LEVELS OF PERSONAL DISCLOSURE AND ENGAGEMENT IN
COMMUNICATION OF LATER-LIFE COUPLES
COPING WITH CHRONIC ILLNESS

by

Todd M. Edwards

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APPROVED:

Michael Sporakowski
Michael Sporakowski, co-chair

Cleveland Shields
Cleveland Shields, co-chair

Joyce Arditti

Howard Protinsky

Craig Everett
Craig Everett

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Blacksburg, Virginia

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(ABSTRACT)

The relationships between marital communication of later-life couples coping with chronic, physical illness, caregiver depression and marital satisfaction were examined in this study of 25 patients and their spouse caregivers. Guided by Bowen Theory, lag sequential analyses and sequence repetition analyses were conducted on observational data to determine the effects of open communication, closed communication, and pursuer-distancer communication on caregiver depression and marital satisfaction. The findings indicate that reciprocal closed communication between caregivers and spouses was positively related to caregiver depression, reciprocal open communication between caregivers and spouses was negatively related to marital satisfaction, and reciprocal pursuer-distancer communication was negatively related to marital satisfaction. Further, sustained pursuer-distancer communication was related to higher caregiver depression. Communication patterns were found to be related to family of origin relationships. Possible explanations for these findings and implications for family therapy and future research are discussed.
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Chapter I

Introduction

A long-term health problem challenges couples' communication skills (Rolland, 1994). When a marital relationship is stressed by a chronic illness in a spouse, levels of personal disclosure that may have been functional prior to a disorder often become insufficient. Communication is commonly blocked by concerns about hurting the partner or worsening the condition (Rolland, 1988), fear that the relationship will not survive openness in certain areas (Rolland, 1994), or fear that one's partner will be critical of one's inadequacies (Kerr & Bowen, 1988). In some cases, a partner may use the caretaking role and focus on the spouse's illness in avoidance of communicating his or her own vulnerability, anxiety, or longings to be dependent and taken care of (Walsh, 1989).

Murray Bowen's (1978; 1991) concept of open and closed communication systems is an effective way to describe chronic illness as a relational phenomena. An open communication system is one in which an "individual can communicate a high percentage of inner thoughts, feelings, and fantasies to another who can reciprocate" (Bowen, 1991, p. 80). A closed communication system is one in which an "individual cannot communicate the thoughts they do have, lest they upset the family or others" (Bowen, 1991, p. 80). Kerr and Bowen (1988) describe common dynamics of open and closed systems:
The low levels of reactivity [characteristic of open systems] allow the person who is feeling upset and unsettled to communicate his feelings and thoughts freely, unencumbered by a fear of unduly upsetting others, or by an apprehension that others will respond by sermonizing or withdrawing . . . Obstacles to comfortable communication about emotional issues pertain to the reactivity of family members to the one who is distressed initially. This reactivity can be manifested in withdrawal, predictable lectures, guilt-induced efforts to placate the "troubled one," frenzied attempts to alleviate another's distress, and acting out in response to someone else's upset (p. 123, brackets added).

According to Kerr and Bowen (1978), attitudes and reactions that are characteristic of closed communication systems are related to couple's lack of differentiation. Level of differentiation, as defined by Jones (1995), reflects the extent to which people in a relationship system are able to: 1) maintain emotional contact or connection with a relationship system, 2) maintain their own emotional autonomy and not compromise that of others, 3) objectively coordinate thinking with emotional reaction, and 4) develop values, principles, and agenda for guiding one's life with larger purpose.

I used Bowen Theory in this study to derive hypotheses about couple's communication systems when responding to questions about the effects of chronic, physical illness on their lives. The particular focus was on their level of personal disclosure and engagement during a marital interaction task. I not have not directly measured the Bowenian concept of differentiation. Rather, I am "applying" Bowen's theory of differentiation to describe communication systems I would expect to find in well versus poorly
differentiated couples. The results of this investigation have implications for understanding couple’s communication systems when chronic illness has threatened the marital relationship, as well as the effects of the multigenerational family system on couples coping with physical illness. This study also has implications for medical family therapists with respect to assessment of marital interaction and development of interventions targeted at maladaptive communication systems.

Aim 1 - To examine the communication systems of later life couples coping with chronic, physical illness and its relationship with marital satisfaction.

Aim 2 - To examine the communication systems of later life couples coping with chronic, physical illness and its relationship with caregiver depression.

Aim 3 - To qualitatively examine the families of origin of open, closed, and pursuer-distancer communication systems.
Chapter 2
Review of the Literature

Significance of this Study

This study addressed several specific inadequacies in the available literature. With several notable exceptions (Campbell, 1986; Coyne & Smith, 1991; Doherty, 1986; McDaniel, Hepworth, & Doherty; Patterson, 1989; Rolland, 1994; Steinglass, Davis, & Berenson, 1977), the particular issues for couples facing illness remain a neglected topic in the couples therapy literature. Although there have been several studies of marital adjustment (Carter & Carter, 1994; Carter, Carter, & Siliunas, 1993; Coyne & Bolger, 1990; Manne & Zautra, 1990; Waltz, Badura, Pfaff, & Schott, 1988), there have been few that directly address the impact of illness on communication patterns and whether communication patterns are related to marital adjustment and mental health. In particular, no study has used direct observation of couple's interaction to assess their communication in the face of illness. This study added to our understanding of communication processes to guide medical family therapists in developing intervention for patients and their spouses, particularly in the management and expression of the intense emotions that often accompany chronic illness (Rolland, 1994).

From a theoretical perspective, Bowen theory provided a guide to further understand the stress accompanied by illness and how it impacts communication patterns. Although this study did not directly measure concepts from Bowen theory, it relied heavily on its rich theoretical history in the field of marriage and family therapy to shape the propositions and hypotheses. This study contributed to our understandings of Bowen Theory.
and also shed some light on the potential contributions of Bowen Theory to family and health research. In this chapter, I will explore the literature on chronic illness in marital relationships, describe the conceptual approach to this study, and outline my propositions and hypotheses.

Review of the Literature on Chronic Illness and Marital Relationships

Theoretical Literature on Chronic Illness and Marital Relationships.

The adjustment of patients and spouses coping with chronic illness is an issue of theoretical as well as clinical importance. According to McDaniel, Hepworth, and Doherty (1992):

The diagnosis of a chronic illness is a significant life crisis for families. The patient and family generally are unprepared for the physical changes, alternating periods of stability and crisis, and uncertainty of future functioning. Chronic illness demands new ways of coping, changes in patient and family definitions, and lengthy periods of adaptation. The patient with the illness realizes multiple losses, including physical health and functioning, loss of roles or responsibilities, loss of dreams, and the possibility of decreased life span (p.184).

In attempting to understand how couples cope with illness, it is important to start with an appreciation of the character of the illness and how it may shape and constrain stress and coping processes. The illness may profoundly affect how a couple can cope, the kind of relationship the couple can have, and the range of adaptational outcomes that the couple can achieve (Coyne & Fiske, 1992).
To illustrate how the biomedical aspects of the illness affect the experience of coping, Rolland (1984; 1994) has described a psychosocial typology of illness. It is used to examine the relationship between family or individual dynamics and chronic disease. Variables in the typology include onset, course, outcome, and degree of incapacitation. Onset can either be acute, such as stroke, or gradual, such as diabetes. The course of chronic disorders can take three general forms: progressive, such as Alzheimer's Disease; constant, such as a spinal cord injury; or relapsing-episodic, such as asthma or cancer in remission. Outcome refers to the expectation of whether the disease will shorten the life span. Rolland (1984; 1994) classifies disease outcome's as fatal, such as lung cancer; possibly fatal, such as cardiovascular disease; or nonfatal, such as Parkinson's disease. Incapacitation refers to the degree of disability. Diseases that are progressive, fatal, and incapacitating, such as lung cancer, will have different implications for patients and spouses than diseases that are constant, not fatal, or incapacitating, such as cerebral palsy (McDaniel, Hepworth, & Doherty, 1992). Coyne and Fiske (1992) add two other dimensions of treatment and rehabilitation to Rolland's typology of illness: (1) the degree to which the patient's health or functional capabilities depend on the effectiveness and persistence of the couple's coping efforts, and (2) the degree to which the couple can affect outcomes.

A second dimension of Rolland's model is the three time phases of illness that describe the natural evolution of illnesses. The phases include: the crisis phase, any symptomatic period before diagnosis; the chronic phase or "the long haul", the time span between the initial diagnosis and readjustment period and the third phase when issues of death and terminal
illness predominate; and the terminal period, the pre-terminal stage of an illness where the inevitability of death becomes apparent and predominates family life. The terminal period also includes the periods of mourning and resolution of loss. Rolland (1984) asserts that the three phases "illuminate critical transition points linking each period" (p. 255).

The challenge of coping with chronic illness must be understood in the context of other challenges and developmental tasks facing couples. Rolland (1987; 1994) describes the interface between the illness, individual, and family life cycles. Rolland's work builds on Stierlin's (1974) work on separation patterns in families and Combrinck-Graham's (1985) Family Life Spiral, which describes a three generational family oscillating through phases of closeness, where generations pull toward one another (centripetal force), to phases of separation, where generations are pulling away from one another (centrifugal force). Rolland (1987) suggests that chronic disease exerts a centripetal pull on families: "the occurrence of chronic illness in a family resembles the addition of a new infant member, which sets in motion for the family a centripetal process of socialization to illness" (p. 214). If the onset of a chronic illness occurs during a centrifugal period, such as when a young adult is leaving home, it can "derail the family from its natural momentum" (p. 214). If onset occurs during a centripetal period, such as childbearing, it may prolong that period (McDaniel, Hepworth, & Doherty, 1992). Penn (1983) described a similar dynamic in which families become static as a response to illness, referred to as a "binding interaction." According to Penn (1983), "this means other events that would normally unfold in the course of time have
less priority than the illness, for the system is making sense of itself only around the recovery of its ill member" (p. 23).

Coping with chronic illness varies as a function of life stage. For many older persons, the onset of chronic illness represent a potential threat to autonomy and independence (Hickey & Stilwell, 1992). Individuals coping responses to chronic disease may range from denial and withdrawal, resulting in self-neglect, to adaptation and compensation, including the acceptance of growing dependency on others (Hickey & Stillwell, 1992). Dependency in illness can also create a disequilibrium in the marital relationship, such as an underfunctioning patient and an overfunctioning spouse (Walsh, 1989). Coyne and Fiske (1982) assert that aged couples who have long histories together may be able to draw on shared understandings and routines in coping with illness. Although those histories may provide patterns of structure and predictability, they may also become a source of inflexibility and problematic if they are incompatible with meeting the demands posed by the illness (Coyne & Fiske, 1982). Rolland (1994) states that couples in later life may need to reevaluate personal and relationship goals in the face of chronic illness: "Plans, such as travel, that had to be deferred and have kept spirits up during arduous times now may need to be confronted as unrealistic" (p. 344).

Research on Chronic Illness and Marital Relationships

A review of the literature indicates a growing interest in the relation between marriage and physical illness. A wide range of variables has been studied, including length of marriage (Johnson, 1985), sex of patient and caregiver (Vinick, 1984), death following bereavement (Parkes, Benjamin, & Fitzgerald, 1969), psychological symptoms of spouses (Rideout, Rodin, &
Littlefield, 1990), stress in caregiving spouses (Bedsworth & Molen, 1982), and the effects on marriage of specific illnesses such as myocardial infarction (Carter, 1984; Waltz, Badura, Pfaff, & Schott, 1988), stroke (Carnwath & Johnson, 1987), renal disease (Chowanec & Binik, 1982), and chronic pain (Flor, Turk, & Scholz, 1987).

Because of its duration and intensity, chronic illness impacts both individual and relational well-being. In a longitudinal study of the psychological adaptation to myocardial infarction of 400 male patients and their wives over a 5-year period, Waltz, Badura, Pfaff, and Schott (1988) found that depressive symptoms were the highest and subjective well being the lowest among patients who rated their marriages as being low in marital intimacy. This finding is consistent with Coyne and Bolger's (1990) conclusions that conflictual marriages increase stress and reduce the level of available support for both the ill and well spouse.

A limitation of previous research has been the almost exclusive emphasis on women caregivers. In a study of women with rheumatoid arthritis and their well spouses, Manne and Zautra (1990) found that wives who perceived their husbands as responding in critical ways to the arthritis were more distressed, and their husbands were more distressed as well. Carter, Carter, and Siliunas (1993) explored marital adjustment and interactional patterns of married couples after the wife had undergone a single mastectomy for breast cancer. They found that these marriages were characterized by high levels of enmeshment but also greater marital satisfaction. In a similar study exploring marital adjustment of couples with chronic illness (Carter & Carter, 1994), marital adjustment scores for levels of
cohesion were significantly higher than reported norms, while levels of consensus were significantly lower. They concluded that spouses interact up to a critical point of closeness and then disengage through interpersonal conflict, only to reengage and repeat the process.

Conceptual Approach/Theory of this Study

Bowen theory (Bowen 1978; Kerr, 1992; Kerr & Bowen, 1988; Papero, 1990) identifies two related but distinct constructs that may affect couples' ability to communicate following the onset of a chronic illness: (1) degree of adaptiveness to stress, which the theory includes in the broader concept of differentiation of self, and (2) the level of chronic anxiety. Adaptiveness has been defined by Kerr (1992) as "the ability to adjust to real or anticipated changes in one's life, particularly in important relationships" (p. 101). Anxiety, which is experienced by individuals, becomes a property of the couple's system when the expression and resolution of the individual's anxiety is suppressed by the system (Kerr, 1992). When the system is not adaptive, spouses respond with anxiety. The two variables are interrelated: The higher the level of chronic anxiety in the family system, the greater the strain on each individual's adaptive capacity. Both adaptiveness and chronic anxiety relate to the more general concept of differentiation. According to Kerr (1992):

The more adaptive the members of a family are, the more it is possible for one person to be anxious without others reacting anxiously to that person. Such differentiation between family members minimizes the waves of action-reaction that escalate anxiety. It thus permits people to
be supportively involved with each other, not withdrawing from or anxiously focusing on each other (p. 102).

