis and the interpretation of data. Chapter V presents a summary, conclusions, and recommendations.

## Chapter II

### Review of the Literature

This chapter is divided into four major sections and will reviewing literature pertinent to the proposed study. The first section examines the concepts and theories of learned helplessness and attributions. The second section examines the concepts of acceptance and adjustment to disability as they relate to the individual with the disability and to the family. The third section examines the relationship between learned helplessness, attributions, and adjustment/acceptance of disability. Finally, a summary states the purpose of the present investigation and the rationale, based on the literature.

### Learned Helplessness and Attributions

Learned helplessness was first described by Overmier and Seligman (1967) and then by Seligman and Maier (1967) in animal laboratories using dogs as subjects. Through a variety of experiments, these investigators inferred that significant interference of escape-avoidance responding of dogs occurred if the dogs were first exposed to inescapable shock. They

interpreted this phenomena as:

supporting a learned "helplessness" explanation of interference with escape responding: Ss failed to escape shock in the shuttle box following inescapable shock in the harness because they had learned that shock termination was independent of responding (Seligman & Maier, 1967, p. 1).

In both studies, learned helplessness was demonstrated by the dogs if all responses or attempts to eliminate or reduce the severity of the shock were of no avail. Even in a shuttle box, easily escapable by the dogs, learned helplessness was evident if the dogs had first been exposed to inescapable shocks. The dogs seemed to "passively accept shock and fail to make escape movements" (Seligman & Maier, 1967, p. 1).

Numerous studies attempted to illicit this learned helplessness response in humans with varied amounts of success. Hiroto (1974), Hiroto and Seligman (1975), and Miller and Seligman (1975) claimed to have produced the helplessness effect in humans. They defined this effect as interference with learning as a result of exposure to uncontrollable, aversive stimuli. Each of these studies utilized a pretest-posttest, control group

design with the experimental groups demonstrating impairment of anagram solutions following exposure to uncontrollable aversive stimuli. Other investigators (Roth and Kubal, 1975; Tennen and Eller, 1977) utilized the same design and similar experimental procedures, but demonstrated different results. These investigators reported enhancement or no effect of subject performance after exposure to uncontrollable, aversive stimuli.

As a result, learned helplessness theory, when applied to humans, began to accumulate numerous reports of mixed reviews in the literature. Shortcomings, reported in the literature, were attributed to variability of the experimental studies and factors suspected to be unique to humans (Peterson, 1982; Roth, 1980). Shortcomings were reported by Peterson (1982): 1) the motivational deficit was not always present, 2) facilitation of performance, instead of facilitation of impairment, at times, occurred, and 3) when helplessness did occur, it was often not globally generalizable outside of the laboratory. Roth (1980) reported variables influencing learned helplessness in humans as including: 1) "the prior expectancy of a subject regarding his or her capability of controlling



outcomes either generally or in a particular situation" (p. 105), 2) the importance of outcomes to a subject, and 3) the similarity of the aspects of helplessness training and the test situations. A union of learned helplessness and attribution theory occurred in 1978 to alleviate shortcomings of learned helplessness when applied to humans.

Attribution theory was first described by Heider (1958) who proposed that the major function in understanding the world, social and physical, is for one to find the underlying causes of the things that one sees happening in it. Heider (1958) divided these underlying causes into two categories: personal (that which is caused by the person) and environmental (that which is caused by an external source). Other authors attempted to further organize and expand on Heider's observations with varying success and congruence (Jones & Davis, 1965; Rotter, 1966; Weiner, 1979). Kelley and Michela (1980) reported that over 900 pieces of work in attribution theory had been published up to 1980. One of the criticisms of this theory, however, was that it was only a group of observations and propositions, and not really a theory. A union with learned helplessness in 1978 further defined

attribution theory (Abramson et al., 1978).

In the reformulation of learned helplessness, Abramson, Seligman, and Teasdale (1978) proposed that when one is presented with an uncontrollable event, one assigns reasons or attributions as to why the event is uncontrollable. The attribution made may predict the recurrence of helplessness in situations which are actually controllable according to this source. They further explained that attributions may be internal or external, stable or unstable, and global or specific. The types of attributions one assigned to an uncontrollable event determined if helplessness would be generalized to other situations. These authors defined the six types of attributions, the first two types being internal and external:

when people believe that outcomes are more likely or less likely to happen to themselves than to relevant others, they attribute these outcomes to internal factors. Alternatively, persons make external attributions for outcomes that they believe are as likely to happen to themselves as to relevant others (Abramson et al., 1978, p. 52).

Abramson, Seligman, and Teasdale (1978) defined

the third and fourth types of attributions as stable and unstable. They defined stable attributions as those made when one expects the uncontrollable situation to be long-lived or recurrent. Unstable attributions were defined as those made when the situation was perceived, for some reason, to be short-lived or intermittent. Abramson, Seligman, and Teasdale defined the fifth and sixth types of attributions as global and specific. They defined global attributions as those made when the expectation was that helplessness will occur across situations. Specific attributions were defined as those which imply that helplessness will occur only in the original or isolated situation. By focusing on the type of attributions made as the "cause" of learned helplessness, several of the shortcomings of learned helplessness theory, when applied to humans was addressed and data in support of the reformulation began to accumulate.

A recent study, which exemplified numerous other studies in support of the reformulation of learned helplessness with attribution theory, was reported by Alloy, Abramson, Peterson, and Seligman (1984). These investigators pretested 168 undergraduates with the

Attributional Style Questionnaire and the Beck Depression Inventory. They then divided the students into three groups containing two levels, one level of students who made more global attributions and one level of students who made more specific attributions. The first group experienced aversive noise which was escapable. The second group experienced unescapable, aversive noise but were told that the noise was escapable. The third group received no treatment. After receiving the treatment, each group was then presented with an anagram test. Results of this study indicated that people who exhibit a style of attributing negative outcome to global factors will show helplessness deficits in new situations that are similar or dissimilar to the original situation in which they experienced helplessness. The results of this study also demonstrated that people who exhibit a style of attributing negative outcomes only to specific factors will show helplessness deficits in situations that are similar, but not dissimilar, to the original situation. This study lended support to the reformulation of learned helplessness with attribution theory.

Many other studies also supported the

reformulation, the more recent of which include in the examination of the reformulation of the variable depression. In the reformulation of learned helplessness, Abramson et al. (1978) hypothesized that individual differences exist in attributional style and that there existed a depressive attributional style. This source stated that depression-prone individuals tended to attribute bad outcomes to global, stable, and internal factors. Seligman, Abramson, Semmel, and Baeyer (1979) further speculated that attributing good outcomes to external, specific, and unstable factors might increase vulnerability to depression. To test this hypothesis, 143 students from the University of Pennsylvania were requested to fill out the short form of the Beck Depression Inventory (BDI; Beck, 1967), the Multiple Affect Adjective Checklist (MAACL; Zuckerman & Lubin, 1965), and an Attributional Style Questionnaire (ASQ; Peterson, Semmel, Baeyer, Abramson, Metalsky, & Seligman, 1982). Pearson product-moment correlations of each attributional subscale with the BDI and the MAACL depression scores were calculated. Seligman et al. (1979) found support for the hypothesis: "overall, compared to nondepressed students depressed students reported internal, stable

and global attributions for bad outcomes, and external, unstable, and specific attributions for good outcomes" (1979, p. 244).

Another study was conducted by Metalsky, Abramson, Seligman, Semmel, and Peterson (1982) using undergraduates at the University of New York at Stony Brook. They were administered the Attributional Style Questionnaire (ASQ; Peterson et al., 1982) and a questionnaire concerning their aspirations for their midterm exam. Students indicated grades they would be pleased with. The Multiple Affect Adjective Checklist (MAACL; Zuckerman & Lubin, 1965) was administered to assess depression just prior to the midterm exam and immediately following receipt of the midterm exam grade. As predicted, students who had made more internal, stable, and global attributions on the ASQ and received non-pleasing grades evidenced more residual gain scores on the MAACL depression scale than students making external, unstable, and specific attributions.

A study using a sample population other than undergraduate college students was conducted by Rap, Peterson, Jonas, and Seligman (1982). These researchers administered the Attributional Style

Questionnaire to 106 hospitalized male veterans in the Northport Veterans Administration Medical Center. Included in the study were patients with the following diagnoses: (a) 30 unipolar depressed patients, (b) 15 nondepressed schizophrenic patients, and (c) 61 depressed medical and surgical patients. The depressed patients explained bad events with more internal, stable, and global causes, supporting the reformulation. These authors also inferred that internal, stable, and global attributions are not a general characteristic of psychopathology due to the nonsignificant results of the schizophrenic patients.

Weidner and Andrews (1983) lent further support to the relationship of attributions and depression in a study conducted with 22 undergraduate women in a small western university. They divided the women into two groups of eleven based on results of the Jenkins Activity Scale (Krantz, Glass, & Synder, 1974). One group represented Type A behavior and the other Type B. A Life Events Questionnaire (Marx, Garrity, & Bowers, 1975) and the Beck Depression Inventory (Beck, 1967) were then administered. Three inferences, based on the results, were stated. First, Type A students will engage in more self blame for important undesirable

life events. Second, Type A students will rate their desirable life events as less important than Type B students. Finally, the more depressed the subjects were, the more they saw themselves as the cause of undesirable life events. Internal attributions correlated with the incidence of depression.

Peterson (1982) stated that by attributing depression to an attributional style, depression becomes a behavior of which everyone is "capable" (p. 100) since the mechanisms responsible for it include contingency learning, attributional processes, expectation, and generalization. He stated further that in the learned helplessness framework, those with depression are not motivated to maintain any symptoms. There is no profit or pay-off in being depressed but rather, "depression results from certain needs or certain reinforcers" (Peterson, 1982, p. 101).

In another account by Peterson and Seligman (1984), it was hypothesized that the explanatory style of explaining bad events with internal, stable, and global causes preceded the development of depressive symptoms. They stated that this style lead to depression once bad events are encountered. They illustrated this point with longitudinal studies with



children, taking two measures of explanatory style and depression six months apart. The cross sectional data suggested that explanatory style at the time of the first measure can predict depression at the time of the second measure.

