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Later-life marriage, chronic illness, and spouse-caregiver functioning

Jennifer Lee Harkness
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Later-life marriage, chronic illness, and spouse-caregiver functioning

by

Jennifer Lee Harkness

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Human Development and Family Studies (Marriage and Family Therapy)

Major Professor: Charles L. Cole

Iowa State University
Ames, Iowa
1997

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This is to certify that the Doctoral dissertation of

Jennifer Lee Harkness

has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.

Major Professor

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For the Major Program

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For the Graduate College
DEDICATION

I would like to dedicate this dissertation to Barbara Staron (Mother), Helen Staron (Grandmother), Betty Wollenzier (Aunt), and Terri Harkness (Mother-in-Law). They are women of strength, courage, and intelligence who have inspired me to learn more about chronic illness and its effects on the family.
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I would first like to thank Cleveland Shields, Ph.D., for his guidance and help in conceptualizing and refining this project from beginning to end. I would also like to express my gratitude to my dissertation advisory committee members, Charles Cole, Ph.D., Harvey Joanning, Ph.D., Tahira Hira, Ph.D., Daniel Russell, Ph.D., and Dominick Pellegrino, Ph.D., for sharing their time and expertise with me in completing this study. My thanks to Lara Black and Jeffrey Young who helped in developing the coding manual and coding the data used in this study. I appreciate each of them for their patience, availability, and their investment in me as a student and as a person. My collaboration with them has been most rewarding and enjoyable.

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CHAPTER 1

INTRODUCTION

Statement of the Problem

Older adults are more likely than any other age group to be diagnosed with a chronic illness (Butler & Lewis, 1977; Hickey & Stilwell, 1992; Strauss, 1984). Aging and the onset of chronic illnesses have profound impacts on the health care system and the family. Chronic illnesses are illnesses that may or may not be immediately life-threatening. They are illnesses that may impact mental and physical functions to the point of requiring continual care. As financial pressure on the health care system increases (Walker, 1987) families facing chronic illness will be expected to manage more of the caregiving responsibilities themselves. In addition, as the baby boomer generation continues to age, the need for more efficient and productive services to accommodate chronic illnesses will increase.

Care during illness, household management, and emotional gratification are the top three things expected by older married couples (Butler, Lewis, & Sunderland, 1991). Many of these older marriages will eventually end because of death rather than divorce. National Institute of Mental Health (NIMH) studies (Birren, Butler, Greenhouse, Sokoloff, & Yarrow, 1963; Grannick & Patterson, 1971) reports that as people age, the correlation between physiological and psychological variables increases. Therefore, married patients coping with a chronic illness will require more from their spouse-caregivers both emotionally and physically over time. More research is needed that focuses on what married older adults do
in order to sustain their marriages and what kinds of marital patterns they have that help them through illness.

Chronic illnesses place stress on marital systems, which have to adjust to survive. Lichtman, Taylor, and Wood (1987) found that marital adjustment frequently improved as a result of illness. They then assumed that poor marital adjustment among a group of chronically ill elderly was due to illness effects rather than their pre-illness adjustment status. However, it is unlikely that illness effects are solely responsible for decreases in marital satisfaction. Preexisting attachment and communication patterns may make it difficult for some couples to manage their emotions and to make good decisions about treatment. Illness is not a uniform experience for all couples. There is a continuum of illness experiences in aging populations.

Wynne, Shields and Sirkin (1992) describe four types of health experiences found in relation to aging and health. According to Wynne et al. (1992) these types are: A) No illnesses with little diminution of functioning and productivity, B) Chronic but not fatal illnesses that somewhat reduce mobility, functioning and productivity, C) Potentially fatal illnesses that result in loss of functioning and productivity and require coping and psychological flexibility, and D) Progressive fatal illnesses that result in diminution of functioning and productivity. Chronic but not fatal illnesses do not present caregivers with stressors as severe as those found among potentially fatal and progressively fatal illnesses. However, the greater the loss of functioning and productivity of the ill member, the greater the amount of burden and caregiving placed on the caregiver. As life expectancy lengthens, demands on family members to meet caregiving needs will ultimately increase.
While there is considerable research on caregiving, few researchers have examined the marital relationship of spouse-caregivers. Studies have shown that spouse-caregivers of Alzheimer's Disease experience considerable distress and depression (Anthony-Bergstone, Zarit, & Gatz, 1988; Gallagher, Rose, Rivera, Lovett, & Thompson, 1989; Gallagher, Wrabetz, Lovett, DelMaestro, & Rose, 1989). Spouse-caregivers of cancer patients have shown to demonstrate poor adjustment (Cassileth, Lusk, Brown, et al., 1986; Ell, Nishimoto, Mantell, & Hamovitch, 1988; Hart, 1986; Kalayjian, 1989; Lewis, 1990; Lewis, Woods, Hough, & Bensley, 1989). Studies examining spouse-caregivers of patients who had either cancer or a myocardial infarction, found that the occurrence of one of these serious illnesses often leads to increased stress and strain (Croog & Fitzgerald, 1978; Radley & Green, 1986), psychosomatic symptoms and an inability to function effectively at work (Oberst & James, 1985; Wellisch, Jamison, & Pasnau, 1978), anxiety and depression (Keital, Zevon, Rounds, Petrelli, and Karakousis, 1990), and pessimism (Baider & Sarell, 1984). Few of these aforementioned studies have included marital relationship variables, and those that did, measured marital variables using self report instruments (Baider & Sarell, 1984; Cavanaugh, Dunn, Mowery et al., 1989; Lyons, 1983; Niederehe, 1990; Niederehe, & Funk, 1987).

Scholars have called for the study of relational factors through assessment of more than one person’s perspective (Lewis, 1990) and by direct observation of marital interaction (Lichtman et al., 1987; Niederehe, 1988; Niederehe & Funk, 1987). Measures designed to assess marital relationships directly have been used primarily with younger couples. In recognition that the relational experiences change through the aging process (Carter & McGoldrick, 1988), it is important for us to adopt measures to assess the relationship of later-
life couples. Such measures will allow us to understand more fully the caregiving situation and to target more accurate clinical interventions to the growing older marital population.

Gottlieb (1991) calls for the use of “intensive interviews” to probe interactions that occur when people gain or lose their supportive meaning (p.364). Most of the research done with later-life couples, especially research on social support, has used self report measures (Gottlieb, 1991). These measurements are likely to be biased by many factors such as, the respondent's mood, overall quality of the relationship with caregiver, respondent's expectations of different associates, and by attributions made about certain members of the system that did or did not render support. Researchers have questioned the routine use of measures developed for younger people on older people without guaranteeing measurement equivalence over time on different subject populations (Nesselroade, Stigler & Baltes, 1980). They also do not capture the complexity and richness of marital interaction.

Attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; 1973; 1980) and the Epigenesis of Relational Systems Model (Wynne, 1984) offer a conceptual framework for examining the function of a marital couple coping with the threat of illness. Investigators have not yet tied in how one's attachment style and marital communication style relate to marital satisfaction and psychological well-being, especially among later-life couples coping with a chronic illness.

This study will use both self-report and direct observation to examine the impact of illness on later-life couples. The specific aims of the study are listed below.
Specific Aims

Aim 1. To examine the relationship between spouse-caregivers' attachment styles and marital communication.

Aim 2. To examine the relationship between spouse-caregivers' attachment styles and marital communication on spouse-caregiver marital satisfaction and depression.
CHAPTER 2
LITERATURE REVIEW

Significance of this Study

The literature on chronic illness and older couples contains few studies on marital interaction. If an older person is married and diagnosed with a debilitating chronic illness, the spouse usually becomes the primary caregiver. Stress and coping models dominate the caregiving literature. The major independent variable being social support. Only a few studies employ family theories or variables. Investigators argue that marital and family relationships should be carefully observed to understand which couples and families are most at risk for adverse outcomes (i.e., Carter & Carter, 1994; Primomo, Yates, & Woods, 1990). Researchers have also suggested that attachment theory may help understand issues of caregiving and loss in later life (Antonucci, 1994; Shields & Christensen, 1996; Wynne & Suddaby, 1996).

This study will increase knowledge about the relationship between attachment style and communication in later-life couples, and how they affect spouse-caregivers' marital satisfaction and psychological well being. With this information, one may then be better able to identify at-risk spouse-caregivers and marriages.
Review of Critical Literature

Families and Aging

Improved medical and economic conditions for older people are accompanied by a loss of meaning and vital social roles (Cole, 1992). One author notes that the underlying reality of aging rests in the biological changes that are constructed by psychological, social, political, and cultural responses (Spicker, 1984). Hence, growing old cannot be understood outside of its subjective experience, which is mediated by social condition and cultural significance (Cole, 1992). More research needs to be done on older adults in order to recapture the meaning of "old age."

Researchers, clinicians, and authors question the exact starting point of old age. Cole, Achenbaum, Jakobi, and Lastenbaum (1993) refer to this as ones' "third age." They hypothesize that old age begins around ones' 60's or early 70's and beyond. They also recognize that these stages are fluid as one can become a grandparent at the age of 38 and/or a law school entrant at the age of 60. What does not change is that in this last age category, we are inevitably closer to death and therefore more vulnerable to the effects of a chronic illness.

By studying the lives of older adults one can see how they model a cooperative, relationship-oriented moral philosophy. One can also observe how they sustain community, communicate, and how effectively they use shared and open reasoning, not private calculating (Jordan, 1989). Cole et al. (1993) concludes that although medical advances can increase the life expectancy and quality of life for older adults, it is still a stage largely devoid of social expectations. As life expectancy proliferates, the need to understand later-life
marriages and the caregiving demands of spouses becomes apparent.

**Marital Communication in Older Couples**

To date, very little published research exists on marital communication and later life. What is known is that older people are more likely to be in long term and therefore stable marriages (Montgomery, 1987). Many of these older couples also report higher marital satisfaction than younger couples (Gilford, 1984; MacKinnon, MacKinnon, & Franken, 1984; Roberts, 1979; Spanier, Lewis, & Cole, 1975; Sporakowski & Hughston, 1978). Later-life couples typically have a communication style characterized as “open” which allows them to share companionship, values, and activities together (Atchley & Miller, 1983; MacKinnon, MacKinnon, & Franken, 1984; Parron & Troll, 1978; Roberts, 1979). However, what is not known is whether these dynamics change if one member of the dyad becomes diagnosed with a chronic illness.

**Chronic Illness in Older Adults**

Older adults are more likely to be diagnosed with chronic illnesses than other age group (Strauss, 1984; Hickey & Stilwell, 1992). McDaniel, Hepworth, and Doherty (1992), report that 45% of adults cited in the 1987 National Health Interview Survey, over the age of 65, are restricted from activities because of a chronic illness. The effects of having their activities reduced because of a chronic illness leaves some older adults at increased risk for committing suicide (Neidhardt & Allen, 1993). Factors associated with heightened suicide risk are loneliness, depression, isolation, less likely to be married or connected with family members, downwardly mobile, residing in urban areas, and more likely to be suffering from physical disability or illness (e.g., Maris, 1981; Osgood, 1984; Seiden, 1981). Improved medical
technology is helping older adults live longer but may also be increasing their chance at chronic conditions (McDaniel et al., 1992).

Communication in Couples Facing Chronic Illness

Vess, Moreland, and Schwebel (1985a, 1985b) found that couples who were better able to deal with the onset of a chronic illness, and the role demands that resulted from it, overall had stronger marriages. Good communication, more cohesion, and fewer conflicts were found in these marriages. Rolland (1994) suggests that couples facing a chronic illness often experience impediments in marital communication. For example, the well spouse may be reluctant to broach topics about his or her overwhelmed state for fear of hurting the partner’s feelings. The spouse-caregivers fear that the relationship cannot withstand the openness of a discussion such as this. Rolland (1994) postulates that couples can avoid chronic conflict when both partners feel free to initiate discussions. Shameful thoughts and feelings may block a couple's ability to maintain open communication.

Negative affect in marital interaction is highly related to marital satisfaction cross-sectionally and to satisfaction and divorce longitudinally in younger couples (Gottman, 1979; Levenson & Gottman, 1983; Levenson & Gottman, 1985; Markman, 1981; Markman, Floyd, Stanley, & Storaasli, 1988; Markman, Jamison, & Floyd, 1983; Notarius & Johnson, 1982; Notarius & Levenson, 1979). Problem solving skills are also related to marital satisfaction and divorce (Gottman, 1979; Levenson & Gottman, 1985; Levenson & Gottman, 1985; Notarius & Johnson, 1982; Markman, 1981). One of the most powerful predictors of divorce in early marriage is the reciprocity of negative affect. A high divorce rate is associated with sequence of negative exchanges in which one spouse responds to the other's
negativity with similar affect (Gottman, 1979; Levenson & Gottman, 1983; Levenson &
Gottman, 1985; Markman, 1981; Markman et al., 1983; Notarius & Johnson, 1982; Notarius

The occurrence of a serious illness may exacerbate preexisting marital difficulties (Stern
& Pascale, 1979). Baider and Sarell (1984) found that spouses of cancer patients reported an
increase in problematic marital patterns, less household support, less emotional exchange,
and increased marital conflicts than the patients reported. Couples may experience
communication problems with each unable to express feelings of intense sadness,
helplessness, and anger (Wortman & Dunkel-Schetter, 1979). Researchers argue that
couples reporting extremely high marital satisfaction may be denying marital problems
(Keitel, Zevron, Rounds, Petrelli, & Karakousis, 1990). They may also be filtering out
complaints that do not seem as important as the illness. Patients themselves are often less
likely than their spouses to discuss, or to acknowledge that their marital satisfaction has
decreased (Rosen & Tesser, 1970).

One study done of newly diagnosed couples found that their relationship appeared to
experience increased tension, decreased cohesiveness (Baider & Sarell, 1984; Lyons, 1983),
and an exacerbation of marital distress (Badger, 1990). However, LeFebvre (1978) reports
that the onset of a chronic illness appears to strengthen marriages. Investigators often relate
marital satisfaction to how knowledgeable the patient and their spouse are about the illness.
Peyrot, McMurry, and Hedges (1988) found that the less a couples knew about the existing
illness, the lower their marital satisfaction. Several investigators have found that the stronger
a couple's marriage was prior to the onset of illness the less severe the adjustment (Croog &
Fitzgerald, 1978; Wellisch et al., 1978), and increased use of social support (Coyne & DeLongis, 1986).

Depression

Depression in older adults is a major public health concern (The National Institute of Health Consensus Development Conference in Friedhoff, 1994). It is often associated with the presence of physical illness (Friedhoff, 1994; Murphy & MacDonald, 1992; Lyness, Caine, Conwell, King, & Cox, 1993; Caine, Lyness, & King, 1993). Friedhoff (1994) argues that “depression is under diagnosed in the elderly” (p. 496). Many consider symptoms of depression to be a normal part of aging rather than a sign of a significant psychological impediment that may respond to intervention. When individuals in later life experience depression along with medical illness, their ability to function is compromised more than if they were either depressed or medically ill alone (Lyness, Caine, Conwell, King, & Cox, 1993). According to Berkman, Berkman, Kasl, et al., 1986), depression and medical illness are in a relationship of mutual influence where the presence of one increases the chance of the second developing. Additionally, depression can contribute to poorer medical outcomes (Frasure-Smith, Lesperance, & Talajic, 1993) and poor general functioning (Wells, Stewart, Hays, et al., 1989). Depression is also one of many emotional outcomes experienced by caregivers themselves.

Caregiving

Spouses play an integral role in the patient’s adjustment to their diagnosis (Taylor & Dakof, 1988; Wortman, & Conway, 1985). Researchers report that recovery from breast cancer is related to marital functioning (Bard, 1952; Gates, 1980; Lichtman et al., 1987;
Sutherland, 1952, Sutherland & Orbach, 1953). Breast cancer patients who are in cohesive marriages often demonstrate better coping with their cancer surgery (Bloom, 1982) and have lower marital conflict (Speigel, Bloom, & Gottheil, 1983). Those who serve as caregivers often experience depression and anxiety, marital communication difficulties, sleeping disorders, problems at work, and compromised immune system functioning (Coyne & Smith, 1991; Elliot, Trief, & Stein, 1986; Kiecolt-Glaser, Glaser, & Shuttleworth et al., 1987; Radley & Green, 1986; Wellisch et al., 1978). They may even experience greater distress than their ill partners (Coyne, Ellard, & Smith, 1990). Poulshock and Deimling (1984) found that a caregiver’s depression is a significant predictor for admitting the patient into an institution.

The long-term outcome for marital dyads experiencing a chronic illness may involve poorer physical, psychological and marital functioning (Bramwell, 1986; Croog & Fitzgerald, 1978; Greenhill & Frater, 1980; Mayou, 1984; Sexton & Munro, 1985). Spouses caring for ill partners tend to experience more depressive symptomology than circumstances where caregivers, other than spouses, are providing care (Haley, Levine, Brown, Berry, & Hughes, 1987). Those experiencing “mild” depressive symptomology were found able to use external supports to assist in the burden of caregiving (Mullan, 1993); however, once the depression worsened, these caregivers were less likely to continue to go outside the household for assistance.

Carter and Carter (1994) speculate that spouse pairs where one member is chronically ill tend to be more negative and pessimistic than couples where both partners are chronically ill. They found that spouses in this study were ambivalent in their emotional proximity to each
other. Generalizing the results of this study to other types of chronic illnesses is difficult because of the population studied was specific to Parkinson's Disease. The onset, course, severity, and role of spouse-caregiver differs among various illness classifications and therefore the results of this study are not directly generalizable to other illness types.

Individuals who are highly distressed and coping ineffectively may detour others from providing additional assistance (Silver, Wortman, & Crofton. 1990). For example, they may miss doctors' visits, isolate themselves from family and friends, and become obstinate to any family members attempting to initiate assistance. Spouses may reduce their efforts to help as the patient continues to express distress and feelings of dissatisfaction (Coyne, Ellard, & Smith, 1990; Dunkel-Schetter & Wortman, 1982).

Campbell (1986) found in his review of the family and health literature that the experience of chronic illness and its course are directly affected by the way the family handles the illness. Some families are secretive, they agree not to discuss the illness for one reason or another (Nothouse, 1984). Anger is a common emotional response to chronic illness (Gilder, Buschman, Sitarz, & Wolff, 1978). Family members may feel guilty about being angry with someone who is battling a life threatening illness (Wasow, 1985). Biegel, Sales, and Schulz (1991), contend that specific caregiving stressors have not been well studied. They also assert that there is little research using comparison groups, either with other patient groups or well populations. Biegel et al. (1991) call for more research that does not rely on simple self report measures. They support research that is theoretically grounded and that can be used to develop predictive models of psychological impact.

