

CAREGIVING IN LATER LIFE:
AN ATTACHMENT EXPLANATORY MODEL

by

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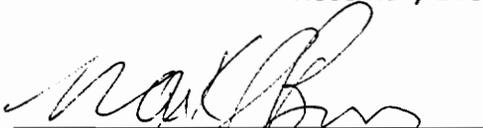
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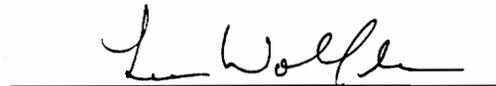
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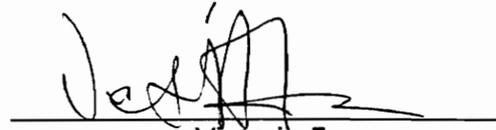
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(ABSTRACT)

In this study I proposed and tested a causal model between disruptions in childhood attachment, dimensions of adult attachment, and caregiving in later life. The research was intended to fill a void in both the attachment and the gerontological caregiving literatures. Like the construct of attachment, John Bowlby conceptualized caregiving as an expression of a specific underlying behavioral control system. He and subsequent attachment theorists proposed caregiving quality to be the most critical determinant of both attachment and subsequent personality and emotional development. Gerontologists have studied caregiving from an exchange, equity, and symbolic interactionist perspectives but in general, theory has been underutilized and underdeveloped. This study provides an alternative theoretical perspective. With its multidisciplinary origins, attachment theory provides a framework for integrating research on seemingly disparate topics.

An interdisciplinary linkage is begun by placing caregiving within the perspective of the lifespan development of prosocial behavior.

The sample (N = 3,848) consisted of respondents aged 50 to 95 years, from the National Survey of Families and Households (NSFH), a national multistage probability sample. A series of regressions were used to test the explanatory model. Model variables included respondents' psychosocial characteristics: sex, age, number of childhood separations from mother, current symbolic and physical proximity to mother, adult relationship with mother, emotional support, marital relationship, physical and mental disability, and income. In order to assess propensity for caregiving, the criterion variable was operationalized as number of care recipients per respondent.

The variables that accounted for a statistically significant amount of variation in caregiving were maternal proximity, and respondent's age, in that order. Contrary to the predictions, sex, emotional support, marital status, income, and disability level, were not related to caregiving. These findings suggest people may be motivated to provide care not simply by structural factors but by developmental needs with some underlying and unknown physiological component. These results warrant further study of how the dimensions of proximity to multiple attachment figures, and developmental age affect caregiving and attachment behaviors.

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I thank my parents, Homer and Beverly Hurst, who persist in their endeavor to give me both roots in the past and wings for the future. My dear children, Hayden, Rehanna, and Navid taught me much of what I know about caregiving and attachment though I have found it difficult to translate to research. I am indebted to my husband, Kamal, who painfully resented my doctoral work and yet lovingly hand-crafted my desk, ingenuously adapted my data to the personal computer, rescued me from more than a few midnight computer crashes and listened to many a monologue. In the end, he has been one of my best supporters.

And finally, I wish to thank the many women who gave me care . . . the many women whose silent labor makes all things possible.

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CHAPTER I: INTRODUCTION

Giving care to the elderly fits within the broad category of prosocial behavior---voluntary behaviors, performed for a variety of reasons, but intended to benefit others (Eisenberg & Mussen, 1989). Clearly, many people choose to provide direct care to dependent others and do so despite tremendous obstacles and barriers. Others may wish to care directly for loved ones but are constrained or conflicted in doing so (Gwyther, 1990; Hooyman, La Russa, Matthews, & Nichols, 1986; Schulz, 1990). Nevertheless, demographers warn that the task of providing care to the burgeoning population of frail elderly will soon overwhelm already insufficient traditional family support systems (Gatz, Bengtson, & Blum, 1990; Longino, Soldo, Manton, 1990; Zedlewski, Barnes, Burt, McBride, & Meyer, 1990).

A generation of social gerontologists has devoted careers to the study of the caregiving relationships of older family members yet much of the research is plagued with poor conceptualization of the nature of caregiving. It is increasingly apparent that the gerontological caregiving literature is insufficient to explain or predict actual caregiver behavior and is therefore of limited use for informing policy makers of appropriate interventions (Gwyther, 1990; Hooyman et al., 1986; Schulz, 1990). The difficulty of predicting is in part due to the absence of explicit theory. Without theory it is difficult to formulate potent research questions, let alone interpret and integrate findings (Clipp & George, 1990; Kahanna & Young, 1990; Lavee & Dollahite, 1991; Mancini & Blieszner, 1989).

The few, but exemplary, theoretical or conceptual studies (Bengtson & Roberts, 1991; Mutran & Reitzes, 1984; Pearlin, 1990) have not incorporated a

developmental life-span perspective of caregiving. There is a general lack of communication between social gerontologists studying late-life relationships and child developmentalists focusing on the beginning of life. Hagestad and others have called for research that will attempt to integrate these disparate knowledge bases, this "alpha and omega" split in the study of human development (Hagestad, 1987). This research addresses this rift.

Research Question

The purpose of this study was to assess the explanatory power of early life events as well as adult personal characteristics for caregiving to frail or ill persons. A secondary purpose was to test and extend concepts and assumptions of the Bowlby-Ainsworth Attachment theory by applying it to two relatively unexplored domains--mother-child relationships in late life and caregiving. Specifically, the study addressed the following questions:

- a) What are the direct and indirect effects of extended childhood separations from mother in explaining later life caregiving?
- b) To what extent do dimensions of adult attachment explain caregiving behavior?
- c) What are the interactive effects of childhood and adult attachment dimensions with structural variables on later-life caregiving?

Attachment Theory

Definitions

Attachment refers to the process of forming strong bonds between specific, irreplaceable, dyadic partners as a result of a biologically based behavioral control system. The first bonds that form between an infant and its primary caregiver, usually the biological mother, are believed to be particularly important to an

individual's long-term development and ability to form intimate relationships with others. It is within this first affectional dyadic bond, in response to the caregiver's availability and sensitivity, that the infant gradually develops a sense of "self" as well as "other" (Ainsworth & Bowlby, 1989; Shaver & Brennan, 1992; Sroufe, 1988).

As individuals mature, these inner working models inform their expectations in most social situations. Attachment can be viewed as an organizational construct of emotional appraisal and predisposition to act and feel (Grossman & Grossman, 1990). (See Acitelli & Holmberg, 1993, for a discussion of "relational schema," another term for "inner working" or "representative models" not specific to attachment theory). In this way the attachment system influences the development not only of caregiving, but of other forms of prosocial behavior as well. The hypothesized relationship between care received in early childhood and late-life caregiving is illustrated in Figure 1.

Insert Figure 1 here.

Caregiving as a Prosocial Behavior

This conceptualization of caregiving as a life-span developmental process of prosocial behavior is distinctly different from the market-based, exchange/equity conceptualizations that often implicitly permeate the caregiving literature.