In 1984, Peterson and Seligman reviewed their current work relating the factors of depression, attributions, and learned helplessness to one another. In their studies, these authors have utilized cross-sectional correlational methods, longitudinal methods, quasi-experimental methods in which naturally occurring bad events are the manipulation, laboratory experiments, and case studies to examine these relationships. These authors stated that "depressive explanatory style precedes depression" (p. 360) and "bad explanatory style followed by bad events makes depression more likely" (p. 361).

Based on the above, it would seem the relationship between learned helplessness, attributions, and depression is well established in the literature. The relationship of learned helplessness, attributions, and self-esteem has also received some attention in the literature (Abramson & Sackeim, 1977; Abramson, Seligman, & Teasdale, 1978; Peterson, Schwartz &

Seligman, 1981; Schoeneman, Uchelen, Stonebrink & Cheek, 1986; Weiner, 1979). Self-esteem is largely determined by comparison of the self with others (Morse and Gergen, 1979). Relevant to the concept of self-esteem is the distinction between universal and personal helplessness made by the authors in the reformulation of learned helplessness with attribution theory (Abramson et al., 1978). Universal helplessness occurs when one believes that neither they nor any other individual is capable of solving a particular problem. When the helplessness that occurs is universal or common to all, external attributions are made, and no loss of self-esteem occurs. On the other hand, when one believes that they cannot solve a solvable problem, personal helplessness occurs, internal attributions are made, and a lowering of self-esteem occurs. Thus the relationship of learned helplessness, attributions, and self-esteem was proposed. Several studies support this relationship.

In 1979, Weiner, in his theory of motivation for some classroom experiences, also linked the causal dimension of locus (internal-external attributions) to esteem-related emotions. He gave the example of an individual with high self-esteem failing at a task

where there was high probability of success. Failure was attributed to external forces such as luck and self-esteem remained intact. Weiner (1979) then contrasted an individual with low self-esteem who failed at a task. Failure was attributed to low ability (internal attribution) and self-esteem decreased. Weiner (1983) reiterated his stance in a more recent publication as he stated: "attributions to internal factors for success, relative to external causality, increase self-worth, whereas self-ascriptions for failure decrease self-esteem" (p. 531).

Peterson, Schwartz, and Seligman (1981) have also reported that those individuals making internal attributions for failure tend to self-blame and suffer low self-esteem. Self-blame occurred when individuals believed that uncontrollable, aversive events would have been controllable for relevant others. In contrast to this, Schoeneman, Uchelen, Stonebrink, and Cheek (1986) found self-blame for failures infrequently in their study using 104 undergraduates. They added a dimension of controllability-uncontrollability, however, and asked their subjects to recall particular types of events from previous experience. This

retrospective, descriptive study was different from the experimental studies reported in this area. The design may account for some of the differences in findings from other studies.

In summary, learned helplessness as it was reformulated with attribution theory (Abramson et al., 1978) seemed to have corrected many of the weaknesses of the original learned helplessness theory. Many research studies have also supported this theory as a framework to examine the concepts of depression and self-esteem. These two concepts are also relevant to the dependent variable of the proposed study - that of acceptance and adjustment to disability.

#### Acceptance and Adjustment to Disability

Dembo, Leviton, and Wright (1956) were the first authors to define disability acceptance and its dimensions. They believed that acceptance was a process involving changes in the value system of the disabled person. These changes in the value system, these authors hypothesized, would help the disabled person overcome the suffering, mourning, and devaluation produced by a changed or damaged appearance. The two major areas of change defined by these authors were enlargement of scope of values and

changes from comparative values to asset values.

Enlargement of scope of values referred to realization of the loss of values held as a healthy individual and a replacement of values as a disabled individual, (e.g.: life could still be meaningful). Changes from comparative values to asset values referred to the development of a personal rather than a social frame of reference in evaluating one's performance.

In 1960, Wright added two other areas of change in one's value system which would enhance disability acceptance. Subordination of physique (Wright, 1960) was one of the areas of change and was defined as the extent that a disabled person was able to de-emphasize aspects of physical abilities and appearance that contradict the physical disability. The second area of change, according to this source, was containment of disability effects. This was defined as the extent that an individual did not spread the disability beyond the actual physical impairment to other aspects of the functioning self. In discussing acceptance or adjustment to disability, Wright (1960) stated that:

The resulting acceptance frees the person of devaluation because of a disability and also frees him to seek satisfactions in activities

that befit his own characteristics as a person rather than those of an idolized normal standard. The assumptions made and the consequences presumed lead us to expect that a person who in these terms accepts his handicap would be well on his way toward becoming well adjusted (p. 134).

These changes in the value system of the disabled individual continued to be researched as a process with various stages defined in the literature.

In a similar vein, Kubler-Ross (1969) defined stages of grief that terminally ill patients pass through in the process of mourning. These stages included denial or isolation, anger, rage, envy, and resentment, bargaining, depression and, finally acceptance. Kubler-Ross' (1969) framework of mourning for one's life has been the framework most often related to the process mourning a disability. Relatively little, however, has been written about individuals in the unique position of mourning a disability. Hughes (1980), for one, related Kubler-Ross' (1969) stages of mourning to stages of adjustment and grief for a disability. His first stage was denial, defined by the unwillingness to believe

that the disability is permanent. This stage was followed by one of anger and resentment. Anger was followed by a bargaining stage in which individuals try to make a deal with God to return certain functions for particular changes in their behavior. Depression was the fourth stage in which individuals face their losses. Acceptance was the last stage or "the quiet resolution after the long struggle" (Hughes, 1980, p. 132).

Kerr (1977) also described five stages of adjustment to a disability which relate, yet are a variation from, the stages reviewed above. Kerr (1977) defined her stages as shock, expectancy of recovery, mourning, defense, and adjustment. She stated that these stages are on a continuum and described common, but not inevitable, behavioral stages. The shock stage was described by Kerr (1977) as a stage in which the individual has not comprehended the fact that disability has occurred. Little anxiety, therefore, was expected according to Kerr (1977). She described the next stage as the realization that something is wrong accompanied by the expectation of recovery. When recovery does not occur, Kerr (1977) stated that mourning will follow and it is in this stage that she

believed some will stagnate. Most, she stated, will move on to the stage of defense, that stage which is characterized by coping efforts and attempts to be as normal as possible. Kerr (1977) believed that those who reach the adjustment stage no longer view their disabilities as barriers to be fought, but have found ways to satisfy their needs and believe that they are adequate persons.

Vash (1981) condensed the five stages described by Kerr (1977) into "two levels of acknowledgement of disability." She added a third stage that went beyond the resumption of normalcy to what might be construed as development into higher consciousness -- catalyzed, in part, by experience with disability" (p. 128). Level I, according to Vash (1981) was recognition of the facts. She stated that in this level the person understands the nature and extent of limitations of the disability, the probability of its permanence, the realities of the social stigmatization, and detests every bit of it. Vash's (1981) second level was acceptance of the implications. She stated that the person acknowledges the realities of the disabled condition, the implications are integrated into a chosen lifestyle, and disability is seen as an



inconvenience that can be mastered. Vash (1981) described the third level as an embracing of the experience. She stated that the person views the disability as a growth catalyst which has resulted in a different person than one would have been without the disability. According to Vash (1981) those who reach this level view the disability as an opportunity. Though stages and levels are different in each author's opinion, all seem to recognize that a period of mourning, grief, or adjustment occurs to the individual who experiences the disability.

Authors have also begun to recognize that the family of the disabled individual likewise experiences a period of mourning, grief, or adjustment (Kerr, 1977; Krueger, 1984; Vash, 1981). Vash (1981) stated that when a disability occurs, the family begins an adaptive process to regain equilibrium. She stated that "although one member owns' the disability, all family members are affected and, to some extent, handicapped by it" (Vash, 1981, p. 54). Krueger (1984), however, stated that their grief "may be resolved more slowly as they are not subjected to the intensity of training that the patient experiences" (Krueger, 1984, p. 209) in hospitalization or rehabilitation. Kerr (1977) also

noted that the family experiences stages of adjustment. She described the first stage of shock as a time of uncertainty, fear, confusion, and panic. The second stage, according to this author, is that of expectancy of recovery and is characterized by hope and the slow discovery by the family of the extent of the damage and prognosis for recovery. The third stage is one of mourning, and Kerr stated: "the family begins to recognize that life will never be exactly the same and begins to confront issues of loss, change, and rebuilding" (1977, p. 17). Stage of coping was Kerr's (1977) fourth stage when defenses, healthy or neurotic, may be used by the family to reestablish the lost equilibrium. The last stage was that of adjustment in which the family reintegrates the disabled family member back into the family system's functioning. It is at this point, according to Kerr (1977) that the redistribution of roles is completed, and the family adjusts to the changes imposed by the disability.

Various emotions and behaviors experienced by the individual with a disability have been noted to influence the family's adjustment. In exploring the family problems experienced in families with an individual with stroke, Binder (1983) noted that the

greater the alterations in cognitive, behavioral, or emotional status of the individual, the greater the suffering of the family. This same source stated that depression is common both in the individual with stroke and the family. A commonly heard phrase is: "It's like having another child in the family" (Binder, 1983, p. 18). If a marital relationship was poor prior to the stroke, it rarely, if ever, improves under the stress of organic personality change. According to Binder (1983), if the individual with stroke is demanding, irritable, depressed, or lacking the capacity to initiate affection or to empathize with others, it is common for the spouse to respond with guilt, anger, and depression.

Lezak (1978) discussed the adjustment problems faced by families following an individual's stroke or other brain injury based on her observations of spouses, primarily wives, of over 200 cases. She noted that the individual with the brain injury had characterological changes which adversely affected the spouse. Among these included impulsivity, self-centeredness, dependency, physical impairments, intellectual impairments, and depression. She reported that spouses, in response to these characterological

changes, experienced annoyance, embarrassment, frustration, guilt, impatience, and depression.

Other studies examining spouses' responses to brain injury have reported similar findings. Rogers and Kruezer (1984) reported frustration, anger, irritability, and guilt as being common personal reactions of spouses and mothers of brain injured individuals. Mauss-Clum and Ryan (1981) stated that friends frequently stop visiting those families with a brain injured individual. In addition to the social isolation, spouses frequently have no sexual outlets. Binder (1983) also noted the decreased frequency of sexual intimacy following stroke, but did not relate it to acting-out behaviors of the individual with the stroke. He, instead, noted that the individual with a stroke may feel unattractive and undesirable. The individual no longer behaves in a seductive or amorous fashion with the spouse and the "partner will respond in kind, confirming the patient's feeling of unattractiveness" (Binder, 1983, p. 18). A vicious cycle may begin which may increase depression due to further isolation and confirm the devaluation frequently experienced following a disability.