A number of studies have found that older caregivers show less emotional distress than
their younger counterparts (Goldberg & Tull, 1983; Vachon, Rogers, & Lyall, et al., 1982). However, older couples find it harder to complete the physical caretaking tasks than younger couples (Mor, Guadagnoli, & Wool, 1987; Wellisch, Fawzy, & Landsverk et al., 1983). Older couples then become more depressed and overwhelmed than younger couples. Younger caregivers are also more likely to feel frustrated and angry about the caregiving role than older caregivers.

**Caregiving in Stroke**

Stroke is one of the most devastating health crises afflicting older adults. Fifty-seven percent of stroke victims are age 65 and older (Biegel et al., 1991; Baum & Manton, 1987). Eighty percent of all new stoke victims in this country each year are persons age 65 and older (Freese, 1980; Stallones, Dyken, Fang, et al., 1972). Stroke is not only the third leading cause of mortality in older persons, but is also responsible for chronic long-term disability. Sixty percent of stroke victims survive the acute medical event, and 40% require some form of special assistance (Freese, 1980). Caregivers of stroke victims report significant levels of clinical depression, and high levels of stress and burden (Biegel et al, 1991; Schultz, Thompkins, & Rau, 1988). One study (Schultz et al., 1988) found that across 162 cases, stroke caregivers reported three times more depressive symptoms than their matched controls. In a study of stroke patients and their spouse-caregivers, Schultz and Thompkins (1990), found a twofold increase in the reported negative aspects of providing caregiving support over a six-month period.

One third of both stroke victims and spouse-caregivers described themselves as “not adjusted” even two to five years after the stroke (Holbrook, 1982). In a younger sample of
stroke survivors, under 65 years old, 32% of the spouse-caregivers noted a decline in their enjoyment of life, life satisfaction and occupational changes (Coughlan & Humphrey, 1982). In the older population, it appears that there are also higher levels of morale among primary caregivers (Unks, 1983). One study found 20 of 28 primary caregivers to report feelings of happiness and confidence with the remaining eight feeling depressed (MacKay & Nias, 1979).

Silliman (1984) compared the effect of a stroke on caregivers whose ill family member lived either with them or in a nursing home. He found that no differences among these two subject groups. Eight four percent said that they felt better about themselves because they learned how to provide care and 69% reported closer relationships with the patient because of the caregiving experience. However, 75% worried about the consequences of caregiving on their own health. According to Biegel et al. (1991), while the literature on caregiving and stroke is extensive, it needs to be replicated and extended.

What is important to note about strokes are the differences noted in the brain hemispheres effected. Right hemisphere brain damage has been associated with lack of concern and awareness of stroke deficits, less spontaneity, difficulty in preserverving with a task, visual-spatial and constructional deficits, reduced perception of recognition of the affective and emotional aspects of communication, and increased latency of action (Stein, Hier, & Caplan, 1985). Left hemisphere damage most often leaves victims with significant speech and language deficits. However, impairment of isolated branches of the middle cerebral artery can cause specific aphasic disorders without accompanying paralysis. Aphasic refers to the loss or speech or language processing capabilities. Paralysis in stroke
victims is sensory (e.g., smell, taste, speech, hearing, kinesthetic, and touch) and most often is hemiplegic. Hemiplegic refers to the loss of control of movement on one side of the body. Kinsella and Duffy (1979) found that spouses of aphasic, hemiplegic victims, had significantly poorer overall adjustment, were more lonely and bored, and appeared to be more maladjusted in their marital relationship. Seventy percent of spouses (female) also report more severe poststroke marital adjustment problems if their spouses suffered aphasia compared with partners of nonaphasic stroke survivors.

Caregiving in Cancer

Most cancers are detected in middle age or in later-life (Biegel et al., 1991). Biegel et al. (1991) report that the severity of illness seems to be an organizing theme in cancer literature. For example, Wellisch et al. (1983) studied home health agency records of 447 married cancer patients. They found that when the cancer metastasized, psychosocial problems increased among families. Members tended to feel overwhelmed, had difficulty communicating, and showed more mood disturbance than their nonmetastasized counterparts. Wellisch et al. (1983) also found that families whose ill member had a poorer prognosis felt significantly more overwhelmed than patients in other illness phases.

A survey by Meyerowitz, Heinrich, and Schag (1983) found that 86% of cancer patients (mean age 41) expressed difficulty in communicating with family and friends. Fifty five percent of the significant others attempted to reassure the patients that they look good when they knew they did not, and 51% avoided any reference to the disease. Primomo et al. (1990) studied breast cancer and diabetes patients and their families. Affect, affirmation, and reciprocity of tangible assistance from both the partner and the family were associated with
higher marital quality, less depression, and better family functioning. However, this study's results may not be generalizable to later-life populations since the sample was made up of middle age and younger couples. The investigators noted that more research is also needed on the caregiving role of the partner and the supportive exchanges needed (Primomo et al., 1990).

Carter and Carter (1993) in a study of breast cancer and marriage found that assessments of patient and spouse-caregivers, as individuals, predicted good individual psychological adjustment two to three years post mastectomy. However, scores obtained on marital interaction, using self-report measures, suggested extremely poor marital adjustment. Couples reported high cohesion (enmeshed) and high levels of disagreement. The extreme level of cohesion found among participants in this study indicate that these dyads experienced a loss of individuation with consequent psychological fusion and enmeshment between spouses (Carter & Carter, 1993). Along with high cohesion these couples also reported high levels of disagreement and anger. The researchers conclude that adjustment occurs earlier for the individual than for the marriage, which continues to show reactive effects long after each spouse is adapted. However, since the data was collected using self-report measures, true interactional data is only postulated and not able to be confirmed.

In other breast cancer studies, participation of the husband in the decision to have the mastectomy has been related to the improved quality of the recovery (Grandstaff, 1976; Northouse & Swain, 1987). In addition, the level of the wives distress is directly related to how well the husband copes and to his evaluation of the marriage (Hannum, Giese-Davis, Harding, & Hatfield, 1991). Carter, Carter, and Prosen (1992) point to a need for research
that defines what is reactive to illness and what is reactive to the spouse's personality and emotional disposition.

Goodwin, Hunt, and Key (1987) found that marriage among cancer patients was associated with a 23% higher survival rate, which they attributed to the emotional protection and support provided by the spouses. They also found that married people are diagnosed at an earlier stage of cancer and thus undergo treatment that has a greater likelihood of success than do unmarried cancer patients. However, they did not control socioeconomic status and insurance factors. Campbell (1986) argues that spousal support serves as a buffering effect against chronic illness which according to a growing body of research is not specific to any disease process.

Several studies have found gender differences in the effects of caregiving. Most studies document that women report greater distress (Cassileth, Lusk, & Strouse et al., 1985), depressive symptoms (Lieber, Plumb, Gerstenzang, & Holland, 1976), greater emotional burden (Mor et al., 1987) strained marital relationships (DesRosier, Catanzaro, and Piller, 1992; Lieber et al., 1976), and more evidence of stress and mood disturbance (Hart, 1986; Cassileth et al., 1985) than husbands caring for their wives. The differences between male and female caregivers are similar to their traditional role demands. For example, male patients of female caregivers tend to report more of their needs met (Mor et al., 1987). Where as, female caregivers perceive more caregiving demands of them than do male caregivers (Stetz, 1987).

Wilson and Morse (1991) studied the impact that a wife's chronic illness had on husbands. They found that the husbands went through a process of "buffering," in which
they provided support and caring for their wives. Among husbands, researchers have found that the occurrence of cancer in their wives can be correlated with an increase in psychosocial symptoms (Wellisch, Jamison, & Pasnau, 1978), a decrease in the husband's ability to function effectively at work (Wellisch et al., 1978), and symptoms of depression and anxiety (Keitel et al., 1990). Lieber et al. (1976) found that husbands of cancer patients reported they were not getting their affectional needs met, and were not revealing their emotional distress. Husbands of cancer patients may suppress their own emotional needs, particularly when they perceive their needs in conflict with their wives' needs (Lichtman & Taylor, 1986; Van Der Does & Duyvis, 1989).

Oberst and James (1985) found that two months after diagnosis, spouses were beginning to voice anger and resentment about the disease and its disruption in their lives. They suggest that spouses withhold information about their own needs in the early stages of the illness. Spouse-caregivers may experience fatigue, multiple physical problems such as aches, pains, indigestion, upper respiratory infections, and an exacerbation of preexisting conditions (Oberst & James, 1985). Caregiving-spouses may experience these adverse consequences in part because they have not communicated their own needs to their spouse (Oberst & James, 1985). We know little about how each spouse influences the other's coping (Revenson, 1994). Few studies have examined coping as a dyadic process. However, many have produced data that shows that the illness affects the quality of the marital relationship and, in turn, affects the long term adjustment of the spouse and possibly the progression of the illness.

Studies investigating the effects of chronic illness on younger populations found that
they experience greater role difficulties and relationship impairment (Wellisch et al., 1983), and more financial problems (Mor et al., 1987) as compared with older couples. However, Wellisch et al., (1983) and Mor et al., (1987) suggest that older couples do not have fewer problems than younger couples but different ones. They found that older caregivers had a harder time with caregiving tasks. Hence, they are more likely to withdraw from the labor market (Muirinen, 1986), and feel more overwhelmed than their younger counterparts (Wellisch et al., 1983). Most of the research on communication and caregiver adjustment has been conducted during the terminal stages of cancer (Biegel et al., 1991). Although there is growing emphasis on marital communication as a factor in affecting patient adjustment, we have rarely studied it as a predictor of caregiver outcome.

**Caregiving in Alzheimer's Disease**

Alzheimer's Disease differs from the other forms of chronic illness discussed above since it is a dementing and progressive illness. Early literature on caregiver burden found that caregiving provided to disabled relatives does create, emotional, physical, and financial strain (Horowitz, 1985). The caregiver burdens experienced are often uniquely and severely stressful to caregivers of Alzheimer's Disease (George & Gwyther, 1986; Mace & Rabins, 1981). Patient symptomatology and caregiver outcomes are related (e.g., Schultz, Biegel, Morycz, & Visintainer, 1989). Strong correlations exist between patient functioning, as recorded by activities of Daily Living (ADL) and Personal Self Maintaining ADL (IADL) functioning, and caregiver burden and depression (Schultz, Williamson, Morycz, and Biegel, 19??). Schultz et al. (1989) found that as patients' health status declines, caregiver depression tends to increase. However, it is important to note that one study, conducted by Zarit,
Reever, Bach, and Peterson (1980), found no relationship between these two phenomena.

Some specific problems found among caregivers of Alzheimer’s Disease patients include depression and anxiety, strained relations with family and others, feelings of being overwhelmed, and feelings that life is uncontrollable (Barnes, Raskind, Scott, & Murphy, 1981; Morycz, 1985; Rabins, Mace & Lucas, 1982; Zarit et al., 1980). In Alzheimer’s, depression among female caregivers is reportedly higher than among non-caregiving females (Schultz, Williamson, Morycz, & Biegel, 1993). In addition, the same study found that males reported non-distressing levels of depressive symptomatology at the outset of the study but reported higher frequency over time. Caregivers in general report elevated levels of depression (e.g., Gallagher, Wrabetz, Lovett, Del Mestro, & Rose, 1989; Kiecolt-Glaser, Glaser, Shuttleworth, et al., 1987), but female caregivers tend to experience higher levels of distress and depression than do male caregivers (Fitting, Rabins, Lucas, & Eastham, 1986; Pruchno & Resch, 1989). These studies support the hypothesis that the more severely impaired the patient the greater the depression. There is even some evidence of gender differences in the level of distress in caregiving. However, these studies employed self report measures only.

Spouses tend to show more severe reactions to Alzheimer’s, Stroke, and Cancer than other family members. Biegel et al., (1991) argues that researchers may be confusing role effects with age effects. Biegel et al., (1991) calls for more research that isolates the impact of role and controls for age related effects. According to the U.S. Department of Health and Human Services (Light & Lebowitz, 1989) we need more research on spouse caregivers that compares Alzheimer’s spouse-caregivers’ situation with spouse-caregivers of other chronic
illnesses. Studies investigating cancer tend to be conducted during the early diagnostic and terminal periods, whereas Alzheimer's and stroke research tends to be done during long-term rehabilitation efforts. It is important to compare caregiving across illness controlling for time since onset of diagnosis.

**Family Theories and Chronic Illness**

Theories on families and health often propose different ways of looking at the effect of illness on relational systems. Engel (1977, 1980) calls for an understanding of how the illness itself interacts with the individual, marital dyad, family system, and other biopsychosocial systems. Family therapy theorists, researchers, and clinicians have identified two major factors, emotional reactivity and communication, that influence coping with a chronic illness. In this section I will review the family therapy theory literature on emotional reactivity and communication as they relate to chronic illness.

**Emotional Reactivity**

Rolland (1994) recognizes the powerful role that the family plays in living with a chronic illness (Rolland, 1994). Families attempt to achieve a psychosocial understanding of an illness condition. What affects one member in turn influences another. Understanding of the values, beliefs, and multi-generational legacies that underlie the health problems help to identify the type of caregiving systems ill members require. What Rolland (1994) contributes to the psychological understanding of chronic illness is a "psychosocial typology of illness." The psychosocial typology consists of: 1) onset (acute vs. gradual), 2) course (progressive vs. constant, vs. relapsing), 3) outcome (nonfatal vs. shortened life span or sudden death vs. fatal), and 4) type and degree of incapacitation (none vs. mild vs. moderate
vs., severe). Depending on the category involved, families experience different demands and emotional reactivity that affect their psychosocial adjustment.

Families ascribe meaning to the demands of the illness. Depending on the meaning they ascribe, their emotional reactivity differs. According to McCubbin & Patterson (1982) and Patterson (1989), they see the meaning as a buffering factor in determining family adjustment and adaptation. Repeated cycles of adjustment, crisis, and adaptation invariably influence some families' emotional reactivity. Emotional reactivity refers to the type, severity, course, and degree of the emotional reaction in response to a stressor.

Depending on the family system, emotional reactivity can be characterized by immediate reaction or a delayed response. Communication prior to and after the illness stressor depends on the family as a whole and each member's level of emotional reactivity.

**Communication**

Doherty and Campbell (1988) found that the families pass through several phases during health and illness. These phases consist of communication about the illness, family vulnerabilities, and perceptions of the illness. These phases lead families to respond, adapt, and eventually work through the recovery process. If families do not work through their emotional reactivity, and use communication as a tool, they may experience a decrease in psychosocial and relational functioning. Campbell (1986) recognizes that there is a need for more sophisticated means of assessing the complexity of family interactions.

Open communication in families is crucial for this important phase of later life to happen. This form of direct interpersonal process (Wynne, 1984) serves to solidify the underlying processes of relational development called attachment/caregiving,
communication, and problem solving. According to Wynne (1984) these processes are sequential and lead to mutuality. Mutuality is the long-term commitment to the relationship and the ability to alter the relationship in the face of a major life cycle event or change. If there is not a stable form of attachment and open style of communication, couples coping with chronic illness will have difficulty solving problems associated with the illness and caregiving.

Reiss (1981) and Reiss, Gonzalez, and Kramer (1986) refer to how families handle the task of serious illness as “coordination.” Coordination in a family is reached when they experience themselves as a single unity, especially in times of stress. Families who face a chronic illness may remain very cohesive, focused on the illness, and impeding of the ill member's autonomy and responsibility for self care. Other families may pull apart and the ill member or another family member may completely disengage from the family. Gonzales, Steinglass, and Reiss (1987) find that what then follows is family members may become neglected, leading to frustration, resentment, and poor communication. At the center of their model, is the notion that the illness threatens the family's development and tends to take over its identity.

Family therapists and researchers have found that styles of emotional reactivity and communication are central to the overall adjustment of a system experiencing chronic illness. The demands put on the family may cause it to collapse if they cannot communicate openly. Older couples who have difficulty communicating and sharing the emotional burdens of the illness, may find their marriages strained and their emotional well being threatened.
Summary

Emotions and Marital Communication

The emotional reaction to illness is varied among marital couples. Many couples experience emotions such as fear (Rolland, 1994), shame (Rolland, 1994), sadness (i.e., Coyne & Smith, 1991; Elliot, Trief, & Stein, 1986; Wellisch et al., 1983; Wortman, & Dunkel-Schetter, 1979), helplessness (Wortman, & Dunkel-Schetter, 1979), anger (Wasow, 1985; Wortman, & Dunkel-Schetter, 1979), anxiety (i.e., Coyne & Smith, 1991; Elliot, Trief, & Stein, 1986), distress (Coyne, Ellard, & Smith, 1990), guilt (Wasow, 1985), and feelings of being overwhelmed (Wellisch et al., 1983; Muurinen, 1986). Rolland (1994) maintains that thoughts and feelings such as these often block couples ability to be open with each other (Rolland, 1994). Caregivers may experience fear that if certain topics are discussed, they will hurt the ill partner’s feelings. They also fear that the relationship will not be able to withstand open discussion of certain emotional distress and issues (Rolland, 1994).

An open style of communication allows couples to share companionship, values and activities together (Atchley & Miller, 1983; MacKinnon, MacKinnon, & Franken, 1984; Parron & Troll, 1978; Roberts, 1979). Vess et al. (1985a, 1985b) found that among couples coping with chronic illness, those who had good communication, experienced more cohesive and less conflictual marriages. In cohesive marriages the partners report that they feel emotionally connected and are able to communicate openly with each other. Patients in these marriages were also more likely to be alive five months later. However, it may be that cohesive partners are better communicators all the way around and exercise open communication with their family, outside support system, and their medical providers.
The occurrence of serious illness can serve to exacerbate existing marital difficulties (Stern & Pascale, 1979). Baider and Sarell (1984) found that caregivers of cancer patients reported an increase in problematic marital patterns, less emotional exchange, and increased marital conflicts than their ill spouses reported. Carter and Carter (1994) found that these caregivers were also more likely to report negative effects of the illness on the marriage. Rosen and Tesser (1970) believe this occurs because patients themselves are less likely to discuss or acknowledge that their marital satisfaction has decreased. Couples who do report extremely high levels of marital satisfaction may in fact be denying existing problems. Primomo et al., (1990) argue that couples experiencing illness who communicate emotionally and equitably are associated with higher marital quality, less depression, and better family functioning overall. In summary, the literature highlights connections between emotions and communication in couples coping with chronic illness. It is clear how these emotions and patterns of communications influence the caregiving role.