"Caregiving," as one type of prosocial behavior is conceived as a basic skill that develops differentially in all humans throughout the lifespan. Rather than viewing caregiving as motivated by costs and rewards, caregiving is thought to be motivated by a more primitive, evolutionary based control system of protection that

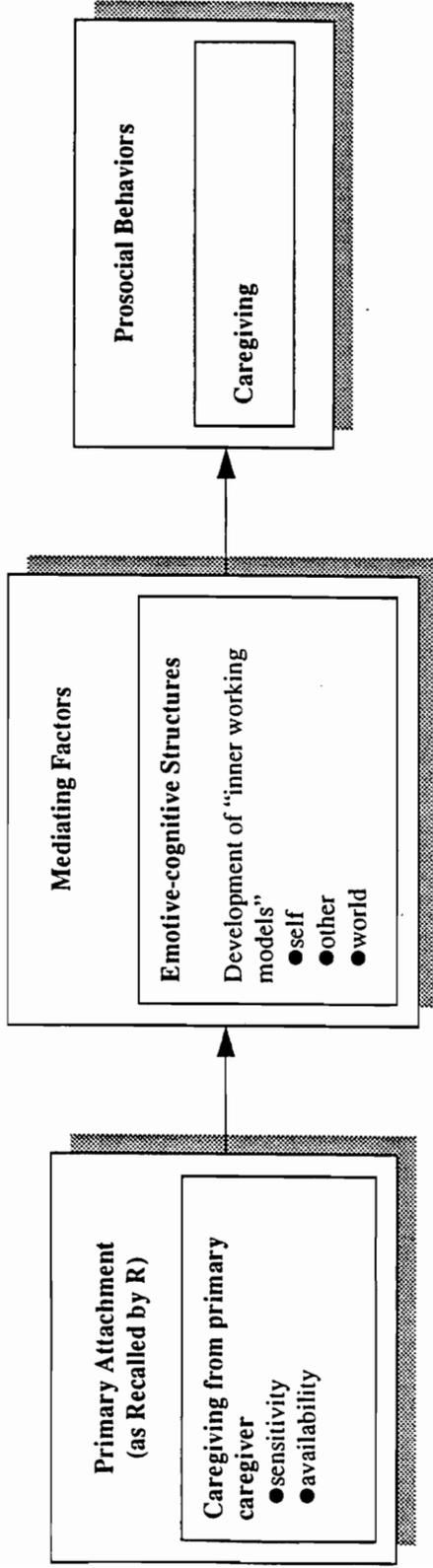


Figure 1: Caregiving as Prosocial Behavior: An Attachment and Life-span Perspective

may often be outside the conscious awareness of individuals. Some have argued that gerontological caregiving has been constricted to a narrow medical definition referring only to care specifically directed toward the demented or physically disabled elderly family members (Parmalee & Katz, 1992). But Stone (1991) argued effectively that the literature contains little consensus on the definition of caregiving as a construct and even less consistency in how it is operationalized in research. For example, researchers do not agree on the criteria that define the caregiving role. Often, attempts to arrive at neat, measurable units of caregiving limit the validity of the findings. This lack of common language between caregiving researchers not only impedes their knowledge building, it also inhibits the flow of reliable, valid, and useful data to policy makers. As Stone pointed out, how caregiving is defined and measured greatly alters what is communicated to policy makers and to the public about the size, scope, and severity of caregiving needs. The application of an attachment/developmental perspective in research can guide the construction of caregiving definitions as well as help integrate caregiving findings.

Caregiving is clearly within the domain of such prosocial topics as empathy, emotions, altruism, coping strategies, social support, and commitment. But although the prosocial literature includes theoretical applications, it does not constitute a single coherent theory of the development of prosocial behavior (Eisenberg & Mussen, 1989). Indeed, researchers of prosocial behavior do not appear to be utilizing an attachment perspective. The present study was designed to link and extend both the caregiving and prosocial literatures.

Figure 2, an elaboration of Figure 1, depicts the hypothetical systemic and dynamic relationships between attachment constructs and adult caregiving. The model shows care received from the primary caregiver early in life to be the main

determinant of divergent adult attachment/caregiving styles. The mediating factors between the primary attachment bond early in life and caregiving in adulthood are the inner working models of self, other, and world. These are essentially affective and cognitive structures, assumed to be neurophysiologically based, that structure expectations of self and other in all social interactions (Ainsworth, 1989). These inner working models are usually outside an individual's conscious awareness.

Insert Figure 2 here

As shown in Figure 2, at least three primary attachment/caregiving patterns result from the inner working models. For purposes of simplifying communication, only three major attachment/caregiving styles are shown in the model). Attachment/caregiving styles are divided into two primary categories--secure and insecure. Insecure attachment/caregiving is divided here into (a) "preoccupied" (also known in the literature as "anxious-ambivalent," and (b) avoidant.

The model shows a different caregiving outcome for each style with all styles perpetuated through a positive feedback mechanism. The inner working models, whether they are positive or negative, are reinforced by social behaviors such as caregiving. The more disrupted the early child care, the more distorted the inner working models and the more inappropriate the caregiving in adulthood. Inability to give effective care further distorts inner working models of self and other.

The more balanced and responsive the early childcare received from the attachment figure, the more positive the inner working models are of both the self and the other. This leads to effective caregiving which in turn reinforces and promotes the secure person's positive images of self and other. Secure attachment