Vash (1981) noted that devaluation occurs, in

part, due to diminished competitive status in the job market, impoverished education and socialization, and poverty. The cost of hospitalization and rehabilitation may cause the family to move to more affordable housing, purchase fewer luxury items, if any, and apply for federal assistance.

In summary, individuals with disability and their families go through various stages of adjustment to the disability. Grief and devaluation may result in depression which in turn may affect disability acceptance. The reasons why some individuals and their families do not develop prolonged depression is unclear, but may be related to the types of attributions made about the disability and its effects.

Learned Helplessness, Attributions, and Acceptance of Disability

Few studies are available relating the concepts of learned helplessness, attributions, and acceptance of disability. Rodin (1978) stated that:

Attributional processes, life stress, feelings of control or helplessness, and self-esteem all seem to affect the likelihood of developing and sustaining a variety of medical disorders or healthy states (p. 531).

She noted that when events are attributed to the aging process and are seen as inevitable, remedial steps to avert further events of illness or disability are not undertaken. Watts (1982) has also noted that the particular types of attributions made by individuals "increase the likelihood of their making an optimal contribution to the treatment and management of their condition" (p. 144). He further noted, however, that patterns of attributions may vary from one illness to another. This may be illustrated by conflicting reports in the literature.

Manly, McMahon, Bradley, and Davidson (1982) studied 50 primiparous women during the third trimester of pregnancy. They hypothesized that depressive attributional style would correlate with depression of clinical severity one week following childbirth. Their results did not support this hypothesis as they stated: "The results provide negligible support for the notion of depressive attributional style as defined by the reformulated learned helplessness hypothesis" (Manly et al., 1982, p. 245). Several investigational shortcomings may be noted, however, including the use of a highly educated and a high economic status sample and measuring depression on the third postpartum day,

presumably while the women were still hospitalized.

In contrast to this study Weidner and Andrews (1983) hypothesized that attributions may differ between Type A, coronary heart prone individuals and Type B individuals. Their hypothesis was supported as Type A individuals engaged in more self-blame for important undesirable life events and also rated their desirable life events as less than Type B individuals.

If attributions truly differ from medical diagnosis to medical diagnosis, and if attributions are related to acceptance of disability, the question arises as to what types of attributions made by spouses of individuals with stroke correlate with a higher level of disability acceptance. No studies exist which examine the attributions made by spouses of individuals with stroke.

#### Summary

This chapter has examined the concepts of learned helplessness and attributions, acceptance of disability as it relates to the individual with the disability and the family, and the proposed relationship between all of these concepts. Chapter Three will explain the methods of the proposed study.

## Chapter III

### Methods

Chapter III will present the methods and procedures of the study. For the purpose of presentation the chapter has been divided into five sections. The sections are: description of the subjects, procedures, research instrumentation, statistical analysis of the data, and summary.

#### Description of the Subjects

The sample pool for this study were 98 spouses of individuals who were admitted to a 50 bed rehabilitation facility between January 1, 1986, and December 31, 1986, with the medical diagnosis of stroke or cerebrovascular accident. Of these 98 spouses, 32 actually participated in the study. The rehabilitation center in this study was a private facility located in a large metropolitan, Southwestern city in the United States. All individuals had a private insurance carrier and/or Medicare which paid 50 to 100 percent of rehabilitation expenses. The majority of patients were drawn from both urban and rural areas of Oklahoma, Arkansas, Kansas, and Missouri. The rehabilitation



facility admitted 98 married individuals with stroke during the year of 1986. The 98 spouses of the individuals with stroke comprised the sample group for this study. Those 32 spouses who participated ranged in age from 47 to 81 years. Seventy-two percent of the spouses were female, 91 percent were caucasian, six percent were black and three percent were Indian. Length of marriage for this group generally ranged from 25 to 64 years. However, three couples were married only 17, seven and one year.

Forty-four percent of the 32 spouses were Protestant, 41 percent of the spouses were Baptist, and three percent of the remaining spouses were Catholic, Episcopal, Methodist, Presbyterian, or Assembly of God denominations. Twenty percent of the spouses had less than a high school education. Forty-two percent of the spouses completed high school with twenty-four completing one to three years of college. Seven percent of the spouses had completed four years of college and the remaining seven percent had attended five or more years of college.

#### Procedures

The names of all 98 married individuals, who were admitted to the rehabilitation center between January

1, 1986, and December 31, 1986, with the medical diagnosis of stroke or cerebrovascular accident, were obtained from the facility's records. A cover letter (see Appendix A) consent form (see Appendix B) and a pre-addressed, postage-paid envelope were mailed to the spouse of each of these individuals.

Five consent forms were returned which indicated that five of the individuals with stroke were deceased and that spouses did not desire to participate in the study. A total of 43 spouses returned a signed consent form for participation. For those spouses who returned a completed consent form, a second cover letter (see Appendix C), a personal data sheet (see Appendix D), The Effects of Stroke Questionnaire (see Appendix E), and the Modified Acceptance of Disability Scale (see Appendix F), and a pre-addressed, postage-paid envelope were mailed within two days of the return of the consent form. For the remaining 50 spouses who did not return a completed consent form within two weeks of the initial mailing, a reminder letter (see Appendix G) was mailed. Ten of these spouses returned a completed consent form and were then mailed the second cover letter, questionnaires, and pre-addressed, postage-paid envelope as outlined above. As the questionnaires were

returned anonymously, there was no follow up correspondence or phone calls to the nonrespondents. The nonrespondents of the initial and reminder mailings did not receive further follow-up either.

A total of 35 questionnaires were returned, which was calculated as a return rate of 37.6 percent. Three of these were incomplete, therefore, 32 subjects were used for data analysis which comprised 34.4 percent of the sample group. Prior to mailing, power for analyses was computed and a response rate of 30 was determined to be an adequate sample size. Power with a response rate of 32 is computed to be 85.3.

#### Ethics

The names of spouses who agreed to participate in the study by returning a completed consent form were available only to this investigator and a secretary who assisted with typing and mailing. All questionnaires filled out by the spouses were identical without identifying names or code numbers and were anonymous. The personal data sheets had some information which would help identify one spouse from another, but no attempts at identification were made.

The consent form directed the spouse to call the investigator if any questions or concerns arose. The

investigator assessed each caller's questions and concerns, and responded with verbal answers, educational material, and referral to the Tulsa Stroke Survivors Club Support Group or an appropriate rehabilitation psychologist as deemed necessary. Eight phone calls were received in response to the study. Five of the callers had questions concerning the requirement of a meeting or fear of further obligations if one participated in the study. Two of the phone calls requested further information about stroke recovery and support group availability. These callers were referred to the Tulsa Stroke Survivors Club Support Group. One caller was concerned with his spouses lack of motivation and aggressive behavior following her stroke. This caller was referred to a Kaiser Rehabilitation Staff Psychologist and attended two sessions with the Psychologist without charge. A satisfactory solution was reported.

#### Research Instrumentation

One method for the collection and measurement of spouses' attributions and one method for collection and measurement of spouses' level of acceptance of disability was used. Permission for use of each method or instrument from the authors may be found in Appendix

H.

The first method was Content Analysis of Verbatim Explanations: The CAVE Technique for Assessing Explanatory Style (Peterson & Seligman, 1984). Data for this technique was extrapolated from the Effects of Stroke Questionnaire. The Effects of Stroke Questionnaire was developed by this investigator as a stimulus to guide the spouse in exploring attributions concerning the effects that their spouse's stroke had in various areas of their lives. This tool was piloted on ten spouses of individuals with stroke who were members of a Stroke Survivors Club. The Effects of Stroke Questionnaire was considered an adequate stimulus because the examiner was able to extrapolate at least three attributions from each of these ten questionnaires. The extrapolation of attributions is the first step of the CAVE Technique and was done by the investigator. Three attributions for each individual is the criteria considered to be adequate to assess the explanatory style of an individual (Peterson & Seligman, 1984). After extrapolation, the attributions were placed on index cards for rating by four judges. The judges consisted of three licensed, practicing psychologists and one doctoral counseling

psychology student in his preinternship year. All four judges were trained by the investigator. Training consisted of the judges reading the instructions on the Attributional Questionnaire (Peterson, Semmel, vonBayer, Abramson, Metalsky, & Seligman, 1982) and completing the questionnaire for themselves to gain some acquaintance with the meanings of the internal, stable, and global dimensions. The questionnaire allows an individual to rate each attribution on three seven point scales in terms on externality (1) versus internality (7), specificity (1) versus globality (7), and instability (1) versus stability (7). The investigator then elaborated on what the dimensions meant and provided illustrations of how other attributions have been rated in the past, (see Appendix I). Definitions of the dimensions and examples of each were listed on posters for reference during the rating procedures.

The judges were then asked to rate the attributions extrapolated from The Effects of Stroke Questionnaires obtained in the pilot study. Interrater reliability was computed by intraclass correlation, ANOVA approach (Weiner, 1971). Interrater reliability and was greater than .80, the criteria set as adequate

by this examiner to proceed with the study's sample ratings. If the interrater reliability had not equalled or exceeded .80, the ratings for each of the attributions would have been discussed by this investigator and the judges. Afterwards, sample attributions listed by Seligman and Peterson (1984) would have been rated by the judges, and another interrater reliability coefficient computed. This process would have continued until the interrater reliability equaled or exceeded .80.

The judges were then asked to rate attributions extrapolated from the study sample's Effects of Stroke Questionnaires. Interrater reliability of these ratings were also computed and will be reported in Chapter IV.

Other reliability measures for CAVE have been established by case studies. One such study reported by Peterson, Luborsky, and Seligman (1983) describes a patient, noted for his mood swings in and out of depression during the course of a session, who would precede his shifts to depression with internal, stable, and global explanations for bad events. Shifts from depression, on the other hand, were preceded by external, unstable, and specific explanations. After

obtaining transcripts from sessions in which mood shifts occurred, causal explanations were extracted from the 400 words spoken by the client immediately before and after the mood swing. These explanations were rated for internality, stability, and globality, then the ratings were combined into a composite explanatory style score. Highly internal, stable, and global explanations preceded an increase in the client's depression. External, unstable, and specific explanations preceded a decrease in the client's depression. Peterson et al. (1983) reported that "consistency of explanation, estimated by Cronach's coefficient alpha, was .89 for internality, .94 for stability, and .90 for globality" (p. 101).