**Caregiver Functioning**

Spouses who serve as caregivers often experience depression and anxiety, marital communication difficulties, sleep disorders, problems at work, and compromised immune system functioning (Coyne & Smith, 1991; Elliot, Trief, & Stein, 1986; Kiecolt-Glaser et al., 1987; Radley & Green 1986; Wellisch et al., 1978). They may even experience more distress that their ill partners (Coyne, Ellard, & Smith, 1990). Poulshock and Deimling (1984) found that a caregiver’s depression is a significant predictor and placement of the chronically ill patient into an institutionalization.

Spouse caregivers experience greater depressive symptomology than any other family...
caregiver (Haley, Levine, Brown, Berry, & Hughes, 1987). Some caregivers even go to sources of support outside of the marriage for communication on how to cope with the illness (Carter & Carter, 1994). Husbands of cancer patients suppress their own emotional needs, particularly when they run opposite to those of their wives (van der Does & Duyvis, 1989; Lichtman, & Taylor, 1986; Lieber et al., 1976). As the patients continue to express distress and feelings of dissatisfaction, the caregiving spouses may reduce their efforts to help (Coyne, Ellard, & Smith, 1990; Dunkel-Schetter & Wortman, 1982). Oberst and James (1985) found that by two months, spouses were beginning to voice anger and resentment about the disease and its disruption in their lives. Several investigators have found that the long term outcome for marital dyads experiencing a chronic illness may involve poorer physical, psychological, and marital functioning (Bramwell, 1986; Croog & Fitzgerald, 1978; Greenhill & Frater, 1980; Mayou, 1984; Sexton & Munro, 1985). Therefore difficulty in communication and emotional expression is not exclusive to the acute phase following diagnosis. It may become an ongoing problem for these couples.

In this study I will examine the connection between spouse's emotional awareness and expression, marital communication, and marital satisfaction and caregiver depression. The more comfortable caregivers and patients are with their emotional response to each other and to the illness, the better they will be able communicate which will result in fewer negative consequences for the caregiving spouse.
The onset of a chronic illness evokes vulnerable emotions in the patient and the spouse-caregiver. If caregiver spouses and patients are uncomfortable with these emotions then it is likely that their marital communication will be less open than couples who are more comfortable with these vulnerable emotions. In marriages with good communication, spouses are more likely to discuss emotionally salient issues and details about the illness, and less likely to withhold information for fear of their spouse's response.

Attachment theory offers a framework to understand the meaning of the illness for the caregiver and patient. The marriage is conceptualized as an attachment-caregiver system. To be attached means that there is an emotional bond between patient and caregiver. The presence of their emotional bond provides a sense of comfort and security for each spouse. The attachment system is said to be activated when something (such as a predator, enemy, or in this case a life threatening, chronic illness) threatens oneself or one's partner. In the presence of such a threat, vulnerable attachment emotions are evoked in each spouse. In response to these emotions most spouses engage in attachment behaviors that are meant to increase and maintain closeness (proximity) to their partner, which, according to attachment theory, increases their safety and security. At the same time spouses respond to each other with caregiving behaviors meant to reassure and provide the closeness sought by the other.

Attachment theory states that the more comfortable individuals are with their vulnerable attachment emotions, the more likely they are to accurately recognize and interpret the meaning of these emotions. They are then more likely to communicate successfully their desires to their partner. People who are comfortable with their attachment emotions are said
to have secure attachment styles (Ainsworth, Blehar, Waters, & Wall, 1978) while those who are not are said to have insecure attachment styles (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978) identified two primary attachment styles: secure and insecure. Insecure attachment styles are commonly broken down in two types, anxious and avoidant (Feeney & Noller, 1990; Hazen & Shaver, 1987). Insecure attachment styles have been further subdivided by researchers into classifications such as anxious, avoidant, and disorganized (Ainsworth, Blehar, Waters, & Wall, 1978), and in adults, a preoccupied, dismissing, fearful type (Bartholomew & Horowitz, 1991).

Wynne (1984) recognizes the importance of attachment in relational systems. He designed the Epigenetic Model of Relational Development to help explain relational processes within families and other enduring interpersonal systems, and how these relational processes follow one another in a certain developmental sequence. In this model, Wynne (1984) places attachment and caregiving concepts within a theory of relational development. He posits that the attachment-caregiving bond is primary. Communication is built upon the foundation of a secure attachment-caregiving bond. The more secure the attachment-caregiver bond, the more capable spouses are of developing a shared sense of meaning regarding significant events, such as illness. Problem-solving is built upon the communication skills of couples. The more couples are to understand each other's experience, and to develop a shared meaning about the significance of important events, such as illness, the more likely the couple will be able to agree upon and work together to carry out strategies that help them solve or cope with their problems.
Propositions

1. Spouse-caregivers who are more securely attached (i.e., acknowledge and are comfortable with their attachment emotions), will report fewer depressive symptoms and higher marital satisfaction.

2. Spouse-caregivers who are more securely attached are likely to have more on-task communication with their partners.

3. If a couple's communication is more on-task, then spouse-caregivers are likely to report higher marital satisfaction and fewer depressive symptoms.

Listed below are the hypotheses for this study. These hypotheses contain the names of attachment styles and communication sequence variables that have not yet been described. In the methods section, I will describe the procedures for operationalizing these variables. The attachment-style variables were derived from individual interviews with each spouse. Attachment was measured by counting secure and insecure codes collected from each spouse. Communication variables consist of z-scores from Lag Sequential Analysis (LSA) and length scores from Sequence Repetition Analysis (SRA) of coded marital interaction tasks. Communication was measured by coding transcripts of couples doing a communication task. Codes were assigned using the Marital Communication Coding Manual (MCCM). We examined the sequence of two codes from the MCCM. On-task codes were identified as including detailed (DT) information, and off-task codes were identified as including non-detailed (ND) information. The sequences in which spouses followed each other with the same code (ND > ND) or (DT > DT) are later referred to in this study as matching sequences. Spouse who used different codes (i.e., ND > DT) in the same communication sequence are
later identified as being in a non-matching sequence. Depression was measured by tabulating the number of depressive symptoms the spouse-caregiver reports. Marital satisfaction was measured using spouse-caregiver’s reports of overall marital satisfaction.

Hypotheses

Hypotheses for Proposition 1

1) If spouse-caregivers are more securely attached, then they will have fewer depressive symptoms and higher marital satisfaction.

2) If spouse-caregivers are more anxiously attached, then they will have more depressive symptoms and lower marital satisfaction.

3) If spouse-caregivers are more avoidant in attachment, then they will have more depressive symptoms and lower marital satisfaction.

Hypotheses for Proposition 2

1) If spouse-caregivers are more securely attached, then they will have less predictable (LSA) communication sequence variables.

2) If spouse-caregivers are more anxiously attached, then they will have more predictable (LSA) non-matching sequences in their communication.

3) If spouse-caregivers are more avoidant in attachment, then they will have more predictable (LSA) matching sequences in their communication.
Hypotheses for Proposition 3)

Marital Satisfaction.

1) If couples have less predictable (Lag 1, LSA), and longer (SRA) matching sequence on-task (SRA) communication variables, then the spouse-caregivers will have higher marital satisfaction scores.

2) If couples have longer (SRA) non-matching sequences, then the spouse-caregivers will have lower marital satisfaction.

3) If couples have more predictable (LSA) matching sequences, then spouse-caregivers will have lower marital satisfaction.

Depressive Symptoms.

1) If couples have less predictable (Lag 1, LSA) and longer matching sequence on-task (SRA) communication variables, then the spouse-caregivers will report fewer depressive symptoms.

2) If couples have longer (SRA) non-matching sequences, then spouse-caregivers will have more depressive symptoms.

3) If spouse-caregivers have more predictable (LSA) matching sequences, then spouse-caregivers will have more depressive symptoms.
CHAPTER 3
METHODOLOGY

Overview

This study is a primary analysis of data provided by the University of Rochester (NY) School of Medicine and Dentistry, Department of Family Medicine. I used a cross sectional design to examine correlations between marital communication, attachment styles, and spouse-caregiver outcome (marital satisfaction and depressive symptoms). The original study was approved by the University of Rochester Institutional Review Board. This study has been approved by the Iowa State University Human Subjects Review Committee. The data set was collected and is administered by Cleveland G. Shields, Ph.D. under National Institute of Mental Health Grant #1 K07 MH1061-01A1.

Subjects

Alzheimer's disease, stroke, and cancer were chosen as the focus of this study for three reasons: 1) common illnesses in later-life, 2) heightened stressors for the couple to manage, and 3) spouse-caregivers often report distress in conjunction with their caregiving. The groups will vary on cognitive loss and on physical functioning; which we controlled for in the analyses.

Cancer patients and their spouses were recruited through the oncology clinic at Highland Hospital in Rochester, NY. Stroke patients and their spouses were recruited through the Acute Stroke Clinic at Monroe Community Hospital Rochester, NY.
Alzheimer's patients were recruited from the Alzheimer's Association's early stage group. Subjects had been diagnosed with Alzheimer's Disease at the Memory Disorder Clinics of Monroe County Hospital and Strong Memorial Hospital. Prior to being enrolled, subjects were also interviewed by geriatric nurses who confirmed that a diagnosis of Alzheimer's Disease had been made.

The criteria for inclusion in the study are as follows:

**All Subjects**

1) Married and living with a spouse, with a spouse who is willing to participate in the research.
2) Age 50 or older.
3) Spouse-caregivers do not have dementia.

**Cancer Patients**

1) Subject has been diagnosed, has completed any necessary surgery, and is currently undergoing chemotherapy or radiation treatment for breast or colon cancer.
2) Subject's cancer is a first occurrence, is not metastasized, but includes involvement of local tissues and possibly lymph nodes.

**Stroke Patients**

1) Physical functioning is adequate for patient to be discharged to go home, rather than to a nursing home or convalescent facility.
2) Subject has at least rudimentary verbal skills, i.e., can speak and understand basic English.
Alzheimer's Patients

1) Spouse-caregivers live with patient.

2) In the early stages of the disease process and still have verbal skills, i.e., can speak and understand basic English.

Procedures

Data Collection

Research assistants identify couples who meet the study criteria at the Cancer Center of Highland Hospital, the Stroke Rehabilitation Center at Monroe Community Hospital, and Alzheimer's couples in the Early Stages Support Group with the Alzheimers Association. The research team goes on-site to recruit couples that may be appropriate for this study. After the couple agrees, they are asked to participate in a two to three hour interview process that takes place in their home or at the Family Medicine Center. Before each segment of the study the couple is asked to sign written consent forms prior to their participation. The first interview takes place with the investigators and participants in the same room. An open ended interview is conducted and participants are asked about their illness history, marital history, family genogram, “what if” scenarios, and to complete a Consensus Rorschach assessment (Loveland, Wynne, & Singer, 1963) with each other. All marital interaction tasks are videotaped and take place while the investigators are outside of the room (i.e., Consensus Rorschach task). After the initial interview, the research assistants hand out questionnaires to be completed by both members, and a second visit is scheduled for two-three weeks later. The questionnaires are self-report measures of depression, marital satisfaction, psychological,
physical, and relational well-being.

**Measurement Instruments**

**Beck Depression Inventory**

The Beck Depression Inventory (BDI) (Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961) was used to assess affective, cognitive, motivational, and physical symptoms of depression. Each item is rated on a scale of 0 to 3, yielding a raw-score range of 0 to 63. When used to screen normal populations, a score of 18 or greater is considered the cutoff indicating clinically significant depression (Steer & Beck, 1988).

Meta-analysis of 25 years of psychometric studies has shown an internal reliability estimate of $\alpha = 0.87$. Similar examination of test-retest reliability has shown correlations greater than $r = 0.60$. The BDI has been shown to be strongly associated with other depression measures, both self-report and clinical ratings. Its validity is further supported by strong association with hypothesized criterion variables and its ability to discriminate between clinical and non-clinical samples (Beck, Steer, & Garbin, 1988).

**Dyadic Adjustment Scale**

The Dyadic Adjustment Scale (DAS) was developed to assess the quality of adjustment in marriages and other dyads (Spanier & Cole, 1974; Spanier & Filsinger, 1983; Spanier & Thompson, 1982) and is the most widely used marital satisfaction scale available. This study used 10 items from the DAS to measure dyadic satisfaction. Spanier (1976) provides evidence of content, criterion-related and construct validity. Fredman and Sherman (1988) argue that the DAS is a reliable, valid, and relevant measure of marital relationships. Internal consistency has been reported as ranging from .62 to .92 across subscales, with test-retest
reliability ranging from .42 to .90 (Spanier, 1989). The marital satisfaction subscale used in this study has a reported coefficient alpha of .94 (Spanier, 1989). In this study, a DAS subscale score of 43 or greater indicated higher marital satisfaction. The formula used to determine this score was based on the whole scale version of the DAS (Spanier, 1989). In the formula listed below, 115 is the reported cutoff score for the DAS out of a possible score of 151. The marital satisfaction subscale has a maximum score of 52. Therefore, a score of 43 was found to be an approximate cutoff score for the marital satisfaction subscale. The equation used was as follows:

\[
\frac{115}{151} \times \frac{43}{52}
\]

**Patient Measures**

Two patient measures will be included in this study to assess patient's mental state, especially for any dementia, and his or her ability to care for their own daily needs. The measures used are the Mini Mental Status Exam (Folstein, Folstein, & McHugh, 1975) and the Personal Self Maintenance Scale (Lawton & Brody, 1969).

**Mini Mental Status Exam.** The Mini Mental Status Exam (MMSE) (Folstein, Folstein, & McHugh, 1975) is designed to separate patients with and without cognitive disturbance. It tests ones orientation, memory, attention, ability to name, to follow verbal and written commands, to write a sentence spontaneously, and to copy a figure. A score of 23 or lower is an indication of mild mental impairment. Test-retest reliability at 24-hour intervals is better than .8 with some different examiners; test re-test reliability in 28 days for patients thought
clinically stable is .98. The MMSE correlates well with the Wechsler Adult Intelligence Scale (WAIS) (Wechsler, 1945) and clinical judgment.

**Physical Self-Maintenance Scale.** Ability to perform basic self maintenance tasks was assessed using the Physical Self-Maintenance Scale (Lawton & Brody, 1969). This scale was designed to assess subjects ability to perform tasks of basic self care. It measures functions such as: physical ambulation, bathing, grooming, dressing, toileting, and feeding. Inter-rater reliability among different examiners is around .9. Test-retest reliability measured for each of the six areas of function ranges from .8 to .9.

**Marital Interaction Task**

Couple communication was assessed using a Consensus Rorschach task (Loveland, Wynne, & Singer, 1963). We chose the Consensus Rorschach in order to present the long-term marriage couples with a novel task that is seemingly unrelated to the illness. This task is administered during the second half of the initial interview. An outline of the first interview is included in Appendix B. Upon completion of the initial assessment research interview and questionnaires, the couple is enrolled in a one year longitudinal study. They are followed-up with phone interviews at three, six, nine and twelve months.

During the Consensus Rorschach Task, the research assistant presents the couple with four cards containing Rorschach inkblots. The couple is asked to discuss together the inkblots, one at a time, and to come to an agreement on what they think they look like. For this segment of the interview the research assistant leaves the room but this task is recorded on videotape for data collection. This task takes approximately 10 minutes for the couple to complete. The interaction and communication dialogue collected as a result of this task was
Coding the Rorschach Task. Dr. Shields and I have designed the Marital Communication Coding Manual (MCCM) for the Rorschach Task scenario (Appendix C). It was developed to be theoretically consistent with the Present Attachment Coding System (PACS) designed by Shields, Christensen, Young, and Anderson (1996).

Present Attachment Coding System (PACS)

The Present Attachment Coding System (PACS) (Shields, Christensen, Young, & Anderson, 1996) was developed to assess internal working models of attachment in older couples. The Present Attachment Interview (PAI) (Christensen, Shields, Rousseau, Sauvain, & Black, 1996) is a structured clinical interview of roughly an hour’s duration. PAI interviews are videotaped for later coding and so that the interviewer can pay full attention to the interview subject. The interview’s goal is to provide and in-depth exploration of what should be a person’s most salient emotional bond (i.e., the marital relationship). The interview elicits both information and styles of responding. In so doing, the PAI incorporates data from both of the traditional adult attachment domains; conscious evaluations (typically assessed in self-report measures), and emotional defendedness (assessed only in some interview measures, (i.e., Main & Goldwyn, 1984)).

Each marital partner is interviewed separately, and each interview begins with the construction of a genogram. This serves the dual purpose of facilitating a comfortable relationship between the interviewer and the subject, and familiarizing the interviewer with nuclear and extended family members who may be mentioned during the interview. The genogram seeks information on basic family constellation as well as histories of major illness
and causes of death. This information may help the interviewer to prompt for emotionally
(attachment) salient information later in the interview.

Following the genogram, each participant is asked to give a Five Minute Speech Sample
(Gottschalk & Glesser, 1969). In this procedure, the subject is asked to speak uninterrupted
for five minutes regarding his or her partner and how the two of them get along. If the
respondent fails to continue for a full five minutes, a single prompt is given; a reiteration of
the initial request. The balance of the interview represents a substantially modified version
of the Camberwell Family Interview (Brown & Rutter, 1966; Rutter & Brown, 1966), and is
comprised of approximately 45 questions. The major topics covered include reminiscing
about the marriage (Buehlman & Gottman, 1996), how the couple handles irritability and
similar emotions, and the ways in which the couple express affection to and appreciation for
each other.

For the body of the interview, each subject is instructed that the interviewer will be
seeking specific examples of any general statements offered. After each question, the
interviewer follows with a request for a specific example or further depth unless these are
given spontaneously. This procedure was designed to facilitate the two goals of the
interview, collecting self-described evaluations of the couples' relationships, and assessing
the intimacy and affect-regulating emotional defenses of individual partners. The former
goal is addressed by encouraging the sharing of conscious information regarding the
interviewee's orientation to the partner and the relationship. The latter goal is supported by
the persistent request that particular experiences or incidents be reported where possible. The
interview assumes that only persons with secure internal working models will be able to
report detailed incidents and give coherent evaluations of these events. This approach is somewhat comparable to that used by Main and Goldwyn (1984), though the PAI and PACS includes the manifest content of the discourse in considering its attachment qualities.