Some people faced with a considerable amount of stress may have a high enough level of differentiation so that they do not suffer emotional distress and require little effort to maintain their normal level of functioning. The same people faced with a greater level of stress may experience emotional distress, and require significant effort on their part to maintain functioning (Guerin, Fay, Burden, & Kautto, 1987).

**Bowen's Theory of Differentiation**

Bowen theory grew out of his interest in the attachment and symbiosis between mother and child (Bowen, 1978). In order to study schizophrenia more closely, Bowen boarded mothers and their dysfunctional offspring at the clinical center of the National Institute of Mental Health. Among his many theoretical formulations, Bowen proposed that dysfunction in the child could be viewed as a product of the attachment between mother and child and not solely as a pathological process within the individual. In other words, dysfunction was part of a larger emotional unit that is, those "forces or pressures deeply rooted in each individual and between each individual and his/her environment" (Papero, 1990, p. 45). According to Schnarch (1991), "Bowen's notion of the individual is inextricably tied to awareness of the system in which the individual operates" (p. 195).

One landmark observation during the NIMH project was the role of anxiety in family functioning. Relationships could generate or diffuse anxiety. Anxiety was observed in fluid patterns of involvement. One
common pattern was a closeness-distance pattern, described in more detail by Papero (1990):

During the close phase, mother and daughter were interested mainly in each other. As closeness increased, anxiety was produced which led to conflict and separation. At some point, however, the distance between them generated its own anxiety, reversing the cycle back toward closeness (p. 38).

Kerr and Bowen (1988) define anxiety as "the response of an organism to a threat, real or imagined" (p. 112). Anxiety relates to a condition occurring in response to the shifts that take place in individuals, relationships, and families. When aroused, the emotional system of the anxious individual overrides the cognitive system and behavior becomes increasingly automatic (Papero, 1990). Bowen (1978) used the term "emotional reactivity" or "emotional reflex" to refer to such automatic response. For example, as anxiety increases, people experience a greater need for emotional contact and closeness or a greater need for distance and emotional isolation. This kind of movement develops out of the degree of sensitivity that exists between individuals as well as the degree and chronicity of anxiety (Donley, 1993).

Kerr and Bowen (1988) postulate that the operation of the family, or emotional system, reflects an interplay between a counterbalancing dialectic -- individuality and togetherness. Individuality refers to an individual's desire to be an independent entity. Togetherness refers to an individual's desire to be connected to others. It is the balance of this dialectic that shapes the nature of relationships (Schnarch, 1991). According to Kerr and Bowen (1988), "each person carefully monitors the other for signs of change, signs of 'too little' or
'too much involvement' (p. 66). While all relationships exist in a state of balance, the balance point in various relationships differs. The difference is the degree of energy invested in the relationship. A relationship with a high percentage of invested energy is described as having little emotional separation. A relationship with a low percentage of invested energy is described as having a great deal of emotional separation. This difference between people with regard to the proportion of energy invested in relationships is described by the concept of "differentiation of self", described in more detail in the following section.

Bowen suggests that the emotional unit functions most effectively when individuality and togetherness are evenly balanced with neither overriding the other (Papero, 1990). According to Kerr and Bowen (1988), a lack of sufficient separation (togetherness) can lead to feeling smothered or engulfed and trigger efforts to recover some individuality. A lack of sufficient connection (emotional isolation) can lead to feelings of isolation or rejection and will stimulate moves toward emotional closeness. Kerr (1981) maintains that these are "natural, instinctual forces producing a fascinating homeostatic interplay and [it] is a mistake to consider one force positive and the other negative" (p. 236).

Differentiation of Self

Differentiation is a term borrowed from biology and suggests an analogy to cell development, as illustrated by Papero's (1990) definition: "From essentially the same material cells develop, or differentiate, to perform separate yet related functions in the organism" (p. 47). Differentiation of self is the process by which a person manages individuality and togetherness in a
relationship. Friedman (1993) defines differentiation of self as "the capacity to take a stand in an intense emotional system, to saying 'I' when others are demanding 'we,' to containing one's reactivity to the reactivity of others . . . to maintaining a nonanxious presence in the face of anxious others" (p.141). According to Jones (1995), differentiation of self reflects the extent to which individuals in a relationship system are able to: (1) maintain emotional contact or connection with the relationships system; (2) maintain his or her own emotional autonomy and not compromise that of others; (3) objectively coordinate thinking with emotional reaction; and (4) develop values, principles, and agenda for guiding one's life with larger purpose. The lower the level of differentiation of self, the more prone people are to engage in highly dependent relationships and/or to have the chronic urge to escape from each other; the higher the differentiation of an individual, the more he/she can function autonomously while in meaningful contact with others (Kerr & Bowen, 1988):

While all relationships ranging from poorly to well differentiated ones are in a state of dynamic equilibrium or balance, the flexibility inherent in that balance decreases as differentiation decreases. The higher the degree of differentiation, the more capable the relationship is of responding to or conforming with changing situations. The lower the degree of differentiation, the greater the instability of the relationship balance and the less its capacity to adapt to change. This decrease in flexibility results primarily from the fact that, as differentiation decreases, people's functioning and sense of well-being increasingly depend on and are influenced by the relationship (p. 71; italics added).
An individual with a high level of differentiation of self can tolerate anxiety in him or herself without "dumping" it on others and can tolerate anxiety in others without trying to avoid them or taking ownership of their anxiety.

Bowen (1966) propose a conceptual scale of differentiation, ranging from 0 (complete undifferentiation) to 100 (complete differentiation). They suggest that complete differentiation exists in a person who has attained "complete emotional maturity in the sense that his self is developed sufficiently that, whenever it is important to do so, he can be an individual in a group" (p. 97). Complete undifferentiation refers to a person who is a "no-self" and is incapable of being an individual in a group. The scale is primarily of theoretical importance; that is, it generally is not used in clinical practice to place individuals on a continuum and assign them a number representing their level of differentiation. Kerr and Bowen (1988) assert that the scale defines an individual's adaptiveness to stress. People at any point on the scale can develop physical or emotional symptoms; but the higher the level of differentiation, the more stress required to trigger a symptom (Kerr and Bowen, 1988).

One reason why it is difficult to place individuals on the scale, however, is that there is a difference between basic and functional levels of differentiation (Kerr & Bowen, 1988). Basic differentiation is refers to "core internalized development of the individual, which can be maintained independent of shifting circumstances in the relationship" (Schnarch, 1993, p. 201). Functional differentiation is dependent on the current relationship process and "is influenced by the level of chronic anxiety in a person's most important relationship systems" (Kerr & Bowen, p. 99). The scale of
differentiation refers to basic differentiation. The present study was more concerned with functional differentiation because marital functioning was examined during a potentially anxiety-provoking task, even though, as described by Kerr and Bowen (1988), basic and functional differentiation are closely intertwined:

Functional level can be enhanced by relationships, drugs, beliefs, cultural values, religious dogma, and even superstitions. It can rise and fall quickly or be stabilized over long periods, depending largely on the status of central relationships. After a divorce, the functioning of one spouse may rise and that of the other may decline. This is a change in functional level, not in basic level. The functional level of a person with a low basic level can rise and fall many times even during just a few hours. Functional level may be higher at work than at home. A parent's functional level may either increase or decrease after the birth of a child. It may drop for a long period following the death of a parent. People with high basic levels can adapt to changes such as births and deaths without much alteration in functional level, but poorly differentiated people can experience a permanent drop in functional level after such events (pp. 99-100).

A couple with a low level of functional differentiation may be similar to what Wynne and colleagues (1958) refer to as pseudomutuality. Pseudomutuality refers to a facade of togetherness that masks conflict and blocks intimacy (Nichols & Schwartz, 1995). There is such a need to "fit together" that there is not room for separate identities or recognition of any divergence of self-interest. According to Nichols and Schwartz (1995), "this surface togetherness
submerges deep affectionate and sexual feelings, and keeps both conflict and greater intimacy from emerging" (p. 30).

Adaptiveness to Stress

Adaptiveness refers to the ability to adjust to real or anticipated changes in one's life, particularly in marital relationships, without a prolonged escalation of anxiety that impairs physical, mental, or social functioning of oneself or others (Kerr, 1982). Guerin, Fay, Burden, and Kauto (1987) use the term adaptive level of functioning to mean the "relative ability to maintain functioning in the areas of productivity, relationships, and physical and emotional well-being in the face of significant amounts of stress" (p. 123).

According to Kerr and Bowen (1988), an individual's adaptive capacity is most strained by events that have the following types of impact: (1) threaten emotional connections with others; (2) increase in the anxious focus of others on self; (3) increase dependence on others; (4) increase the dependence of others on self; (5) threaten the functioning of others upon whom self is dependent; or (6) increase in level of responsibility. The issue of dependency and responsibility comes to the fore when individuals experience, or fear, a decline in their capacities accompanied by illness (Walsh, 1989). A partner of an ill spouse may use the caretaking role and focus on the spouse's illness in order to avoid his or her own vulnerability, anxiety and need to be taken care of (Walsh, 1989).
Chronic Anxiety

Chronic anxiety, along with differentiation of self, is one of the two main variables defined by Bowen theory to explain level of functioning. These two variables are interrelated: The higher the level of chronic anxiety in a relationship, the greater the strain on people's adaptive capabilities (Kerr & Bowen, 1988). The lower the level of differentiation of self, the more likely a person will be "infected" by the anxiety present in the family system, since he or she is less able to remain emotionally autonomous in the presence of others (Jones, 1996). Kerr (1992) maintains that poorly differentiated people tend to have an anxious response to change because they: (1) have the greatest difficulty coping with uncertainty; (2) have the greatest difficulty making decisions; (3) have the strongest tendency to overreact to perceptions of what others want them to do; and (4) are the most preoccupied with acceptance and rejection.

During periods of high anxiety, there is a "pull" toward togetherness. This togetherness can provide "both a relief from and a source of anxiety" (Kerr, 1981, p. 240). As the need for togetherness increases, individuals look for comfort from others and relief from anxiety. Paradoxically, this leaves people with the dilemma of needing closeness to relieve anxiety from emotional isolation, and needing distance to relieve the anxiety of relationship suffocation (Kerr, 1981). These emotional dilemmas are always present in highly fused relationships and present periodically in better differentiated people subjected to increased chronic anxiety.
Differentiation, Triangulation, and Multigenerational Transmission

Kerr and Bowen (1988) offer a model of intergenerational transmission of parents' marital legacy. According to Bowen (1978), dyadic systems turn into triadic systems under stress and, over a period of time, the roles in a triangular arrangement become stable and functional positions within a system. He termed the triangle the smallest stable unit of an emotional system. The third member is often viewed as the regulator of closeness and distance for the original dyadic component of the triangle (Nichols & Everett, 1986).

The triangle describes the dynamic equilibrium of three-person system. The major influence on the activity of a triangle is anxiety. When it is low, a relationship between two people can be calm and comfortable. However, since a relationship is easily disturbed by emotional forces within it and from outside, it usually does not remain completely comfortable very long. Invariably, there is some increase in anxiety that disturbs the relationship equilibrium. A two-person system may be stable as long as it is calm, but since that level of calm is very difficult to maintain, a two-person system is more accurately characterized as unstable. When anxiety increases, a third person becomes involved in the tension of the twosome, creating a triangle . . . the formation of three interconnected relationships can contain more anxiety than is possible in three separate relationships because the pathways are in place that allow the shifting of anxiety around the system (Kerr & Bowen, 1988, p. 135).
Triangulation describes (a) a model of fluid relationship dynamics at any given point in time, and (b) transmission of the same dynamics across generations, transcending time and location (Schnarch, 1993). According to Nichols (1989), the idea that one separates from the family of origin and becomes an autonomous individual is erroneous. The continuing ties take two forms; the intrapsychic and internal representations of family figures, attitudes, and beliefs carried on by the individual, and the live, active transpersonal transactions that prevail between the individual and member of her or his family of origin. Kerr and Bowen (1988) claim that triangulation functions like intergenerational "DNA": "Triangles are forever, at least in families. Once the emotional circuitry of a triangle is in place, it usually outlives the people who participate in it. If one member of a triangle dies, another person usually replaces him" (p. 135). Schnarch (1993) maintains that interlocking triangles in a nuclear family, and those in the spouse's families of origin, determine the capacity, style, and depth of intimacy within the marital dyad. Kerr and Bowen (1988) place tremendous weight on the family of origin and interlocking extended family triangles. They claim that a finite number of patterns of emotional functioning actually exist in nuclear families:

It is assumed that relationship patterns that can be observed today are essentially the same as relationship patterns that existed four and five hundred year ago, four and five thousand years ago, forty and fifty thousand years ago, and in the evolutionary line of species that led to *homo sapiens*. A certain level of differentiation and a certain level of chronic anxiety generate a certain amount "emotional problem" in a
family. It is predictable that that "emotional problem" will be bound in one or more of three patterns of emotional functioning: conflict between mates, disproportionate adaptation by one mate to preserve harmony, or focus of parental anxiety on a child. The way the family problem is played out in one generation has predictable consequences for the next generation. In other words, the intensity and characteristics of emotional patterns in one generation are significantly influenced by the intensity and characteristics of the emotional patterns in the previous generation (p. 225).

Review of Clinical Literature on Marital Interactional Patterns Related to Differentiation

Couples have ideosyncratic ways of adapting to stress. Couples with a low adaptiveness to stress experience a high degree of marital fusion. Fusion is the opposite of differentiation (Guerin, Fay, Burden, & Kauto, 1987). A common pattern in marital relationships with a high degree of marital fusion is "emotional neediness in one person triggering distance in another, which triggers more neediness in the first, which triggers more distance in the other" (Kerr & Bowen, 1988, p. 124). Each person acts to alleviate his or her own distress and in the process adds to the distress of the other. This pattern has been expressed through several systemic metaphors in the family therapy literature, including pursuer-distancer cycle (Fogarty, 1979), too-close/too-far relationship (Byng-Hall, 1980), rejection-intrusion pattern (Napier, 1988), and closeness-distance struggle (Pistole, 1994). Emotional closeness and distance refer to a person's reaction to signs, real or imagined, that indicates that
others have increased or decreased their involvement with the person (Kerr, 1988).