Extensive construct validity for the CAVE technique has been established and reported by Peterson and Seligman (1984). For example, 12 excerpts from psychotherapy sessions with clients diagnosed with depression were supplied to Peterson and Seligman. The causal explanations for bad events were extrapolated and rated by four judges on the three dimensions. Peterson and Seligman explained that the ratings were collapsed across judges, then across dimensions, and finally across events from the same therapy session.



On the basis of this composite measure, patients were rank-ordered in terms of "good" versus "bad" explanatory style (Peterson & Seligman, 1984, p. 16). These ranks were returned to the psychotherapist who informed Peterson and Seligman that the excerpts were actually from only four clients at the beginning, middle and end of successful psychotherapy. The ranks perfectly identified where the clients were in that process. Peterson and Seligman (1984) reported that the odds of this occurring by chance are less than .001. Measurements from the CAVE technique have also been significantly correlated with the Beck Depression Inventory, as is predicted by the helplessness reformulation, and the Attributional Style Questionnaire (Peterson & Seligman, 1984).

The second instrument used was a modified version of the Acceptance of Disability Scale (AD). The original AD Scale may be found in Appendix J and the modified version may be found in Appendix F. The original version was modified by changing the wording of some of the statements so that they would appropriately reference the individual with the disability. For example, the statement "Because of my disability, I feel miserable much of the time" was

changed to "Because of my spouse's disability, I feel miserable much of the time".

The original AD Scale was developed by Linkowski (1971) based on Dembo, Leviton, and Wright's (1956) theory of loss. The AD Scale is a Likert-type scale of agreement versus disagreement containing 50 items. The 50 items were derived from the four aspects of the theory of loss and were developed in consultation with all three of the original theorists. To minimize error, the six-point scale was positioned beneath each statement. To decrease the potential of a positive response set, some items were stated positively and some negatively in relationship to their assessment of the aspects of the theory.

An odd-even split-half reliability was computed by Linkowski (1971) with a resultant  $r$  of .86. The Spearman-Brown Prophecy formula was then applied and estimated the full scale reliability of the AD Scale to be .93.

Concurrent validity for the AD Scale has been established with the Attitudes Toward Disabled Persons Scale with a resultant  $r$  of .81 (Linkowski, 1971). Construct validity has been established by a study in which scores on the AD Scale clearly differentiated

between two samples of people who were at contrasting points in their rehabilitation (Linkowski, 1986). The Acceptance of Disability Scale has also been correlated with variables important in this investigation. The relationship of the scale to numerous measures of self-concept has been demonstrated. For example, the Bills Inventory of Adjustment and Values (Turosak, 1974), Piers and Harris Self-Concept Scale (Heinemann and Shontz, 1982), and the Tennessee Self-Concept Scale (Wissel, 1981) demonstrate this relationship regardless of age, disability, or any other characteristics of the samples studied. The AD Scale also has an inverse relationship with depression, measured using the Beck Depression Inventory, with a significant  $r$  of  $-.32$  at the  $.05$  level.

There is no instrument which examines spouses' or families' adjustment to disability. The Acceptance of Disability Scale was modified, as previously mentioned, so that the wording would be appropriate for the spouse of an individual with disability. This instrument was chosen for use in this investigation because it has shown to be a valid and reliable measure of integration of one's disability into the self-concept and self-esteem, and because of its clear relationship with

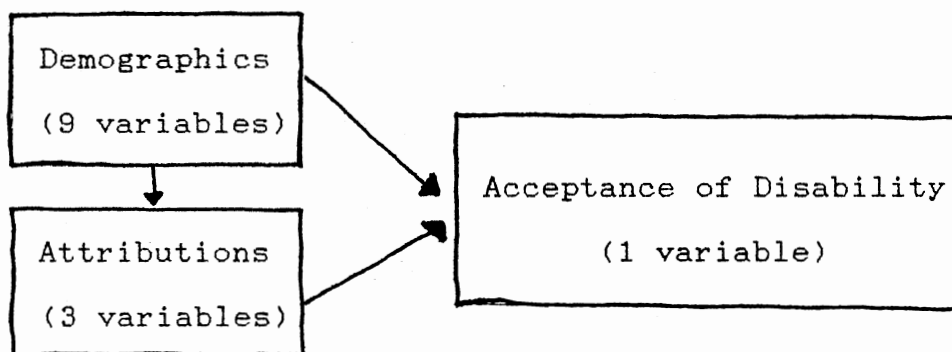
levels of depression.

In order to establish reliability and validity of this modified instrument, a sample of ten spouses of individuals with stroke who were members of a Stroke Survivors Club were obtained and given the modified instrument. An odd-even split-half reliability was computed from the results of the modified instrument. These results will be presented in Chapter IV. In addition, these individuals and a sample of 10 spouses of individuals with stroke who had just been admitted to a rehabilitation center were obtained and given the modified instrument and the Beck Depression Inventory. A Pearson Product Moment Correlation was computed from the quantitative scores of the modified instrument and the Beck Depression Inventory. The scores of the modified instrument were also plotted for the two groups to see that they clearly differentiated the two groups in relationship to their stages in rehabilitation. These results will be presented in Chapter IV. If the modified instrument had not differentiated the two groups, a discriminant analysis would have been done to determine which statements of the scale differentiated the two groups. The modified instrument would then have been re-written and

re-piloted as above.

### Statistical Analysis of the Data

The study hypothesis was analyzed by path analysis. This analysis entailed the path model shown below:



This model utilized the demographic and attribution variables as predictors of acceptance of disability. To maintain an adequate subject-to-variable ratio for the path regressions, preliminary bivariate correlations of demographic variables with the modified Acceptance of Disability Scale were conducted to eliminate redundant or nonsignificant demographic variables from analysis. Elimination of demographic variables not significant with the Acceptance of Disability Scale at the .01 level would minimize the experiment-wise error rate.

The path coefficients were to be obtained from the

beta weights of regression equations when 1) the level of acceptance of disability (the modified AD Scale) was regressed on the demographics (the Personal Data Sheet); 2) the attributions (the CAVE Technique), were regressed on the demographics; and 3) the level of acceptance of disability was regressed on the demographics and the attributions. The purpose of using the beta weights of the coefficients was to standardize the magnitude of change in the demographics and the attributions with the magnitude of change in the level of acceptance of disability. The level of confidence was set at .05.

#### Summary

The objective of this chapter was to clearly identify what this investigator attempted to accomplish. First, the subject population was identified. Second, the procedure and the ethics were described in some detail. Next, the instruments were described and justified. Finally, the methods of statistical analysis were described and documented. It is hoped that any reader would be able to replicate this study based on the details given in this chapter.

## Chapter IV

### Statistical Analysis of the Data

Chapter IV will present the statistical analysis and the interpretation of the data. For the purpose of presentation, the chapter has been divided into six sections. The sections are: CAVE Technique intrarater and interrater reliability, the modified Acceptance of Disability Scale reliability and validity, analysis of demographic variables with modified Acceptance of Disability Scale, analysis of attributions with demographics, analysis of level of acceptance of disability with attributions, and summary.

#### CAVE Technique Intrarater and Interrater Reliability

An interrater reliability (Weiner, 1971) of .80 on the ratings of the pilot study was the criteria set which would demonstrate adequate training and understanding of the judges of the three dimensions of attributions. Computation of interrater reliability of the four judges was computed using the Spearman-Brown prophecy formula and the mean squares of analysis of variance for each of the variables. Confidence level was set at .05. Results may be found

in Table 1.

Table 1

Interrater Reliability For Pilot Study

---

<u>Attribution Variables</u>	<u>r</u>
Internal	.85
Stable	.80
Global	.84

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Computation of intrarater reliability of the four judges was also computed using the mean squares of analysis of variance for each of the variables. Confidence level was again set at .05. Results may be found in Table 2.



Table 2

Intrarater Reliability For Pilot Study

<u>Attribution Variables</u>	<u>r</u>
Internal	.59
Stable	.50
Global	.56

The judges began to rate the attributions of the sample population immediately after the pilot study ratings were completed and the reliabilities were computed. The interrater and intrarater reliabilities of the four judges were then computed on the ratings of the sample population. Confidence was again set at the .05 level. Results may be found in Table 3 and Table 4.

Table 3

Interrater Reliabilities For Sample Population

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<u>Attribution Variables</u>	<u>r</u>
Internal	.98
Stable	.57
Global	.84

---

Table 4

Intrarater Reliabilities For Sample Population

<u>Attribution Variables</u>	<u>r</u>
Internal	.93
Stable	.25
Global	.56

During the course of rating the subjects, the judges began varying their ratings of the stable attribution dimension. The intrarater and interrater reliabilities reflects that confusion about this dimension occurred both within and between the judges. No overt indications suggested that this was occurring.

Modified Acceptance of Disability Scale Reliability and Validity

The Acceptance of Disability Scale was modified, as previously mentioned, so that the wording would be appropriate for the spouse of an individual with stroke. In order to establish reliability of this modified instrument, a sample of ten spouses of individuals with stroke who were members of a Stroke

Survivors Club were obtained and given the modified instrument. An odd-even split-half reliability of .89 was computed. Based on the odd-even split-half reliability of .89, the modified instrument has 79 percent error free variance indicating a reliable instrument.