The taped interviews are coded using the PACS (Shields, Christensen, Young, & Anderson, 1996). Codes in the PACS address two manifestations of internal working models, the content of the models (positive and negative evaluations of self, partner and relationship), and evidence of the defensive structure of the models based on openness and ease of communication. The feature that distinguishes a secure non-defensive interview from an insecure defensive interview, is the degree to which one is able to consciously access vulnerable attachment emotions. In many cases this takes the form of being able to recount detailed and emotionally evocative descriptions of relationship events. Content codes include positive or negative memories, positive or negative adjectives describing self, partner or relationship, and descriptions of each partner's typical methods of handling conflict. Defensiveness is coded by attention to tangential or "off task" talk, disqualified or incongruent evaluations of events, or idealization of the self, partner or relationship. Internal models are described as showing security (and therefore lacking defensive insecurity) when the subject is able to tell detailed stories about the partner or relationship, or describes in detail the overcoming of problems while empathizing with the partner.
Data Management and Analysis

Data Management

Data were collected on forms prepared with consultation from Dr. Cox from the Department of Biostatistics. It was double entered by key puncher in the University of Rochester Computer Center (URCC). The database is being maintained in the Department of Biostatistics. Transcripts were directly coded and data directly entered into a SAS spreadsheet from which analyses were run.

Reduction and Marital Communication Data

Lag Sequential Analysis (LSA) was used to analyze coded data from the Consensus Rorschach task. Lag sequential analysis computes the statistics for two or more event sequences (Bakeman, 1983; Bakeman & Gottman, 1986; Gottman & Roy, 1990). Lag 1 probability and z-scores were computed for the matching and non-matching communication sequences. I used Sequence Repetition Analysis (SRA) to compute maximum length of repeated communication sequences.

Hypothesis Testing

Bivariate correlation and multiple regression were used to test the study's hypotheses. All variables were examined for the adherence to the assumption of a normal distribution. Non-normally distributed variables were transformed before being used in the analyses. Error variance was examined for adherence to normal distribution assumptions.
CHAPTER 4
RESULTS AND DISCUSSION

Results

Description of the Sample

52 couples were recruited for participation in this study. Spouse-caregivers ranged in age from 47.2 to 81.8 (M = 64.5). Only 5% (2) of the couples reported that they were childless and 75% reported that there were no longer any children living with them in the home. Spouse-caregivers had a mean of 13.9 years of education (SD = 2.73), and ill spouses reported a mean of 13.56 years (SD = 2.29). Demographics as reported by illness groups are listed in Appendix D. The N size for each illness group was too small for statistics on group comparisons to be performed. Tables 1 and 2 present income level and employment status information for all three illness groups.

Table 1. Annual household income

<table>
<thead>
<tr>
<th>Annual Income</th>
<th>Frequency</th>
<th>Cumulative Percent</th>
<th>Cumulative Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $10,000</td>
<td>1</td>
<td>2.3</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>$10,000 - $14,999</td>
<td>2</td>
<td>4.5</td>
<td>4</td>
<td>9.1</td>
</tr>
<tr>
<td>$15,000 - $19,000</td>
<td>3</td>
<td>6.8</td>
<td>7</td>
<td>15.9</td>
</tr>
<tr>
<td>$20,000 - $24,999</td>
<td>5</td>
<td>11.4</td>
<td>12</td>
<td>27.3</td>
</tr>
<tr>
<td>$25,000 - $29,000</td>
<td>7</td>
<td>15.9</td>
<td>19</td>
<td>43.</td>
</tr>
<tr>
<td>$30,000 - $34,999</td>
<td>6</td>
<td>13.6</td>
<td>25</td>
<td>56.8</td>
</tr>
<tr>
<td>$35,000 - $39,999</td>
<td>19</td>
<td>43.2</td>
<td>44</td>
<td>100.0</td>
</tr>
</tbody>
</table>

(Frequency Missing = 8)
Table 2. Current employment status

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiver Employment:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>14</td>
<td>29.8</td>
<td>14</td>
<td>29.8</td>
</tr>
<tr>
<td>Part-Time</td>
<td>6</td>
<td>12.8</td>
<td>20</td>
<td>42.6</td>
</tr>
<tr>
<td>Retired</td>
<td>22</td>
<td>46.8</td>
<td>42</td>
<td>89.4</td>
</tr>
<tr>
<td>Homemaker</td>
<td>5</td>
<td>10.6</td>
<td>47</td>
<td>100.0</td>
</tr>
<tr>
<td>(Frequency Missing = 5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ill Spouse Employment:

<table>
<thead>
<tr>
<th>Status</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Frequency</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time</td>
<td>13</td>
<td>32.5</td>
<td>13</td>
<td>32.5</td>
</tr>
<tr>
<td>Part-Time</td>
<td>5</td>
<td>12.5</td>
<td>18</td>
<td>45.0</td>
</tr>
<tr>
<td>Retired</td>
<td>13</td>
<td>32.5</td>
<td>31</td>
<td>77.5</td>
</tr>
<tr>
<td>Homemaker</td>
<td>9</td>
<td>22.5</td>
<td>40</td>
<td>100.0</td>
</tr>
<tr>
<td>(Frequency Missing = 12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subjects were almost evenly split by gender with 48.1% of the spouse-caregivers being female. Of the 52 couples, 17 (33%) had a partner recently diagnosed with Alzheimer's Disease, 27 (52%) were diagnosed with cancer, and 8 (15%) had a recent stroke. Despite efforts to recruit ethnically and racially diverse participants, only two couples were of non-white racial status (African-American). These couples were recruited into the Alzheimer's disease illness group.

Data Preparation

Spouse-caregivers from these couples, completed the marital satisfaction (DAS) and depression (BDI) inventories. Only the 10-item dyadic satisfaction subscale portion of the DAS was used in this study. The mean score on the DAS was 40.96 with a range of 29 to 48, and a standard deviation of 3.31. The mean score on the BDI was 7.75 with a range of 0 to
29 and a standard deviation of 6.4.

Five of the spouse-caregivers and four ill partners had depression scores high enough to be classified as clinically depressed. The depression rating distributions were skewed toward zero sufficiently (Spouse-caregivers: skewness = 1.4, N=47; Ill spouses: skewness = 1.7, N=30) to reject the assumption of a normally distributed variable (Tabachnich & Fidell, 1983). To compensate, log transformations were done, and all future references to Beck depression data will denote these transformed variables. The transformed variables did meet tests of normal distribution. Depressive symptoms were reported at rather low levels, which may be because the caregivers were all in the early stages of caregiving for their spouse. As would also be expected, women reported higher levels (M = 2.03) of depressive symptomatology than men (M = 1.84). This difference approaches statistical significance (t = 1.85; p = .07).

Spouses who participated in this study were assigned attachment codes to their communication statements. The Present Attachment Coding System (PACS) produces continuous variables for secure, insecure, and avoidant attachment styles factors (Shields, Christensen, Young, & Anderson, 1996). Reliability coefficients for the PACS and a summary of the attachment codes are listed in Table 3. One of the coders who coded the transcripts for this study also participated in the PACS coding. However, every tape coded was checked for reliability. The idea of bias in this study was well controlled.
Table 3. Summary of reliability and attachment codes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Intra Class Correlation Coefficient</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse-caregiver - Secure</td>
<td>.834</td>
<td>52</td>
<td>2.54</td>
<td>2.42</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Spouse-caregiver - Anxious</td>
<td>.888</td>
<td>52</td>
<td>11.42</td>
<td>9.44</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>Spouse-caregiver - Avoidant</td>
<td>.746</td>
<td>52</td>
<td>37.71</td>
<td>18.80</td>
<td>2</td>
<td>78</td>
</tr>
</tbody>
</table>

^ Source: Cronbach, Gleser, Nanda, and Rajaratnem (1972)

This is a measure of inter-rater agreement used to compute reliability

Sequential analysis was used to analyze couples communication during the Consensus Rorschach task. The protocol used for condensing the interactional sequences into variables is included in Appendix E (Shields, Watts, & Cox, 1995). Research assistants and this investigator coded transcripts of the couples' dialogue. Each transcript text was broken down into thought units and assigned codes from the Marital Communication Coding Manual (MCCM) included in Appendix C. These codes were then analyzed in sequences of two thought units. They were analyzed to determine the conditional probability that a particular sequence would occur given the first spoken code. Conditional probabilities were transformed into Zscores, which are used in the correlation and regression analyses. Zscore transformations correct for base rates of individual codes (Bateman & Gottman, 1986). Higher Zscores indicate that the sequence occurs at a rate above that what would be expected by chance. A negative Zscore indicates that a particular sequence occurs at a rate lower than would be expected by the simple probabilities of the individual codes.
This results section is organized into the following three parts: A) Initial Analysis, B) Lag Sequential Analysis (LSA) and Sequence Repetition Analyses (SRA), and C) Results of Hypothesis tests. The hypothesized relationships between spouse-caregiver attachment style, marital communication, patient-spouse variables, spouse-caregiver marital satisfaction, and spouse-caregiver depression will be examined.

**Initial Analyses**

The first phase of preparing the coded data for LSA involved breaking down the MCCM codes into groups that best fit the data (Table 4). The category containing “other” codes were eventually omitted from the final analysis for theoretical reasons. Other codes measure more of the couple's processing rather than the presence or lack of details given. Consistent with the PACS and the RICS¹ (Edwards, 1996) coding systems, the MCCM codes were summed to assess detailed (DT), non-detailed (ND), and “other” statements. Analyses focused on the interaction of detailed (DT) versus non-detailed (ND) codes.

Reliability among coders was assessed by having each coder re-code approximately sixty thought units of another coder's transcript. Thought units were randomly assigned by a third party who was not responsible for any of the coding in this study. Reliability analysis performed on the MCCM codes show that this system of coding the data were reliable ($k = .91; df = 3; p \leq .012$). The results of inter-rater reliability analyses are reported in Table 5.

¹ The Response to Illness Coding System (RICS) was designed by Edwards (1996) to code marital interaction during a What If ? task. The What If? task is an emotionally salient task used to evoke emotions expected as the natural response to a life-threatening, chronic illness.
<table>
<thead>
<tr>
<th>Communication Patterns</th>
<th>MCCM Codes</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed</td>
<td>(DTL) Detail</td>
<td>Spouse1 gives detailed information about card</td>
</tr>
<tr>
<td></td>
<td>(ATL) Answer Detail</td>
<td>Spouse2 acknowledges spouse1's detailed information</td>
</tr>
<tr>
<td></td>
<td>(EDT) Echo Detail</td>
<td>Spouse1 repeats back spouse2's exact detailed observation</td>
</tr>
<tr>
<td></td>
<td>(ADT) Answer Echo Detail</td>
<td>Spouse2 acknowledges spouse 1's echoing of detail</td>
</tr>
<tr>
<td></td>
<td>(DTQ) Question Detail</td>
<td>Spouse1 questions the detail of spouse2's description</td>
</tr>
<tr>
<td></td>
<td>(ATQ) Answer Question Detail</td>
<td>Spouse2 acknowledges questions about the detail</td>
</tr>
<tr>
<td>Non-Detailed</td>
<td>(DGR) Disagree</td>
<td>Spouse1 directly disagrees with spouse2's perceptions about the card</td>
</tr>
<tr>
<td></td>
<td>(AGR) Answer Disagree</td>
<td>Spouse2 acknowledges the disagreement</td>
</tr>
<tr>
<td></td>
<td>(DVC) Advocate</td>
<td>Spouse1 strongly believes his or her observation is correct</td>
</tr>
<tr>
<td></td>
<td>(AVC) Answer Advocate</td>
<td>Spouse2 acknowledges spouse1's advocating</td>
</tr>
<tr>
<td></td>
<td>(TNG) Tangent</td>
<td>Spouse1 takes the conversation off the task</td>
</tr>
<tr>
<td></td>
<td>(ANG) Answer Tangent</td>
<td>Spouse2 acknowledges the tangential topic</td>
</tr>
<tr>
<td></td>
<td>(SEQ) Sequence</td>
<td>Spouses talk to the research interviewer</td>
</tr>
<tr>
<td></td>
<td>(GEN) General</td>
<td>Spouse1 is not giving information about the card</td>
</tr>
<tr>
<td></td>
<td>(AEN) Answer General</td>
<td>Spouse2 is acknowledging the general information given</td>
</tr>
<tr>
<td></td>
<td>(OTH) Other</td>
<td>Spouse1 is giving information not relevant to the card</td>
</tr>
<tr>
<td></td>
<td>(ATH) Answer Other</td>
<td>Spouse2 is acknowledging other information given</td>
</tr>
<tr>
<td></td>
<td>(HUH) Huh</td>
<td>Spouse1 is talking about something that is unclear to the coders</td>
</tr>
<tr>
<td></td>
<td>(AUH) Answer Huh</td>
<td>Spouse2 is acknowledging spouse1 in their unclear dialogue</td>
</tr>
<tr>
<td></td>
<td>(CZY) Crazy</td>
<td>Spouse1 makes reference to the craziness of the response/ themselves</td>
</tr>
<tr>
<td></td>
<td>(AZY) Answer Crazy</td>
<td>Spouse2 acknowledges that the responses/themselves are crazy</td>
</tr>
<tr>
<td>Other</td>
<td>(EXP) Explore</td>
<td>Spouse1 attempts to explore spouse2's perceptions about the card</td>
</tr>
<tr>
<td></td>
<td>(AXP) Answer Explore</td>
<td>Spouse2 acknowledges spouse1's efforts to explore</td>
</tr>
<tr>
<td></td>
<td>(COM) Command</td>
<td>Spouse1 issues a command to his or her partner</td>
</tr>
<tr>
<td></td>
<td>(AOM) Answer Command</td>
<td>Spouse2 acknowledges spouse1's commanding statement</td>
</tr>
<tr>
<td></td>
<td>(DON) Done</td>
<td>Spouse1 states he or she is done with the card/task</td>
</tr>
<tr>
<td></td>
<td>(AON) Answer Done</td>
<td>Spouse2 acknowledges that spouse1's done with the card/task</td>
</tr>
<tr>
<td></td>
<td>(CHG) Change</td>
<td>Spouse1 integrates part or all of spouse2's description</td>
</tr>
<tr>
<td></td>
<td>(AHG) Answer Change</td>
<td>Spouse2 acknowledges spouse1's changed perceptions</td>
</tr>
</tbody>
</table>
Table 5. Table of main coders by reliability coders

<table>
<thead>
<tr>
<th>Reliability Coders</th>
<th>Detailed (f)</th>
<th>Non-Detailed (f)</th>
<th>Other (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed (f)</td>
<td>2469</td>
<td>103</td>
<td>26</td>
</tr>
<tr>
<td>Non-Detailed (f)</td>
<td>83</td>
<td>2468</td>
<td>35</td>
</tr>
<tr>
<td>Other (f)</td>
<td>20</td>
<td>63</td>
<td>665</td>
</tr>
</tbody>
</table>

Cohen's Kappa\(^a\) = .91
Percent Agreement = 94%
Percent Chance Agreement = 40%

\(^a\) Source: Cohen (1960)

This is a confusion (agreement-disagreement) matrix. The diagonal numbers indicate agreement and off-diagonal numbers indicate disagreement or confusion about codes.

In this study, there are four main variable categories: dependent, attachment, patient-spouse, and communication (SRA) and (LSA) variables. The dependent variables are spouse-caregiver depression (BDI) and spouse-caregiver marital satisfaction (DAS). The three attachment variable codes used in this study are: secure, anxious, and avoidant. Patient-spouse variables studied are the Mini-Mental Status Exam (MMSE) and the Physical Self-Maintenance Scale (PSMS). The communication variables used in this study are divided into two groups: Sequence Repetition Analysis (SRA) and Lag Sequential Analysis (LSA) variables. All of the above variable categories will be explained later in greater detail. Table 6 has the frequency means, standard deviations, percentage means and z-score means for all the analysis variables. These results are presented for descriptive purposes.
Table 6. Means and standard deviations (SD) of analysis variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means (SD)</th>
<th>Means(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI (LOG)BDI</td>
<td>7.75(6.40)</td>
<td></td>
</tr>
<tr>
<td>DAS</td>
<td>1.84(.83)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>41.60(3.33)</td>
<td></td>
</tr>
<tr>
<td><strong>Attachment Style Variables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECURE</td>
<td>2.43(2.35)</td>
<td></td>
</tr>
<tr>
<td>ANXIOUS</td>
<td>10.88(9.61)</td>
<td></td>
</tr>
<tr>
<td>AVOIDANT</td>
<td>36.24(19.92)</td>
<td></td>
</tr>
<tr>
<td><strong>Patient Spouse Variables:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MM_MILD</td>
<td>.14(.35)</td>
<td></td>
</tr>
<tr>
<td>PSSTOT</td>
<td>2.51(4.88)</td>
<td></td>
</tr>
<tr>
<td><strong>SRA Communication Variables:</strong></td>
<td></td>
<td>Length</td>
</tr>
<tr>
<td>(Matching/ Off-task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P non-detailed (ND) &gt; C non-detailed (ND)</td>
<td>2.46(1.95)</td>
<td></td>
</tr>
<tr>
<td>C non-detailed (ND) &gt; P non-detailed (ND)</td>
<td>2.45(2.04)</td>
<td></td>
</tr>
<tr>
<td>(Matching/ On-task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P detailed (DT) &gt; C detailed (DT)</td>
<td>2.29(1.74)</td>
<td></td>
</tr>
<tr>
<td>C detailed (DT) &gt; P detailed (DT)</td>
<td>2.25(1.69)</td>
<td></td>
</tr>
<tr>
<td>(Non-Matching/ Return to task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P non-detailed (ND) &gt; C detailed (DT)</td>
<td>0.73(1.19)</td>
<td></td>
</tr>
<tr>
<td>C non-detailed (ND) &gt; P detailed (DT)</td>
<td>0.73(1.04)</td>
<td></td>
</tr>
<tr>
<td>(Non-Matching/ Leaving task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P detailed (DT) &gt; C non-detailed (ND)</td>
<td>0.63(0.97)</td>
<td></td>
</tr>
<tr>
<td>C detailed (DT) &gt; P non-detailed (ND)</td>
<td>0.67(1.16)</td>
<td></td>
</tr>
<tr>
<td><strong>LSA Communication Variables:</strong></td>
<td></td>
<td>Z-score</td>
</tr>
<tr>
<td>(Matching/ Off-task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P non-detailed (ND) &gt; C non-detailed (ND)</td>
<td>2.40(2.13)</td>
<td>64.13(20.26)</td>
</tr>
<tr>
<td>C non-detailed (ND) &gt; P non-detailed (ND)</td>
<td>2.02(1.81)</td>
<td>63.25(16.02)</td>
</tr>
<tr>
<td>(Matching/ On-task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P detailed (DT) &gt; C detailed (DT)</td>
<td>2.85(3.25)</td>
<td>68.45(18.33)</td>
</tr>
<tr>
<td>C detailed (DT) &gt; P detailed (DT)</td>
<td>3.21(2.65)</td>
<td>71.60(17.53)</td>
</tr>
<tr>
<td>(Non-Matching/ Return to task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P non-detailed (ND) &gt; C detailed (DT)</td>
<td>-1.31(1.87)</td>
<td>23.78(19.24)</td>
</tr>
<tr>
<td>C non-detailed (ND) &gt; P detailed (DT)</td>
<td>-1.21(1.64)</td>
<td>24.71(15.61)</td>
</tr>
<tr>
<td>(Non-Matching/ Leaving task)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P detailed (DT) &gt; C non-detailed (ND)</td>
<td>-0.90(2.27)</td>
<td>25.91(17.92)</td>
</tr>
<tr>
<td>C detailed (DT) &gt; P non-detailed (ND)</td>
<td>-1.29(1.90)</td>
<td>20.66(14.67)</td>
</tr>
</tbody>
</table>
Lag Sequential Analysis. Lag Sequential Analysis (LSA) computes statistics for two or more event sequences. It assesses predictability in that it looks at the likelihood that a certain combination of communication variables will occur. Statistics are computed for either the next occurring code (Lag 1), skipping a code (Lag 2), skipping two codes (Lag 3), or skipping additional codes (Lag 4 and beyond) (Bakeman & Gottman, 1986; Sackett, 1977). We are examining only lag 1 sequences. For this study, only lag 1 sequences -- speaker (spoke) to whom (responded) at the next occurring speech -- were examined. Bakeman and Gottman (1986) suggested that exploratory studies initially analyze only two event sequences and reduce the number of coded sequential probabilities used in order to reduce the possibility of a type 1 error.