According to Fogarty (1979), conflict around separateness and togetherness, or what he termed a pursuer-distancer pattern, occurs when one partner seeks closeness and reassurance while the other seeks separateness and autonomy. According to Napier (1978), one should not interpret the "pursuer" and "distancer" as entirely distinct or fixed in an immediate pattern. While the pursuer may behave differently than the distancer and display more evidence of anxiety, these partners "may be quite similar in their basic needs and in their capacity for intimacy" (Napier, 1978, p. 7). It is not uncommon for the dominant pattern to reverse itself at some point in the relationship (Napier, 1978). The implication is that, despite the couple's distress, they are somehow colluding to maintain a set amount of comfortable distance (Pistole, 1994).

Struggles with separateness and togetherness are present in many marriages (Napier, 1978). Separateness and togetherness operate in a satisfactory balance in which both partners can be comfortable:

The pursuer is usually the first to notice when distance is becoming too great and acts to narrow the distance and keep the connection. The distancer acts as a kind of governor to ensure that the relationship does not heat up too much and that boundaries are respected (Guerin, 1987, p. 46).

This pattern can exist across a wide range of intensities. It may become a focus for attention when couples experience conflict regulating their interpersonal distance (Byng-Hall, 1980). During periods of high stress and increased
anxiety, which produce tension and emotional arousal in the relationship (Kerr and Bowen, 1988), balance and stability are threatened. The increased emotionality, confusion, or fear attached to stress can create conditions under which one partner's increased level of neediness is associated with the other partner's increased distancing, resulting in a pursuit-distance polarity (Pistole, 1994). Byng-Hall (1981) illustrates this conflict:

If a wife is threatened by loss she will cling to her husband to avoid separation. This is experienced as intrusion by him if he is threatened by intimacy and he will push her away, which is felt to be a rejection by her, making her cling even harder. This can lead to a rapid escalation, a systems 'runaway', potentially ending in violence or break up or both (p. 322).

Guerin, Fay, Burden, and Kautto (1987) describe characteristics of communication patterns of emotional pursuers and distancers. Emotional pursuers express emotion freely and are open in communicating personal thoughts and feelings, whereas emotional distancers are impassive and conceal emotions and are uncommunicative with regard to personal thoughts and feelings.

Behavioral studies indicate that wives express more negative affect than husbands in their conflictual interactions. This negativity on the part of wives appears to be accompanied by withdrawal on the part of husbands. This pattern, similar to the pursuer-distancer pattern described previously, has been described as a demand-withdraw pattern (Christensen, 1988; Christensen & Heavey, 1990; Gottman & Levenson, 1988). The demand-withdraw pattern involves interaction between a conflict avoidant person
(the male) and his partner (the female), who is frustrated by the avoidance and asks that the problem be confronted (Kelley, Cunningham, Grisham, Lefebre, Sink, & Yablon, 1988). According to the theory proposed by Gottman and Levinson (1988), men withdraw from marital conflict to reduce high levels of physiological arousal that they appear to acquire in the face of intense negative affect. Schaap, Buunk, and Kerkstra (1988) maintain that the demand-withdraw pattern is triggered when the husband fails to recognize or acknowledge expressions of negative affect by his wife, who feels neglected and unloved and expresses these feelings. In response to the strong expressions of negative affect, the husband withdraws while his wife tries to get him involved in dealing with the issue. The more he withdraws, the more distressed and negative she becomes. These findings are consistent with how men and women behave in many relationships. Women tend to disclose more personal feelings and opinions and to express a broader range of emotions, whereas men tend to limit their expression of emotion (Peplau & Gordon, 1985).

Noller (1993) examined gender differences in communication during marital conflict, particularly in regard to the pursuer-distancer or demand-withdraw pattern. From a feminist perspective, she believed that differences in power and differences in culture were relevant to the ways men and women handle marital conflict. She claims that men come from a culture emphasizing status and power, whereas women come from a culture that emphasizes relative closeness rather than relative power. Noller (1993) makes the following conclusions regarding gender and marital conflict:
In the highly emotional situation of marital conflict, men are likely to react by withdrawing, particularly when the issue being discussed is the wife's problem. This withdrawal may serve several functions (e.g., bring down physiological arousal, maintain the status quo, and enable them to resist pressure for change from their wives), but is also appears to assist husbands in maintaining their independence and ignoring their wives' demands for change. In other words, withdrawing enables husbands to retreat to a position of power. Women, on the other hand, are likely to be distressed by this withdrawal, not just because they are unlikely to get their way but because they want a close relationship and see discussing and resolving issues as a way of achieving emotional closeness and intimacy (p. 148).

Research on Differentiation and Marital Satisfaction

The first empirical investigation to use differentiation of self as a variable predicting marital satisfaction was done by Weinberg (1977) to predict differences in differentiation of self between functional and dysfunctional couples. Weinberg (1977) contrasted the combined husband and wife scores on two researcher-designed tools, the Differentiation Ratio Tool and the Active Listening Tool, which were devised to measure differentiation of self. One of Weinberg's four hypotheses was supported; he found that marital partners' levels of differentiation correlated positively with each other. Kear (1978) examined the relationship between differentiation of self and marital attraction and satisfaction in 30 married couples. Kear used a researcher-developed instrument, the Differentiation of Self Scale (DOSS), to measure differentiation of self and found that married couples were more similar in
differentiation of self than nonmarried couples. Further, Kear found a positive relationship between differentiation of self and marital happiness. In Kim's (1983) investigation, 123 couples who demonstrated higher anxiety and greater emotional distance (both related to lower differentiation) also demonstrated greater marital conflict.

There are many studies that support the earlier of studies of Kear (1978) and Kim (1983) that indicate a positive relationship between differentiation of self and marital happiness. Haber (1984) used a researcher-developed instrument, the Level of Differentiation of Self Scale (LDSS), to study a sample of married couples. Haber found that as the level of differentiation increased for both husbands and wives, marital conflict decreased. Similarly, Richards (1989) found that as the level of differentiation of self increased, marital compatibility increased. A recent study by Griffin (1990) used a revised version of Haber's LDSS (Haber, 1990) with a sample of 20 married couples and found that a statistically significant inverse relationship existed between level of differentiation of self and trait anxiety. All of the former studies used self-report measures in gathering their data and forming hypotheses about differentiation. The instruments appear to lack reliability and validity. The lack of consensus about the definition of differentiation and how to measure the concept also contribute the flaws in previous research.

Other studies have been published that claim to test propositions from the Bowen theory but used measurement instruments from different theories. For example, Bohlander (1995) reported that three recent studies by Carpenter (1990), Nelson (1987), and Vanamburgh (1987) defined
differentiation consistent with Bowen theory, but operationalized
differentiation with a scale derived from individuation theory. Jones (1995)
reviewed the literature for useful research measures of differentiation that
were not intended to measure differentiation, but speak to partial aspects of
the concept. For example, Franks, Campbell and Shields (1992) conducted a
survey of health practices of over 900 patients in a family medicine clinic.
While there were no specific measures of differentiation, Jones (1995) noted
that perceived criticism, a scale developed to assess self-report concepts from
research on expressed emotion, correlated highly with depression and health
status and has been found to predict health services utilization (Fiscella,
Franks, & Shields, in review). Jones (1995) asserts that perceived criticism
could be thought of as one type of poor differentiation in a relationship
system. Increased criticism in a family can predict poorer outcomes for a
variety of problems, such as depression, schizophrenia, bipolar disorder, and
alcoholism (Jones, 1995).

Propositions and Hypotheses

In this study, I focused on communication systems of later-life couples
coping with chronic, physical illness. I was particularly interested in their
levels of personal disclosure and engagement in the conversation which I
assessed by applying Bowen Theory to describe expected communication
systems of well and poorly functioning couples. I proposed that couples who
are higher functioning and well differentiated would be able to participate in
the marital interaction task and have discussions in an open, detailed, direct
manner about their ability to cope with chronic illness without withdrawing
or anxiously focusing on their spouse.
I expected to find three patterns of marital communication during the marital interaction task. These patterns related to the couple member's level of disclosure and engagement in marital communication. Each of the following patterns were empirically examined through lag sequential analysis and sequence repetition analysis. Further, clinical vignettes from transcripts were included to qualitatively show differences between patterns.

**Expected Marital Communication Patterns**

1: Open Communication System

Marital Communication where the patient and spouse's response to illness is distinct and specific. Each couple member communicates a high percentage of inner thoughts, feelings, and fantasies to his or her partner who reciprocates.

2: Closed Communication System

Marital communication where the patient and spouse's response to illness is generic and vague. Each couple member cannot disclose the thoughts and feelings they do have for fear of upsetting his or her partner.

3: Pursuer-Distancer Communication System

One spouse attempts to engage his or her partner in open communication by self-disclosing thoughts and feelings in response to illness while the other spouse exhibits closed communication by withholding disclosure of thoughts and feelings.

I examined the effects of marital communication in response to chronic illness on caregiver marital satisfaction and caregiver depression during a marital interaction task. The primary proposition of this study is
derived from Bowen Theory in which an open communication system (differentiated) is characterized by reciprocal self-disclosure of thoughts and feelings and a closed communication system (undifferentiated) is characterized by reciprocal withholding of thoughts and feelings:

If each spouse in a couple is able to disclose their personal reaction to illness in an open, detailed manner and as a couple they are able to engage in a conversation in response to a chronic illness, then that couple is at reduced risk for adverse consequences (e.g., marital problems, depression, etc.) than another couple in which the spouses communicate in a very vague, avoidant manner.

A couple's ability to engage in conversation in response to illness in a marital interaction task is an observable indicator of an open communication system. The couple's inability to engage in a conversation is an observable indicator of closed communication system. One partner's open communication style coupled with another partner's closed communication style is an observable indicator of a pursuer-distancer communication system.

The following hypotheses demonstrate the expected relationships between marital communication patterns, marital satisfaction, and caregiver depression. The procedures used to operationalize marital communication patterns are presented in the Methods chapter.

Hypothesis 1:

If Communication Pattern 1 is high, then there will be higher marital satisfaction and lower caregiver depression.
Hypothesis 2:
If Communication Pattern 2 is high, then there will be higher marital satisfaction and lower caregiver depression as compared to Communication Patterns 3, but lower marital satisfaction and higher caregiver depression as compared to Communication Pattern 1.

Hypothesis 3:
If Communication Pattern 3 is high, then there will be lower marital satisfaction and higher caregiver depression as compared to Communication Patterns 1 and 2.

It was hypothesized that pattern 3 or the pursuer-distancer pattern would display the most marital distress and highest levels of depression due to the high reactivity and conflict present in these interactions between couple members. Couples in a closed system may have been engaged in a pursuer-distancer posture, and now may simply accept their relationship as distant (Guerin, Fay, Burden, & Kautto, 1987).

To examine the role of the multigenerational family system in each participant's ability to cope with illness, family of origin narratives from patients and caregivers were examined qualitatively to illustrate the relationship between marital communication and the functioning of the family system. It was believed that open communication systems would display more adaptability to stress and less reactivity to anxiety in comparison to closed and pursuer-distancer communication systems.
Chapter III

Methodology

Overview

In this chapter I describe the sample, procedures for obtaining data, measures used, and data coding that were conducted. This study is a primary analysis of an existing data set provided by the University of Rochester (NY) School of Medicine and Dentistry, Department of Family Medicine. The original study was approved by the University of Rochester Institutional Review Board and this current study was approved by the Virginia Polytechnic Institute and State University Institutional Review Board. The data set was collected and is administered by Cleveland G. Shields, Ph.D. under National Institute of Mental Health Grant K07 MH1061. The characteristics of the original study and the analyses for the current research follow. The data used for this study had not been analyzed prior to this analysis.

Subjects

The purpose of this inclusion criteria is to choose marital couples in which one spouse has been diagnosed with a chronic, physical and who are likely to live through the one-year follow-up period. The couples in this sample were selected for inclusion in one of two illness groups. Couples in the illness groups were identified through a recent diagnosis of Cancer (CA) or Stroke of one of the partners. Because I studied marital communication, I excluded subjects with dementia since it would significantly affect the couple’s ability to do the particular interaction task around which the study is based. Cancer patients and their spouses were identified though the oncology
clinic at Highland Hospital in Rochester, NY. Stroke patients and their spouses were identified through the Acute Stroke Clinic at Monroe Community Hospital, Rochester, NY. The sample size in this study may not be enough to examine differences between illness groups. However, my primary interest is to examine the association of communication patterns in later-life couples with the marital satisfaction and depression of the caregivers, not to examine whether there is a difference in marital communication between the two illness groups.

The criteria for inclusion in the study are as follows:

**All subjects**

(1) Married and living with a spouse, and spouse willing to participate.

(2) Both partners over age of 50.

**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, but includes involvement of local tissues and possibly lymph nodes.

(3) Spouse does not have dementia.

**Stroke patients**

(1) Physical functioning is adequate for patient to be discharged to go home, rather than to a nursing or convalescent facility.

(2) Subject has at least rudimentary verbal skills, i.e., can speak and understand basic English.

(3) Spouse does not have dementia.
A complete description of patient demographics is displayed in Appendix A.

Procedures

Data Collection

After a couple was recruited and agreed to be in the study, the research team scheduled one 3-hour home visit with each patient and his or her spouse. At the completion of the first interview, the research assistant leaves questionnaires to be completed by both patient and spouse, and they schedule a second home interview for 2-3 weeks later. The patient and spouse completed self-report measures of depression and marital satisfaction, the psychological and relational well-being outcome variables used in this study. In addition, they participated in a videotaped marital interaction tasks. All participants provided written consent prior to participating in each aspect of the study.

Depression Measure

The Beck Depression Inventory (BDI) was used to assess affective, cognitive, motivational, and physical symptoms of depression. This scale is highly correlated with clinical ratings and other measures of depression (Beck, Steer, & Garbin, 1988). The BDI has strong internal consistency in psychiatric and nonpsychiatric samples. Concurrent and construct are also strong. The Center for Cognitive Therapy has distributed the following guidelines for BDI cutoff scores with patient's diagnosed as having an affective disorder (Beck, Steer, & Garbin, 1988): none or minimal depression is <10; mild to moderate depression is 10-18; moderate to severe depression is 19-29; and severe depression is 30-63.
Marital Satisfaction Measure

Following the first home visit, the patient and spouse were given a self-report questionnaire to assess marital satisfaction. This study used the 10-item dyadic subscale from the Dyadic Adjustment Scale (DAS), which was developed to assess the quality of adjustment in marriages and other dyads. Spanier (1976) provides evidence of content, criterion-related and construct validity for the instrument. According to Fredman and Sherman (1988), the Dyadic Adjustment Scale is a reliable, valid, and relevant measure that can be used in research on marital relationships.