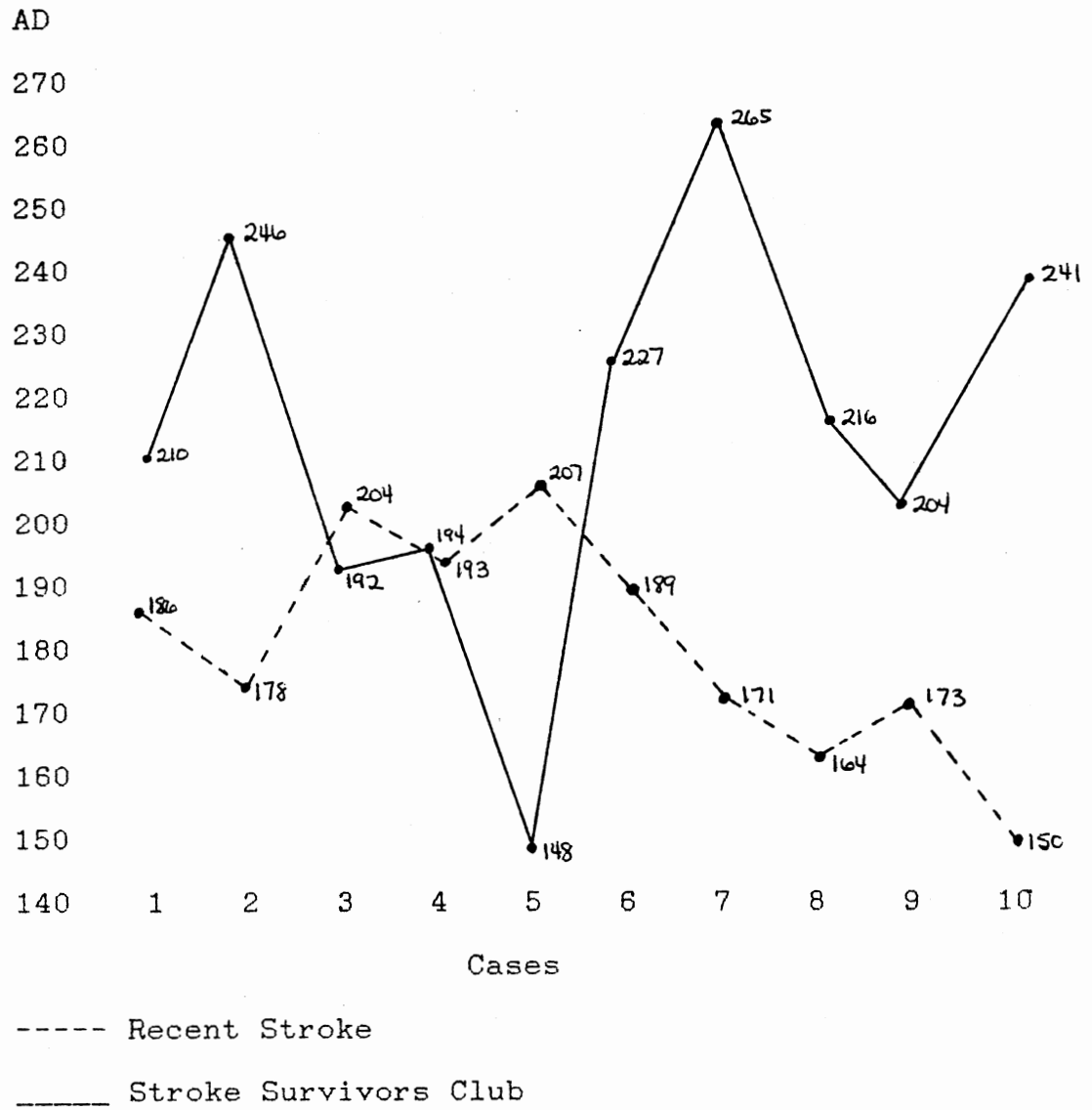
Validity of the modified Acceptance of Disability Scale was determined by computing a Pearson Product Moment Correlation from the quantitative scores of the modified instrument and the Beck Depression Inventory obtained from two samples of subjects at very different phases of their spouses' recoveries. An  $r$  of .444 was required with 18 degrees of freedom for significance for a confidence level of .05 (Linton and Gallo, 1975). An  $r$  of .561 was required with 18 degrees of freedom for significance for a confidence level of .01 (Linton and Gallo, 1975). The Pearson Product Moment Correlation computed between the modified Acceptance of Disability Scale (AD), and the Beck Depression Inventory (BDI), was .647. This correlation indicated a strong relationship between scores of the modified AD and the BDI. Spouses who scored high on the modified AD tended to score low on the BDI, whereas spouses who scored low on the modified AD

tended to score high on the BDI. Nearly 42 percent of the variance in the modified AD scores could be accounted for by the BDI scores demonstrating a valid instrument.

A plot of the scores of the modified AD for the two groups differentiating their stages in rehabilitation is shown in Table 5. The spouses of individuals with recent stroke appear more homogeneous on the graph which is probably quite accurate. The diagnosis of their spouses' strokes had been made within two months of this score. The Stroke Survivor spouses, however, had heard their spouse's diagnosis anywhere from two months to ten years of their score.

Table 5

AD Scores Of Spouses Of A Stroke Survivors Club  
Versus Spouses Of Individuals With Recent Stroke



Following analysis of the reliability and validity of the instruments, the task of analysis of the data, which related to the study hypothesis, began. For convenience of the reader, the study hypothesis is reiterated: there is a relationship between demographics of spouses of individuals with stroke, their attributional scores, as measured by the CAVE Technique (Peterson & Seligman, 1984), and their level of acceptance of disability, as measured by the modified AD scale (Linkowski, 1971).

#### Analysis of Demographic Variables and Modified Acceptance of Disability Scores

To maximize subject-to-variable ratio for the path regressions, preliminary bivariate correlations of demographic variables with the scores of the modified AD scale were conducted to eliminate redundant or non-significant demographic variables from analysis. Power for this analysis was computed to be .85 for an effect size of .50 and an alpha of .05. (Cohen & Cohen, 1975). Pearson Correlations revealed no significant relationships between any of the demographics and the modified AD scale. Results of the correlations are presented in Table 6.

Table 6

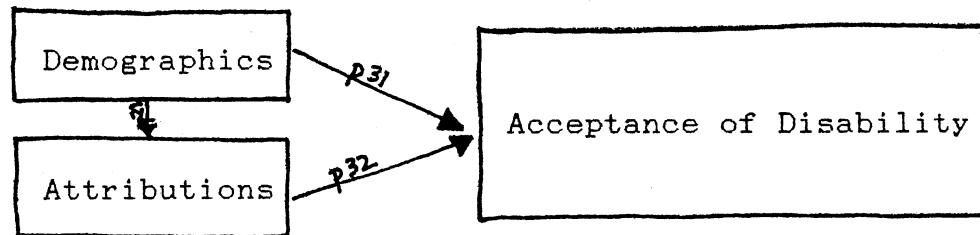
Significance of Correlations Between Demographics And  
Modified Acceptance Of Disability Scale

<u>Demographics</u>	<u>AD</u>
Spouse's Age	.417
Years Married	.487
Religion	.357
Education	.116
Income Before Stroke	.410
Income After Stroke	.458
Gender	.251
Race	.437

As noted in Table 6, there were no significant relationships between any of the demographics and the modified AD scale. This result modified the path model to be utilized. The path model is reviewed in Table 7.



Table 7

Path Model

This model was an overidentified model as it had constraints imposed by the researcher. It was hypothesized that some of the demographic variables may be redundant or nonsignificant and, in order to maintain an adequate subject-to-variable ratio, bivariate correlations were conducted. As discussed earlier, no significant correlations were found between the demographics and level of acceptance of disability. The path of p31 was, therefore, deleted from the analysis.

Analysis of Attributions with Demographics

The demographics were exogenous variables, that is, they were variables whose variability was assumed to be determined by factors outside of the path model presented earlier. Attributions, on the other hand, were endogenous variables, or variables whose

variability were explained by the exogenous variables of demographics. Regressing the attributions on the demographics, p21 on Table 7, revealed nonsignificant results at the .05 level. Significance of the beta weights with each dimension of the attributions is presented below in Tables 8, 9, and 10. None of the variance of the attributions could, therefore, be accounted for by the demographics. It was then indicated that the attributions were exogenous rather than endogenous. The variability of the attributions was then assumed to be determined by factors outside of the path model making it inappropriate to regress the demographics and attributions on the level of acceptance of disability. In the over-identified model, the path between the demographics and attributions was deleted and the attributions were left to regress on the demographics.

Table 8  
Significance Levels of Demographics Regressed on  
Internal Attribution Dimension

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<u>Demographics</u>	<u>Significance Level</u>
Spouse's Age	.3835
Number of Years Married	.7078
Religion	.0645
Years of Education	.3988
Income Before Stroke	.6757
Income After Stroke	.5175
Gender	.4779
Race	.2735

---

Table 9

Significance Levels of Demographics Regressed on  
Stable Attribution Dimension

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<u>Demographics</u>	<u>Significance Level</u>
Spouse's Age	.3001
Number of Years Married	.9843
Religion	.4162
Years of Education	.9419
Income Before Stroke	.9611
Income After Stroke	.7725
Gender	.2561
Race	.5896

---

Table 10

Significance Levels of Demographics Regressed on  
Global Attribution Dimension

<u>Demographics</u>	<u>Significance Level</u>
Spouse's Age	.6363
Number of Years Married	.8840
Religion	.2182
Years of Education	.6591
Income Before Stroke	.6889
Income After Stroke	.4208
Gender	.8927
Race	.5153

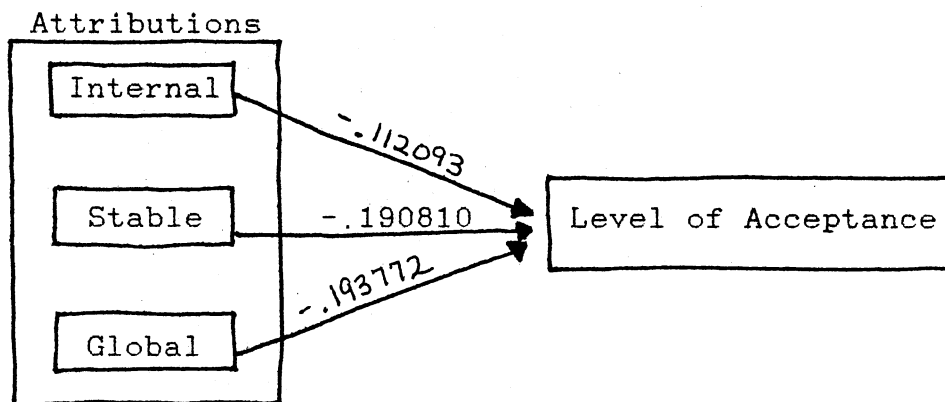
Analysis of Level of Acceptance of Disability and  
Attributions

If ordinary regression analysis were used, the level of acceptance of disability would be regressed in a single analysis on all the attributions. In path analysis, however, three regression analyses were called for, one for each attribution. The path coefficients and remaining model are illustrated in

Table 11.