Sequences found in the Consensus Rorschach task are made up of two types, detailed(DT) and non-detailed(ND). Detailed codes are codes that indicate subjects' active involvement in discussing or assigning an image representation to a Rorschach ink blot. When two detailed codes (P(DT) > C(DT)) occur in the same sequence, this indicates that the couple is "on-task" and actively involved in assigning an image representation to a Rorschach ink blot. When two non-detailed codes (P(ND) > C(ND)), occur one right after the other, this indicates that the couple has gone "off-task." Regardless of whether they are on-task or off-task these are called "matching" sequences.

When detailed codes and non-detailed codes follow each other in sequence (i.e., P(DT) > C(ND)), this is referred to as a "non-matching" sequence. Non-matching sequences where the sequence begins with a detailed code and is followed by a non-detailed code (i.e., P(DT) > C(ND)) indicate that the couple is "leaving the task." Non-matching
sequences where the sequence begins with a non-detailed code and is followed by a detailed code (i.e., $P(ND) > C(DT)$) indicates that the couple is "returning to the task." Matching and non-matching sequence variables are what were used in the statistical analyses.

**Sequence Repetition Analysis.** In contrast to the LSA, which examined the probabilities of specific codes following another code, SRA examines the overall length of repeated sequences found in an interaction task (Shields, Watts, & Cox, 1995b). It measures how many times a sequence repeats itself in a sustained interaction. An example of an SRA sequence pattern is:

$$C(ND) > P(DT) \rightarrow C(ND) > P(DT) \rightarrow C(ND) > P(DT) \rightarrow C(ND) > P(DT)$$

This particular sequence has a length of three. The original sequence is equal to zero. The second sequence, or first repetition, is counted as number "1" and the following three sequences are counted for analysis purposes as 2 and then 3. Therefore, although $x=1$, the sequence is not counted statistically until it has been repeated again at least once.

**Results of Hypotheses**

**Hypotheses for Proposition 1**

The first proposition stated that caregiving spouses who are more securely attached will report fewer depressive symptoms and higher marital satisfaction. Each hypothesis associated relationships between attachment styles and spouse-caregiver depression and marital satisfaction. The analyses yielded several findings (see Table 7). First, spouse-caregivers who were more securely attached reported high marital satisfaction ($r = .49; p \leq .0009$) as hypothesized; however, they did not significantly correlate with
Table 7. Spouse-caregiver attachment style correlated with spouse-caregiver depression (BDI) and marital satisfaction (DAS)

<table>
<thead>
<tr>
<th></th>
<th>BDI</th>
<th>DAS</th>
<th>Secure</th>
<th>Anxious</th>
<th>Avoidant</th>
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</thead>
<tbody>
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depression. Spouse-caregivers who were more anxiously attached reported more depressive symptoms ($r = .36; p \leq .0128$), as hypothesized, but they did not significantly correlate with marital satisfaction. Spouse-caregivers who were more avoidant in attachment reported fewer depressive symptoms ($r = -.34; p \leq .0190$). The direction of this relationship was not what was hypothesized at the onset of this study. It was hypothesized that spouse-caregivers who had higher avoidant attachment scores would report more depressive symptoms. Avoidant attachment also did not correlate significantly with marital satisfaction.

Table 8 includes the results of a hierarchical regression of spouse-caregiver attachment styles (secure, anxious, and avoidant) regressed on spouse-caregiver depression. Anxious and avoidant attachment styles appear to account for most of the explained variance of the BDI.
Table 8. Hierarchical regression of spouse-caregiver attachment styles on spouse-caregiver depression (BDI)

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Parameter Estimate</th>
<th>SE</th>
<th>Std. Estimate(B)</th>
<th>Partial $R^2$</th>
<th>Model $R^2$</th>
<th>F</th>
<th>p</th>
</tr>
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<td>.307</td>
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</table>

$R^2$ adj. = .31

Table 9 shows the results of a hierarchical regression of secure and anxious attachment styles on spouse-caregiver marital satisfaction. Regression results show that spouse-caregivers who were more securely attached accounted for the majority of the variance in marital satisfaction.

Table 9. Hierarchical regression of spouse-caregiver secure and anxious attachment styles on spouse-caregiver marital satisfaction

<table>
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<tr>
<th>Variable</th>
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<th>Parameter Estimate</th>
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<th>Std. Estimate(B)</th>
<th>Partial $R^2$</th>
<th>Model $R^2$</th>
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</table>
In sum, these regressions show that spouse-caregivers with higher secure attachment scores account for most of the variance on spouse-caregiver marital satisfaction and spouse-caregivers, and spouse-caregivers with higher anxious and avoidant attachment scores account for most of the variance on spouse-caregiver depression.

Hypotheses for Proposition 2

The second proposition states that caregiving spouses who are more securely attached are more likely to have on-task or matching communication sequences with his or her patient-spouse than spouse-caregivers with higher anxious or avoidant attachment scores. It was hypothesized that spouse-caregivers who were more securely attached would have less predictable sequence variables than anxious and avoidant spouse caregivers. None of the LSA variables significantly correlated with any of the three attachment style variables. The SRA variables that correlated well with the secure attachment variable were C(DT) > P(ND) (r = -.30; p < .038) and P(DT) > C(ND) (r = .29; p < .04). In the first sequence, spouse-caregivers who are more securely attached are less likely to have communication sequences where their patient-spouse is leaving the task. The second sequence shows that the higher the level of security of spouse-caregivers, the more likely they are to feel freer to leave the task.

There also were no SRA variables that correlated with spouse-caregiver anxious or avoidant variables. The results of the SRA analysis and LSA analysis are included in Tables 10 and 11 respectively.
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<thead>
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<th>Avoidant</th>
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<th>CNDPNDL</th>
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<th>CDTPDTL</th>
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Table 11. Spouse-caregiver attachment style correlated with LSA communication variables

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Hypotheses for Proposition 3

Proposition three states that if couple's communication is on-task/detailed, then spouse-caregivers are likely to report higher marital satisfaction and fewer depressive symptoms. Table 12 displays correlations between the SRA communication variables and spouse-caregiver marital satisfaction and depression. No significant correlations were found. The hypothesis that longer detailed sequences would be correlated with higher spouse-caregiver marital satisfaction scores and fewer depressive symptoms was not supported. As with the SRA, the LSA communication sequence variables did not correlate significantly with spouse-caregiver marital satisfaction.

Two communication sequence variables did significantly correlate with depression (see Table 13). One LSA variable (C(DT)>P(ND)) correlated with more reported depressive symptoms ($r = .36; p \leq .03$) among the spouse-caregivers. Therefore, the more patient-spouses leave the task, the more likely spouse-caregivers are to report depressive symptoms. The second LSA variable (P(ND) >C(DT)) correlated with lower scores on the BDI ($r = - .34; p \leq .02$). It appears that the more spouse-caregivers returned to the task, the fewer the number of depressive symptoms reported.

The third hypothesis was divided into two sections: marital satisfaction and depression. Marital satisfaction will be addressed first. It was hypothesized that couples with longer (SRA) non-matching repeated sequences of communication (i.e., C(DT) >P(ND)) and with higher probabilities (LSA) of matching sequences (i.e., P(DT) >C(DT)) would have spouse-caregivers with lower marital satisfaction scores.
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Table 13. Spouse-caregiver depression and marital satisfaction correlated with LSA matching and non-matching

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<th>CDTPDTIZ</th>
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<th>CNDPDTIZ</th>
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<td>- .3681</td>
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<td>.1876</td>
<td>.1738</td>
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<td>.4571</td>
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</table>
SRA and LSA communication variables, as shown in Tables 12 and 13, were not found to significantly correlate with spouse-caregiver marital satisfaction. Therefore, the second and third parts of the marital satisfaction hypothesis were not supported.

Hierarchical regression analysis was run using three of the non-matching (LSA) sequence correlations as reported in Table 14. Non-matching sequence correlations were selected because they appeared to the sequences that best correlated with spouse-caregiver outcome variables, especially with the BDI. After entering in three of the two sequence Z-scores (P(ND) > C(DT), C(ND) > P(DT), and C(DT) > P(ND)), only one communication variable (P(ND) > C(DT)) added independently to the explained variance of the DAS. Therefore, spouse-caregivers who reported higher levels of marital satisfaction were more likely to return to the task.

In Table 15, four independent variables were regressed on DAS. The variables used were: Alzheimer's disease (AD), a variable measuring physical self maintenance (PSMSTOT), secure attachment variable (Secure), and a non-matching communication LSA.

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Parameter Estimate</th>
<th>SE</th>
<th>Std. Estimate(β)</th>
<th>Partial R²</th>
<th>Model R²</th>
<th>F</th>
<th>p</th>
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<td>.022</td>
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<td>.039</td>
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<td>.3614</td>
<td>-.2198</td>
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<td>.053</td>
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<td>.2903</td>
<td>.1866</td>
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<td>.056</td>
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</table>
Table 15. Hierarchical regression of Alzheimer’s disease, spouse-caregiver secure attachment style, non-matching LSA communication variable, and patient’s physical self-maintenance total score on DAS

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Parameter Estimate</th>
<th>SE</th>
<th>Std. Estimate(B)</th>
<th>Partial $R^2$</th>
<th>Model $R^2$</th>
<th>F</th>
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<td>.1188</td>
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<td>.08</td>
<td>.348</td>
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<td>.1932</td>
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<td>.1451</td>
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<td>.008</td>
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<td>.1166</td>
<td>.4549</td>
<td>6.35</td>
<td>.018</td>
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</tbody>
</table>

$^a$AD=Alzheimer’s Disease
$^b$PSMSTOT = physical self maintenance score total

variable (P(ND) > C(DT)).

The secure attachment variable was included in the model because it independently added to the explained variance of the DAS where the other two attachment variables did not.

The communication variable (P(ND) > C(DT)) was selected for the same reason. The PSMSTOT and inclusion of Alzheimer’s patients were selected after running regressions that resulted for their accounting for much of the explained variance of the DAS.

This regression model shows that all four variables selected significantly correlate with spouse-caregiver marital satisfaction. This suggests that higher marital satisfaction among spouse-caregivers is more likely to occur when: spouse-caregivers are more securely attached, spouse-caregivers return to the task, patient-spouses are able to independently perform more of their own physical self maintenance tasks, and when patient-spouses are not diagnosed with Alzheimer’s Disease.
The second subsection of the third hypothesis involved associated effects of communication sequence variables on spouse-caregiver depression. It was hypothesized that couples with longer non-matching variable sequences would have spouse-caregivers who reported more depressive symptoms. In Table 16, the two non-matching LSA communication sequences (P(ND) > C(DT) and C(DT) > P(ND)) that significantly correlated with spouse-caregiver depression were entered into a hierarchical regression model with one additional non-matching communication sequence included (C(ND) > P(DT)) on spouse-caregiver depression. Only one of these non-matching communication sequences (C(DT) > P(ND)) added independently to the explained variance of the BDI. This means that more depressive symptoms are more likely to occur among spouse-caregivers when their patient-spouses leave the task. This supports the aforementioned hypothesis.

The last part of the third hypothesis related to spouse-caregiver depression states that when spouse-caregivers have more predictable agreement sequences, they will report more depressive symptoms. This hypothesis was not supported by the results of this study.
Table 17. Hierarchical regression of spouse-anxious attachment style, non-matching LSA sequence variable, female spouse-caregivers, and mildly mentally impaired patients on BDI

<table>
<thead>
<tr>
<th>Variable</th>
<th>df</th>
<th>Parameter Estimate</th>
<th>Std. Estimate</th>
<th>Estim(B)</th>
<th>Partial R²</th>
<th>Model R²</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
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<td>.257</td>
<td>.087</td>
<td>.087</td>
<td>4.07</td>
<td>.051</td>
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<tr>
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<td>.032</td>
<td>.012</td>
<td>.324</td>
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<td>.172</td>
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<tr>
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<td>.246</td>
<td>6.64</td>
<td>.014</td>
</tr>
<tr>
<td>C(DT) &gt; P(ND)</td>
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<td>.010</td>
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</table>

<sup>a</sup>MM_MILD = Mildly mentally impaired patients  
<sup>b</sup>GENDERF = Female spouse-caregivers

In Table 17, a hierarchical regression model was run using the following four variables: anxious attachment, a non-matching LSA communication variable (C(DT) >P(ND)); spouse-caregiver's gender (female), and patient-spouse with mild impaired mental status.

The anxious attachment variable and the selected LSA communication variable were included in the regression model because they have both independently added to the explained variance of the BDI in prior regressions run in this study. Female spouse-caregivers were included because they were shown to correlated significantly with BDI where male spouse-caregivers did not. Finally, patient spouse's with mildly impaired mental status (MM_Mild) were shown to add independently to the explained variance of the BDI more than the other ranges of potential mental impairment.

Results of this regression model suggest that more depressive symptoms are likely to be reported by spouse-caregivers when: they are more anxiously attached, they are female, patient-spouses leave the task, and when patient-spouse's are more mildly mentally impaired.
Additional Findings

When analyzing the data for this study several other variables were measured for their relationship with marital satisfaction and depression. These results are reported in Table 18. First, cognitive impairment, as related to comprehension and vocabulary difficulties, significantly correlated with spouse-caregiver depression ($r = .35; p \leq .0173$). This means more depressed spouse-caregivers are more likely to have cognitively impaired patient-spouses. Female spouse-caregivers (GENDERF) also significantly correlated with spouse-caregiver depression ($r = .305; p \leq .0392$). Alzheimer's Disease correlated significantly with cognitive impairment ($r = .96; p \leq .0001$), spouse caregiver depression ($r = .349; p \leq .0173$) and spouse-caregiver marital satisfaction ($r = -.416; p \leq .0062$). Therefore, spouse-caregivers for a patient-spouse with Alzheimer's are more likely to be depressed, report lower marital satisfaction, and have patient-spouses who are more cognitively impaired. Patient's ability to perform self-maintenance tasks was also assessed (PSMSTOT) and correlated for its relationship with marital satisfaction and depression. The result is that higher marital satisfaction is more likely to occur when patient-spouses can perform more physical self-maintenance tasks ($r = .349; p \leq .0587$).

Discussion

This study provides data about later-life couples coping with a chronic illness. It investigates specifically the impact that communication, attachment styles, and patient-specific variables have on spouse-caregiver's marital satisfaction and level of depression.
Table 18. Spouse-caregiver attachment style correlated with communication variables

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<th>MM_IMPR</th>
<th>MM_MILD</th>
<th>GENDERF</th>
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The results of this investigation demonstrate the powerful impact that spouse-caregiver and patient-spouse characteristics have on spouse-caregiver outcome. More depressive symptoms were found among spouse-caregivers when: spouse-caregivers were female, spouse-caregiver's were more anxiously attached, patient-spouses leave the task, and patient-spouses were mildly mentally impaired. Higher marital satisfaction was reported among spouse-caregivers when: spouse-caregivers were more securely attached, patient-spouses were not diagnosed with Alzheimer's Disease, spouse-caregivers felt freer to return to the task, and patient-spouses could perform more of their own physical self-maintenance tasks.

Depression

Depression is one on many emotional outcomes that spouse-caregivers may experience when coping with a chronic illness. According to Berkman et al. (1986), depression and medical illness are in a relationship of mutual influence where the presence of one increases the chance of the second developing. In this study, being a female caregiver was associated with higher levels of depression. This supports findings from previous studies on chronic illness in which female caregivers were found to experience higher levels of distress and depression than male caregivers (Cassileth et al., 1985a, 19885b; Mor et al., 1987). Women have traditionally taken on the role of caregiver in the family, and according to Gove (1984), women who take on more nurturing roles in the family tend to report more depressive symptoms. Women have also been known to report their frustrations and emotions more than men, possibly accounting for their higher scores on the BDI. However, the spouse-caregiver gender variable accounted for the least amount of variance in depression.

Another variable that independently added to the explained variance on the BDI was
anxious attachment. The more spouse-caregivers in this study were anxiously attached, the more likely they were to report depressive symptoms. According to Rolland (1994), anxiety often serves to block couples' ability to be open with each other. Caregivers may fear that if certain topics are discussed, they will hurt the ill-spouse's feelings. They also may fear that the relationship will not be able to withstand open discussion of certain emotional distress and issues (Rolland, 1994). Moderate levels of anxiety may at times be beneficial to health and emotional well being; whereas, the extreme may lead spouse-caregivers to experience higher levels of depression.