Marital Interaction Task

This study examined couple members communication during one marital interaction task, the What if? task. The What if? task was a problem-solving exercise that challenged couple members to consider how they would cope if faced with a different illness than the one with which they were presently coping. The What if? task was one task in a larger research interview. The structure of the initial assessment research interview is listed in Appendix B. After the couple members completed the initial interview assessment, they were enrolled in a 1-year longitudinal study in which they were interviewed by phone at 6-months and 9-months and 12-months in their home to establish the role of relationship characteristics in helping couples cope with chronic illness.

The research assistant lead the patient and spouse in the marital interaction tasks. For the What If? task, the research assistant read an illness scenario (Appendix C). Following the illness description, the couple members were asked to discuss together five questions (Appendix D). The
research assistant left the room and couple members worked on this activity for 10 minutes. Conversation during the marital interaction task provided the data to be used in the analyses.

The What if? Task was designed to provide couple members with an emotionally salient task. It was hypothesized that this task would evoke vulnerable emotion expected as the natural response to a life-threatening, chronic illness. Dr. Shields' research team found that the couple members were either unwilling or unable to engage in a problem solving task about the illness with which they have to cope (such tasks are common in marital research). Other research groups have reported similar reluctance of later-life couples to engage in a conflict around a task (Cartensen, Gottman, & Levenson, 1995). The research team designed the What If? task as a way to engage couple member in talking about the emotional issues of illness, without arousing unnecessary fear or defensiveness by giving couple members a sense of safety or distance from their real illness. This task was similar to what Guerin (1971), a Bowenian theorist and clinician, has called the "displacement story." The displacement story is about other couples or families with similar problems. It allows family members to reflect and become emotionally involved with a particular story but at the same time remain sufficiently removed to be objective.

**Coding the What If? Task**

I designed, with Dr. Shields, the Response to Illness Coding System (RICS) to code marital interaction during the What If? task (Appendix E). It was developed to be theoretically consistent with the Present Attachment Coding System (PACS) designed by Shields, Christensen, Young

35
and Andersen (1996). The data was coded by research assistants Jean Mullaney, Lara Black, and this author. Table 1 shows the coding scheme for the variables we coded and Table 2 shows the communication patterns between patients and spouse caregivers that the variables represent.

Clinical Vignettes of Open, Closed, and Pursuer-Distancer Communication Systems

To compliment the quantitative data and further illustrate the differences between open, closed, and pursuer-distancer communication systems, I selected vignettes from the transcripts of couples' communication. In some cases, excerpts were chosen from the transcript. In other cases, the entire conversation was included due to its brevity.

Relationship Between Marital Communication and Family of Origin

Each partner of each couple was asked to discuss both their mother and father for 5 uninterrupted minutes. Those couples chosen for the clinical vignettes described above were also chosen to further examine their families of origin. Segments of their narratives were compared with the coded data from the marital interaction task.

Data Management and Analysis

Data Management

All self-report data was collected on forms prepared with consultation from Dr. Cox from the biostatistics department. Data was double entered by key puncher in the University of Rochester Computer Center (URCC). The database was maintained in the Department of Biostatistics.
Data Reduction

Lag sequential analysis and sequence repetition analysis were used to analyze the videotaped What if? task. Lag sequential analysis computes statistics for two or more event sequences, such as coded thought units (Bakeman & Gottman, 1986). I computed the Lag 1 probability and Z-scores for the communication patterns described in Table 2. In addition, I computed the maximum length of repeated sequences for the communication pattern. These data merged with the demographic, depression, and marital satisfaction data to complete the data set for this study.

Hypothesis Testing

I used correlational and multiple regression to test the study hypotheses. All variables were examined for the adherence to the assumption of a normal distribution. Non-normally distributed variables were transferred before being used in the analyses. Error variance was also examined for adherence to normal distribution assumptions.

Summary

This was a study of couples in later-life who were coping with chronic illness. To assess their communication system, a marital interaction task was designed to evoke vulnerable emotion expected as the natural response to a life-threatening, chronic illness. Each conversation about illness was coded using the Response to Illness Coding System (RICS) designed by this author and Dr. Shields. Lag sequential analysis and sequence repetition analysis were employed to determine the relationship between expected communication patterns, caregiver depression, and caregiver marital satisfaction. Family of origin narratives of patients and caregivers was also examined.
Table 1

Response to Illness Coding System (RICS)\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>Response to Illness, Direct (RID):</strong> Verbal content is direct and detailed,</td>
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<td></td>
<td>such as the details of dealing with death and loss of functioning.</td>
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<td>2</td>
<td><strong>Response to Illness, General (RIG):</strong> Verbal content is generic, vague,</td>
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<td>such as when the speaker does not take ownership of the emotions he or she</td>
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<tr>
<td></td>
<td>describes.</td>
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<td>3</td>
<td><strong>Response to Illness, Vulnerable (RIV):</strong> Verbal content of the speaker</td>
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<td>includes evidence of sadness and fear, using such words as overwhelmed,</td>
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<td></td>
<td>devastated, fearful, sad, lost, etc.</td>
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<td>4</td>
<td><strong>Response to Illness, Behavior (RIB):</strong> Statements in which people describe</td>
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<td>themselves as engaging in &quot;extreme&quot; behaviors in response to illness or its</td>
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<td></td>
<td>treatment.</td>
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<td>5</td>
<td><strong>Disease Description (DSD):</strong> Verbal content describes the disease symptoms</td>
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<td>without any emotional consequences.</td>
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<td>6</td>
<td><strong>Instrumental Care Giving (ICG):</strong> Verbal content deals with instrumental,</td>
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<td>not emotional, issues in caregiving, such as problem-solving. Taking care of</td>
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<td>practicalities.</td>
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<td>7</td>
<td><strong>Tangent (TNG):</strong> Statements that are way off task. Contains no emotional</td>
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<td></td>
<td>content related to the central issues of the task.</td>
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<td>8</td>
<td><strong>Questioning or Rejecting the Task (QRT):</strong> Hesitancy or refusal to</td>
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<td></td>
<td>participate in the task.</td>
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\(^1\) A complete description of the RICS Coding System can be found in Appendix E
<table>
<thead>
<tr>
<th>Marital Communication Patterns</th>
<th>Sequences</th>
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<tbody>
<tr>
<td></td>
<td>Behavior 1</td>
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<tr>
<td>1: OPEN COMMUNICATION SYSTEM</td>
<td>RID</td>
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<td>2: CLOSED COMMUNICATION SYSTEM</td>
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<td>3: PURSUER/DISTANCER COMMUNICATION SYSTEM</td>
<td>RID</td>
</tr>
<tr>
<td></td>
<td>RID</td>
</tr>
<tr>
<td></td>
<td>RID</td>
</tr>
<tr>
<td></td>
<td>RID</td>
</tr>
</tbody>
</table>
Chapter IV

Results

Data Preparation

Twenty-five participant couples had complete data, including spouse caregiver marital satisfaction (DAS), spouse caregiver depression (BDI), and marital interaction task videotapes. Only the 10-item dyadic satisfaction subscale portion of the DAS was used in this study. The mean score on the DAS was 40.53 with a range of 37 to 47, and a standard deviation of 2.92. The mean score on the BDI was 5.64 with a range of 0 to 19, and a standard deviation of 4.63\(^1\).

The sequential analysis of this study was conducted according to the protocol presented in Appendix F (Shields, Watts, & Cox, 1995). The text from the transcripts of the videotaped marital interaction task was broken down into single thought units and assigned RICS codes (Shields & Edwards, 1996). Sequences of two thought units were analyzed to determine the conditional probability -- the probability that a particular sequence would occur given the first spoken code. Zscores were calculated for sequential probabilities. Zscores were calculated because they are more stable indicators of the strength of sequential relationships (Bakeman & Gottman, 1986). The Zscores represent a relationship to the chance occurrence of the sequence -- a positive Zscore indicates that the particular sequence occurred more often than expected by chance and a negative Zscore indicates that the sequence occurred less often than expected by chance (Gottman, 1979). This analysis was relevant to this study due to its ability to identify patterns of interaction in communication.

\(^1\) Some degree of depression may be present in this population due to the stress accompanied by illness.
The lag sequential analysis presented here is similar to that used by Bakeman and Gottman (1986) to study marital interaction. This sequential analysis provides statistical comparisons of the probabilities of communication interactions between two people rather than just simple frequencies of one participant's coded thought units.

This results section is organized into the following three parts: (a) Initial Analysis; (b) Lag Sequential Analyses; and (c) Sequence Repetition Analyses. The hypothesized relationships between marital communication, caregiver marital satisfaction, and caregiver depression were examined.

**Initial Analyses**

The initial steps of preparing the coded data for lag sequential analyses included calculating simple frequencies and the probabilities of particular codes occurring. Table 3 contains the means, standard deviations, and correlations between caregiver depression and caregiver marital satisfaction for the individual communication codes. These results are presented for descriptive purposes. The probabilities indicate the percentage of a particular code in relationship to all codes spoken. Table 3 shows that Response to Illness in General (RIG) occurred most frequently and with the highest probability, and Questioning or Rejecting the Task (QRT) occurred less frequently and with lower probability. None of the individual frequency codes were significantly correlated with caregiver depression or caregiver marital satisfaction at the p<.05 level.
Table 3

Means, Standard Deviations (SD), and Correlations of Individual Communication Codes, Caregiver Depression, and Caregiver Marital Satisfaction

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency Mean(SD)</th>
<th>r(BDI)</th>
<th>r(DAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(RID)</td>
<td>7.76(10.20)</td>
<td>-.00</td>
<td>.18</td>
</tr>
<tr>
<td>P(RID)</td>
<td>6.92(9.87)</td>
<td>.12</td>
<td>-.01</td>
</tr>
<tr>
<td>C(RIG)</td>
<td>26.60(26.11)</td>
<td>.06</td>
<td>-.03</td>
</tr>
<tr>
<td>P(RIG)</td>
<td>23.32(19.40)</td>
<td>.02</td>
<td>-.35</td>
</tr>
<tr>
<td>C(RIV)</td>
<td>0.28(0.46)</td>
<td>.13</td>
<td>-.02</td>
</tr>
<tr>
<td>P(RIV)</td>
<td>0.32(0.48)</td>
<td>.21</td>
<td>-.14</td>
</tr>
<tr>
<td>C(RIB)</td>
<td>0.36(0.49)</td>
<td>.28</td>
<td>.11</td>
</tr>
<tr>
<td>P(RIB)</td>
<td>0.32(0.48)</td>
<td>-.30</td>
<td>-.17</td>
</tr>
<tr>
<td>C(DSD)</td>
<td>0.56(0.51)</td>
<td>.23</td>
<td>.07</td>
</tr>
<tr>
<td>P(DSD)</td>
<td>0.52(0.51)</td>
<td>.15</td>
<td>-.26</td>
</tr>
<tr>
<td>C(ICG)</td>
<td>1.95(2.15)</td>
<td>.42</td>
<td>.05</td>
</tr>
<tr>
<td>P(ICG)</td>
<td>1.88(2.45)</td>
<td>-.29</td>
<td>.00</td>
</tr>
<tr>
<td>C(TNG)</td>
<td>0.20(0.41)</td>
<td>-.03</td>
<td>.23</td>
</tr>
<tr>
<td>P(TNG)</td>
<td>0.28(0.46)</td>
<td>-.13</td>
<td>.11</td>
</tr>
<tr>
<td>C(QRT)</td>
<td>0.04(0.20)</td>
<td>.06</td>
<td>.13</td>
</tr>
<tr>
<td>P(QRT)</td>
<td>0.08(0.28)</td>
<td>.18</td>
<td>.13</td>
</tr>
</tbody>
</table>

C=caregiver, P=patient
Lag Sequential Analysis

Lag sequential analysis computes statistics for two or more event sequences, such as coded thought units. 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). 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 Type 1 error.

Three patterns of communication were analyzed. The open pattern (O) variable represents open communication and is comprised of the codes Response to Illness, Detail (RID), and Acknowledgment of a Response to Illness, Detail (AID). The closed pattern (C) was developed as a compilation of all codes other than the open communication codes. Closed communication represents generic or vague responses to illness, such as Response to Illness, General (RIG), Tangent (TNG), Disease Description (DSD), Instrumental Caregiving (ICG), and Questioning or Rejecting the Task (QRT). The pursuer-distancer pattern represents an open communication followed by closed communication. In contrast to the lag sequential analysis, which examined the probabilities of specific codes following another code, sequence repetition analysis examined the overall length of sustained sequences.