Table 11

Path Coefficients and Model of Level of Acceptance  
of Disability and Attributions



Level of acceptance of disability regressed on internal attributions was not significant at a .05 level of confidence. Level of acceptance of disability regressed on stable and global attributions was significant at the .05 level. The negative path coefficients indicate an inverse relationship between the stable and global attributions and the level of acceptance of disability.

### Summary

The objective of this chapter has been to present the statistical analysis and the interpretation of the data. First the interrater and intrarater reliabilities were reported. Second, the reliability and validity of the modified Acceptance of Disability Scale was presented. Next, the analysis and interpretation of the demographic variables with the modified Acceptance of Disability and the analysis and interpretation of the attributions with demographics were presented. Finally, the analysis and interpretation of the level of acceptance of disability with attributions was presented. Chapter Five will present a summary of the study with interpretation of the findings, implications of the findings in the investigational and applied realms, and recommendations.

## Chapter V

### Summary, Conclusions, and Recommendations

This last chapter will be divided into four major sections which will focus on drawing conclusions from the integration of the first four chapters. The first section will present a summary of the study. The second section will offer implications in the investigational and applied realms. The third section will offer recommendations to improve the study if replicated. Finally, a summary will give conclusions and examine whether the purpose of the study was accomplished.

#### Summary

Despite evidence of the importance of family involvement and adjustment following disability, there is little information available pertaining to treatment of families with disability. The present study utilized the theory of Learned Helplessness, as it is reformulated with Attribution Theory (Abramson et al., 1978), as a framework to assess acceptance of disability of spouses of individuals with stroke. According to this reformulation, attributions occur in



three dimensions: internal or external, global or specific, and stable and unstable. Internal attributions for aversive events have been associated with a subsequent loss of self-esteem (Abramson et al., 1978). Linkowski and Dunn (1974) have demonstrated a positive correlation between acceptance of disability and self-esteem. Those individuals who make internal attributions may therefore evidence a lowering of self-esteem and less acceptance of a disability. Global attributions for aversive events result in generalized helplessness; that is the individual will believe that helplessness will occur across all situations rather than in an isolated situation. When stable attributions are made for aversive events, helplessness is more long-lasting, rather than transient (Peterson & Seligman, 1984). Further, internal, stable and global attributions, in conjunction with aversive events, precede the development of depression (Seligman, 1984). Depression occurs in a stage of grief and mourning following disability, however, some individuals stagnate in this stage (Kerr, 1977). Those individuals who remain depressed following experience with a disability may make internal, stable, and global attributions.

This study examined the following question: What is the relationship between demographics of spouses of individuals with stroke, their types and patterns of attributions made, and the level of their disability acceptance?

The sample pool for this study were 98 spouses of individuals who were admitted to a rehabilitation center between January 1, 1986 and December 31, 1986 with the diagnosis of stroke or cerebrovascular accident. Study information was mailed out and a 37.6 percent response rate resulted. Thirty-two spouses actually participated in the study. The data was analyzed by bivariate correlation and path analysis.

### Results

The demographic information gathered on the subjects was not significantly correlated with attributions or with the level of acceptance of disability in the bivariate correlation or the path analysis. The nonsignificant results of the path analysis could have been related to the large subject-to-variable ratio and, consequently, the low power involved in this analysis. The power on the bivariate correlations, however, was .85, which is quite adequate. It was therefore indicated that none

of the variance of the levels of acceptance of disability or the variance of the dimensions of the attributions could be accounted for by the demographics of this sample population. In the overidentified model, demographics were deleted increasing the power of this study to more than .90 with a .50 effect size and an alpha level of .05.

The level of acceptance of disability regressed on the attributions was significant for the stable and global attributions, but not for the internal attribution. This indicates that, in this sample population, the internal dimension of attributions did not significantly affect the subject's scores on the modified Acceptance of Disability Scale. On the other hand, the stable and global dimensions of attributions did significantly affect this sample population's scores on the modified Acceptance of Disability Scale. The affect was an inverse one, however, which concurs with the literature review. Those spouses who made more global than specific attributions tended to have a lower acceptance of disability. Those spouses who made more stable than unstable attributions also tended to have a lower acceptance of disability.

### Conclusions

This investigation demonstrated that only two of the three dimensions of attributions affected the level of acceptance of disability of this sample population. This is not what was theorized by this examiner, as it was thought that the internal dimension of attributions would also affect the level of acceptance of disability. Possible explanations for this finding may include Watts' (1982) observation that dimensions of attributions may vary from one specific illness to another. It is possible that the internal dimension of attributions have little or no effect on the spouse's level of acceptance of disability to stroke. However, it is also possible that if the study were repeated with a larger, more diverse population, the internal dimension of attributions would effect the level of acceptance of disability. Further investigation exploring the role of internal attributions in acceptance of disability might add to or detract from the theory of learned helplessness.

Conclusions of this study may be applied in numerous ways in the recovery of the spouse of an individual with stroke. If global and stable attributions are inversely correlated with spouses'

level of acceptance of disability, then steps may be taken to alter or prevent global and stable attributions from occurring. "Stroke programs" and general care hospitals, even at the time of admission, could be refined so as not to breed the seeds of "global" in the spouse. During acute hospitalization, the individual with a stroke is taken care of with few physical demands on the spouses. At this time, health care personnel could encourage spouses and families to resume their work, school, and other schedules as soon as possible to decrease the global effects of the stroke. It may be helpful also to balance the resumption of the spouse's activities with early involvement in the care of their spouse. If the spouse is involved or, at least, quite knowledgeable of the individual's treatment, the spouse may perceive the situation differently. Spouse involvement may decrease the perceived stability of the situation because the spouse could more readily see changes in the individual as the individual began to recover. Spouse involvement may also decrease the perceived globality of the situation because the spouse would be in a better position to understand the strengths the individual could still offer the family.

If the spouse is unable to be involved in the individual's treatment; education of the spouse from the time of admission may prevent global or stable attributions from occurring. Recovery from a stroke is generally a long process. Framing recovery as "one day at a time" and realistically pointing out the individual's gains in recovery may decrease the stable and the global attributions made.

If the stroke affected judgement or language and the individual with the stroke is the primary salary earner and/or decision maker of the family, encouraging family to seek early legal advice for protection of interests and properties and advice concerning conservatorship or guardianship may be appropriate. Early legal advice may prevent the stroke from becoming as global or stable in its effects by protecting property and interests. Prevention of global and stable attributions may prove helpful, but modification of global and stable attributions may also be possible.

In a like population as that of this investigation, therapy to change or modify global and stable attributions would give rehabilitation counselors and psychologists another option for assisting individuals and spouses in better adjustment

to disability. Little research is currently available in this area but some assumptions might be made. Individual therapy with spouses might focus on attitudes toward the disabled and realistically altering any erroneous views of the stability and globality of the individual's deficits. Family therapy, especially in the rehabilitation and immediate post rehabilitation phase, could focus on temporarily realigning roles and responsibilities of family members. Overprotective families may not allow the individual with a stroke to assume reasonable responsibilities which would increase everyone's perception of the globality and, perhaps, stability of the situation. Families who deny the loss of adequate judgement or similar abilities of the individual with stroke may conversely set the individual up to repeatedly fail at particular responsibilities and roles. After repeated failures, it would seem that progress may be difficult to see. Stable and global attributions may be more easily seen in this situation also. Family therapy may, therefore, serve as a means for the therapist to begin to alter attributions.

Other methods to alter attributions may include support groups. The spouse may learn and gain support

from others in similar situations. Learning from those who have had similar concerns and problems may decrease the globality of the situation. Helping those who are experiencing problems which the spouse has already resolved may decrease the stability of the situation.

Due to the high cost of health care, the Effects of Stroke Questionnaire and/or the Attributional Style Question might also be used by the rehabilitation therapist to screen for spouses who are likely to make global and stable attributions. As these spouses are less likely to have a high level of acceptance of disability, follow-up care may be especially focused on these individuals.

#### Recommendations

If this study were replicated, several recommendations, some which have been previously stated, may improve the accuracy of results. A larger, more diverse population may clarify whether any demographics play an important role in the attributions made by individuals. A larger population may also further clarify whether internal attributions have a role in the acceptance of disability, confirming or not confirming the results of this study. Another recommendation involves the CAVE Technique. Use of the



CAVE Technique would be more efficient with periodic calibration of intrarater and interrater reliabilities of judges during the rating process. If discrepancies began to occur, review of training material would be appropriate and may prevent interrater and intrarater reliabilities from decreasing. This recommendation may result in more accurate data.

The results of this research are viewed as preliminary findings, however, a number of areas seem worthy of further investigation. The research confirmed that attributions made in the stable and global dimensions affect the level of acceptance of disability of this group. As this is the first study this investigator is aware of which links and examines the level of acceptance of disability with attributions, it seems reasonable that other studies should follow. A study to confirm these findings with a larger and more diverse population is a personal goal of this investigator. Secondly, a study to examine if individuals with strokes, in addition to their spouses, have an inverse relationship between their attributions and their level of acceptance of disability would be appropriate. Such a study would be complex due to difficulties in assessment due to language deficits and

anosognosias, organic denial of disability of some individuals with stroke. Such a study could utilize much of the framework offered in this current investigation, however.

In a similar vein, examining the relationship of attributions and the level of acceptance of disability of spouses of individuals with disabilities other than stroke would be feasible following the framework, instruments, and procedures of this study. Likewise, with minor alterations, the framework would be amenable to the study of individuals who experience the various disabilities. The joined concepts of attributions and level of acceptance of disability may afford a framework to explore and learn more about the similarities of responses and adjustments of spouses and individuals to all different types of disabilities and physical afflictions. The study of grief and loss may also benefit from the exploration of their relationship with attributions and acceptance.

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APPENDICES

APPENDIX A  
COVER LETTER

Spouse's name & address

Dear . . .

Rehabilitation professionals have long recognized that when a stroke occurs, it effects not only the individual with the stroke, but the spouse as well. Despite this knowledge, little information is available about what the effects of the stroke may be for the spouse.

As you know from your experience with Kaiser Rehabilitation Center, the staff is concerned not only with the physical progress of its patients, but also with helping spouses adjust to and cope with the disability of one of its members. As part of that concern we are always looking for new information to help patients and families alike. One of the ways we find out how to help is by participating in research programs which seek to identify problem areas, which could use solutions, or areas of strength, which could use support.