In the same regression model, one particular communication variable accounted for most of variance in depression. This sequence suggests that the more patient-spouses left the task, the more likely spouse-caregivers were to report depressive symptoms. This was observed in the number of times patient-spouses responded to detailed statements with non-detailed responses. This lends support to Doherty's and Campbell's (1988) argument that if families do not work through their emotional reactivity, and use communication as a tool, they may experience a decrease in psychosocial and relational functioning. Couples engaged in this non-matching sequence seem to have a certain dynamic that is especially distressing to the spouse-caregiver. It is seemingly not by coincidence that it occurred in the same model with more anxiously attached spouse-caregivers. In fact, Wynne (1984) states that direct interpersonal process serves to solidify the underlying processes of relational development called attachment caregiving. Therefore, in adhering to this theory, the presence of this particular sequence may only serve to strengthen anxious attachment. This finding gives some additional information to the gap that exists in the research on communication in later-
life couples coping with chronic illness. More is known about the impacts of spouse-caregivers failure to communicate rather than how the patient-spouse's failure to communicate can affect the caregivers.

Finally, spouse-caregivers who reported more depressive symptoms were likely to have patient-spouses who were mildly mentally impaired, i.e. moving more towards more severe impairment. This supports previous research that the more impaired the patient is, the greater the impact on the spouse-caregivers (Pruchno & Resch, 1989; Fitting et al., 1986). The results of this study also suggest that patient-spouses who experience diseases that are at greater risk for impairing them mentally, such as Alzheimer's, are more likely to have spouse-caregivers who report more depressive symptoms. Therefore, more attention and support is critical to the psychological well being of these spouse-caregivers in particular. More will be discussed about the implication of these findings later.

**Marital Satisfaction**

There were four variables that found in this study that each added independently to the explained variance of marital satisfaction. The variable that accounted for most of the variance is secure attachment. Spouse-caregivers who are more securely attached are more likely to report high marital satisfaction. Wynne (1984) argues that the more secure the attachment-caregiver bond, the more capable spouses are of developing a shared sense of meaning regarding significant life events, such as illness. Secure individuals appear to have a balance between emotions and cognitions that protects them from becoming overwhelmed with the demands of caregiving (Helgeson, 1994). This study appears to support this notion in that higher levels of marital satisfaction are more commonly found among those spouse-
caregivers with secure styles of attachment.

This study found that patient-spouses who were diagnosed with Alzheimer's Disease were more likely to have spouse-caregivers with lower marital satisfaction. This could be related to the tremendous role demands on the spouse-caregiver. However, since the patients in this study were in the early stages of Alzheimer's it may be also due to anticipatory effects of knowing that their spouse will continue to decompensate. The patient-spouse is already starting to show signs of cognitive impairment and spouse-caregivers are no longer experiencing the relationship in the same way. According to several researchers (Mace & Rabins, 1981; George & Gwyther, 1986), the caregiving burdens associated with Alzheimer's are uniquely and severely stressful to the caregivers. Spouse-caregivers are also known to report strained relations with family and others as a result (i.e., Barnes et al., 1981). Wynne's Relational Model (1984) does not really take into account the difference in severity of problems that couples may have to solve. Problems that may eventually wear down even the strongest and most satisfying of marriages.

One particular communication sequence added to the explained variance in the DAS. Spouses were more likely to have higher levels of marital satisfaction when they returned to the task by responding to their patient-spouse's non-detailed statements with detailed responses. For example, in the communication sequence that was significant with DAS, the spouse-caregiver responded to his or her patient-spouse's non-detailed statement with a detailed response. This indicated that there was an interest in a topic shift and/or effort made to get the patient-spouse back onto discussing the task. Previous research has found that affirmation between spouses coping with a chronic illness to be associated with higher
marital quality (Primomo et al., 1990). However, the results of this study suggest that as long as spouse-caregivers make an effort to keep engaged in the task, he or she can maintain a higher level of marital satisfaction. Previous studies found that spouses may reduce their efforts to help as the patient continues to express distress and feelings of dissatisfaction (Coyne et al., 1990; Dunkel-Schetter & Wortman, 1982). Therefore, spouse-caregivers may keep introducing detail and attempt to keep their patient-spouse on-task for so long until they eventually wear down.

The last variable to be entered into the regression equation measured patients' ability to self maintain his or her own personal hygiene. The result was that spouse-caregivers were more likely to report higher marital satisfaction when patient-spouses could meet more of their own physical self maintenance needs. Several researchers found that older caregivers have a harder time with caregiving tasks, especially the physical tasks (Mor et al., 1987; Wellisch, Fawzy, & Landsverk et al., 1983) and often become more depressed and distressed. Therefore, it is possible that as the demands of caregiving increase, the less satisfied later-life spouse-caregivers will be in their marriages.

Implications

The results of this study have implications for exploring attachment and marital communication in relation to couples coping with illness. In addition to this study's theoretical contribution, it also has significant implications for therapists working with later-life couples coping with chronic illnesses, in specific, Alzheimer's, stroke, and cancer. Biegel et al. (1991) call for more research that does not rely on self report measures. They support models that are theoretically grounded and that can be used to develop predictive models of
Theoretical Implications

Few theorists and researchers have applied attachment theory to later-life. Attachment theory aids our understanding of the dynamics that affect how well couples cope with a chronic illness and how attachment styles influence their ability to communicate. Wynne (1984) suggests that the attachment bond forms the basis of relationships. It also generates data useful to broadening the theoretical understanding of how one's attachment style and type of communication influences spouse-caregiver outcome. Researchers suggest that caregiving-spouses may experience adverse outcomes because they have not communicated their own needs to their spouse (Oberst & James, 1985). However, argument exists that suggests the patient-spouses have more to do with how well spouse-caregivers can express themselves based on the order and use of detailed or non-detailed statements.

Wynne (1984) believes that poor attachment/caregiving styles and poor communication will impair one's ability to problem solve. I am in agreement with Wynne (1984). Couples who have insecure attachments (anxious), and more non-matching sequences in their communication, are at greater risk for not resolving the challenges associated with chronic illness. Especially those where spouse-caregivers attempts at an engaging conversation are met with non-matching or disengaging responses.

Although attachment theory looks at the relationship between two individuals, this study challenges the theory's neglect to address variables of physical health and their impact on attachment style. This study included variables such as physical self-maintenance, and type of illness in order to better understand spouse-caregiver outcomes. In the past decade
medical and mental health providers have advocated for researchers, theorists, and clinicians to use a biopsychosocial approach in understanding families with health problems (i.e., McDaniel et al., 1992).

Clinical Implications

Clinicians can help couples in the development of healthier patterns of communication and attachment so they can better cope with a serious stressor, such as a chronic illness. According to Wynne (1984), the attachment/caregiving bond is the foundation for a couple's progression through relational development. Clinicians can be most effective by guiding couples toward developing more secure attachments to each other. This can be accomplished by talking with couples about the importance of sharing vulnerable emotions and thinking through critical decisions together. Couples who are unable to process the emotional and/or cognitive elements may lead to caregivers who become burnout.

Therapists can help couples talk about the emotional pain of having a chronic illness by first creating a safe place for each of them to express their feelings. Perhaps the therapist's office is not “safe” and the interview is best conducted at the client's home or with their minister present. Other discussion that often needs to occur is related to: medications, insurance, wills, delivering the news to family etc. Family therapy is one approach that encourages discussions among members and would be useful in this situation. Teaching all members of the system to talk about their feelings and thoughts about the illness may promote healing on several different levels.

Clinicians may next want to intervene by helping couples address their style of communication. The underlying patterns of communication, as addressed in this study, can
powerfully influence a spouse-caregiver's well-being. Couples who struggle to stay on-task in a discussion can result in more depressive symptoms found in spouse-caregivers. Therapists can facilitate healthier patterns of communication by encouraging the patient-spouse to stay on-task and participate in the discussion despite the topic. Therapists may need to be cautious of the pace, and speed up or slow down the process as appropriate. Wynne (1984) believes that a couple's style of communication directly affects how they go on to solve problems. Therefore, as the couples participate in challenging discussions about the illness, exercises that teach couples how to validate each other during conversation would be beneficial. Working with couples in later-life may be especially challenging as these couples have been communicating a certain way for many years. Change may need to happen slowly and in careful consideration of its effect on other family members.

In relation to depression, clinicians may need to weigh the criteria for major depressive disorders carefully against what may be normal caregiver distress. Becker and Morissey (1988) argue that chronic stressors associated with Alzheimer's caregiving are unlikely to cause a major depressive disorder unless individuals are predisposed to it. There may be criterion problems of distinguishing psychiatric illness from normal caregiving distress. Careful evaluation of the spouse-caregiver and consideration of gender and attachment style can be powerful diagnostic indicators for at-risk caregivers.

Highlighting the point that clinicians may want to encourage the involvement of other family members in these discussions is important. Patterns between the couple are also often found among other members of the system. Therefore, inviting children, siblings, parents, medical providers, neighbors, etc., would help to address system as a whole instead of
breaking it up into parts. Therapists could take the time then to encourage communication about the illness and specifically how it has affected the family.

What we have learned as result of this study, besides the information on communication and attachment, is that many other conditions can influence a spouse-caregiver's level of marital satisfaction and depressive symptoms. Connecting couples to local support groups and home health services can assist caregivers in managing the overwhelming demands that can come with the caregiving role. Therapists can be integral in connecting families to services in the community. Many spouses or families may believe that in asking for help they must be doing something wrong in the care they are providing. It is important that these spouse-caregivers be validated and acknowledged for all the love and commitment they show as caregivers. Helping them to understand that by asking for help they will not be cast aside but will simply become part of a team of caregivers.

Not only is it important for couples and families to learn how to connect with other resources, but the therapist also can benefit from it as well. Many therapists never think of contacting the medical providers who are caring for the patients and families. Perhaps they assume medical providers are not interested in taking time to talk about the patient. Sharing the care can indeed be beneficial to all members of the treatment team, including the therapist.

The biopsychosocial (Engle, 1977) approach has been a guiding force in rethinking the way we care for patients and families. Often the mental health and medical elements will overlap. Physicians may find themselves having important mental health information but not having the skills to deal with it. Just the same, a patient may report to the therapist some
physical symptoms that the therapist is concerned about. By having medical and mental
health teams work together, the care for the patient and family has continuity. Early in
treatment, therapists should encourage the patient and spouse to sign a release to all of the
main medical providers involved in the patient’s care. Chances are that where there is a
frustrated spouse and therapist; there is also a frustrated medical provider.

Therapists working with couples and families coping with a chronic illness can
introduce very specific and fundamental changes into the couple’s attachment/caregiving
bond and communication patterns. They can also watch closely for signs and symptoms that
may indicate a spouse-caregiver is headed toward depression and/or a strained marital
relationship. Ultimately, the goal would be to bring together all members of the treatment
team, from the couple to the health care professionals, and facilitate system-wide change in
patterns of attachment and communication.
CHAPTER 5

CONCLUSIONS

Summary

This study was designed to examine the relationship between spouse-caregiver attachment style, couple's communication, on spouse-caregiver depression and marital satisfaction. Fifty-two couples participated in the study with one spouse having been diagnosed with either cancer, Alzheimer's Disease, or stroke. Attachment theory and the Epigenetic Relational Model were used as the theoretical underpinnings for this research. The Consensus Rorschach Task was used to examine couples' communication. Lag sequential analyses (LSA) and sequence repetition analyses (SRA) were conducted on observational data to produce variables. The findings of this study suggest that more depressive symptoms are likely to be found among spouse-caregivers: who are female, who are more anxiously attached, whose patient-spouse responds to their statements of specific detail with a non-detailed response (C(DT) > P(ND)), and who have patient-spouses with more signs of mild mental impairment. Higher marital satisfaction was reported among spouse-caregivers: who are more securely attached, whose patient-spouse is not diagnosed with Alzheimer's Disease, who responds to non-detailed statements by the patient-spouse with detailed statements (P(ND) > C(DT)), and who have patient-spouses capable of performing more physical self-maintenance tasks themselves. In the following sections, I describe the limitations of this study and my recommendations for future research.
Limitations

The results of this study provide new information about the relationship between attachment styles, marital communication patterns, spouse-caregiver depression and spouse-caregiver marital satisfaction. There are however some limitations to this study that will be addressed in time. First, currently this sample size of the individual illness groups is not large enough to examine group differences. Second, similarly the sample of couples in the non-chronic illness “control” group was not large enough yet to use for comparison.

Third, all of the couples that participated in this study were over the age of 55. This was purposeful as there in very little literature and research on later-life couples coping with a chronic illness using observational data gathering techniques. Many of the findings in this study may not be generalizable to couples in middle to early adulthood as is noted. However, the interviews and data gathering methods could be used to draw comparisons between age groups coping with chronic illnesses.

Fourth, because of the cross-sectional nature of this study, no causal conclusions about the direction of influence among variables can be made. When the collection of follow-up details is completed, we will be able to make causal inferences.

Fifth, in this study log transformation scores of the BDI were used. It is known that using log scores of the BDI can make interpretations more difficult. The BDI was selected primarily because this study was conducted in a medical setting. Health care professionals tend to focus more extensively on psychopathology and use the BDI that is known for measuring this interest. However, the population sampled for this study was not a psychiatric population and because of this showed low levels of psychopathology. Perhaps another
instrument would have been more appropriate for measuring depressive symptoms in this type of population.

Sixth, the only minority group represented in this study were African-Americans. The African-American population is about 10% of the local population. Even though it is likely that the population of couples over the age of 50 is less than 10%, due to the shorter life expectancy of African-Americans. However, African Americans are not the only racial or ethnic minority subculture living in the area. Better recruiting strategies are needed so that a thorough investigation can be done using couples from both inside and outside of the dominant culture.

Finally, the MCCM coding system, although reliable, is a new coding system designed for this study by this author and Dr. Cleve Shields. It warrants further usage to prove its utility in coding marital communication.

**Recommendations for Future Research**

This research is groundbreaking in that it focuses on later-life marriages and couples communication. Few studies have focused on the interaction between couples in later-life, let alone those coping with a chronic illness. Previous studies on older couples almost exclusively used self-report measures to measure marital satisfaction and communication. To appreciate the richness of detail in the couple's stories, qualitative analysis of the interviews would also be a valuable method to use in understanding the dynamics of couples' attachment and communication styles. Researchers, until recently, pulled apart the family to study it, using individual perceptions to understand family dynamics. Studying couples using
interview techniques such as the one in this study, is one way to begin to get at the true interactions that happen when couples communicate.

This study used a non-threatening task to assess marital communication. The results of comparing a non-threatening communication task with a threatening one (such as telling ones illness story) could provide additional information about couples communication. Assessing whether the occurrence of a personal tragedy alters underlying communication sequences would be beneficial for both researchers and clinicians. Clinicians could then develop strategies for assisting couples in getting back to healthier patterns or helping them to form new ones that do not stress or strain the spouse-caregiver or patient. In addition, many of the interviews collected for this study were videotaped in the couples' homes. Leaving the "laboratory" to study couples interaction in a more natural and less threatening environment, may assist researchers to gain rich information about their communication.

Path analysis may yield additional information about direct and indirect effects among attachment, communication, patient-variables, spouse-caregiver depression, and spouse-caregiver marital satisfaction. It would also help to understand what other mediating variables, such as patient characteristics, may influence spouse-caregiver outcomes.

Future research on older couples is needed that includes couples from various ethnic, racial, and cultural backgrounds. Cultural norms and values affect how couples and families communicate and form emotional attachments. In addition, norms and rules exist that determine what constitutes depression and marital satisfaction. Although not always easy, recruiting a more diverse sample can result in better and more applicable research.

Since the subjects that participated in this research were in the early stages of illness,
one could not evaluated the effects of illness over time. Future research using longitudinal analyses for the purpose of designing a stage model would be beneficial. Understanding how attachment styles, communication, patient-health factors and spouse-caregiver marital satisfaction and depression change throughout the course of an illness among later-life couples is needed. Also, asking participants to retroactively report on their attachment styles, communication, marital satisfaction, and depression prior to the illness would be another way to expand the understanding of how illness affects later-life couples over time. Research with healthy couples, following up one or more years later, may also get at these effects. This type of study would require a large sample to account for attrition and those classified as not having a chronic illness diagnosis. This type of research is understandably costly and time consuming.

The demands on caregivers appear to be a function of both caregiver factors and patient characteristics. As the baby boomer generation continues to age, research efforts and clinical expertise in older relationships and chronic illness is needed. The theoretical and clinical implications of this research will play a part in understanding the effect of chronic illness itself on later-life couples.
APPENDIX A

CONSENT FORMS
Information for Review of Research Involving Human Subjects
Iowa State University
(Please type and use the attached instructions for completing this form)

1. Title of Project: Later-Life Marriages, Chronic Illness, and Spouse-Caregiver Functioning

2. I agree to provide the proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree to request renewal of approval for any project continuing more than one year.

Jennifer L. Harkness 1/29/97
Type name of principal investigator: Phone number to report reactions
Department: HUMAN DEV'T & FAMILY STUDIES
Campus address: 1086 LeBaron Hall
(715) 273-0656

3. Signature of other investigator(s): Date: Relationship to principal investigator

4. Principal investigator(s) (check all that apply): Faculty □ Staff □ Graduate student □ Undergraduate student

5. Project (check all that apply): Research □ Thesis or dissertation □ Class project □ Independent Study (490, 590, Honours project)

6. Number of subjects (complete all that apply): 55 # adults, non-students □ 43 # ISU students □ 0 # minors under 14 □ 0 □ minors 14-17 □ other (explain)

7. Brief description of proposed research involving human subjects: (See instructions, item 7. Use an additional page if needed.)

This study will be used to examine the relationship between attachment style and communication style on spouse-caregiver marital satisfaction and psychological well-being. With this information, one may then be better able to identify at-risk spouse-caregivers and marriages. The methods used to gather the data will be self-report and video review. Subjects will be asked to complete several questionnaires and participate in videotaped interviews with trained research assistants. The nature of the data collected will be quantitative. It will be analyzed using Log Sequential Analysis and Sequence Repetition Analysis. The criteria for selecting subjects are: 1) married, diagnosed with Alzheimer's, Stroke, or Cancer (one spouse), and 3) other spouse does not have an acute life-threatening disease. Subjects are ages 55 and older, live in the Rochester, New York area, and are married. (Not in the process of separation.)

8. Informed Consent: □ Signed informed consent will be obtained. (Attach a copy of your form.) □ Modified informed consent will be obtained. (See instructions, item 1.) □ Not applicable to this project.
9. Confidentiality of Data: Describe below the methods you will use to ensure the confidentiality of data obtained. (See instructions, item 9.)

All videotapes and questionnaires will be given code numbers that are used to keep the confidentiality rights of the subjects. A master list of the subjects' names and code numbers will be kept in a locked file cabinet with access only permitted for verification of code numbers by authorized research assistants and the principal investigator. No videotapes or coded materials are permitted to leave the research center and all materials will be locked in file cabinets when not in use. Videotapes will be kept until the grant project is complete in 1988. All research assistants and the principal investigator are informed about the need to insure confidentiality and agree.