Table 4 summarizes the means and standard deviations for the frequencies, probabilities, and calculated Z-scores, as well as Z-score correlations.
Table 4

Means, Standard Deviations (SD), and Correlations (r) of Lag Sequences with Caregiver Depression and Marital Satisfaction

<table>
<thead>
<tr>
<th>Sequential Category</th>
<th>Sequential Variable</th>
<th>Frequency Mean(SD)</th>
<th>Probability Mean(SD)</th>
<th>Zscore Mean(SD)</th>
<th>r(BDI)</th>
<th>r(DAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Communication System</td>
<td>C(O)-&gt;P(O)</td>
<td>2.73(4.56)</td>
<td>39.12(39.57)</td>
<td>3.19(5.99)</td>
<td>-.12</td>
<td>.42**</td>
</tr>
<tr>
<td>Closed Communication System</td>
<td>P(O)-&gt;C(O)</td>
<td>2.27(3.33)</td>
<td>36.18(36.75)</td>
<td>1.96(3.40)</td>
<td>.09</td>
<td>.14</td>
</tr>
<tr>
<td>Pursuer/Distancer Communication System</td>
<td>C(C)-&gt;P(C)</td>
<td>14.87(10.82)</td>
<td>88.80(15.14)</td>
<td>0.37(0.89)</td>
<td>-.07</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>P(C)-&gt;C(C)</td>
<td>14.06(10.39)</td>
<td>84.10(21.88)</td>
<td>0.37(0.93)</td>
<td>.37*</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>C(O)-&gt;P(C)</td>
<td>1.23(1.65)</td>
<td>20.99(28.49)</td>
<td>1.60(3.89)</td>
<td>.32</td>
<td>-.24</td>
</tr>
<tr>
<td></td>
<td>P(O)-&gt;C(C)</td>
<td>2.17(2.89)</td>
<td>37.15(37.11)</td>
<td>3.86(7.67)</td>
<td>-.21</td>
<td>.39**</td>
</tr>
<tr>
<td></td>
<td>P(C)-&gt;C(O)</td>
<td>2.00(2.78)</td>
<td>11.53(14.89)</td>
<td>-2.09(2.22)</td>
<td>-.30</td>
<td>.34</td>
</tr>
<tr>
<td></td>
<td>C(C)-&gt;P(O)</td>
<td>1.53(2.05)</td>
<td>9.99(13.77)</td>
<td>-2.17(2.23)</td>
<td>-.29</td>
<td>.00</td>
</tr>
</tbody>
</table>

C=caregiver, p=patient, (O)=open communication, (C)=closed communication

*p<.10

**p<.05
with caregiver depression and caregiver marital satisfaction for the retained sequences. Notice that of the 8 patient and caregiver sequences none of the sequences correlated with caregiver depression. Notice that of the 8 patient and caregiver sequences, only the sequences of: (1) a caregiver’s open response followed by a patient’s open response (C(O) > P(O)) ; and (2) a patient’s open response followed by a caregiver’s closed response (P(O) > C(C)), is significantly related to caregiver marital satisfaction.

Finally, Tables 5 and 6 show the results of a forward stepwise regression of sequences with the highest correlations regressed on caregiver depression and caregiver marital satisfaction. The sequence of caregiver open followed by patient closed (C(O) > P(C)) was statistically related to caregiver depression. The sequence of caregiver open followed by patient open (C(O)>P(O)) was not significantly correlated with caregiver marital satisfaction.

The analyses of the lag sequences yielded several findings related to the hypotheses. The first hypothesis was not supported; the open communication pattern (O ---> O) was not related to lower caregiver depression and higher marital satisfaction. The open communication pattern was negatively correlated with marital satisfaction, indicating that the greater the tendency of couples to engage in reciprocal detailed self-disclosure, the more likely the caregiver is to be unsatisfied in the marital relationship.
Table 5

Stepwise Regression of Lag Sequences on Caregiver Depression

<table>
<thead>
<tr>
<th>Sequential Variable</th>
<th>Parameter Estimate</th>
<th>SE</th>
<th>Partial R2</th>
<th>Model R2</th>
<th>F</th>
<th>Prob&gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(O) -&gt; P(C)</td>
<td>4.059</td>
<td>1.707</td>
<td>.197</td>
<td>.197</td>
<td>5.64</td>
<td>.026</td>
</tr>
</tbody>
</table>

Note. None of the other lag sequence variables met the tolerance requirement for entry into the regression model.

P=patient, C=caregiver, (O)=open communication, (C)=closed communication
Table 6

Stepwise Regression of Lag Sequences on Caregiver Marital Satisfaction

<table>
<thead>
<tr>
<th>Sequential Variable</th>
<th>Parameter Estimate</th>
<th>SE</th>
<th>Partial R2</th>
<th>Model R2</th>
<th>F</th>
<th>Prob &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(O)&gt;P(O)</td>
<td>-1.942</td>
<td>1.123</td>
<td>.115</td>
<td>.115</td>
<td>2.99</td>
<td>.097</td>
</tr>
</tbody>
</table>

Note. None of the other lag sequence variables met the tolerance requirement for entry into the regression model.
P=patient, C=caregiver, (O)=open communication, (C)=closed communication
The second hypothesis was partially supported; the closed communication pattern (C --- C) yielded higher caregiver depression than the open communication pattern, but it was not related to marital satisfaction. In other words, couples who engaged in more distant and avoidant communication exhibited higher caregiver depression. The third hypothesis was partially supported; the pursuer-distancer communication pattern (O --- C, C --- O) was not related to caregiver depression. The pursuer-distancer pattern was related to marital satisfaction, indicating that when a spouse communication with self disclosure followed by avoidance and distance from their partner, the more likely the caregiver is to be unsatisfied in the marital relationship.

**Sequence Repetition Analysis**

Following the lag sequential analysis, sequence repetition analysis was used to conduct a more in-depth investigation of the open communication pattern, the closed communication pattern, and the pursuer-distancer communication pattern (Shields, Watts, Cox, 1995b). Sequence repetition analysis examines consecutively repeated sequences during an interaction task.

Sequence repetition analysis is similar to lag sequential analysis conducted previously. However, it examines the length of repeated sequences (i.e., how many times the same sequence is repeated). These repeated sequences represent sustained discussion on the same topic.
An example of a repetitive sequence with a length of 3 is:

\[ \text{CO} > \text{PO} \quad \rightarrow \quad \text{CO} > \text{PO} \quad \rightarrow \quad \text{CO} > \text{PO} \quad \rightarrow \quad \text{CO} > \text{PO} \]

(0) (1) (2) (3)

(Where, CO = caregiver open communication; PO = patient open communication; 0 = original sequence; 1 = first consecutive repetition; 2 = second consecutive repetition; 3 = third consecutive repetition.). This analysis was relevant to this study due to its ability to identify the amount of time couples spend in patterns of interaction.

For analysis purposes, the second sequence (the first repetition) is counted as 1. Therefore, although x=1, there have been two exchanges of the same sequence of communication. Three types of repetitive sequences were analyzed to further examine the effects of communication between patient and spouse caregiver on caregiver depression and caregiver marital satisfaction -- open communication, closed communication, and pursuer-distancer communication. Table 7 shows descriptive statistics of the repeated sequences including maximum length and the correlations with caregiver depression and caregiver marital satisfaction. The maximum length represents the longest repetition of a sequence. The minimum length of all sequences shown was 0, indicating that there were no consecutive repetitions of the selected sequences in those marital conversations. Sequence repetition analysis indicates that closed communication initiated by a caregiver or patient tended to continue longer than open communication, which continued longer than pursuer-distancer communication.
Table 7

Means, Standard Deviations (SD), and Correlations (r) of Sequence Repetitions with Caregiver Depression (BDI) and Marital Satisfaction (DAS)

<table>
<thead>
<tr>
<th>Sequence Repetition Analysis</th>
<th>Variable</th>
<th>Mean(SD)</th>
<th>Maximum Length</th>
<th>r(BDI)</th>
<th>r(DAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Communication System</td>
<td>C(O)-&gt;P(O)</td>
<td>.66(1.18)</td>
<td>4</td>
<td>-.03</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>P(O)-&gt;C(O)</td>
<td>.60(1.07)</td>
<td>4</td>
<td>.70</td>
<td>.23</td>
</tr>
<tr>
<td>Closed Communication System</td>
<td>C(C)-&gt;P(C)</td>
<td>6.93(4.99)</td>
<td>23</td>
<td>-.21</td>
<td>-.36*</td>
</tr>
<tr>
<td></td>
<td>P(C)-&gt;C(C)</td>
<td>6.66(5.11)</td>
<td>23</td>
<td>-.11</td>
<td>-.29</td>
</tr>
<tr>
<td>Pursuer/Distancer Communication System</td>
<td>C(O)-&gt;P(C)</td>
<td>.33(.76)</td>
<td>2</td>
<td>-.24</td>
<td>-.01</td>
</tr>
<tr>
<td></td>
<td>P(O)-&gt;C(C)</td>
<td>.40(.93)</td>
<td>3</td>
<td>.68***</td>
<td>-.18</td>
</tr>
<tr>
<td></td>
<td>C(C)-&gt;P(O)</td>
<td>.36(.85)</td>
<td>3</td>
<td>.49**</td>
<td>.12</td>
</tr>
<tr>
<td></td>
<td>P(C)-&gt;C(O)</td>
<td>.33(.76)</td>
<td>2</td>
<td>-.24</td>
<td>-.01</td>
</tr>
</tbody>
</table>

C=caregiver, p=patient, (O)=open communication, (C)=closed communication

* p≤.10
** p≤.05
*** p≤.005
Two of the pursuer-distancer sequence repetitions were positively correlated with caregiver depression -- caregivers initiating closed communication followed by a patient's open communication and patient's open communication followed by a caregivers closed communication. These two repetitive sequences suggest that in couples in which patients pursue their caregivers for self-disclosing dialogue about illness, caregivers are often avoidant and distant, as well as more depressed. The implications of patient's pursuing their caregivers for open communication focused on the illness and their caregivers maintaining closed communication will be discussed in the next chapter. None of the sequence repetitions correlated with marital satisfaction.

A test of multicollinearity determined that although several of the repeated sequences were significantly correlated with each other, they did not cause a problem of multicollinearity in the regression model. Table 8 indicates that one repeated sequence -- patient open communication followed by caregiver closed communication -- accounted for 37% of the variance in caregiver depression. Table 9 indicates that one repeated sequences -- patient closed communication followed by caregiver closed communication -- accounted for 52% of the variance in caregiver marital satisfaction.

In summary, the sequence repetition analysis suggested that caregivers who distance themselves from open communication with their ill spouses report higher depression. These results expand the lag sequential findings that caregivers who distance themselves from open communication with their ill spouses are less satisfied in their marital relationship.
Table 8

Stepwise Regression of Sequence Repetitions on Caregiver Depression

<table>
<thead>
<tr>
<th>Sequence Repetition Variable</th>
<th>Parameter Estimate</th>
<th>SE</th>
<th>Partial R2</th>
<th>Model R2</th>
<th>F</th>
<th>Prob&gt;F</th>
</tr>
</thead>
<tbody>
<tr>
<td>P(O)&gt;C(C)</td>
<td>5.4286</td>
<td>2.3430</td>
<td>.3749</td>
<td>.3769</td>
<td>13.7951</td>
<td>.0011</td>
</tr>
</tbody>
</table>

Note. None of the other sequence repetition variables met the tolerance requirement for entry into the regression model. P=patient, C=caregiver, (O)=open communication, (C)=closed communication
Table 9

Stepwise Regression of Sequence Repetitions on Caregiver Marital Satisfaction

<table>
<thead>
<tr>
<th>Sequence Repetition Variable</th>
<th>Parameter Estimate</th>
<th>SE</th>
<th>Partial R2</th>
<th>Model R2</th>
<th>F</th>
<th>Prob&gt;F</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(C)→P(C)</td>
<td>-3.3761</td>
<td>.762</td>
<td>.1287</td>
<td>.1287</td>
<td>3.3974</td>
<td>.0782</td>
</tr>
<tr>
<td>P(C)→C(C)</td>
<td>3.1055</td>
<td>.741</td>
<td>.3870</td>
<td>.5157</td>
<td>17.5769</td>
<td>.0004</td>
</tr>
</tbody>
</table>

Note. None of the other sequence repetition variables met the tolerance requirement for entry into the regression model.

P=patient, C=caregiver, (O)=open communication, (C)=closed communication

The following are excerpts from transcripts of open, closed, and pursuer-distancer communication systems that the purpose of presenting these vignettes was to illustrate the quality and style of communication of each communication system and to further demonstrate the relationship between communication and the Bowenian concept of differentiation.

Open Communication System

In response to the significant relationship between open communication and higher caregiver depression, the following example of marital communication reflects a redefinition of an open communication system; a display of flexibility and a lack of predictability in communication. In other words, those couple who were most open and flexible did not exhibit predictable patterns of communication. According to Gilbert (1992), communication at higher levels of differentiation becomes a “self-defining give and take of ideas” (p. 105). Further, there appears to be a mutuality that is evidenced by each partner speaking and listening about an equal amount of time. The following two couples demonstrate an ability to stay aware of their emotional responses and acknowledge the threat of chronic illness and are able to cope with the threat. Their names have been changed to protect confidentiality.
Mr. Cassidy, a stroke patient, and his wife Thelma talking about what it would be like to cope with cancer (C=caregiver; p=patient; and I=interviewer):

C  Well, it's something like already that you've been through so you carry on about the same. It's terrible news. But you have to do it. Go through it.

P  As far as taking care of you, I think we've got that taken care of. There's no fear of any financial setbacks. You would be well taken care of.

C  Yeah but about going through the therapy, the chemotherapy and all that, you'd have to do it. You have to go through it. You'd do it.

P  I would want to maybe get a second opinion and whatever the second opinion was, bring that together with the first opinion, and if that means I'd have to go through surgery, I would go through. I would accept whatever I get. I would want to live as long as I could.

C  Yeah. And chemotherapy would be hard to go through but you'd have to do that.

P  I'd have to do that.

C  So we'd actually carry on the way we did with this, similar to this. Whatever we had to go through, we'd go through.

P  First of all I'd like to find out if radiation could do . . .

C  Yeah.

P  . . . what chemotherapy, all chemotherapy would do is just prolong your life a little while longer. Radiation might be able to knock it out.
Sometimes even chemotherapy might help you, might cure you, put you in remission, and it's something just do it. And if people ask about it you just tell them that's the one you wanted and we're doing the best we can with it. We're handling it.

Yeah. We can't expect to expire from this life easily or readily. And we may have to go through a little trouble. Which is understandable and I would accept it.

It's hard to accept but we would.

Mrs. Purcell, diagnosed with breast cancer, and her husband Jim discuss the prospects of living with Alzheimer's Disease:

I would feel guilty in a way. I mean not that it would be my fault that I had it but I would see it's a terrible burden caring for someone with Alzheimer's.

And you know I wouldn't do it well.

Yes you'd be all right but you'd lose patience at times and I wouldn't blame you.

Couldn't we do this the other way? It'd be much easier. How about if I have Alzheimer's and you take care of me. That's better.

No.

I'm not equipped to do that very well.

What I would want, would be that as soon as I got to be a problem, where you felt you couldn't watch me . . .

You mean as soon as I had to clean the bathroom on my own?
Right. That no, that we would together, before I go to that point, work on finding a place for me. Because I think that’s only fair. Well, what we, the consensus is, the person, whoever has it, needs to be in a home.