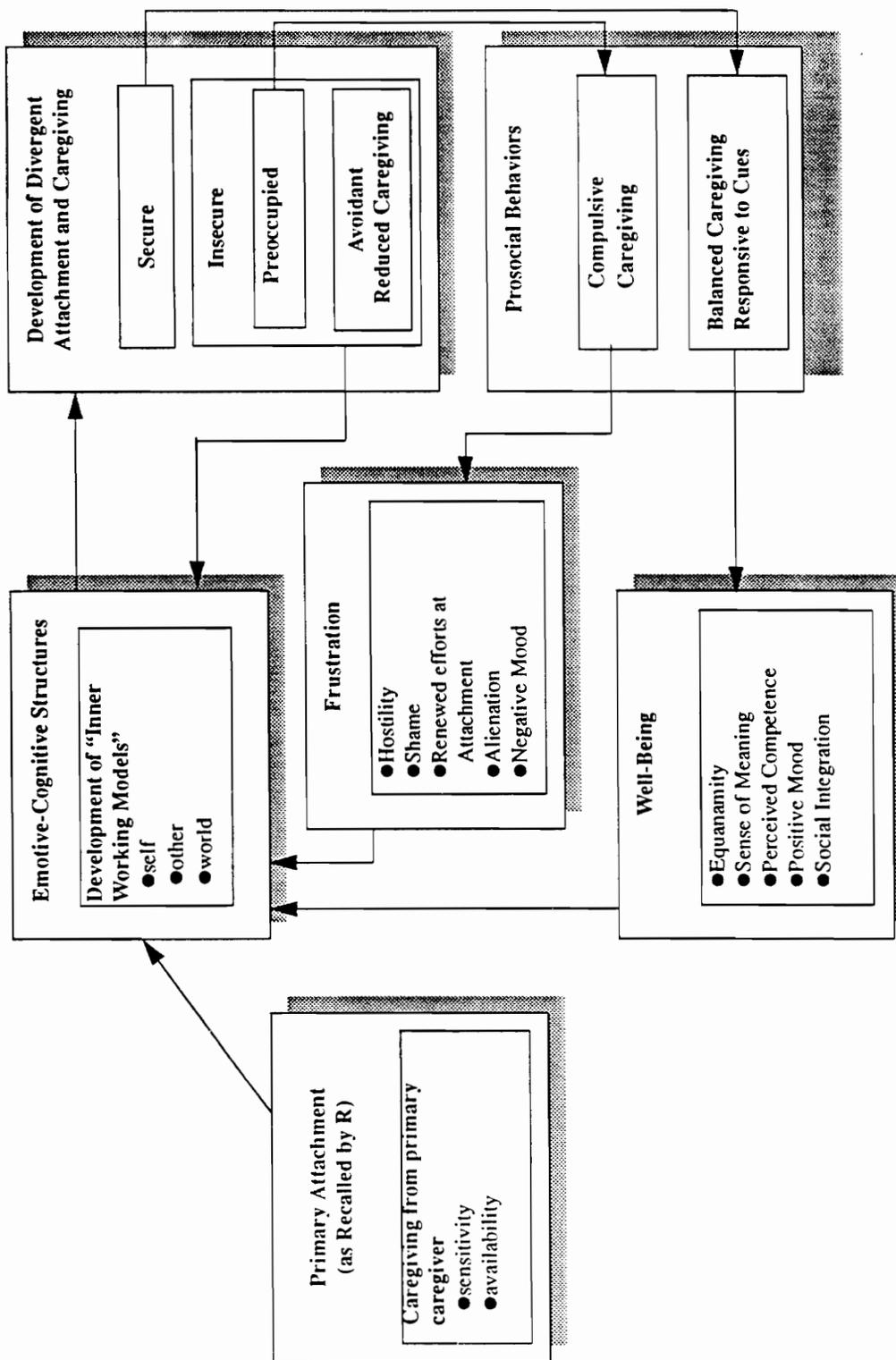


Figure 2: Conceptual Model of the Reciprocal Relationships Among Attachment, Helping, and Well-Being.

Adapted in part from E. Midlarsky. (1991). Helping as coping. In M. S. Clark (Ed.), *Prosocial Behavior. Review of Personality and Social Psychology*, 12. (pp. 238-264). Newberry Park: SAGE.

results in "balanced caregiving," appropriate and responsive to the needs of both care recipient and caregiver.

Persons with a preoccupied attachment style are thought to have received intrusive and inconsistent care during childhood. As a result of this inconsistent caretaking, persons with a preoccupied attachment style are less sure of the boundaries between themselves and others. They have a negative view of self which they need others to ameliorate. They resent those on whom they depend, perhaps because of the inevitable frustration and disappointment this dependency brings. In a misguided attempt to correct and integrate the conflicting inner models of self and other, persons with a preoccupied style of attachment will engage in greater amounts of both caregiving and care-seeking. Some may be prone to what Bowlby dubbed "compulsive caregiving," an excessive and repetitive behavior pattern more congruent with the giver's needs than with the receiver's. This preoccupied style of attachment and compulsive caregiving is conceptually related to what the popular literature refers to as "co-dependence." An excessive amount of energy and care is spent in these relationships, but in such a way that interactions lead to increased frustration, disappointment, shame, and hostility. These results further reduce low self-confidence and create greater need of care and acceptance from others.

The avoidant attachment style is thought to result from harsh or rejecting parental care. In order to adapt to the pain of this rejection, the child learns to "turn off" the attachment behavioral system. By not seeking succorance from the attachment figure, the child avoids the pain of having it refused or withheld. Adults with an avoidant attachment style are unlikely to be in a caregiving situation or any relationship that demands intimacy. In terms of the model in Figure 2, persons with

an avoidant style of attachment will typically bypass the entire caregiving "loop." They are neither frustrated nor rewarded by caregiving or affectional bonds in general. Intimate relationships are held at arm's length as a protective maneuver to inhibit the activation of the attachment system. Persons with an avoidant attachment style may be prone to becoming "workaholics." See Chapter II-- Literature Review for a summary of characteristics associated with each of these attachment styles.

Rationale for the Study

In addition to contributing to basic research in a number of topical domains, this model, once adequately tested, has the potential to better inform decision makers and their constituents in the formulation of more humane policies. Examples of such policies extend beyond the more obvious social interventions such as foster care, welfare, and community based long-term care. Caregiving, as it is conceived here, is a developmental process essential for the effective functioning of both individuals and societies. Viewed from an attachment and prosocial perspective, caregiving challenges basic assumptions about "human nature," its potential, and what motivates behavior. Less obvious, it raises questions of how people define, measure, and structure work and care in society, as well as how they distribute resources and opportunity (Bowlby, 1988; Briar & Kaplan, 1990; Dowd, 1990; Marris, 1982; 1991).

Method

The study was a secondary data analysis of a subsample (N = 3,848) of the National Survey of Families and Households, a national multistage probability sample. It involved testing a hypothetical model of individual's attachment-related personal characteristics which predict caregiving in later life. In addition to the

attachment specific constructs such as maternal proximity, emotional support, and marital status, respondent's disability, total income, were added to the model. These were included for two reasons. First both illness and income were thought to influence the ability and willingness to give care. Second, there is evidence in the attachment literature that health and income are both affected by the inner working models presumed to result from secure and insecure attachment (Hazan & Shaver, 1990; Shaver & Brennan, 1992).

A path model was analyzed using multiple regression to test the direct and indirect effects of attachment related events and personal characteristics upon caregiving. Table 1 summarizes the nominal and empirical definitions of the model elements, which I developed as some of the more appropriate attachment measures available in the NSFH data set. See Chapter III for a description of the survey design and sample characteristics.

Insert Table 1 here.

Delimitations and Limitations

Because the National Survey of Family and Households is based on a randomly selected, representative sample, the conclusions of this study, assuming the validity of the measures, can be generalized to the United States population 50 years of age and older, who have no minor children at home. Certainly, many other characteristics such as religion, culture, and the context and meaning ascribed to both caregiving and separations will affect outcomes. These need to be addressed in future studies. For now, other potentially confounding variables are assumed to be affecting all respondents equally. Any associations among variables are assumed to be stronger, rather than weaker, than the relationships in this study. As

Table 1: Model Variables

Variable Name	Description	Valid N	Range	Alpha
DEPENDENT VARIABLES				
CAREGIVING (Y)	# of persons receiving care from R past 12 mo.	3,843 (363) ^a	0-4	NA
INDEPENDENT VARIABLES				
RESPONDENT CHARACTERISTICS				
SEX (X ₁)	Respondent's sex 0 = male 1 = female	3,848	0-1	NA
AGE (X ₂)	Respondent's age	3,845	50-95 yrs.	NA
INCOME (X ₈)	R's total income from all sources. If married, counts couple's total income. Incomes greater than \$100,000 outliers (61 persons).	2,941	0-\$100,000	NA
DISABILITY (X ₉)	Extent of R's self-reported illness and physical or mental disability.	3,672	-4.123 to 5.646 (z-scores)	.8496 ^b
DISRUPTIONS IN CHILDHOOD ATTACHMENT: PARENTAL SEPARATION				
MATERNAL SEPARATIONS (X ₃)	# of ages (birth through 17) for which separations of more than 4 mo. from mother are reported.	3,848 (621) ^a	0 = no separations from mother; 1-17 = # of ages at which separated	NA
ADULT ATTACHMENT MEASURES				
RELATIONSHIPS WITH OTHERS				
RELATIONSHIP WITH MOTHER (X ₄)	Relationship with mother	680	1 = very poor 7 = excellent	NA
MATERNAL PROXIMITY (X ₆)	Symbolic and physical distance respondent maintains vis a vis mother. Sums Z-scores for residential distance from mother, and the reverse coding of the number times respondent saw, wrote or called mother during past year.	642	-.261 to 10.9	.6361 ^b
MARITAL STATUS (X ₇)	Marital Status-Dummy coding	3,848	0 = single 1 = married	NA
EMOTIONAL SUPPORT (X ₅)	Number of relationships from whom R received advice or moral support during past month.	3,552	0 = no one 5 = advice/support from 5 or more relationships	NA

^a Number of respondents with a response value above zero.