10. What risks of discomfiture will be part of the study? Will subjects in the research be placed at risk or incur discomfiture? Describe any risks to the subjects and precautions that will be taken to minimize them. (The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological or emotional risk. See instructions, item 10.)

None are foreseen or have been observed. However, in the event that one or both spouses would appear to be emotionally distressed after completing the interview process, an appropriate referral for counseling services would be provided.

11. CHECK ALL of the following that apply to your research:

☐ A. Medical clearance necessary before participants can participate.
☐ B. Administration of substances (foods, drugs, etc.) to subjects
☐ C. Physical exercise or conditioning for subjects
☐ D. Samples (blood, tissue, etc.) from subjects
☐ E. Administration of infectious agents or recombinant DNA
☐ F. Deception of subjects
☐ G. Subjects under 14 years of age and/or
☐ H. Subjects in institutions (nursing homes, prisons, etc.)
☐ I. Research must be approved by another institution or agency (Attach letters of approval)

If you checked any of the items in 11, please complete the following in the space below (include any attachments):

Items A–E Describe the procedures and note the proposed safety precautions.

Items D–E The principal investigator should send a copy of this form to Environmental Health and Safety, 118 Agronomy Lab for review.

Item F Describe how subjects will be deceived; justify the deception; indicate the debriefing procedure, including the timing and information to be presented to subjects.

Item G For subjects under the age of 14, indicate how informed consent will be obtained from parents or legally authorized representatives as well as from subjects.

Items H–I Specify the agency or institution that must approve the project. If subjects in any outside agency or institution are involved, approval must be obtained prior to beginning the research, and the letter of approval should be filed.

University of Rochester (Research Subjects Review Board)
"Later-Life Marriages, Chronic Illness, and Spouse-Caregiver Functioning"

Checklist for Attachments and Time Schedule

The following are attached (please check):

12. ☐ Letter or written statement to subjects indicating clearly:
   a) the purpose of the research
   b) the use of any identifier codes (e.g., name, #), how they will be used, and when they will be removed (see item 17)
   c) an estimate of time needed for participation in the research
   d) if applicable, the location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, when and how you will contact subjects later
   g) that participation is voluntary; nonparticipation will not affect evaluations of the subject

13. ☐ Signed consent form (if applicable)

14. ☐ Letter of approval for research from cooperating organizations or institutions (if applicable)

15. ☐ Data-gathering instruments

16. Anticipated dates for contact with subjects:
   First contact
   Last contact
   August 1, 1993
   July 1, 1998

   *** Using data collected by Cleve Shields, Ph.D. (not having direct subject contact) ***

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:
   August 1, 2001

18. Signature of Departmental Executive Officer
   Date
   Department or Administrative Unit:

19. Decision of the University Human Subjects Review Committee:
   ☒ Project approved
   ■ Project not approved
   ■ No action required

   Patricia M. Keil
   Name of Committee Chairperson
   Date
   Signature of Committee Chairperson
Principal Investigator: Shields, Cleveland, Ph.D.

Project Title: Clinical Mental Health Academic Award

This board has reviewed the information you have submitted regarding the above application and has given REAPPROVAL.

Additional Remarks: With Provisio that all research activities will be submitted for review.

Modifications in the above proposal as approved by this Board should be submitted for additional evaluation. This includes changes in the subjects of study, the means of obtaining consent, or in the risk to the subject.

Consent forms with patient/subject signatures must be kept in the principal investigator's study file at all times. (Records must be retained for a minimum of (3) years after a project is completed.)

If a drug is to be used in the study, the drug should be stored in the Pharmacy for dispensing and inventory control. Any adverse reaction to biologicals, drugs, radionuclides or medical devices must be reported to the Research Subjects Review Board for evaluation. (This is in addition to any other agency to whom you would report adverse reactions.) Adverse reactions involving any substance used in this study as reported by other investigators should also be reported to this Board.

A PROGRESS REPORT WILL BE REQUIRED AT LEAST ANNUALLY.

The Department of Health and Human Services has approved the University of Rochester for five (5) years through 11/30/98 (Multiple Project Assurance #11357-01) in accordance with the Federal Regulations of March 5, 1983 and its subparts B, C & D for the Protection of Human Subjects.

John Baum, M.D. 
Chairman

Valerie Bartlett 
Executive Director

(The approval will be withdrawn if at any time the conditions and requirements of the RSRB are not met.)

November 9, 1994
Project Title: How Do Couples Cope with Illness?

Submitted by: C. Shields, MD

Method of Review/Approval:
- Conditional
- Admin Approval
- Expedited
- Full
- Annual Review
- Follow Up Only

This will confirm the review and approval of the above research study submitted to the Highland Hospital Human Investigation Committee.

Physician/Investigator Responsibilities:

I. Investigational Drugs:
   a. All drugs for inpatients' use must be supplied to the Pharmacy Department for dispensing and inventory control.
   b. Physicians who elect to dispense to outpatients are responsible for adhering to the rules and regulations governing investigative drugs.
   c. Any adverse reaction to biological drugs, radiopharmaceuticals, or medical devices must be reported to the Human Investigation Committee for evaluation, in addition to any other agency to whom the investigator would report adverse reactions.
   d. Research investigators shall ensure that each person signing the written consent form is given a copy of that form.

II. You must notify the NIC promptly when:
   a. There is any modification in the proposal or research activity subsequent to approval by the committee.
   b. There are changes in the subject of study, in the means for obtaining informed consent, or in the risk to subjects.
   c. The study has been active for one year and approval renewal for continuation of the study is needed.
   d. The study has been completed and/or terminated.

III. Other Requirements:
   a. Changes in approved research during the period for which NIC approval has already been given will NOT be initiated without NIC review and approval except where necessary to minimize apparent immediate hazards to human subjects.
   b. Unanticipated problems involving increase to research subjects of others must be promptly reported to the NIC.

Zachar-Ehmer, MD  Date
Human Investigation Committee
APPENDIX B

MARITAL HISTORY INTERVIEW
Marital History Interview

I. First Interview
   a. Present Partner Attachment Interview (Shields et al., 1996).
   b. Couple interaction tasks
      1. Illness history
      2. Marital History
      3. Consensus Rorschach
      4. What if? Task

II. Questionnaires.

III. Individual assessment interview (2-3 weeks later)
   1. Structured Clinical Interview for the Diagnosis (SCID)
   2. WAIS, to assess vocabulary and comprehension
   3. Mini-Mental Status Exam (MMSE)
APPENDIX C

MARITAL COMMUNICATION CODING MANUAL (MCCM)
MARITAL COMMUNICATION CODING MANUAL (MCCM)
Coding Rules

1. **Always code the smallest codeable unit in any segment of the interview.**

2. **Rules for Main Coders**

   A) Coders should begin coding an interview at the point when both husband and wife are engaged in direct dialogue. DO NOT code segments of the interview where the research is engaged in the conversation.

   B) Each thought unit receives two codes.

      - One code is given to each thought unit to classify its content
      - A second code is then given to each though unit to indicate whether or not the dialogue has shifted topic.

3) **Rules for Reliability Coder**

   A) The reliability coder will receive pages of interviews selected by someone other than the main coders. Interviews to be coded for reliability will be chosen at random and coders will not know when tapes are being coded for reliability.

4) **Dual coding WILL NOT be used in this study**
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EDT Echo Detail ............................................. 3

Non-Detailed Codes

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HUH Huh ......................................................... 6
DGR Disagree .................................................. 7
DNK Do Not Know ............................................ 8
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CZY Crazy ....................................................... 10
SOD Social Desirability ..................................... 11
SAT Statements about the Task ............................. 12
TNG Tangent .................................................... 13
OTH Other ....................................................... 14
SEQ Sequence .................................................. 15

Other Codes

CHG Change .................................................. 16
COM Command ............................................... 17
EXP Explore .................................................... 18
DON Done ....................................................... 19

Mixed Category Code

A** Answer .................................................... 20-22
Details (DTL):

Description/Criteria:

Statements are coded DTL when:

- a spouse describes specific thoughts and opinions about the Rorschach cards.

Examples:

- "I think this resembles a polar bear with a fish in his mouth."
- "I'm guessing this is two people"
- "That looks like a monster"
- "One of those flat fishes"
- "Here is the nose, here is the eye, and here is the eye here"
Question Detail (DTQ):

Description/Criteria:

Statements are coded DTQ when:

- a spouse questions specific thoughts and opinions that their partner made about the Rorschach cards.
- questions are asked using the exact phrasing the spouse used to describe the Rorschach card.

Examples:

- H  "I think it looks like a fish" (DTL)
- W  "You think it looks like a fish?" (DTQ)
- H  "This looks like a crown." (DTL)
- W  "Maybe a crown?" (DTQ)
Echo Detail (EDT):

Description/Criteria:

Statements are coded EDT when:

- one partner repeats back to their partner the representation heard.
- the feedback response is not in the form of a question but in the form of a statement
- somewhere in the partner’s response they repeat back their partner’s detail. It does not have to be in the next direct thought unit but does have to be in the next response segment.

Examples:

- W  “A hamster in a ball” (DTL)
- H  “Maybe (ATL)
- H  “A hamster in a ball” (EDT)
- H  “A fish out of water” (DTL)
- W  “A fish out of water” (EDT)
**Advocate (DVC):**

*Description/Criteria:*

Statements are coded DVC when:

- a partner makes a concerted effort to “sell” his or her perception.
- a partner refers to a perception made several thought units ago.
- a partner makes attempts to explain it with greater detail
- they follow a Detail (DTL) code made earlier by the same speaker.
- partner's attempt to create evidence for justifying their own interpretation.

*Examples:*

- H “That is what I thought” (DVC)
- W “Didn’t those animals make some sense to you?” (DVC)
- W “See the two bears?” (DVC)
- W “It looks like two bears dancing” (DVC)
- W “That is what it looks like to me” (DVC)
**General (GEN):**

*Description/Criteria:*

Statements are coded GEN when:

- they do not specifically describe parts of the Rorschach.
- they do not specify which part of the figure they are describing.
- it is unclear what the speaker is referring to.
- no information given describes how they are looking at the card.
- inaudible statements have been transcribed with no idea of interpretation.
- partners dialogue about shifting the card around in different directions in order to look at it from a different angle.
- partners dialogue whether part or the whole of the card should be analyzed.
- partners refer to specific colors on the Rorschach card.

*Examples:*

- “well.........”
- “here’s a.........”
- “I know”
- “OK” - in some instances that are not obviously agreement
- “Oh my God”
- “I turned it this way and that”
**Huh (HUH):**

*Description/Criteria:*

Statements are coded HUH when:

- there is no logical reference being made to the card, and in some way it pertains to the card/task.

*Examples:*

- “Maybe it's like patty cake, patty cake...”
- “Whoops”
- “See how they got that stupid little beak comes down”
**Disagree (DGR):**

**Description/Criteria:**

Statements are coded DGR when:

- the verbal content includes statements of disagreement to the partner's previous statement.
- a partner offers statements responding to his or her partner's statement which describe a completely different view of the card.

**Examples:**

- “Really, I don't see that
- “Not a pig”
- “I didn’t think of them as animals”
- “No, that is not what I mean”
**Do Not Know (DNK):**

*Description/Criteria:*

Statements are coded DNK when:

- either partner indicates that they do not have opinion of what the Rorschach represents.

*Examples:*

- “That I couldn’t even figure out anything on that.”
- “I made no sense of that one either”
- “Oh...I don’t know”
- “I didn’t make much of that at all”
- “Whatever”

** Sometimes a partner may state “I don’t know” and follow it up with “perhaps it is a car.” If this occurs, give it a detail (DTL) code.

*Example (DNK vs. DTL):*

- “I could not see anything in this” (DNK)
- “I do not know but perhaps it is a car” (DTL)
Questioning or Rejecting the Task (QRT):

Description/Criteria:

Statements are coded QRT when:

- there is a hesitancy or refusal to participate in the task.
- a subject questions the purpose and relevance of the task.

Examples:

- "I don’t know what that is or what I’m supposed to see in it."
- "I really don’t have much imagination on any of them"
- "I don’t get this at all"
- "I just don’t get what it has to do with it"
- "What does this have to do with my wife’s cancer?"
- "This is stupid"
Crazy (CZY):

Description/Criteria:

Statements are coded CZY when:

- either of the partner's make reference to the possibility that they are crazy.

Examples:

- “Well if we are crazy, we are crazy together”
- “We must be crazy to see it this way.”
Social Desirability (SOD):

Description/Criteria:

Statements are coded SOD when:

- either of the partner's make reference to the possibility that their answers will be interpreted by others poorly.

- partners make reference to how they appear psychologically as a result of this task or their specific response.

- partners attempt to remind their spouses of the purpose of the task and suggest that they monitor their responses so they will not be misinterpreted.

Examples:

- "But then they will think we are alcoholics."
- "Don't talk like that, we are being recorded."

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Statements about the Task (SAT):

Description/Criteria:

Statements are coded SAT when:

- either of the partner's make reference to the purpose of the consensus Rorschach task.
- partners make reference to needing to come to a joint decision
- partners attempt to remind their spouses of the task objective.

Examples:

- "We need to agree"
- "We have to reach consensus"
- "It’s whatever you read into it"
- "Well it’s Rorschach"
- "We are only supposed to look at one at a time"
- "These are inkblots"
Tangent (TNG):

Description/Criteria:

Statements are coded TNG when:

- the partners are off task.
- statements contain no Description/Criteria of the Rorschach and the content is not related to the task.
- statements are made that take the couple off in a discussion that is no longer specific to what they see on the card.

Examples:

- "I think we need to call your mother tonight about the car."
- "I have to use the bathroom"
- "I have never seen St. Elmos Fire before. What is it?"
Other (OTH):

Description/Criteria:

Statements are coded OTH when:

- either partner is not giving new information about the card
- it is apparent that the person is "on task" but no detail is being given about the card.

Examples:

- "I should have put my glasses on."
- "Oh we can cheat"
- "I'll hold the thing up so they cannot see us"
**Sequence (SEQ):**

*Description/Criteria:*

Statements are coded SEQ when:

- either partner is addressing one of the research interviewers (I).
- the research interviewers (I) are addressing either or both partners of the couple.

*Examples:*

- H  “What do you think this is?” (SEQ)
- I  “You are both supposed to think that through” (SEQ)
- H  “Oh okay” (SEQ)
**Change (CHG):**

*Description/Criteria:*

Statements are coded CHG when:

- a spouse indicates that he/she has changed his/her opinion about the card to the spouse's view
- it appears that one spouse is incorporating parts of the other spouse's view into his/her perception.

*Examples:*

- "And I could see where that one looks like a flower."
- "Oh I see it now! It is a polar bear with a fish in its mouth."
- "It does look a lot like a bat so we'll call it a bat."
**Command (COM):**

*Description/Criteria:*

Statements are coded COM when:

- one partner is attempting to get the other partner to take some action.
- one partner is attempting to get the other to respond to the Rorschach card in the form of a command.

*Examples:*

- “You take it”
- “You answer it”
- “I say you can do it”
**Explore (EXP):**

**Description/Criteria:**

Statements are coded EXP when:

- either partner makes an effort to clarify or to understand what his/her partner sees in the card.
- one partner is trying to elicit the other partner's opinions but not in the form of a command.
- one partner is attempting to draw out the other to explain more about his or her perception of the card.
- a partner asks the other partner to explain how or what he or she sees.

**Examples:**

- “Now show me how you see a face in this one”
- “Where is the hand?”
- “What do you think this one is?”
- “How do you see a dog here?”
- “Do you see anything in this one?”
- “Can it be a color?”

**Because echo detail, explore, and question detail can be confused by coders, the following example is designed to demonstrate the differences among these codes.**

**Examples (EDT vs. EXP vs. DTQ):**

- H “A knot in a tree” (DTL)
  - W “A knot in a tree” (EDT)
  - W “A knot in a tree and this is what?” (EXP)
  - W “A knot in a tree?” (DTQ)
Done (DON):

Description/Criteria:

Statements are coded DON when:

- there is effort by either partner to indicate that they are finished with part or all of the task.

Examples:

- “Okay, we’re done”
- “I’m done with this one”
- “We’re done”
- “Just tell them we are all done”
Answer (A**):

Description/Criteria:

Statements are coded (A**) when:

- the verbal content includes statements of agreement or acknowledgment to the partner's interpretation of the Rorschach.

- the last two letters in the code (**) correspond with the last two letters of the MCCM code he/she is agreeing with.

Examples:

- Answer Detail (ATL)
  H  “This could be racoons” (DTL)
  W  “Yeah, they could be” (ATL)

- Answer Done (AON)
  H  “We’re all done” (DON)
  W  “All right” (AON)

- Answer Statements About Task (AAT)
  W  “We’re supposed to agree on what it is” (SAT)
  H  “Yeah, I guess you are right” (AAT)

- Answer Tangent (ANG)
  H  “I have to use the restroom” (TNG)
  W  “I think you should just go” (ANG)

- Answer Question/Rejecting Task (ART)
  W  “I don’t see how this relates to your cancer” (QRT)
  H  “I know. This is absurd” (ART)

- Answer Do Not Know (ANK)
  H  “I do not know what this supposed to be (DNK)
  W  “I don’t know either (ANK)
Answer Code Examples (contd.)

- Answer Disagree (AGR)
  W “I don’t think it’s a pig” (DGR)
  H “I don’t either” (AGR)

- Answer Advocate (AVC)
  H “Don't you think?” (DVC)
  W “Ahhhh” (AVC)

- Answer General (AEN)
  W “Well...” (GEN)
  H “Yeah” (AEN)

- Answer Question Detail (ATQ)
  H “I think it is a fish” (DTL)
  W “A fish?” (DTQ)
  H “Yes” (ATQ)

- Answer Huh (HUH)
  W “Yadda Yadda” (HUH)
  H “Yeah” (AUH)

- Answer Echo Detail (EDT)
  H “I see a tree” (DTL)
  W “A tree.” (EDT)
  H “Yeah” (ADT)

- Answer Change (CHG)
  W “Okay I will go along with that” (CHG)
  H “Good” (AHG)

- Answer Command (COM)
  H “Look at it and tell me what you think” (COM)
  W “Okay” (AOM)

- Answer Explore (EXP)
  W “What do you see here?” (EXP)
  H “Hmmm” (AXP)
Answer Code Examples (contd.)