Needs to be put somewhere where somebody can take care of them but then you have to realize the fact that the other person can’t feel guilty and I’m sure the people when they do that feel guilty to put somebody there. And you can’t feel guilty.

Well if you think about it ahead of time and you plan it ahead of time then . . .

And if you can do it early enough so the person has some say in the process or at least understands what is going to happen, not that understanding will make any difference to a certain point because it will just have to happen.

Right. And you’d have a better chance if you looked earlier as the disease progressed slowly. You know, you would have a better chance of finding a decent place.

Closed Communications Systems

The following case examples illustrate communication characterized by limited engagement in communication about illness, a lack of personal disclosure, and predictability of pattern. The give and take of ideas that was evident in the open communication system is stunted in the predictable patterns of closed communication. The first couple’s lack of engagement and the second couple’s refusal to participate in the marital interaction task may be the result of increased anxiety related to the real threat of chronic illness. In this distancing pattern, communication is severely restricted.
There is an emotional arousal, but the interaction is on a reactive basis, and this reactivity serves only to restrict communication further:

Mr. Jackson, a stroke patient, and his wife Gwynne, discuss a scenario of living with cancer:

P    Well, would you take it?
C    Well, I . . .
P    You know, I said, I told the doctor and the kids they all know that.
C    Right.
P    . . . if it comes at this age I don't want anything done.
C    Right. I, I feel . . .
P    Had it happened earlier . . .
C    Yeah. Right now, I'm 80 years old and I don't want to hang around and suffer for years.
P    No. I don't either and I know that. We both discussed that.
C    Yeah.
P    The kids have been told and so on so, but had it been earlier, there really is nothing to discuss. We know what it is.
C    Yeah.

Mrs. Olson, diagnosed with breast cancer, and her husband Lou attempt to have a conversation about what it would be like to live with Alzheimer's Disease:
C>I I guess, that to me is very difficult, OK. Because, I'll be very honest with you, to try and think about something, I mean I could play this out a role playing situation obviously and will do that, but I don't really see the relevance. OK?. In terms of the questionnaire situation that we've gone through, all the questions, to me this is completely going away because you're putting another disease as, and I don't see the relevance. Maybe it's how we deal with situations, OK.

P>I I think it makes me feel thankful that I have only breast cancer and don't have Alzheimer's.

C>I Maybe that's the case. I don't know. I really don't understand the scenario of it. OK?

Note: The interviewer then explained the rationale of the task.

P>I Well I think we've pretty much talked about that because what we're trying to do is just to make the best of a bad situation and make a future and talk about the future. And like with anything else, I mean he know he has to and if it was something like Alzheimer's, he'd do as much as he could.

C>I Absolutely.

P>I until he couldn't do anymore. But there isn't a whole lot more to talk about because I know he'd be there for me for as long as he could.

C>I Yeah. Cause see we, instead of, I guess I really, this Alzheimer's thing does not, I really don't see the relevance of that because that's like, you know, if this happened what would you do and you can make up a list of things and you can go through and do whatever you have to do, but I don't, I really don't feel that it is . . . Believe me, I don't like the word
Alzheimer's anyways and I just don't like the thought of it. So I know that's a very difficult situation to deal with for people but it doesn't involve me.

Note: The interviewer asked the couple to discuss any issue that they may be dealing with at the present time.

P>I You mean like an argument?

Note: The interviewer asked again to have them discuss any issue, such as retirement, selling their home, etc.

C>I Well, you know . . .

P>I It's like beating a dead horse. We've talked about it.

C>I See it's the stuff we talk about constantly. OK? But in terms of trying to talk just for the sake of talking, I mean, I don't . . .

P>I I don't think it's necessary.

Pursuer-Distancer Communication Systems

The following case examples illustrate an attempt by one partner to engage the other in open communication about illness and the partner's lack of cooperation in the effort. Verbal communication stays one way for the most part. The pursuer takes the position of chief communicator, with communications taking the forms of telling, questioning, or explaining. Further, this communication displays a predictable pattern in the marital relationship.

Mr. Taylor, a stroke patient, and his wife Marian consider the possibility of coping with cancer:
This is easy. I could have answered him when he was, you know, while he was here but really I don’t need ten minutes. I would just tell the truth. Just as this hit me, I would accept new, tragic as it my be I would accept it because of our relationship. See if you’re a true believer in God . . .

Have faith.

And have faith, no news would devastate, you know, devastate me so much so that I would, you know, give up on . . .

Life.

Life. The portion that I would have left. Yeah. So that’s all we’d say. I would still live for the day. I would try to . . .

Talk with each other if I had it.

Like take you, I’d take you to one of those real nice vacations.

Would you do that?

Yeah. I said one of those. An that’s it. And pray. I’m sure I’d be praying for healing and all that but I couldn’t, I wouldn’t, I would live ‘till I die.

That’s right. You can’t give up.

Knowing that I am going to the other side.

A better place.

Would you want to go with me though? You wouldn’t want to go right away with me? Oh you’re waiting to see me later, huh?

I’ll see ya.

Yes. Yes. Yeah I would try and do something nice for you before I go.
Mr. Borland, a stroke patient, and his wife Sara discuss the prospects of a cancer diagnosis:

C Supposing we had found out that you had cancer when you had all your colonoscopies? What would you do?
P I think I'd carry on. I don't think I'd fight it if I had it.
C Would we have surgery?
P No.
C You don't. You would never have surgery if you had cancer?
P I don't think so.
C Would you have chemo?
P I don't want, I don't like that.
C But we would have it if it prolonged your life probably.
P Probably.
C What about radiation?
P I don't, like Junior's got.
C Put yourself in Junior's shoes. Would you, would you want to take all the medicine that he's taken all these years?
P No.
C To stay longer?
P No, I would. . . Probably not.
C And she said I might have to pay the bills? I pay them anyway. I wouldn't . . .
P I don't know if I'd brush it on the kids or not.
C You wouldn't tell them?
P I'd say, I don't know. If you could tell them . . .
C Just like the time that I had to go in for my X-rays? My biopsies?
P Yeah.
C What would you have done if I had found out that I had cancer?
P I think probably, what I said in there. It's something you never . . .
C You wouldn't get over.
P You wouldn't get over. Never will.
C So you'd just make the best of it.
P Yeah.
C And wait, and just wait it out and see what happens.
P That would be the best.
C I wouldn't leave you like Mary leaves Junior.
P Oh, I don't think . . .
C Hmm?
P I wouldn't leave . . .
C You would leave me?
P No.
C Would you have radiation?
P Hmm?
C Would you have radiation?
P I don't think so. I don't go for that. That don't kill, that don't do nothing.
C I guess we'd just have to take it in stride and do the best we could.
   Wait it out and see what's gonna happen. Hope for the best. Hope for a miracle.
P With Junior, nine or ten years he's had it.

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C  Yep.
P  He fought it.
C  Hmm?
P  And he fought it.
C  Yeah. And he's not going to get over it.
P  No. See? He put money in that and he fought it and everything. He
don't have anything. If you had cancer or anything like that, fight it.
C  But if you had it, but if you had it I bet you would do everything you
could to see if you could get over it.
P  Probably I would.
C  I'm sure the kids would want you to. We'd all have to stick together
and wonder, and just get along the best way we could.
P  Yeah.

Family of Origin Relationships of Open, Closed, and Pursuer-Distancer
Communication Systems

One couple from each communication system described above was
chosen to further examine their relationships with their family of origin.
Each spouse was asked to speak for five minutes about their mother and
father. Excerpts from those narratives are included, as well as a brief
statements about commonalities between their family of origin relationships
and their present marital relationship as exhibited in the marital interaction
task.
Open Communication System

Mrs. Purcell, diagnosed with breast cancer, and her husband Jim, revealed as an open communication system based on their conversation during the marital interaction task, displayed flexibility in their marital relationship. Similarly, when discussing their families of origin, they were able to underscore the qualities in each parent, but also highlighted problem areas with some forgiveness and understanding. This was especially apparent in the husband/caregiver’s narrative:

I always felt badly when my father died and I actually told [my classmates] in my [high school] class at that point that we had a good relationship but I never told him that I loved him and then he died and I didn’t have that chance. So I went back to my class and said “I want you to go home and tell your parents that you love them, as hard as it will be, because some day the day will come when you won’t be able to do that.” That was like in the 60’s. I just saw someone I had in class at a party or something, and he said “I remember when you did that.” It was a loving relationship [with my parents] but I don’t think there was an outward show of that.

Similarly, his wife, a cancer patient, was able to talk about her parents with some perspective and an appreciation for the role they assumed in her life:

My mother was a wonderful role model, always very caring, always told me I was the smartest kid in the world, the prettiest kid in the world (laughs). Raised me, I think, to be a responsible person, but also gave me a lot of leeway and trusted me to make the right choices. I was
a goody-goody in school, my husband can't say that (laughs). She has always been very strong and independent, fiercely independent, more so than I am. A little bit of a control person, but she does it nicely. She doesn’t manipulate but she doesn’t like to take risks. My father was a little more of a free spirit. He flew by the seat of his pants. They had a good and loving marriage.

Closed Communication System

Mrs. Olson, diagnosed with breast cancer, and her husband, as previously described above, were unwillingly to engage in the marital interaction task. Similar themes emerged in their family of origin narratives. In the following excerpt, the husband/caregiver found it very difficult it to talk about his mother who died from a heart attack during the holiday season, also the time of year this interview took place:

I am very sentimental about my mother. Very difficult to really . . .

This is not a good time to talk about her during the holidays . . . a very tough time. I think I need a break again here. Anyways . . . my mother, god bless her soul. She was the ruler of the family, and she demanded awful lot. We loved her very much. I'm the only one who really understood her, more so than my sister. She was the type who gave a lot of love . . . I cannot believe I'm doing this, unbelievable. I cannot believe I break down like this when I talk about her. I didn’t think I would do that. I need to do another one of these time-out. I kind of
learned that family and friends are important, that was kind of the trademark of her. She died of a heart attack . . . It was a very tough time because she died in this house (sobbing) . . . right here. *I was able to keep her alive until the ambulance came and I should have realized when she was having the signs of a heart attack . . . I feel so bad that I did not.* And it really bothered me for these years. It was very difficult for our family when it happened . . . We all loved her and miss her. She was a real tiger. She ruled the roost. But the one thing is that you always knew where you stood with her. *But I guess I can’t talk about this anymore because I can’t seem to control myself so I’m just going to have to call this quits on this one. I’m not doing well with that one at all.*

His wife, a cancer patient, described difficulty communicating about her illness with her mother. According to Jones (1994), in the less differentiated extended family, members are less likely to be a calming resource to any individual member who is faced with a real or imagined threat:

> My mom and I are very, very close. I think that comes from the fact that she was only 18 or 19 when I was born. We kind of grew up together [parents divorced at young age, she lived with her mother and grandparents and lost contact with her father until adulthood]. Now that Frank [mother’s second husband] is gone, she is alone. Paul [husband] has always said that he would take care of my mother. and
she knows that and so it makes her very close to us . . . My diagnosis affected her terribly. And, it's funny how sometimes I can't stand to be with her because it's this sorrow that my mother would have and it's hard.

Both narratives captured the pain related to loss and potential loss, to the point of being unable to open up dialogue for fear of being overwhelmed by sadness and anxiety. It also highlighted the emotional shock wave phenomenon described by Bowen (1978) as an event that can have effects on a family system for an extended time: "It occurs most often after the death of a significant family member, but it can be almost as severe after a threatened death (p. 84)".

**Pursuer-Distancer Communication System**

Mr. Borland, a stroke patient, and his wife Sara exhibited a pursuer-distancer pattern in the marital interaction task. The wife/caregiver appeared to be avoiding open communication about illness with her barrage of questions and her husband, a stroke patient, was attempting to discuss his reactions but was continually cut off. In the wife's family of origin narrative, she discussed apparent abandonment and cutoff from her mother when marrying her second and present husband. According to Gilbert (1992), cutoff develops as an attempt to adapt to chronic and acute anxiety in the family system. Most often, "many generations will have taken part in the same
patterned response to intense feelings . . . [and] is only the end point in a long family emotional process" (Gilbert, 1992, p. 61):

*My mother was very upset when we got married. She was miserable from the time we got married. She didn’t speak to us for a year. She pretended to be a great christian... I have heard many things since she died that has hurt me so bad that I don’t think I can praise her up too much. And I know that I shouldn’t say that because other people will say she was a wonderful person, and mother never talked about anybody. She was a good person in that respect. But she sort of... my brother never did anything wrong, my sister never did anything wrong, but I never did anything right. But after I got married, that was it, she never, she was just not a nice person to me... I was talking to a guy who was bottling half gallon jugs of wine and one broke and I got of it on me, and we went home that night and were doing dishes and she said “well, you’re drunk”, and I said “what do you mean I’m drunk, I haven’t had a drink in ages”. While I was dating my [present] husband we always took her one place or another on Sunday, because she didn’t drive and she told somebody that we left her alone every week.*

Previous painful experiences with cutoff from her family of might provoked her to assume a similar position of emotional cutoff with her ill husband.
She may be concerned about abandonment from her husband as a result of his poor health or his inability to be intimate with her.

In her husband's narrative, he had much trouble articulating his thoughts about his mother and father (I=interviewer, p=patient):

I - I wonder if you could talk about your mother for five minutes.
I - What type of person she was, how you got along with her?

P - My mother?
I - Yes.
P - Well, she was a good woman. She kept me . . . she had all the kids . . . she took care of them . . . and so . . . she was good.
I - What was your relationship like with her?
P - My mother?
I - Yes.
P - I don't know . . . just . . . I don't know. I wouldn't know how to say.
I - How about your father? What was he like as a person and how did you get along with him?
P - I got along okay with my Father.
I - What was he like?
P - He was very good, very nice. Hard worker.

Each of these family of origin narratives influence the patient and caregivers ability to cope with illness. Further examination of the multigenerational effects of illness will be discussed in the next chapter.
Chapter V
Discussion

Lag sequential analysis showed that: (1) predictable sequences of closed communication between caregivers and spouses were positively related to caregiver depression; (2) predictable sequences of open communication between caregivers and spouses were negatively related to marital satisfaction; and (3) predictable sequences of pursuer-distancer communication were negatively related to marital satisfaction. Further, sequence repetition analysis demonstrated that sustained pursuer-distancer communication was related to higher caregiver depression. These results are consistent with results from Julien, Markman, and Lindahl (1989) who found that higher levels of rigidity in interactional systems as assessed by positive or negative affect are associated with higher marital distress. In the following section, I will discuss several possible meanings of the results by addressing each communication system.