^b Standardized Item alpha.

measurement of the specific circumstances of the caregiving and attachment disruptions are refined in future research, error will be reduced.

Limitations of the study include those imposed by any secondary data analysis: the data were collected to meet purposes other than solely those of interest here. Much information that might be relevant to testing attachment theory is missing. As with any close-ended survey data, the respondents' words are inevitably decontextualized as respondents accommodate the survey format (Briggs, 1990).

A final limitation of the study is that the data are self-report as opposed to direct observation under "natural" or experimental conditions. Certainly there are inevitable distortions to self-report data such as the under-reporting of socially taboo behaviors. An additional complication is that much of the interview relied on recollections of events in early childhood. However, to the extent attachment concerns "inner working models" as opposed to factual events, recalled information has acceptable validity (Andersson & Stevens, 1993).

In this particular study it is quite likely many respondents were unaware of separations from their mothers--particularly for those separations at ages six and younger. However, if such attachment disruptions are assumed to be under-reported, it strengthens confidence that the association between separation and parental caregiving is actually greater than what is discernable here.

Although self-report is often criticized by behaviorists, the survey format has several advantages over other designs: it allows for large representative samples that may be necessary to discern small but substantively significant patterns. And self-report procedures do tap, however cryptically, the person's awareness, interpretation, and will in a way that behavioral measures cannot. Even if there is a vast difference between what people say and what they do, how they construct their social relationships is informative of their "inner working models."

CHAPTER II: LITERATURE REVIEW

Gerontological Caregiving Research

The need to understand caregiving and other prosocial behaviors is particularly critical at this time due to the rapid redefinition of the family and the relationship between it, its individual members, and the larger social economic and political structures (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Toffler, 1990). It is hard to imagine caregiving, directed toward any member of society, being of much interest in a stable, traditional society because the expectations for the giving of care would be so fixed and established that they would not be subject to question or notice. Perhaps it is a somewhat frightening and telling sign that caregiving--whether it be for children, frail elderly people, or other dependent members of our society--is receiving so much attention in America today. It may be a case of what Rosaldo (1989) and other anthropologists have coined "imperialist nostalgia"--the yearning, on a cultural level, for what has been destroyed.

Although the present study includes caregiving to any frail or ill person, regardless of their relationship to the respondent, parent care is the single most common category for respondents in this sample. The concern with the developmental task of accepting and addressing the changing needs of one's aging parents is not new to gerontology. In her decade review of the literature on late-life families, Troll (1971) cited Blenkner (1965) in emphasizing the importance of attaining "filial maturity" as a result of an individual accepting "his parent's aging and fulfilling the demands for help and support this entails . . . In fact, the concept of development as an interactional process at any age may come to be one of the most significant contributions of family developmental theory of late life to the

general theory of individual development" (p. 282).

Troll's comment foreshadowed more recent conceptualizations such as socialization as a life-long developmental process (Mancini, 1989). Atkinson (1989) attributed the enduring connection between parents and adult children to be attributable to the extent "they are a part of each other's self-concept; more specifically, each has an identity as a parent-child in relation to each other" (p. 89). Whether or not they interact, both parent and child continue to give one another information, about who they are, and in that context, who the other is. Most recently, Cicirelli (1991) argued that the optimum individual development of both parent and adult child depends on each learning how to meet responsibilities to give care and to accept care.

During the 1980s the volume of caregiving literature rose exponentially (Brubaker, 1990). Not surprisingly, the literature has remained largely descriptive and generally eschewed "grand theory" or even careful conceptualization (George, 1990). Instead, caregiving was examined in relation to single constructs such as roles and responsibilities, interaction, social exchange, assistance, relationships and well-being, the provision and receipt of support, quality of relationship, and quality of life (Mancini & Blieszner, 1989). In retrospect, these approaches to the study of caregiving appear to reflect the zeitgeist of the 80's with their connotations of economics, marketing, and self-reward. In 1989, Zarit suggested that caregiving "stress and burden" had been so voluminously documented with so little progress in conceptualization and understanding, that a moratorium on caregiving burden research might be overdue.

The popularity of the caregiving relationship as a research focal point, particularly during the '80s, is not difficult to understand. Caregiving poses, in

microcosm, a major riddle of our time: What is the relationship between self and other, between individual and group, between independence, dependence, and interdependence? How do we as individuals and as a society resolve the struggle between the bonds of obligation and sacrifice and the idealization and striving toward autonomy and development of self? Answers to these juxtapositions are more apt to be found in metaphorical, paradoxical, systemic, and developmental explanations rather than in unexamined assumptions proffered by the popular culture. This challenge to caregiving research illustrates attachment theory's potential value to the gerontological literature and practice. With its explicit assumptions and developmental modeling arising out of evolutionary, ethological, qualitative, and experimental studies, attachment theory might be able to shrink our cultural blinders and extend our vision, simply by stretching the imagination.

Adult Attachment and Caregiving

Attachment as an Evolutionary Adaptation

A major reason attachment theory allows a paradigmatic change in constructing "caregiving" lies in the evolutionary and ethological intellectual roots of the theory's most basic concepts. "Caregiving, the major role of parents and complementary to attachment behavior, is regarded in the same light as careseeking, namely as a basic component of human nature" (Bowlby, 1988, p. 121). This "basic component of human nature" consists of a caregiving behavioral system that continues across life (Bowlby, 1982). *Protection* is the key survival function of both attachment and the caregiving behavioral systems. For all social mammalian species, attachment and caregiving are important for survival of the individual and the group. Particularly for humans who evolved with minimal natural defenses and a very protracted state of dependency, the protective function of

attachment and caregiving is vital.

The attachment behavioral system is the result of natural selection processes and as such is goal-directed toward survival of and reproduction of the genes carried by the individual. The requirement of inclusive fitness means that not only is an infant more likely to survive and live to reproduce if it is able to elicit and sustain close social bonds through its attachment behaviors, adults are more likely to perpetuate their genetic lines if they continue to form dyadic bonds throughout adulthood. Certain types of adult bonds appear to benefit the survival and adjustment of children in addition to the survival of adults themselves (Reite & Field, 1985; Weiss, 1982). Further, people capable of empathy, as evidenced by appropriate, responsive helping and caregiving behaviors, would have a clear advantage in surviving as individuals and ensuring the survival and transmission of their genes (Darley, 1991). This survival value of caregiving presumably operates in modern societies, and most certainly played a key role in the "environment of evolutionary adaptedness," the hunter-gatherer social organization in which humans and hominid forms evolved (Bowlby, 1973).

Bowlby asserted all humans are equipped with a specific caregiving behavioral system that regulates behaviors that complement the infant's attachment behaviors and thereby consolidates a strong dyadic bond. The caregiving in the mother-infant dyad is believed to play the pivotal role in attuning to and modifying the mother's behaviors to those of the child's so that a secure attachment can be formed (Ainsworth, 1989; Bowlby, 1973, 1980). The mother's own attachment history will affect how difficult or easy this synchrony is to attain (Belsky & Isabella, 1988). In the case of adults giving and receiving care, both parties will usually be involved in achieving this synchrony, although they may differ markedly in their ability to do so.