- Answer Crazy (CZY)
  H  "We are nuts" (CZY)
  W  "Completely" (AZY)

- Answer Social Desirability (SOD)
  W  "If we say elephants, they will think we are drunks" (SOD)
  H  "I see" (AOD)
APPENDIX D

DEMOGRAPHICS FOR EACH ILLNESS GROUP
Demographics for Illness = Alzheimer's Disease

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse-caregiver Age</td>
<td>74.07</td>
</tr>
<tr>
<td>Patient-spouse Age</td>
<td>68.96</td>
</tr>
<tr>
<td>Caregiver Gender</td>
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<td>Female</td>
<td>(8)</td>
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<td>Male</td>
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<td>Management</td>
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<tr>
<td>Sales</td>
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</tr>
<tr>
<td>Clerical</td>
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</table>
Caregiver Occupation (contd)

Farmer (small farm) (0)
Foreman (0)
Laborer (1)
Homemaker (1)
Other (5)

Caregiver Job Status
(frequency missing = 1)

Full-Time (0)
Part-Time (2)
Retired (14)
Homemaker (1)

Caregiver Education
14 years (completed some college)

Race

Caucasian (15)
African American (2)
Asian (0)
Hispanic (0)
Other (0)
### Demographics for Illness = Cancer

<table>
<thead>
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<td>Farmer (own large farm)</td>
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<td>Social Service</td>
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<td>Small Business Owner</td>
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**Caregiver Occupation (contd)**

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<td>Laborer</td>
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<tr>
<td>Homemaker</td>
<td>(3)</td>
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<tr>
<td>Other</td>
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**Caregiver Job Status**

(freq. missing = 8)

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<th>Frequency</th>
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<td>Part-Time</td>
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<td>Retired</td>
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<tr>
<td>Homemaker</td>
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**Caregiver Education**

13.5 years (completed some college)

**Race**

(freq. missing = 5)

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
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<td>African American</td>
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<tr>
<td>Hispanic</td>
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Demographics for Illness = Stroke

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<td>Spouse-caregiver Age</td>
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<td>Patient-spouse Age</td>
<td>67.34</td>
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<td>Caregiver Gender</td>
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</tr>
<tr>
<td>Female</td>
<td>(9)</td>
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<tr>
<td>Male</td>
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<td>Caregiver Occupation (frequency missing = 2)</td>
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<tr>
<td>Professional</td>
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</tr>
<tr>
<td>Management</td>
<td>(1)</td>
</tr>
<tr>
<td>Farmer (own large farm)</td>
<td>(0)</td>
</tr>
<tr>
<td>Social Service</td>
<td>(0)</td>
</tr>
<tr>
<td>Small Business Owner</td>
<td>(0)</td>
</tr>
<tr>
<td>Sales</td>
<td>(0)</td>
</tr>
</tbody>
</table>
Caregiver Occupation (contd)

- Clerical (2)
- Farmer (small farm) (0)
- Foreman (0)
- Laborer (1)
- Homemaker (0)
- Other (2)

Caregiver Job Status (frequency missing = 2)

- Full-Time (2)
- Part-Time (0)
- Retired (2)
- Homemaker (3)

Caregiver Education 13.2 years (completed some college)

Race (frequency missing = 1)

- Caucasian (8)
- African American (0)
- Asian (0)
- Hispanic (0)
- Other (0)
APPENDIX E

SEQUENTIAL ANALYSIS TO CALCULATE MARITAL COMMUNICATION VARIABLES
1. The transcripts from the videotaped Consensus Rorschach Task are broken down into thought units and MCCM codes are applied. For example:

<table>
<thead>
<tr>
<th>Who</th>
<th>To Whom</th>
<th>Quote</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>P</td>
<td>&quot;I think it is a fish.&quot;</td>
<td>DTL</td>
</tr>
</tbody>
</table>

[P=patient; C=caregiver; DTL=detail given about image;]

2. The coded data are then entered into a computer file.

<table>
<thead>
<tr>
<th>Who</th>
<th>To Whom</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>P</td>
<td>DTL</td>
</tr>
</tbody>
</table>

3. The individual codes are then collapsed into more general categories. For example:

<table>
<thead>
<tr>
<th>Category</th>
<th>Individual Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Detailed)</td>
<td>(i.e., DTL, ATL)</td>
</tr>
</tbody>
</table>

4. Simple frequencies are calculated. For example, the number of times that a particular caregiver responded with detailed communication (DT) to a particular patient's non-detailed communication (ND) is 3.

5. Next, the probabilities of sequences are calculated. The probability of a sequence is the frequency of the sequence divided by the frequency of the first code in the sequence. For example, the sequential probability of a caregiver responding with non-detailed communication (ND) to a patient's detailed communication (DT) is equal to the frequency of this sequence [P(ND) --> C(DT)] divided by the frequency of [C(DT)].
6. Z-scores of particular sequences are then calculated. The formula for computing Z-scores for sequential probabilities is as follows:

\[ Z = \frac{FQ(\text{sequence}) - FQ(\text{code I}) \times FQ(\text{code I}+1)}{[FQ(\text{code I})][FQ(\text{code I}+1)][1=\text{Prob}(\text{code I}+1)][1-\text{code I}]} \]

Note. From Lag counts: A SAS program to compute lag sequential statistics by C.G. Shields, A. Watts, & C. Cox, 1995, Unpublished manuscript, University of Rochester.

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APPENDIX F

MEASUREMENTS
Now I would like to ask you some questions to check your memory and concentration. Some of them may be easy and some of them may be hard. (Write verbatim response)

Score: 0:Incorrect/Can't Do 1:Correct Response 9:Not Assessed

1. What is the year? 1. __
2. What is the season of the year? 2. __
3. What is the date? 3. __
4. What is the day of the week? 4. __
5. What is the month? 5. __
6. Can you tell me where we are right now? For instance, what state are we in? 6. __
7. What country are we in? 7. __
8. What city/town are we in? 8. __
9. What floor of the building are we on? 9. __
10. What is the address? (If institutionalized, what is the name of this place?) 10. __
11. I am going to name three objects. After I have said them, I want you to repeat them. Remember what they are because I am going to ask you to name them again in a few minutes. Please repeat the three items for me:
   a) "Apple" 11a. __
   c) "Penny" 11c: __
(Score first try. Repeat objects for three trials only.)
12. Now I am going to spell a word forwards and I want you to spell it backwards. (Repeat if necessary, but not after spelling starts.)

Print letters: __ __ __ __ __ __ Items correct 5, 4, 3, 2, 1, 0 12. ___

13. What were the three objects I asked you to remember?
   a) "Apple" 13a. ___
   b) "Table" 13b. ___
   c) "Penny" 13c. ___

14. (Show wrist watch.) What is this called? 14: ___
15. (Show pencil.) What is this called? 15: ___

16. I'd like you to repeat a phrase after me: (The phrase is) "No ifs, and's or but's." (Allow only one trail.) 16: ___

17. Read the words on this page, then do what it says. (Show sheet of paper that reads "CLOSE YOUR EYES.") Code 1 if subject closes eyes. 17: ___

18. (Read full statement and then hand over the paper.) "I'm going to give you a piece of paper. When I do,"
   a) "take the paper in your right hand," 18a. ___
   b) "fold the paper in half with both hands," 18b. ___
   c) "and put the paper down on your lap." 18c. ___
(Do not repeat instructions or coach)

19. Write any complete sentence on that piece of paper for me. 19: ___

20. Here is drawing. Please copy the drawing on the same paper. 20: ___
(Correct if the two five-sided figures intersect to form a four-sided figure and if angles in the five-sided figure are preserved.)
Close Your Eyes
PSMS 1 of 2
Physical Self Maintenance Scale
Form 3005

Case Number: __ __ __ __ __ __ __
Assess#/Date: __ __/____/____/____/____/____/____

Answer the following questions as they pertain to your spouse by circling the appropriate response. Choose only one number in each category, indicating the highest level of functioning in the last week.

1. TOILET
   0: cares for self at toilet completely; no incontinence
   1: needs to be reminded, or help in cleaning self, or has rare (weekly at most) accidents
   2: soiling or wetting while asleep more than once a week
   3: soiling or wetting while awake more than once a week
   4: no control of bowels or bladder

2. FEEDING
   0: eats without assistance
   1: eats with minor assistance at meal times and/or with special preparation of food, or help in cleaning up after meals
   2: feeds self with moderate assistance and is untidy
   3: requires extensive assistance for all meals
   4: does not feed self at all and resists efforts of others to feed him/her

3. DRESSING
   0: dresses, undresses, and selects clothes from own wardrobe
   1: dresses and undresses self, with minor assistance
   2: needs moderate assistance in dressing or selection of clothes
   3: needs major assistance in dressing, but cooperates with efforts of others to help
   4: completely unable to dress self and resists efforts of others to help

4. GROOMING (neatness, hair, nails, hands, face, clothing)
   0: always neatly dressed, well-groomed, without assistance
   1: grooms self adequately with occasional minor assistance; e.g. shaving
   2: needs moderate and regular assistance or supervision with grooming
   3: needs total grooming care, but can remain well-groomed after help from others
   4: actively negates all efforts of others to maintain grooming
5. PHYSICAL AMBULATION
   0: goes about grounds or city
   1: ambulates within residence or about one block distant
   2: ambulation with assistance of
      a(____)another person
      b(____)railing
      c(____)cane
      d(____)walker,
      e(____)wheelchair:
      1: gets in and out without help
      2: needs help in getting in & out
   3: sits unsupported in chair or wheelchair but cannot propel self without help
   4: bedridden more than half of the time

6. BATHING
   0: bathes self (tub, shower, sponge bath) without help
   1: bathes self with help in getting in and out of tub
   2: washes face and hands only, but cannot bathe rest of body
   3: does not wash self, but is cooperative with those who bathe him/her
   4: does not try to wash self and resists efforts to keep him/her clean
Below are groups of statements. Please read each group of statements carefully. Then pick out the statement in each group which best describes the way you have been feeling in the past week, including today! Circle the number to the right of the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read the statements in each group before making your choice.

1. 0: I do not feel sad
   1: I feel sad
   2: I am sad all the time and I can't snap out of it
   3: I am so sad or unhappy that I can't stand it

2. 0: I am not particularly discouraged about the future
   1: I feel discouraged about the future
   2: I feel I have nothing to look forward to
   3: I feel that the future is hopeless and that things cannot improve

3. 0: I do not feel like a failure
   1: I feel I have failed more than the average person
   2: As I look back on my life, all I can see is a lot of failure
   3: I feel like a complete failure as a person

4. 0: I get as much satisfaction out of things as I used to
   1: I don't enjoy things the way I used to
   2: I don't get real satisfaction out of anything anymore
   3: I am dissatisfied or bored with everything

5. 0: I don't feel particularly guilty
   1: I feel guilty a good part of the time
   2: I feel quite guilty most of the time
   3: I feel guilty all the time
6. 0: I don't feel I am being punished  
   2: I expect to be punished  
   3: I feel I am being punished  

7. 0: I don't feel disappointed in myself  
   1: I am disappointed in myself  
   2: I am disgusted with myself  
   3: I hate myself  

8. 0: I don't feel I am any worse than anybody else  
   1: I am critical of myself for my weaknesses or mistakes  
   2: I blame myself all the time for my faults  
   3: I blame myself for everything bad that happens  

9. 0: I don't have any thoughts of killing myself  
   1: I have thoughts of killing myself, but I would not carry them out  
   2: I would like to kill myself  
   3: I would kill myself if I had the chance  

10. 0: I don't cry anymore than usual  
    1: I cry more now than I used to  
    2: I cry all the time now  
    3: I used to be able to cry, but now I can't cry even though I want to  

11. 0: I am no more irritated now than I ever am  
    1: I get annoyed or irritated more easily than I used to  
    2: I feel irritated all the time now  
    3: I don't get irritated at all by the things that used to irritate me  

12. 0: I have not lost interest in other people  
    1: I am less interested in other people than I used to be  
    2: I have lost most of my interest in other people  
    3: I have lost all of my interest in other people  

13. 0: I make decisions about as well as I ever could  
    2: I have greater difficulty in making decisions than before  
    3: I can't make decisions at all anymore  

14. 0: I don't feel I look any worse than before  
 1: I am worried that I am looking old or unattractive  
 2: I feel that there are permanent changes in my appearance that make 
   me look unattractive  
 3: I believe that I look ugly

15. 0: I can work about as well as before  
 1: It takes an extra effort to get started at doing something  
   2: I have to push myself very hard to do anything  
 3: I can't do any work at all

16. 0: I can sleep as well as usual  
 1: I don't sleep as well as I used to  
 2: I wake up 1-2 hours earlier than usual and find it hard to go back to sleep  
 3: I wake up several hours earlier than I used to and cannot get back to sleep

18. 0: My appetite is no worse than usual  
 1: My appetite is not as good as it used to be  
 2: My appetite is much worse now  
 3: I have no appetite at all anymore

19a. 0: I haven't lost much weight lately  
 1: I have lost more than 5 pounds  
 2: I have lost more than 10 pounds  
 3: I have lost more than 15 pounds

19b. I am purposely trying to lose weight by eating less.  
     Y: Yes

20. 0: I am no more worried about my health than usual  
 1: I am worried about physical problems such as aches and pains; or 
   upset stomach; or constipation  
 2: I am very worried about physical problems and it's hard to think of 
   much else  
 3: I am so worried about my physical problems, that I cannot think about anything else
21: 0: I have not noticed any recent change in my interest in sex 0 1 2 3 __
   1: I am less interested in sex than I used to be
   2: I am much less interested in sex now
   3: I have lost interest in sex completely
Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

**Please circle:** 1: All the time, 2: Most of the time, 3: More often than not, 4: Occasionally, 5: Rarely, 6: Never.

<table>
<thead>
<tr>
<th>Item</th>
<th>All the time</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How often do you discuss or have you considered divorce, separation, or terminating your relationship?</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>2. How often do you or your partner leave the house after a fight.</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>3. In general, how often do you think that things between you and your partner are going well?</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>4. Do you confide in your partner?</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>5. Do you regret that you were married or lived together?</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>6. How often do you and your partner quarrel?</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>7. How often do you and your partner &quot;get on each other's nerves?&quot;</td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>8. Do you kiss your partner?</td>
<td>4 3 2 1 0</td>
<td></td>
</tr>
<tr>
<td>4: Every Day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3: Almost Every Day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2: Occasionally</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: Rarely</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0: Never</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The following numbers represent different degrees of happiness in a relationship.

0: Extremely unhappy  
1: Fairly unhappy  
2: A little unhappy  
3: Happy  
4: Very happy  
5: Extremely happy  
6: Perfect.

9. All things considered, please circle the number that best describes the degree of happiness, all things considered of your relationship. 0 1 2 3 4 5 6 __

10. Please circle one of the following numbers that best describes how

5: I want desperately for my relationship to succeed, and would go to almost any length to see that it does.

4: I want very much for my relationship to succeed, and will do all I can to see that it does.

3: I want very much for my relationship to succeed, and will do my fair share to see that it does.

2: It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.

1: It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.

0: My relationship can never succeed, and there is no more that I can do to keep the relationship going.
We would like to ask you some questions about yourself.

1. Your Date of Birth?
   
   __________/________/________
   
   month  day  year

2. Your gender?
   
   M  F

3. How many living children do you have?
   
   __________

4. How many of your children live in your household?
   
   __________

5. How many people live in your household?
   
   __________

6. Who do you live with? Please circle Y: Yes or N: No and M: Male or F: Female
   
   (Yes No Male Female)
   
   a. Spouse/Partner  Y  N  M  F  __________
   b. Adult Children  Y  N  M  F  __________
   c. Grandchildren  Y  N  M  F  __________
   d. Sibling  Y  N  M  F  __________
   e. Aunt/Uncle  Y  N  M  F  __________
   f. Niece/Nephew  Y  N  M  F  __________
   g. Friend  Y  N  M  F  __________
   h. Other  Y  N  M  F  __________
   i. Alone  Y  N  M  F  __________

7. Which relative of the patient spends the most time caregiving?
   
   (Yes No Male Female)
   
   a. Spouse/Partner  Y  N  M  F  __________
   b. Adult Children  Y  N  M  F  __________
   c. Grandchildren  Y  N  M  F  __________
   d. Sibling  Y  N  M  F  __________
   e. Aunt/Uncle  Y  N  M  F  __________
   f. Niece/Nephew  Y  N  M  F  __________
   g. Friend  Y  N  M  F  __________
   h. Other  Y  N  M  F  __________
   i. Alone  Y  N  M  F  __________
8. Transportation: How do you get around? Please circle your response
2. Ride the bus.
3. Someone drives me.
4. Call a cab.
5. Other. Specify ____________________________

9. Present job status: Please write number in the blank
1: Full-Time
2: Part-Time
3: Retired
4: Homemaker
5: Disabled
6: Looking for work

10. What kind of work do you do? (If retired circle former occupation)
01: Business, Executive
02: Professional (doctor, professor, engineer)
03: Management (in medium sized business)
04: Farmer (own large farm)
05: Social Service (counselor, social worker)
06: Small business owner (convenience store or other small business)
07: Sales
08: Clerical
09: Farmer (small farm)
10: Foreman (factory, construction)
11: Laborer (construction, janitor)
12: Homemaker
13: Other ______________________

11. Years of education? Circle highest level of education completed.

9 10 11 12 : High school,
13 14 15 16 : College
17 18 : Masters Degree
19 20 21 22 : M.D., Ph.D., D.O., Ed.D.
01: Business, Executive
02: Professional (doctor, professor, engineer)
03: Management (in medium sized business)
04: Farmer (own large farm)
05: Social Service (counselor, social worker)
06: Small business owner (convenience store or other small business)
07: Sales
08: Clerical
09: Farmer (small farm)
10: Foreman (factory, construction)
11: Laborer (construction, janitor)
12: Homemaker
13: Other ________________

13. Of these income groups, which best represents the total household income during the past 12 months? Include wages, salaries, and interest, dividends, net income from business, farm, or rent, or any other money income received.

1: Less than $10,000
2: $10,000-$14,999
3: $15,000-$19,999
4: $20,000-$24,999
5: $25,000-$29,999
6: $30,000-$34,999
7: $35,000-$39,999
8: $40,000 or more

14. What best describes your race?

1: Caucasian
2: African American
3: Asian
4: Hispanic
5: Other
1: Medicare
2: Blue Cross/Blue Shield 15b. ___
4: Medicaid 15c. ___
5: Private Insurer
6: Self-Pay 15d. ___
7: None
8: Other, specify _______________

Demographics - 4 of 4
REFERENCES CITED