Kaiser Rehabilitation Center is now participating in a research study to explore the effects of stroke on the spouse.

If you are willing to help us and participate in this study, please fill out the enclosed Consent Form and return it to us as soon as possible. A pre-addressed, postage-paid envelope has been enclosed for your convenience.

Once we receive your Consent Form, we will mail you the questionnaire study. The information and answers you share will be anonymous; your name will not be on the questionnaire study mailed to you.

We believe this study is worthwhile and will help rehabilitation professionals better understand the effects of stroke on the spouse. We greatly appreciate your participation.

If you have any questions, please feel free to contact me at (918) 584-1351, extension 7100.

Sincerely,

Janet Willis, R.N., M.S.  
Doctoral Candidate in  
Counseling Psychology

Steven Landgarten, M.D.  
Medical Director



APPENDIX B  
CONSENT FORM

## CONSENT FORM

I, \_\_\_\_\_, do hereby agree to participate in a study to assess what the effects of a stroke are on the spouse. This study is being conducted by Janet Willis, R.N., M.S. in conjunction with Kaiser Rehabilitation Center.

This study will require me to fill out a personal data sheet, the Effects of Stroke Questionnaire, and the Acceptance of Disability Scale. I understand that my participation will take approximately thirty minutes, is totally voluntary, and that I may withdraw my participation at any time.

I understand that there is no known risk involved, but that if questions or concerns arise, I may contact Janet Willis at (918) 584-1351, extension 7100. Also if I desire information concerning the results of this study, I may contact Janet Willis.

Further I understand that my participation in this study will be kept confidential and that the questionnaire study will be anonymous.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

APPENDIX C  
SECOND COVER LETTER

Spouse's name & address

Dear . . . .

Thank you for returning your Consent Form for Kaiser Rehabilitation Center's research study. Your responses will help us as we develop and refine programs to assist spouses of individuals with stroke adjust to the changes in their lives brought about by the stroke.

You can help by answering the questions in the enclosed questionnaires. Your identity will remain anonymous; your name will not be associated in any way with your responses. We need to know about your experience with stroke recovery as a spouse in order to learn more about how we can help.

We appreciate your help with this project. If you have any questions about the study or would like information about the results, please contact me at (918) 584-1351, extension 7100.

Sincerely,

Janet Willis, R.N., M.S.  
Doctoral Candidate in  
Counseling Psychology

Steven Landgarten, M.D.  
Medical Director

APPENDIX D  
PERSONAL DATA SHEET

PERSONAL DATA SHEET

1. What was your age at last birthday? \_\_\_\_\_ years
2. What was your spouse's age at last birthday?  
\_\_\_\_\_ years
3. How long have you and your spouse been married?  
\_\_\_\_\_ years
4. What is your religious affiliation?
 

_____ Baptist	_____ Mormon
_____ Catholic	_____ Protestant
_____ Episcopal	_____ Other, specify:
_____ Jewish	_____
_____ None	
5. How many years did you finish in school? (Please circle the highest grade of year completed).
 

_____ <u>high school</u> _____				
8 or less	9	10	11	12
_____ <u>college or vocational school</u> _____				
1st	2nd	3rd	4th	5th or more
6. Approximately what was you and your spouse's gross income annually prior to the stroke?
 

___ less than \$ 5,000	___ \$ 5,000 - \$12,000
___ \$12,001 - \$20,000	___ \$20,001 - \$30,000
___ \$30,000 or more	
7. Approximately what is you and your spouse's gross income annually since the stroke?
 

___ less than \$ 5,000	___ \$ 5,000 - \$12,000
___ \$12,001 - \$20,000	___ \$20,001 - \$30,000
___ \$30,000 or more	
8. What is your gender? \_\_\_\_\_ male \_\_\_\_\_ female
9. What is your race?
 

___ Caucasian	___ Black	___ Hispanic
___ Indian	___ Other, please specify: _____	

APPENDIX E  
THE EFFECTS OF STROKE  
QUESTIONNAIRE

## QUESTIONNAIRE #1

When a stroke occurs, it involves not only the individual who has the stroke but the spouse and family as well. How has your spouse's stroke affected your lives and for what reasons were these areas of your lives changed? Please include at least three areas. Examples of areas may include: social outings, church activities, eating, bathing, living arrangements, household responsibility, occupations, your relationship, relationship with friends, etc.

<u>Area of Life Affected by Stroke</u>	<u>Reason</u>



QUESTIONNAIRE #1 (continued)

<u>Area of Life Affected by Stroke</u>	<u>Reason</u>
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APPENDIX F  
THE MODIFIED ACCEPTANCE  
OF DISABILITY SCALE

**QUESTIONNAIRE #2**

PLEASE READ EACH STATEMENT AND PUT AN "X" IN THE SPACE INDICATING HOW MUCH YOU AGREE OR DISAGREE WITH EACH STATEMENT.

	<i>I disagree very much</i>	<i>I disagree pretty much</i>	<i>I disagree a little</i>	<i>I agree a little</i>	<i>I agree pretty much</i>	<i>I agree very much</i>
1. A physical disability may limit a person in some ways, but this does not mean he/she should give up and do nothing with his/her life.						
2. Because of my spouse's disability, I feel miserable much of the time.						
3. More than anything else, I wish my spouse didn't have this disability.						
4. Disability or not, my spouse is going to make good in life.						
5. Good physical appearance and physical ability are the most important things in life.						
6. My spouse's disability prevents me from doing just about everything I really want to do and from becoming the kind of person I want to be.						
7. I can see the progress my spouse is making in rehabilitation and it makes me feel like my spouse is an adequate person in spite of the limitations of the disability.						
8. It makes me feel very bad to see all the things nondisabled people can do which my spouse cannot.						
9. My spouse's disability affects those aspects of life which I care most about.						
10. Though my spouse is disabled, my life is full.						
11. If a person is not entirely physically able, he/she is that much less a person.						
12. A person with a disability is restricted in certain ways, but there is still much he/she is able to do.						

	<i>I disagree very much</i>	<i>I disagree pretty much</i>	<i>I agree a little</i>	<i>I agree pretty much</i>	<i>I agree very much</i>
13. There are many more important things in life than physical ability and appearance.					
14. There are times I completely forget that my spouse is physically disabled.					
15. You need a good and whole body to have a good mind.					
16. There are many things a person with my spouse's disability is able to do.					
17. Since my spouse's disability interferes with just about everything I try to do, it is foremost in my mind practically all the time.					
18. If my spouse didn't have the disability, I think my spouse would be a much better person.					
19. My spouse's disability, in itself, affects me more than any other characteristic about my spouse.					
20. The kind of person my spouse is and my spouse's accomplishments in life are less important than those of nondisabled persons.					
21. I know what my spouse can't do because of the disability, and feel that my spouse and I can live a full and normal life.					
22. Though I can see the progress my spouse is making in rehabilitation, this is not very important since my spouse can never be normal.					
23. In just about everything, my spouse's disability is annoying to me so that I can't enjoy anything.					
24. How a person conducts himself or herself in life is much more important than physical appearances and ability.					

	<i>I disagree very much</i>	<i>I disagree pretty much</i>	<i>I disagree a little</i>	<i>I agree a little</i>	<i>I agree pretty much</i>	<i>I agree very much</i>
25. A person with my spouse's disability is unable to enjoy very much in life.						
26. The most important thing in this world is to be physically normal.						
27. A person with a disability finds it especially difficult to expand his/her interests and range of abilities.						
28. I believe that physical wholeness and appearance make a person what he/she is.						
29. A physical disability affects a person's mental ability.						
30. With my spouse's condition, I know just what my spouse can and cannot do.						
31. Almost every area of life is closed to my spouse because of the disability.						
32. Because of the disability, my spouse has little to offer other people.						
33. Besides the many physical things my spouse is unable to do, there are many other things my spouse is unable to do.						
34. Personal characteristics such as honesty and a willingness to work hard are much more important than physical appearance and ability.						
35. I get very annoyed with the way some people offer to help my spouse.						
36. With my spouse's disability, there isn't a single area of life that is not affected in some way.						
37. Though I can see that disabled people are able to do well in many ways, still they can never lead normal lives.						

	<i>I disagree very much</i>	<i>I disagree pretty much</i>	<i>I disagree a little</i>	<i>I agree a little</i>	<i>I agree pretty much</i>	<i>I agree very much</i>
38. A disability, such as my spouse's, is the worst possible thing that can happen to a person.						
39. No matter how hard my spouse tries or what my spouse accomplishes, he/she could never be as good a person as one without the disability.						
40. There is practically nothing a person in my spouse's condition is able to do and really enjoy it.						
41. Because of my spouse's disability, I am unable to enjoy social relationships as much as I could if he/she were not disabled.						
42. There are more important things in life than those my spouse's physical disability prevents me from doing.						
43. I want very much to do things that my spouse's disability prevents me from doing.						
44. Because of my spouse's disability, other people's lives have more meaning than mine.						
45. Often times, when I think of my spouse's disability, it makes me feel so sad and upset that I am unable to think of or do anything else.						
46. A disability changes one's life completely. It causes one to think differently about everything.						
47. I feel that my spouse should be as able as the next guy, even in areas where his/her disability is limiting.						
48. Life is full of so many things that I sometimes forget for brief periods of time that my spouse is disabled.						

	<i>I disagree very much</i>	<i>I disagree pretty much</i>	<i>I disagree a little</i>	<i>I agree a little</i>	<i>I agree pretty much</i>	<i>I agree very much</i>
49. Because of my spouse's disability, I can never do most things that normal people can do.						
50. I feel satisfied with my spouse's abilities and my spouse's disability doesn't bother me too much.						

APPENDIX G  
REMINDER LETTER



Spouse's name & address

Dear . . .

A couple of weeks ago we mailed you a letter requesting your help in a research study Kaiser Rehabilitation Center is conducting. We hope you received that letter, but in case you did not, we want you to know about the study and how you can help.

The study is an effort to obtain good information about the effects of stroke on the spouse. We plan to use this information not only to add to the knowledge in the field, but also to help design new and better programs for spouses of individuals with stroke to seek solutions for problem areas and support for areas of strength.