The responsive caregiver effectively buffers the immature child from otherwise overwhelming environmental demands. Effective caregivers to the elderly also learn to buffer vulnerable persons from environmental demands that exceed the person's adaptive capacity. Given sufficient "buffers," the elder person can compensate for many deficits in function. This is much like Baltes's (1987) concept of "optimization through compensation" except it applies to the interpersonal as opposed to his emphasis on intrapersonal compensation.

Attachment Figures and Inner Working Models

Attachment theorists posit that the capacity and propensity for caregiving (and for other prosocial behaviors) result in large part from the quality of attachment bonds formed in childhood, especially in the first few years of life. The most important determinants of the quality of the attachment bond is the sensitivity of the primary caregiver's response to the infant's or young child's cues and the proximal and emotional availability she or he maintains to the infant (Ainsworth, 1989; Bowlby, 1969/82, 1980; Colin, 1991).

Although the terms "representative models" and "cognitive structures," are often used interchangeably with the term, "inner working models," the latter is preferred here because of its de-emphasis on the cognitive dimension. These models of self and other are *simultaneously* emotional and "rational." "The emotional organization is the very foundation of the developing child's inner working models of how attachment figures are likely to behave toward him in any variety of situations, and on which are based all his expectations, and therefore all his plans, for the rest of his life" (Bowlby 1973, p. 369). Attachment theory is above all else a developmental model, not simply a cognitive one (Shaver & Hazan, 1993). Implicit in a developmental perspective is that both the giving and receiving of care, like

attachment, will change form, function, and goal direction over the life course in response to both environmental cues and internal prompting.

Hierarchy of Attachment Figures

There is some evidence for a hierarchy of attachment bonds wherein attachment is transferred from mother, usually the initial and primary caregiver (Bowlby, 1988), to other family members: father, siblings, grandparents, and increasingly with age, to peers (Hazan, Hutt, Sturgeon, & Bricker, 1991). To some extent subsequent attachments might help compensate for inadequacies and inherent limitations in the first primary attachment. Though subsequent attachments cannot completely erase the effects of the initial primary attachment, representative models of self and other can be reworked, at least to some degree. This is particularly true in adolescence and in adulthood, as individuals develop the capacity of abstract and symbolic thinking (Ainsworth, 1989; Bowlby, 1988; Cicirelli, 1989; 1991).

In adulthood, the primary attachment figure is often assumed to be the sexual partner, or other peers, who are felt to enhance or extend the person's capacity or abilities (Weiss, 1982). Though adults frequently have a variety of peers and mentors with whom they bond, there is evidence that the mother retains her emotional saliency as an attachment figure for both adult sons and daughters (Rossi & Rossi, 1990). Numerous studies have found the mother plays a key role as "kinkeeper" in maintaining family bonds and communication (Hagestad, 1990).

Proximity, Safe Haven/Secure Base

Apart from the social and cultural reasons for maintaining geographic proximity, there may be a biological basis for maintaining geographic proximity to mother. Ethological studies have documented that adult offspring of many species,

including wild sheep and several species of primates, maintain proximity to mother throughout life (Bowlby, 1982).

Two separate control systems are hypothesized to regulate attachment and caregiving behavior. These serve to regulate limits on distance (proximity) and accessibility to the attachment figure (safe haven/secure base). Adults are clearly able to tolerate and even benefit from long periods away from an attachment figure, particularly if they have internalized the image of the attachment figure as a secure base. These two control systems, proximity and safe haven/secure base, maintain *environmental homeostasis* (Bowlby, 1988).

Bowlby pointed out that the concept of a "set goal," as a part of the control system means that attachment theory can also be applied to the understanding of motivation. The need to keep the attachment figure within a particular range of accessibility is one example of a "set goal." As a motivator, the set goal concept is suggestive of research questions on the initiation, continuance, and cessation of caregiving behaviors.

Attachment behaviors show themselves in response to stressful events, most typically in response to the real or threatened loss of the attachment figure. Therefore a secure base is antithetic to the stressful reactions that typify attachment behavior (Bowlby, 1988). This is consistent with findings that persons of all ages who have good social support function better. That is, social support, provided in a sensitive and appropriate manner (an empathetic manner that takes into account the needs of the recipient versus the needs of the caregiver), functions as a secure base for the individual. Humans need a secure base at least up until late adolescence for optimal functioning and mental health (Bowlby, 1988). Social support studies indicate that a secure base and timely, empathetic social support

also contribute to optimal functioning near the end of life (Antonucci, 1990; George, 1990).

Weiss defined attachment bonds as those whose loss results in grieving (Weiss, 1991). The pattern and extent of disruption to personality and emotional organization is one indicator of the hierarchical position of a particular attachment bond that has been severed. Another way to assess strength of attachment bond in individuals past infancy is to measure the energy expended in protecting the threatened attachment figure. This is the case when an elderly parent falls ill.

Measures of Adult Attachment

During the 1970s, Ainsworth developed her Strange Situation Procedure. This provided the first method for assessing and replicating studies of infants' and young children's attachment behaviors. The Strange Situation made the discernment of attachment "styles" possible. It also provided a means of testing and evaluating some of the precepts of Bowlby's theory which up until then had relied on a great deal of qualitative, clinical, and ethological observations (Karen, 1990). Ainsworth's Strange Situation Procedure prompted prolific research on the stability of children's attachment style. Although these assessments have a high degree of interrater reliability, issues of cross-cultural validity are still being debated (Main, 1990).

A number of researchers have extended attachment theory to adulthood. Most of this work has centered on identifying adult attachment styles assumed to be based on representational models of self and other. Unfortunately, most of this work has been limited to young adults. The development of the Lipson-Paara Adult Attachment measure for older adults is one exception (Lipson-Paara, 1990). For information on the rich and extensive literature of measures of adult attachment style that has expanded exponentially in the past eight years, interested readers are

referred to Shaver and Hazan's (1993) masterful review of adult attachment style.

Attachment Styles

The present study makes use of attachment "dimensions" such as proximity seeking and use of safe haven/secure base, as opposed to the categorical attachment "style." This emphasis on dimensions versus prototypes is consistent with recommendations made by Bartholomew and Horowitz (1991). Certain dimensions, such as remembered childhood relationships with parents, have been consistent indicators of attachment styles (Shaver & Hazan, 1987; 1990; Shaver & Brennan, 1992). This study provides a much needed extension of the attachment literature to older adults as well as to the caregiving behavioral system, so far much neglected by attachment researchers (Ainsworth, 1989; Shaver & Kunce, 1992).

Secure attachment style. This style is characterized by higher self esteem than insecure styles (Mikulincer & Nachshon, 1991). The self is seen as both loveable and worthy and others are viewed as accepting and responsive (Bartholomew & Horowitz, 1991). Securely attached persons are generally positive in their view of parents. If negative, the person shows the ability to take different perspectives and has resolved anger over past events (Cole, 1991).

In relationships, persons with predominantly secure attachment styles are more extraverted than those with either preoccupied or avoidant styles and more agreeable than avoidants. They find it easy to get close to others and are comfortable depending on them, rarely worrying about either abandonment or closeness (Hazan & Shaver, 1987). They do not have to worry so much about their own needs because these have already been met (Mikulincer & Nachshon, 1991). Shaver and Brennan (1992) found security to be best predicted by low anxiety (low neuroticism) and high warmth (extraversion).