Open Communication Systems

The tendency of caregivers and patient/spouses to engage in open communication was associated with higher caregiver depression. This finding indicates that those couples who engage in a pattern of open, detailed conversation tend to be more predictable in their interactions and less able to deviate from this style of communication. This finding suggests that couples who are the most flexible and adaptive -- are able to have some open communication, as well as tangential or non-topic related discussion -- tend to be the highest functioning. Flexible, adaptive, open communication is
characterized by a give and take of ideas and an avoidance of rigid patterns (Gilbert, 1992).

Although the finding that sustained, reciprocal, open communication was related to caregiver depression was unexpected, it is consistent with themes in other family interaction literature. Filsinger and Thoma (1988) found that positive reciprocity characterized couples who tended to dissolve their relationships. It appears that distressed couples have a quid pro quo, or a tit-for-tat, relationship in which they will only do something nice if the other partner has done something nice. In contrast, non-distressed relationships are characterized by more flexible interactions. Couples who are secure in their relationships may not have a need for immediate reciprocation (Filsinger & Thoma, 1988). Schnarch (1993) maintains that some marital partners feel pressure to disclose and wish that their partner was not so needy. He suggests that when spouses feel obligated to reciprocate, they also become more resentful. This may explain why open communication was significantly related with lower caregiver marital satisfaction but was not related to caregiver depression.

This finding is also consistent with systems theorists beliefs that communication patterns that are tightly controlled by other family members are considered dysfunctional. Patterns of open reciprocity have similarities to the family therapy concept of enmeshed family interaction (Olson, Sprenkle, & Russell, 1979). This flexibility and adaptability was not only present in the couples’ marital interaction, it was also evident in their family of origin relationships. The family of origin narratives suggest that flexibility is a transgenerational phenomena, not simply a marital dynamic. This finding
indicates that an exploration of family of origin is necessary when observing predictable, reciprocal open communication.

Closed Communication Systems

As expected, in couples in which caregivers and spouses talk in a very vague, generic, and avoidant manner together about the illness experience, caregivers report more depression. Similar to reciprocal open communication, reciprocal closed communication is characteristic of more distressed couples. There is a lack of flexibility and adaptiveness and greater predictability in communication.

It would be a mistake to assume that those engaged in closed communication are not interacting. In some instances it is possible for a closed or distanced couples to appear to be open in communication, but they appear to be avoiding their own, personal reactions to the issue under discussion. In distancing, there is little relevant communication, eventually there may be none at all (Gilbert, 1992). It is as if the anxiety is too great and potentially overwhelming to engage in meaningful conversation about painful issues, such as the effects of illness on a marital relationship and changes that may need to occur should a spouse become ill.

Again, the family of origin narratives shed some light on the difficulty in engaging in open, flexible communication. The case presented demonstrated unresolved loss in the caregivers' family of origin and an infusion of anxiety in the family relationships of the patient that appeared to inhibit intimacy. These results indicate that coping with physical, life threatening illness is a multigenerational family experience.
Pursuer-Distancer Communication Systems

Two similar patterns of pursuer-distancer communication that were significantly related to caregiver depression and caregiver marital satisfaction will be discussed below. In the lag sequential analysis, caregivers who responded with closed communication to spouse/patient’s open communication reported lower marital satisfaction. In the sequence repetition analysis, caregivers’ closed communication with the initiation of open communication by spouses/patients and caregivers closed communication followed by patients/spouses open communication were both significantly related to higher caregiver depression.

Although caregivers display distancing behaviors, the pursuer, or patient in this scenario, is most likely making his or her own contribution to the distancing pattern in place. Gilbert (1992) maintains that distance can provide some temporary relief from anxiety in the relationship, but over time distancing intensifies feelings. Again, the presence of pattern in relationship is viewed as constraining and problematic, and characteristic of distressed couples.

Theoretical and Clinical Implications

The results of this study have implications for exploring marital communication about illness from a Bowenian perspective. In addition, the findings may contribute to a more thorough understanding of marital communication and the effects of illness on marital relationships. These findings have significant relevance to the clinical work of marriage and family therapists.
Bowen Theory and Marital Communication

From a Bowenian perspective, reciprocity may be seen as a lack of differentiation in the marital relationship. Communication of well-differentiated, highly functioning couples is characterized by flexibility, adaptability, and an ability to listen. In contrast, the self-disclosure of couples with low differentiation is dependent on their partner’s behavior in the relationship and there is a high need for reciprocity (Schnarch, 1993). One does not expect reciprocity in high differentiated couples. Similar to Markman’s (1984) Bank Account Theory, couples who are more differentiated will self-disclose because they want to, and over time they anticipate that their partner will also self-disclose. In contrast, behavioral stinginess with regard to self-disclosure -- “I’ll self-disclose if you self-disclose”-- is characteristic of lower functioning couples. Kerr and Bowen (1988) summed it up this way:

The individuality of very well differentiated people is developed to the point that they can be responsible for themselves and not fault others for their own discontents. Togetherness needs are such that, while people are attracted to an interested in one another, their functioning is not dependent on each other’s acceptance and approval. This degree of self-containment, coupled with the fact that expectations of one another are governed far less by infantile need than by the realities of cooperation, results in the relationship spawning little anxiety. In addition, any anxiety that is spawned does not escalate through a series of actions and reactions. Unconstrained by fears about how one another might respond toward increased or decreased involvement, the relationship has remarkable freedom (pp. 74-75).
Purists in Bowen Theory may debate the relevance of studying communication to further understand differentiation. Their protests may stem from beliefs that one must observe relationships from a broader framework to capture the essence of differentiation. However, communication is an observable measure of the quality of marital relationships. Extreme open or closed reciprocity, or sustained pursuit-distance in communication, as shown in this study, is associated with marital distress and depression. Reciprocity could be seen as a form of fusion or enmeshment in the family system that restricts a couple’s functioning and ability to adapt to changing circumstances.

A related dynamic of differentiated, high functioning couples exhibited in communication is a balance of emotional separateness and togetherness. According to Gilbert (1992), “insistence upon continual ‘dumping’ of anxiety into a relationship is a destructive pattern” (p. 108). Anxiety is a common experience of persons in relationships. If a couple can prevent anxiety from “infecting” the relationship and remain emotionally autonomous, a couple will be more able to adapt to crises more quickly and effectively (Jones, 1994).

The Emotional Shock Wave of Chronic Illness

The emotional shock wave is defined by Bowen (1991) as “a network of underground “aftershocks” of serious life events that can occur anywhere in the extended family system in the months or years following serious emotional events in the family” (p. 83). Although it occurs most often after the death of a significant family member, it can also occur after a threatened death, such as the diagnosis of a serious, debilitating illness. Such a shock wave causes anxiety to intensify in family systems and reduces one’s ability to
adapt to changing circumstances because of the increased anxiety. Rigid patterns that may have existed prior to the serious life event may become more intense and automatic. As shown in the family of origin narratives, illness not only sends a shock wave to the extended family system, but sends a shock wave through individual members by provoking painful memories of previous experiences with loss and abandonment.

The emotional shock wave of physical illness, particularly a terminal illness, can disrupt the balance of individuality and togetherness. As described previously, illness pushes families into a centripetal or togetherness position in the hope of increased affiliation and attachment due to heightened anxiety. This centripetal or togetherness force has sometimes been referred to a fusion. While fusion can alleviate anxiety, it can also produce discomfort, and it may push people in the direction of relationship avoidance. Similarly, too much individuality creates distance and potential emotional and physical cutoff, especially when learned from one's family of origin. The balance between individuality and togetherness is similar to what McDaniel, Hepworth, and Doherty (1992) refer to as “agency” and “communion” -- feeling some sense of control over one's life and feeling supported by others who care. According to the present findings, exhibiting flexibility and interdependence elevates the quality of a relationship.

The Effects of Chronic Illness on the Multigenerational Family System

Findings suggest that illness affects multiple generations, and illness provokes memories of previous experiences with loss, abandonment, and illness of other family members. A further exploration of illness through the multigenerational family system may enrich understandings of how beliefs
about chronic illness develop across generations. Such an exploration would be particularly relevant when a family is facing a genetic disease, such as Huntington's Disease. Not only is the disease a transgenerational phenomenon, but family patterns of coping and the meaning families give to the illness are often passed on as well. Expanding Bowen's theory of the "emotional shock wave" to include chronic illness will prompt mental health and medical practitioners to consider more fully the effects of chronic illness on the multigenerational family system.

In the case of Huntington's Disease, an inherited disorder characterized by a progressive degeneration of the central nervous system (Kessler, 1993), one family seen in therapy at the Family Medicine Center in Rochester, NY reported that several family members who had been diagnosed with it committed suicide. They attributed horrific, painful death to the disease. Each family member seen in therapy, although not diagnosed with Huntington's, reported chronic depression, suicidality, multiple somatic complaints, and high utilization of health care services. To construct an illness in such a way that it primarily means dying and death is to invite certain behavioral, emotional, and interpersonal responses. The particular meaning of an illness may influence how patients and families function and adapt.

Limitations

As discussed above, this study yielded important new information about the connections between marital communication patterns, caregiver depression, and caregiver marital satisfaction. It is important, however, to acknowledge some limitations of the sample and design. First, a larger, more
representative sample of couples coping with chronic illness is needed to assess the generalizability of these findings to other groups. All of these couples were above the age of 50. Many of the findings in this study may not be applicable to couples in middle or early adulthood. Second, the cross-sectional design of this investigation renders it exploratory. Based on the analyses of this study, it is not possible to determine the causal direction of influence between communication patterns, caregiver depression, and caregiver marital satisfaction. Third, the conversation elicited from the What if? task was too short, creating low frequencies of individual codes. Adding another task to the marital interaction portion of data collection would allow more extensive conversation and greater confidence in the data due to higher frequencies of codes. Finally, the RICS coding system, although shown to be reliable, is a new coding system designed by this author and Dr. Shields and deserves further scrutiny to prove its utility in coding communication about illness. Nevertheless, the findings obtained from the present analyses suggest several important directions for future research.

**Recommendations for Future Research**

The present findings indicate a need for expanded definition and measurement of open, closed, and pursuer-distancer marital communication patterns. Future studies using path analysis with a larger sample size should examine the relationships between communication styles, caregiver depression, and marital satisfaction to determine the direct and indirect effects. Other outcome variables such as perceived health status and medical utilization should also be analyzed in addition to caregiver depression and caregiver marital satisfaction, particularly as health care reform works toward
decreasing health care costs. A longitudinal approach would allow one to examine the causal relationships between marital communication, caregiver depression and caregiver marital satisfaction.

This study focused on two types of chronic illness; cancer and stroke. Further research would benefit from identifying other illnesses, such as Multiple Sclerosis, Diabetes, Lung Disease, and HIV. The variations of disease onset, course, outcome, and degree of incapacitation (Rolland, 1984) may influence marital communication. Identifying couples in different phases of illness may yield fascinating results. For example, comparing couples’ communication during the acute phase, chronic phase, and terminal phase is recommended. Another opportunity is to further explore the effects of illness on a couples relationship would be to follow a couple through each illness phase. Depending on the types and phases of illnesses one is faced with, couples must adapt their traditional coping styles to accommodate the needs of different illness experiences (Seaburn, Lorenz, & Kaplan, 1992). Further, identifying couples coping with illness at different stages of the family life cycle may also uncover significant differences between couples and families.

Although family of origin was explored in this study, the results call for a more in-depth understanding of how one’s family of origin affects coping skills, particularly when death or illness has struck family members prior to a spouse’s diagnosis. One’s lack of resolution with previous illness and death may impair their abilities to cope in the present. A spouse’s diagnosis may come on the heels of a parental loss, further complicating one’s adaptive capacity. Their have been few studies that describe the effects of a person’s mourning on his or her relationships with other people, particularly
family members, and especially its effect on the pattern of intimate
relationships after the death of a parent (Kaltreider, Becker, & Horowitz,
1984).

The results of this study are based on a homogeneous sample of older
adult, Caucasian couples. Future research would benefit from an
investigation of couples from diverse racial and ethnic backgrounds, as well
as differing educational and socioeconomic backgrounds. Couples have
unique ways of communicating that may be related to their racial, cultural,
educational, and socioeconomic background. Although these styles may not
be considered "normal" or "functional" from one perspective, they could be
very appropriate when placed in the context of one's cultural community. It
would also make a significant contribution to Bowen Theory, which has been
criticized for it's tendency to ignore contextual differences.

As exhibited by this study, Bowen Theory has much to offer family and
health research. First, the coding of marital communication using the RICS
coding system may speak to a partial aspect of differentiation. There are few,
if any, research instruments that are able to capture the conceptual richness of
differentiation. The RICS coding system is a quick, efficient method to
capture the levels of personal disclosure and engagement in communication.
RICS may be more sensitive to negative communication given its lack of
positive associations. Further use and development of this coding system is
warranted.