Please take a few moments and complete the Consent Form, then place it in the enclosed pre-addressed, postage-paid envelope and send it back to us. We will then send the questionnaire study to you. Your effort will help those spouses who will follow you in the process of recovering from a stroke.

Thank you for your help. If you have any questions or concerns, please call me at (918) 584-1351, extension 7100.

Sincerely,

Janet Willis, R.N., M.S.  
Doctoral Candidate in  
Counseling Psychology

Steven Landgarten, M.D.  
Medical Director

APPENDIX H  
PERMISSION FOR INSTRUMENT USE

**UNIVERSITY of PENNSYLVANIA**

**Psychology Department**  
Professor Martin E. P. Seligman  
3815 Walnut Street  
Philadelphia, PA 19104-8196

August 14, 1986

Janet Willis  
8922 S. 28th West Ave.  
Tulsa, OK 74132

Dear Ms. Willis:

Enclosed please find the Attributional Style Questionnaire, the Children's Attributional Style Questionnaire, the Attributional Style Questionnaire article, and the CAVE paper. Each questionnaire also has a scoring key.

Please be advised that the ASQ is not to be used for commercial or money-making purposes. Also, the questionnaire is to be used for the sole purpose for which you have requested.

Thank you for your understanding in this matter. If I can be of help to you in the future, please do not hesitate to contact me.

Sincerely,

Martin E.P. Seligman, Ph.D

MEPS:ddb

Enc.



THE  
GEORGE  
WASHINGTON  
UNIVERSITY

Washington, D.C. 20052 / Department of Education / (202) 676-6940

117

July 7, 1986

Ms. Janet Willis  
8922 S. 28th West Avenue  
Tulsa, OK 74132

Dear Ms. Willis:

Enclosed are the items on the Acceptance of Disability (AD) Scale that you requested. You have my permission to use this instrument in your research and to adapt it in any way that is useful to you.

Please keep me informed of your research and, particularly, with your results, should you use the AD Scale. I try to keep a current update on research that has used the scale.

Good Luck in your research.

Sincerely yours,

Donald C. Linkowski, Ph.D.  
Professor and Director,  
Rehabilitation Counselor Education

Enclosures

APPENDIX I  
JUDGE'S TRAINING MATERIAL

## Sample Ratings

extracted event-explanation unit	judge	INT	STA	GLO
I will never kill myself ... (because) ... I have value.	A	7	7	7
	B	7	7	7
	C	7	7	7
I fell down a flight of stairs . . . (because) ... it was raining, and the stairs were broken, and there wasn't any railing.	A	1	1	1
	B	1	1	1
	C	1	1	1
I assume that people think less of me (because) ... I am not married.	A	7	2	3
	B	7	5	2
	C	5	2	3
Well we were having quite a few financial problems too during the year ... (because) ... my husband's in construction and everything's gone way down.	A	1	2	2
	B	1	4	3
	C	1	3	4
I lost heavily at the casinos ... (because) ... bad luck.	A	1	1	1
	B	1	1	1
	C	1	1	1
I was disgusted ... (because)... my own stupidity.	A	7	7	7
	B	7	7	6
	C	7	6	6
I had just quit my job ... (because) ... I did not like anyone at work anymore.	A	7	7	1
	B	7	7	1
	C	6	6	2

Adapted from Peterson and Seligman's (1984)  
Content Analysis of Verbatim Explanations: The  
CAVE Technique for Assessing Explanatory Style.

APPENDIX J  
ACCEPTANCE OF DISABILITY  
SCALE

Subject No. \_\_\_\_\_

## AD SCALE

READ EACH STATEMENT AND PUT AN "X" IN THE SPACE INDICATING HOW MUCH YOU AGREE OR DISAGREE WITH EACH STATEMENT.

1. A physical disability may limit a person in some ways, but this does not mean he/she should give up and do nothing with his/her life.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much
2. Because of my disability, I feel miserable much of the time.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much
3. More than anything else, I wish I didn't have this disability.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much
4. Disability or not, I'm going to make good in life.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much
5. Good physical appearance and physical ability are the most important things in life.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much
6. My disability prevents me from doing just about everything I really want to do and from becoming the kind of person I want to be.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much
7. I can see the progress I am making in rehabilitation, and it makes me feel like an adequate person in spite of the limitations of my disability.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much
8. It makes me feel very bad to see all the things nondisabled people can do which I cannot.
 

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

Developed by Dr. Donald Linkowski, Professor of Education and Research Professor of Psychiatry and Behavioral Sciences, the George Washington University, Washington, D.C.



9. My disability affects those aspects of life which I care most about.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

10. Though I am disabled, my life is full.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

11. If a person is not entirely physically able, he/she is that much less a person.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

12. A person with a disability is restricted in certain ways, but there is still much he/she is able to do.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

13. There are many more important things in life than physical ability and appearance.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

14. There are times I completely forget that I am physically disabled.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

15. You need a good and whole body to have a good mind.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

16. There are many things a person with my disability is able to do.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

17. Since my disability interferes with just about everything I try to do, it is foremost in my mind practically all the time.

- |   |  |
|---|--|
| <input type="checkbox"/> I disagree very much   | <input type="checkbox"/> I agree a little    |
| <input type="checkbox"/> I disagree pretty much | <input type="checkbox"/> I agree pretty much |
| <input type="checkbox"/> I disagree a little    | <input type="checkbox"/> I agree very much   |

-3-

18. If I didn't have my disability, I think I would be a much better person.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

19. My disability, in itself, affects me more than any other characteristic about me.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

20. The kind of person I am and my accomplishments in life are less important than those of nondisabled persons.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

21. I know what I can't do because of my disability, and feel that I can live a full and normal life.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

22. Though I can see the progress I am making in rehabilitation, this is not very important since I can never be normal.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

23. In just about everything, my disability is annoying to me so that I can't enjoy anything.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

24. How a person conducts himself or herself in life is much more important than physical appearances and ability

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

25. A person with my disability is unable to enjoy very much in life.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

-4-

26. The most important thing in this world is to be physically normal.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

27. A person with a disability finds it especially difficult to expand his/her interests and range of abilities.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

28. I believe that physical wholeness and appearance make a person what he/she is.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

29. A physical disability affects a person's mental ability.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

30. With my condition, I know just what I can and cannot do.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

31. Almost every area of life is closed to me because of my disability.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

32. Because of my disability, I have little to offer other people.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

33. Besides the many physical things I am unable to do, there are many many other things I am unable to do.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

34. Personal characteristics such as honesty and a willingness to work hard are much more important than physical appearance and ability.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

35. I get very annoyed with the way some people offer to help me.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

36. With my disability, there isn't a single area of life that is not affected in some major way.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

37. Though I can see that disabled people are able to do well in many ways, still they can never lead normal lives.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

38. A disability, such as mine, is the worst possible thing that can happen to a person.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

39. No matter how hard I try or what I accomplish, I could never be as good a person as one without my disability.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

40. There is practically nothing a person in my condition is able to do and really enjoy it.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

41. Because of my disability, I am unable to enjoy social relationships as much as I could if I were not disabled.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

42. There are more important things in life than those my physical disability prevents me from doing.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

43. I want very much to do things that my disability prevents me from doing.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

44. Because of my disability, other people's lives have more meaning than my own.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

45. Oftentimes, when I think of my disability, it makes me feel so sad and upset that I am unable to think of or do anything else.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

46. A disability changes one's life completely. It causes one to think differently about everything.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

47. I feel that I should be as able as the next guy, even in areas where my disability limits me.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

48. Life is full of so many things that I sometimes forget for brief periods of time that I am disabled.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

49. Because of my disability, I can never do most things that normal people can do.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

50. I feel satisfied with my abilities and my disability doesn't bother me too much.

<input type="checkbox"/> I disagree very much	<input type="checkbox"/> I agree a little
<input type="checkbox"/> I disagree pretty much	<input type="checkbox"/> I agree pretty much
<input type="checkbox"/> I disagree a little	<input type="checkbox"/> I agree very much

2  
VITA

Janet Gayle Willis

Candidate for the Degree of  
Doctor of Philosophy

Thesis: ADJUSTMENT TO STROKE: LEARNED HELPLESSNESS  
AND ATTRIBUTIONS OF SPOUSES

Major Field: Applied Behavioral Studies  
Area of Specialization: Counseling Psychology

Biographical:

Personal Data: Born in Tulsa, Oklahoma, October  
19, 1953, the daughter of Jack and Angelina Heath.

Education: Graduated from Daniel Webster High  
School, Tulsa, Oklahoma, in May, 1971, received  
Bachelor of Science Degree in Nursing from  
University of Oklahoma at Norman in May, 1975;  
received Master of Science Degree in Nursing in  
May, 1982; completed requirements for the Doctor  
of Philosophy at Oklahoma State University in  
May, 1988.

Professional Experience:

Psychology Intern: Childrens' Medical Center,  
Tulsa, Oklahoma, September, 1987 to August, 1988.

Practicum Counselor: Kaiser Rehabilitation  
Center, Tulsa, Oklahoma, September, 1985 to  
August, 1987.

Practicum Counselor: Marriage and Family  
Counseling Services, Stillwater, Oklahoma,  
September, 1985 to December, 1985.

Practicum Counselor: Country View, Tulsa,  
Oklahoma, June, 1985 to August, 1985.

Contract Speaker: Saint Francis Hospital, Tulsa,  
Oklahoma, August, 1985 to Present.

Clinical Nurse Specialist: Saint Francis Hospital  
Tulsa, Oklahoma, June, 1982 to July, 1985.

Adjunct Faculty Member: Oral Roberts University,  
Tulsa, Oklahoma, August, 1983 to December, 1983.

Clinical Consultant: Critical Care: Oklahoma  
Osteopathic Hospital, Tulsa, Oklahoma, November,  
1980 to June, 1982.

Assistant Director of Critical Care: Oklahoma  
Osteopathic Hospital, Tulsa, Oklahoma, September,  
1979 to November, 1980.

Staff R.N., Intensive Care Unit and Cardiac  
Catherization Laboratory: Hillcrest Medical  
Center, Tulsa, Oklahoma, 1975 to 1979.

#### Professional and Community Affiliations

American Psychological Association - Student  
American Heart Association, Tulsa Chapter - Board  
American Heart Association Stroke Task Force  
Chairperson  
Mayor's Commission on Concerns of the Disabled  
Associate Member