Persons with a secure attachment style "deal with stress by acknowledging it and turning to others for emotional and instrumental support" (Mikulincer & Nachshon, 1991, p. 322). In general, the interpersonal skills associated with the secure attachment style are less extreme and more balanced than those associated with the other attachment styles (Bartholomew & Horowitz, 1991).

In terms of their health, persons with secure attachment style have significantly higher levels of physical and psychological well-being than do people with insecure styles (Hazan & Shaver, 1990). Presumably, the mechanisms for this are the inner working models of self, other, and world that in turn affect the immune system. Research guided by a number of theories other than attachment, suggests a connection between parent-child relationships and psychological well-being in adulthood (Amato, 1991; Harris & Bifulco, 1991; Whitbeck, Simons, & Conger, 1991; Franz, McClelland & Weinberger, 1991). It is also well-established, and certainly not surprising that there is a strong link, presumably reciprocal, between psychological and physical health. In this way, (presumably mediated by inner working models), attachment related events are thought to directly and indirectly affect health.

Preoccupied (anxious-ambivalent) attachment style. This style is characterized by inner working models of a negative self deemed unworthy and unlovable (Mikulincer & Nachshon, 1991). Self-acceptance is only gained through the approval of others. There is a tendency to idealize others and view them positively, but this is accompanied by anger and resentment (Bartholomew & Horowitz, 1991). Persons showing a predominantly preoccupied style tend to be enmeshed with and angry at parents (Cole, 1991).

Because they lack an internalized image of safe haven, people with a

preoccupied style spend a great amount of energy seeking help and evidence of care from others. This attention focused inward on relationships leaves little attention available for exploratory behavior. The preoccupied or anxious-ambivalent person lacks confidence, is fearful and negative (Bartholomew & Horowitz, 1991).

The preoccupied person also has difficulty integrating inner working models of self and other. Cole (1991) found such people to be extremely inconsistent in information, vacillating in attitudes and incoherent in discussing relationships. Bartholomew and Horowitz (1991) found them ". . . uniquely high on elaboration, self-disclosure, emotional expressiveness, frequency of crying, reliance on others, use of others as a secure base, crying in the presence of others, and caregiving" (pp. 230). The person with a preoccupied style gives too much information and does so in a poorly organized way (Cole, 1991; Mikulincer & Nachshon, 1991).

Mikulincer and Nachshon (1991) found preoccupied adults to be able to reciprocate with self disclosure but unable to respond to other's needs or statements. Instead, they referred back to their own needs. Not surprisingly, the preoccupied style is associated with not being in a relationship or being in relationships of short duration (Shaver & Brennan, 1992). It is the preoccupied or anxious-ambivalent style that would evidence compulsive caregiving--giving care when need for it might be in doubt.

Those with a preoccupied style tend to have lower incomes than do either secure or avoidant individuals, even when controlling for years of education. They are more easily distracted at work presumably because their interpersonal problems interfere with productivity (Hazan & Shaver, 1990). Their work is motivated extrinsically rather than intrinsically.

Avoidant attachment style-dismissive style. In this style, the self is seen as

positive and loveable but others are viewed negatively (Bartholomew & Horowitz, 1991). Working models of parents are often stern and critical, rigid or angry. There might be high pressure to achieve (Cole, 1991) and what Main called "low coherence of mind." The Avoidant-Dismissive person will make general statements about how nice the parent was but will reveal contradictory information and deny that it is contradictory (Cole, 1991). Bartholomew and Horowitz summarized this as a "lack of clarity and credibility in discussing relationships" (1991, p. 228).

In relationships, the avoidant-dismissive style is characterized by maintenance of distance and hyper-independence in order to avoid activation of the attachment system. People with this attachment style are low on elaboration of early parent child relationships and dismissive of attachment related events (Bartholomew & Horowitz, 1991; Cole, 1991; Hazan & Shaver, 1993). During interviews, these people seem emotionally restricted and nonempathic: they may be difficult or evasive (Bartholomew & Horowitz, 1991).

People with an avoidant style of attachment are less able to use others as a secure base than are those with secure or preoccupied styles. They are controlling in friendships and romantic involvements (Bartholomew & Horowitz, 1991). Like those people with a preoccupied style, avoidant style persons have higher divorce rates than do persons with secure attachment styles (Shaver & Brennan, 1992). Those with avoidant characteristics give little care, presumably because of their low regard for others and general lack of empathy (Bartholomew & Horowitz, 1991).

Avoidant attachment style--fearful. This style was identified by Bartholomew (1991) as distinct from the Avoidant-Dismissive style. Hazan and Shaver concur with her that this does constitute a distinct style and is similar to what their self-report measure simply deemed avoidant attachment style. It is similar in all ways

from the dismissive style except that intimacy and social relationships are avoided out of fear rather than disdain or dislike of others. Others are viewed as untrustworthy and rejecting (Bartholomew & Horowitz, 1991) and this perception tends to color the person's view of the world in general (Bowlby, 1988).

In interviews, persons with the avoidant-fearful style are moderately coherent but make statements that are highly implausible about the nature and outcomes of attachment-related events (Cole, 1991). They are introverted and uncomfortable being close to others (Bartholomew & Horowitz, 1991). They have difficulty trusting and depending on others and become nervous when others get emotionally or physically close (Shaver & Hazan, 1987).

The fearful avoidant style gives rise to interpersonal problems of submissiveness and introversion. These persons deny and suppress attachment-related negative emotions. They are less open to feelings than those with either anxious-ambivalent or secure styles (Shaver & Brennan, 1992). Like the avoidant-dismissive type they are ". . . significantly lower than the secure and preoccupied on self-disclosure, intimacy, level of romantic involvement, reliance on others, and use of others as a secure base when upset" (Bartholomew & Horowitz, 1991, p. 230).

Mikulincer and Nachshon (1991) found that people with the avoidant style in general do not respond to others' intimate disclosures. They avoid close involvement with others as a defensive maneuver against being hurt (Bartholomew & Horowitz, 1991). This style is associated with shorter relationships, lower levels of satisfaction and commitment (Shaver & Brennan, 1992).

Brennan found evidence that persons classified as having a fearful avoidant style are more likely to have parents who were problem drinkers (Shaver & Hazan,

1993). Crittendon (1988) suggested the avoidant style results from a primary attachment figure who is depressed, disturbed or abusive (Shaver & Hazan, 1993).

Table 2 summarizes these findings in the adult attachment literature cited in the above section. Plus signs indicate a "positive" or "high" association on a given factor for a given attachment style. Two plus signs indicate very high or very positive. A minus sign means the research reports "negative" or "low" amount of the characteristic for a given attachment style.

Insert Table 2 here.

Applications of Attachment to Later Life

During the '70's a number of gerontologists applied attachment theory to the understanding of various social relationships (Antonucci 1976, Kalish & Knudtson 1976; Lerner & Ryff, 1977; Hartup & Lempers, 1976). Gerontological researchers, however, soon lost interest in the theory. The failure for the effort to "bear fruit" may be due in part to the need for basic descriptive research at the time. The fact that attachment theory was still very much itself in a formative and untested state probably contributed to the loss of interest.

More recently a small number of gerontologists have made explicit application of attachment theory to social relations in late life (Atkinson, 1989; Bedford, 1992; Levitt, 1991; Lipson-Paara, 1990). I confine my detailed review to two studies, both exemplary and closely related to this proposed study.

Cicirelli, Adult Children's Helping Behaviors to Parents

In 1983 Cicirelli published a study on the relationship between adult children's "feelings of attachment" and helping behaviors directed toward their parents.