Bowen theory provides a broader perspective of chronic illness than is
possible with conventional psychological theory, which focuses on chronic
illness as a process within the individual. Knowledge of communication
systems between couples and families and the emotional shock wave that is present to some degree in a significant percentage of families will provide mental health and medical professionals with a different dimension for understanding emotional interdependence and the long-term complications of illness in a family.
References


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Appendix A

Participant Demographics
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean(n²)</th>
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<tbody>
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<td>Caregiver age</td>
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</tr>
<tr>
<td>Patient age</td>
<td>65</td>
</tr>
<tr>
<td>Caregiver gender</td>
<td></td>
</tr>
<tr>
<td>1 Male</td>
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</tr>
<tr>
<td>2 Female</td>
<td>13</td>
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<tr>
<td>Household income</td>
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<tr>
<td>1 less than 10,000</td>
<td>(1)</td>
</tr>
<tr>
<td>2 10,000-14,999</td>
<td>(2)</td>
</tr>
<tr>
<td>3 15,000-19,999</td>
<td>(1)</td>
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<tr>
<td>4 20,000-24,999</td>
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<td>5 25,000-29,999</td>
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<td>7 35,000-39,999</td>
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<td>8 40,000 or more</td>
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<td>Caregiver education</td>
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<tr>
<td>3 Attended College</td>
<td>(5)</td>
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<tr>
<td>4 College Graduate</td>
<td>(2)</td>
</tr>
<tr>
<td>5 Master's Degree</td>
<td>(2)</td>
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<tr>
<td>6 MD, PhD</td>
<td>(0)</td>
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² n=30

93
Patient education

1 Attended HS (4)
2 HS Graduate (4)
3 Attended College (8)
4 College Graduate (6)
5 Master's Degree (2)
6 MD, PhD (2)

Race

1 Caucasian (25)
2 African American (0)
3 Asian (0)
4 Hispanic (0)
5 Other (0)
Appendix B

Initial Assessment Interview Schedule
I. First interview
   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
Appendix C

What If? Task Scenario
As an Alzheimer's patient, you have noticed changes that have become more pronounced over time. You have found that it has become increasingly difficult to do routine things such as balancing your checkbook, finding your way home from the store or work, finding items you have always carried with you such as your eyeglasses or your keys, performing at work as you used to, finding words to express your thoughts, getting lost in conversations, and forgetting things that normally you would know how to do, such as playing bridge or chess or other enjoyable activities. At first you shrugged off these unsettling experiences as "normal forgetfulness" such as you are getting a little older, but people who are close to you are noticing some of these changes in you. Your primary care physician ran some tests and has concluded that you are most likely in the early stages of Alzheimer's Disease.

As______________'s husband/wife, you are already taking on responsibilities of the caregiver even in the early stages of your spouse's illness. Increasingly, you are performing duties that you and your spouse probably once shared together such as the household duties, business and financial planning, planning doctor's appointments, medication schedules, etc. If you have not already retired from work outside the home, you are now forced to begin planning your retirement. Your spouse, if not already retired, will also be facing this. You are finding that along with the emotional stress of learning about the diagnosis, there is also stress because you know that from now on most decisions concerning you and your spouse will rest on your shoulders. Now every time ______ leaves the house or drives the car, you worry about his/her safety and if he/she will get home all right. How
will you tell your children what is happening? How will your friends and neighbors respond? These are not the golden years that you and your spouse had hoped and worked toward.
Appendix D

What if? Task Questions
1. What would each of you be feeling as you are faced with this?
2. What are your reactions to each other's feelings?
3. How would you want to deal with the Alzheimer's Disease?
4. Would this change any of your life plans?
5. Develop a plan for how you would deal with this problem as a couple.
   a) How would the patient want to be cared for?
   b) What about nursing home placement?
   c) Would you try to keep the patient home no matter what the cost?
Appendix E
Response to Illness Coding System
RESPONSE TO ILLNESS CODING SYSTEM (RICS)

RESPONSE TO ILLNESS, DETAILED/DIRECT (RID)

Statements are coded RID when the verbal content includes information about the speaker's responses to the illness, such as emotions (except highly vulnerable responses, see RIV, the details of dealing with death and loss of functioning. The content is specific, distinct, and clearly owned by the speaker, as well as forthright, direct, and personal.

Examples:

* Discuss own emotional reaction.
* Discussion of potential or desired behavioral response.
* Direct statement of wants, needs, desires of how person would want to cope with illness
* Direct statement of what the speaker wants, needs, desires from the spouse to help the speaker cope
* Direct statement of what the speaker wants, needs, desires, to do for their spouse.
* Matter of fact attitude
* Direct statement of support.
* Details of a behavioral consequence of the illness followed by an emotional or behavioral response.
* Keywords or phrases: "I...; me...; I would take care of you; It would be hard for me."
Rationale for a previously described behavior that included the behavioral and/or emotional consequences for the people would be coded RID. If the behavior or emotional consequences are not described, then it is coded RIG.

RESPONSE TO ILLNESS, GENERAL (RIG)
Statements are coded RIG when the verbal content about the speaker's response to the is generic, vague, and speaker does not take ownership of the emotions they describe. Jokes that are about the illness are coded RIG.

Examples:

* Non-personal
* Not naming specific events or stages of the illness to which they would have an emotional reaction, i.e., when a person describes an illness event in detail and follows with a statement of his/her likely emotional response, the statement is coded RID, when the emotion is neither connected to a specific behavior or illness event nor part of an "I" statement, then it is coded RIG.
* If we cannot tell what or who they are talking about but it appears to be somewhat about the illness then it is coded RIG.
* Keywords or phrases: "It would be hard." Indefinite pronouns such as "this", "something", "it". "I guess, I hope, I would hope". "I think that it would be important to tell the kids", would be coded RIG, vs. "I would tell the kids" which would be RID.
RESPONSE TO ILLNESS, VULNERABILITY (RIV)

Statements are coded RIV when the verbal content of the speaker includes evidence of sadness and fear, using such words as overwhelmed, devastated, fearful, sad, lost, life would have no meaning, etc.

Examples:

* Any discussion of problem that implies that it cannot be solved or that its just one more problem piled on.

* Questions that indicate uncertainty or hesitation about potential behavior.

* Gloom, despair, and agony on me.

* Keywords or phrases: "I won't live that long", disappointed, "...end of my rope", overwhelmed, "how many of these things do I have to go through", "I'm a victim, it's unfair", despair, loss of hope, loss of meaning. "If it weren't for bad luck I'd have no luck at all."

RESPONSE TO ILLNESS, BEHAVIOR (RIB)

Statements in which people describe themselves as engaging in "extreme" behaviors in response to illness or its treatment are coded RIB. Such statements are in contrast to statements that are coded RIV. While RIB statements describe "reactive" behaviors, RIV statements describe "reactive" emotions.

RIB statements often describe drastic or end-stage behaviors. Behaviors that would likely be seen as undesirable, unhelpful, or maladaptive if evaluated in terms of the goal of providing good care for the patient or in terms of the
patient's or the family's ability to work cooperatively with professional care providers.

RIB statements may have a challenging tone to them.

Examples:

* **RIB** "You'd put me in a nursing home wouldn't you?"
* **RID** "Eventually, I know we'd have to make decisions about nursing homes or other care options.
* **RIG** "There would be a lot of difficult decisions you'd have to make in that kind of situation."
* **RIV** "If I had Alzheimer's disease I'd be pretty overwhelmed and scared that you might put me in a nursing home"

**DISEASE DESCRIPTION (DSD)**

Statements are coded DSD when the content simply describes the disease symptoms without any emotional consequences. These descriptions are about the biological consequences of the illness not the psychosocial consequences.

* Descriptions of the biology of the illness.
* Descriptions of the biological diagnosis of the illness.
* Descriptions of the biological treatment.
* If the statement describes patient behavior(s) that have caregiver consequences such as changes in talking, walking, ability to dress or take care of oneself, changes in mood, etc., then it is coded RIG.
INSTRUMENTAL CAREGIVING (ICG)

Statements where content deals with instrumental, not emotional, issues in caregiving are coded ICG, such as problem-solving. Taking care of practicalities.

NON-ACKNOWLEDGMENT

a. TANGENT (TNG)

Statements that are way off task. Contains no emotional content related to the central issues of the task, such as a person who goes into detail talking about a friend who had another illness, a vacation they went on, etc. Jokes that are not about the illness

b. QUESTIONING OR REJECTING TASK (QRT)

Hesitancy or refusal to participate in task.

Example: "What does this have to do with cancer", "that's it, that's enough."

ACKNOWLEDGMENT

Statements such as yeah, yes, I agree, mmh, are coded ACK in conjunction with the content of the previous statement that they are acknowledging.

Short phase or a rephrase after speech.

a. AID (acknowledgment of RID)

b. AIG (acknowledgment of RIG)

c. AIV (acknowledgment of RIV)

d. ATG (acknowledgment of TNG)

e. ACG (acknowledgment of ICG)

NONE OF THE ABOVE (XXX)

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Definition of Detail and General Codes

General: The behavior/emotion/event described is generic and vague.
The following are key distinguishing features of general behaviors:
1. No one person has ownership of the behavior/emotion ("One might feel pretty upset").
2. The passive voice may be used ("I would be pretty upset").
3. Phrases such as "so on and so forth" or words like "sometimes," "always," "things," "everything" can be used to as alerts to general statements ("Sometimes we get upset and things like that").

Detailed: The behavior/emotion/event described is distinct and specific.
The following are key distinguishing features of specific behavior/emotions/events:
1. It is clear who is performing the behavior or taking ownership of the emotion ("I feel very sad").
2. Both subject and verb are likely to be modified in any number of ways, by single word modifiers: adjectives, adverbs, phrases, or clauses.

The more whos, whats, whens, hows, and whys one needs to ask about the conversation, the more likely it is to be general.
Appendix F

Technical Appendix: Sequential Analysis to Calculate Marital Communication Variables
1. The transcripts from the videotaped What if? Task are broken down into thought units and RICS 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>P</td>
<td>C</td>
<td>“There would be a lot of difficult decisions you’d have to make in that kind of situation”</td>
<td>(RIG)</td>
</tr>
</tbody>
</table>

[P=patient; C=caregiver; RIG=response to illness in general]

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>P</td>
<td>C</td>
<td>(RIG)</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>(O)</td>
<td>(RID, AID)</td>
</tr>
</tbody>
</table>

4. Simple frequencies are calculated. For example, the number of times that particular caregiver responded to illness in detail (RID) is 8.

5. Sequential frequencies are then calculated. For example, the number of times that a patient responded with a closed communication (C) to a particular caregiver’s open communication (O) is 5.

6. 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 sequence. For example, the sequential probability of caregiver responding with a closed communication (C) to a patient’s open communication (O) is equal to the frequency of this sequence [P(O) -->C(C)] divided by the frequency of [C(C)].
6. Z-scores of particular sequences are then calculated. The formula for computing Z-scores for sequential probabilities is as follows:

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

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. Adapted by permission.
Appendix G

Institutional Review Board Approvals
MEMORANDUM

TO: Todd M. Edwards  
Family & Child Development

FROM: H. T. Hurd  
Director

DATE: August 28, 1996

SUBJECT: IRB EXPEDITED APPROVAL "Levels of Personel Disclosure and Engagement in Communication of Later Life Couples Coping with Chronic Illness" IRB #96-208

I have reviewed your request to the IRB for the above referenced project. I concur that the activity is of minimal risk to the human subjects who will participate and that appropriate safeguards have been taken. Therefore, on behalf of the Institutional Review Board for Research Involving Human Subjects, I have given your request expedited approval.

This approval is valid for 12 months. If the involvement with human subjects is not complete within 12 months, the project must be resubmitted for re-approval. We will prompt you about 10 months from now. If there are significant changes in the protocol involving human subjects, those changes must be approved before proceeding.

Best wishes.

HTH/pli
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 Proviso 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 subjects.

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, radioisotopes 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 thru 11/30/98 (Multiple Project Assurance #M1357-01) in accordance with the Federal Regulations of March 8, 1983 and its subparts B, C & D for the Protection of Human Subjects.

John Baum, M.D.                          Valerie Bartlett
Chairman                                 Executive Director

Complete Board listing on reverse side.

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

November 9, 1994
Highland Hospital of Rochester
Office of Human Investigation Committee

HH/IFIC: 7099-93
Latest HIC Reapproval: 5/01/96
Annual Review Date: 5/01/97

Project Title: How Do Couples Cope with Illness?

Submitted by: C. Shields, MD

Method of Review/Approval: ___ conditional ___ Cooperative

___ Admin Approval ___ Full

___ Expedited ___ 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, radio-isotopes 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 HIC 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 HIC approval has already been given may NOT be initiated without HIC review and approval except where necessary to eliminate apparent immediate hazards to human subjects.
   b. Unanticipated problems involving risks to research subjects of others must be promptly reported to the HIC.

[Signature] 4/23/96
Jachary Kramer, MD Date
Human Investigation Committee
EDUCATION

Ph.D.  Marriage and Family Therapy  
      Department of Family and Child Development  
      Virginia Polytechnic Institute and  
      State University (Virginia Tech)  
      Blacksburg, Virginia

Post-Masters  Marital, Family, and Sex Therapy 1993  
              The Marriage Council of Philadelphia  
              Division of Family Study, Department of Psychiatry,  
              University of Pennsylvania School of Medicine  
              Philadelphia, Pennsylvania

M.A.  Counseling and Guidance 1992  
      The University of Arizona  
      Tucson, Arizona

B.A.  Psychology 1990  
      Arizona State University  
      Tempe, Arizona

PROFESSIONAL EXPERIENCE

CLINICAL

Medical Family Therapy Intern, Family Medicine Center  
Highland Hospital, University of Rochester  
Rochester, New York  
(August 1995 - August 1996)

Practicum Student, Center for Family Services  
Virginia Tech  
Blacksburg, Virginia  
(November 1993 - July 1995)
Student Intern, The Marriage Council of Philadelphia
Division of Family Study, Department of Psychiatry,
The University of Pennsylvania School of Medicine
Philadelphia, Pennsylvania
(September 1992 - July 1993)

Student Intern, Center for Family Therapy
Arizona Children’s Home Association
Tucson, Arizona
(June 1991 - May 1992)

Practicum Student, Department of Family and Community Medicine
The University of Arizona College of Medicine
Tucson, Arizona
(January 1991 - May 1991)

TEACHING

Instructor, Department of Family Medicine
University of Rochester School of Medicine and Dentistry
Rochester, New York
(August 1995 - August 1996)

Graduate Teaching Assistant,
Department of Family and Child Development
College of Human Resources
Virginia Tech
Blacksburg, Virginia
(August 1994 - May 1995)

Graduate Teaching Assistant, Department of Family Studies
School of Family and Consumer Resources
The University of Arizona
Tucson, Arizona

Psychiatric Patient/Instructor
The University of Arizona College of Medicine
Tucson, Arizona
(January 1992 - May 1992)
PROFESSIONAL AFFILIATIONS

American Association for Marriage and Family Therapy

American Psychological Association

Collaborative Family Health Care Coalition

Society of Teachers of Family Medicine

Todd M. Edwards

Birthdate: March 16, 1968