Table 2. Summary of Adult Attachment Styles

<i>Related Factors</i>	ATTACHMENT STYLES		
	<i>SECURE</i>	<i>PREOCCUPIED</i>	<i>AVOIDANT-DISSISSIVE</i>
<i>Inner Working Models</i>			
<i>Self</i>	+	--	+
<i>Other</i>	+	+	--
<i>Attitude Toward Parent</i>	+ Absence of anger	-- angry, enmeshed, parent seen inconsistent and incompetent	+ and -- idealized parent with contradictory anecdotes
<i>Self Awareness</i>	high	low	low
<i>Coherence/ Integration</i>	high	low incoherent, inconsistent, hyper-vigilant	low denies contradictions, low on elaborations
<i>Affect</i>	+ warm	-- fearful, negative, emotionally expressive, frequent crying in presence of others	-- low empathy, emotionally restricted during interview, cold, dismissive of attachment
<i>Extraversion</i>	+		--
<i>Disclosure/ Openness</i>	+	++	--
<i>Synchrony</i>	+	-- Desires more closeness than does other	-- Wants less closeness than does other
<i>Use of Secure Base (Ability to depend on others/Trust)</i>	+	++	--
<i>Balance of Control in Relationships</i>	Balance	Low Balance/ High Control	Low Balance/High Control
<i>Love/Work Balance</i>	Balance	Imbalance/ Relationships	Imbalance/ Work
<i>Generativity/ Exploratory Behavior</i>	+ High job satisfaction, prefer working with others	- Feel unappreciated, motivated by approval, distractable, attention less available for work, prefer working with others but resent their intrusions	Low job satisfaction but fewer vacations, prefer to work alone
<i>Income</i>	higher	lower	higher
<i>Health</i>			
<i>Anxiety</i>	--	+	

<i>Related Factors</i>	ATTACHMENT STYLES		
	<i>SECURE</i>	<i>PREOCCUPIED</i>	<i>AVOIDANT-DISMISSIVE</i>
<i>Depression</i>	--		
<i>Hostility</i>	--	+	+
<i>Incidence of physical illness</i>	--		
<i>Psychosomatic illness</i>	--		
<i>Caregiving</i>		++	--
<i>Ambivalence in relationships</i>		+	
<i>Openness to values</i>	+	--	+
<i>Relational history</i>	lower divorce rate	higher divorce rate, shorter duration relationships less likely to be in a relationship	Higher divorce rate than secures

Included in his model as alternative predictors were filial obligation, dependency, interpersonal conflict and negative feelings resulting from helping. The 148 subjects (mean age = 46 years), a probability sample of neighborhood blocks, had mothers aged 60 years or more and were willing to be interviewed (43% refused). Similar to the NSFH used in the present study, Cicirelli's data were gathered using an interview format supplemented by a questionnaire.

Testing his path model with multiple regression, Cicirelli concluded that, of those tested, the strongest predictors of intention to provide help to parent in the future were current helping, attachment behaviors, and feelings of attachment. Filial obligation had only an indirect effect and this was through attachment behaviors. These findings are subject to several limitations, however.

The main limitation of the study lies with the validity of the measures,

given what is now known about adult attachment style. Cicirelli's definition of adult attachment consisted of attachment feelings and attachment behaviors. For example, he equated liking for mother with high levels of attachment and high level of helping behaviors. However, a person with an insecure attachment style may score very high on some of these measures indicating that yes, attachment has a strong effect but little is known about the form that effect will take. For example, a person with a predominantly avoidant attachment style tends to idealize mother and report a very positive relationship, perhaps more so than a person with a secure attachment style who is able to accept mother as a separate person with her own strengths and weaknesses. The avoidant style person will tend to be confused with the secure style person unless additional dimensions that differentiate them are examined. Among these are the avoidant style person's inability to provide coherent anecdotal information consistent with the idealized version of mother (Bartholomew & Horowitz, 1991; Cole, 1991).

A second example of confounding types of attachment when only strength of attachment is used is with the preoccupied (anxious-ambivalent) style. This style is associated with *both* a very high level of caregiving and a high level of negative feelings (Cole, 1991; Kuncze & Shaver, 1992). It is easy to read the Cicirelli paper and conclude high levels of attachment are "good" and low levels are "bad," at least with respect to promoting helping behaviors.

To be fair, Cicirelli did not have the information on attachment style available to him at the time he conceptualized the study. But even now, researchers in adult attachment have a tendency to fall into the "either-or," "good-bad" type of thinking. For example, there is a tendency to view "secure" attachment as "good" and

insecure attachment as "bad," ignoring the fact that each of the styles consists of an adaptation to a social situation. The relative merits of that adaptation should be assessed in terms of the overall cultural and environmental context of the individual person (Main, 1990; Van Ijzendoorn, 1990).

Andersson and Stevens, Early Parent Child Relation and Late-Life Well Being More recently, Andersson and Stevens (1993) explicitly applied attachment theory to a sample of older subjects (ages 65 to 74) to examine the relationship between remembered early experiences with parents and well-being in late life. "Well-being" was defined as self-esteem, subjectively assessed health, depression, and loneliness, each of which are relevant to the present study on caregiving. The authors used a representative random survey of 267 Swedes. Like the NSFH and Cicirelli's 1983 study, the data were collected in face to face structured interviews and analyzed with multiple regression.

The authors concluded that recalled parental care and warmth had a strong effect upon well-being if the respondent currently had an attachment figure in the form of an affectionate partner. Unattached men who reported parental care that was neither warm nor attentive had more negative well being as measured in terms of self-esteem and loneliness, worse subjective health, and more anxiety and depression than men recalling warm parental care. For women, the effects of recalled negative parenting were weaker than those for men. The authors attributed the gender difference to women's alternative close relationships that would also buffer the effects of negative parenting.

Like Cicirelli, Andersson and Larson acknowledged certain limitations in their measure of current attachment. In their study, attachment consisted simply of the presence of a spouse or cohabitating partner. This may have underrepresented

women's increased tendency, relative to men, to have attachment figures in addition to those found within the sexual bond.

CHAPTER III: METHOD

Hypothetical Causal Model

This study sets forth a hypothetical model of personal characteristics thought most likely to predict parental caregiving in late life. A path model (See Figure 3) was analyzed using multiple regression to test the direct and indirect effects upon caregiving of respondent's (a) sex, (b) childhood separations from mother, (c) dimensions of adult attachment (relationship with mother, proximity seeking vis a vis mother, availability and receipt of social support from a variety of relationships, and marital status), (d) level of disability or illness, and (e) financial resources. The reader is referred to Table 1 in the Introduction for a summary of the model elements.

Insert Figure 3 here.

Sample

The sample in this study was a subsample (N = 3,848) of the 13,017 respondents who completed the main interview and questionnaire of the National Survey of Family and Households, a multistage probability sample. The large sample size (it is the largest sample of any survey focusing on family relationships), greatly enhances the confidence in the conclusions and population inferences that can be made. The response rate for the NSFH sample as a whole was 74% (Sweet, Bumpass, & Call, 1988).

The subsample drawn from the NSFH data set for this study includes all respondents who met the criteria of being over age 50 years and having no children under age 19 living at home. The last restriction was imposed because it was

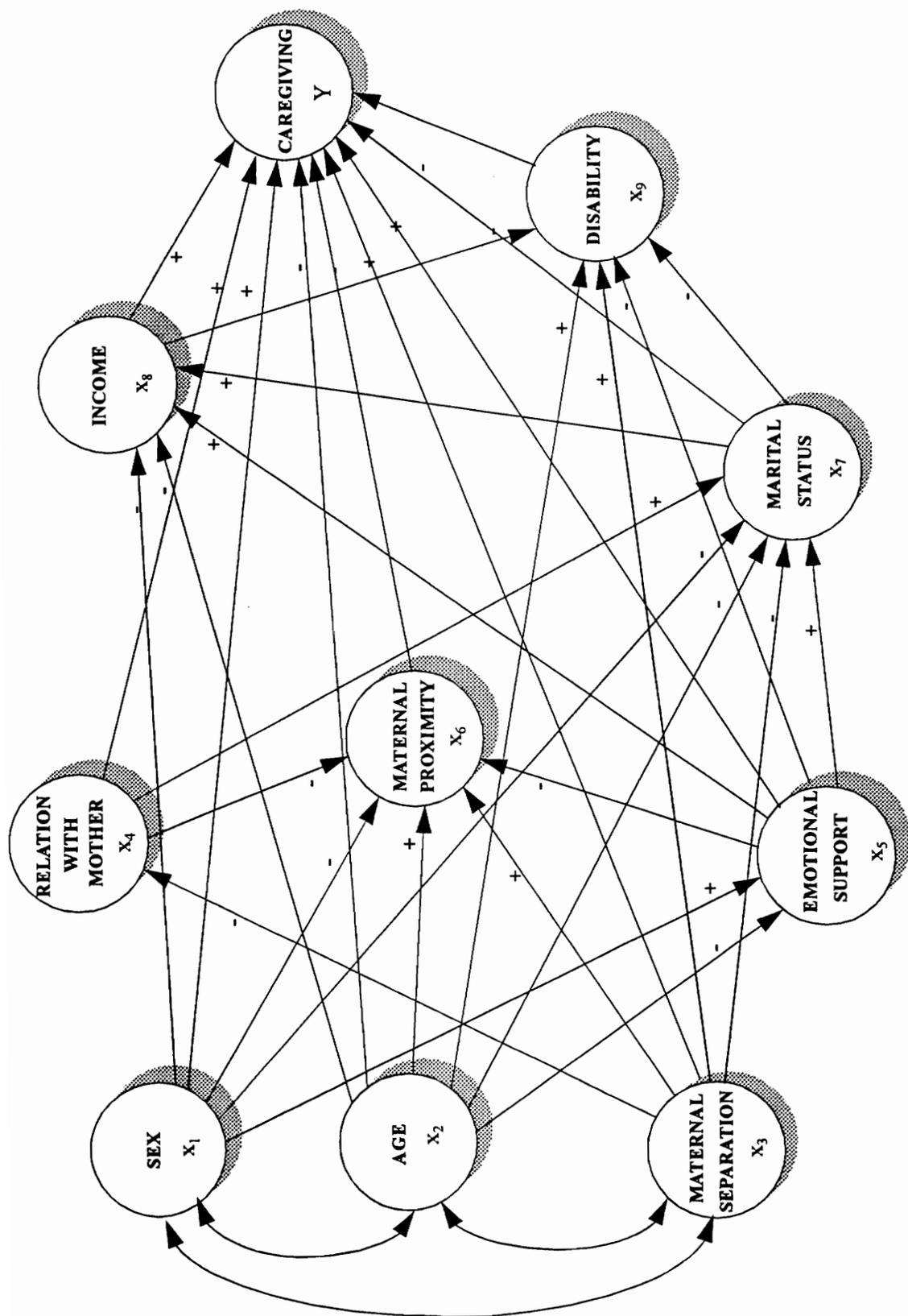


FIGURE 3: Path Model: Psychosocial Characteristic and Caregiving

suspected that responsibility for minor children might influence the amount of care respondents gave to elderly parents, and this was not a focus of study.

Measures and Procedure

Between 1986 and 1987, NSFH respondents completed face-to-face main interviews and accompanying questionnaires for sensitive information. Interviews lasted an average of one hour and forty minutes. The survey design is cross-sectional but includes recalled events.

Measures were selected for inclusion in the path model on the basis of assumed theoretical relationship. With two exceptions, all of the variables are measured at either the interval or ratio level scale of measurement. The maternal proximity includes two variables measured on an ordinal level. These are deemed acceptable for use with regression because they measure, albeit with error, an underlying dimension that is in actuality continuous (Borgotta & Bohrnstedt, 1980).

Model Variables

Caregiving is defined here as the number of very ill or disabled people to whom the respondent gave care during the past 12 months. Values ranged from 1 to 4--the maximum number coded in the data. Although some respondents may have cared for more than four persons, this appears unlikely. Only 363 of 3,843 respondents (9.6%) reported giving such care, giving this variable a highly skewed distribution. (See Bohrnstedt & Carter, 1971, for justification in using variables in regression that fail to meet the requirements for normal distributions).

Table 1 in Chapter I provides a concise overview of the variables described in the following section. For more detailed information on the construction and value labels of model variables, see Appendix A.

Respondent's sex (SEX). The sample is composed of 36% men and 64%

women. Men were coded 0 and women were coded 1.

Respondent's age (AGE). Respondents range in age from 50 to 95 years. The maximum value provided is "95" so some respondents might be older. The mean age is 66 years.

Respondent's total income (INCOME). This includes R's total income from all sources. For married respondents, this number represents the couple's total income. People with incomes over \$100,000, 1.5% of the sample, were discarded as outliers. Incomes as high as \$625,000, were certainly atypical of a sample in which ninety percent of the respondents in the untrimmed income variable had less than \$50,000 total income per year and a median income of \$14,100, (S.D. = \$31,566). It was thought these atypical high incomes would distort any relationship between income and caregiving (as well as the other model variables).

Respondents's Disability (DISABILITY). This variable is a combined measure of Respondent's global health (reverse coded so that high values correspond to high levels of illness or poor health) and respondents' itemization of physical or mental disability. Because these items had different metrics, they were dummy coded and then converted to standardized scores prior to summation. The value of the z-scores ranged from -4.123 to 5.646. The standardized Cronbach's alpha is .8496.

Maternal separation during childhood. This is the number of ages (birth through 17) for which separations of more than 4 months from mother are reported. Sixteen percent of the sample (N = 621) reported one or more maternal separations lasting this long.

Relationship with mother. This is a global rating on a Likert-type scale of the quality of Respondent's relationship with mother. Values ranged from 1 = very poor to 7 = excellent. Only 680 (18%) of the sample responded, primarily a

function of the number with mothers still living. However, 84 people refused or answered "don't know." These were coded as missing values since there was no valid way of assigning a numeric value to the nature of this type of relationship with mother.

Respondent's marital status. This was dummy coded 0 = single and 1 = married. In this sample, 50% were married, 3.9% were separated, 9.9% were divorced, 31% widowed, and 5.2% never married.

Maternal proximity. The first and presumably the single most influential attachment figure is the mother. For the purposes of this research, proximity measures refer only to those directed at mother and not the many other possible attachment figures, such as spouses, adult children, and friends, who presumably coexist in the adult respondent's life. Using proximity only to mother is not meant to suggest that she retains her original role of "a stronger and wiser other." Indeed, there is much reason to think she does not. As mother reaches advanced old age and as her health deteriorates, her endurance as an attachment figure is indicated by the protective actions her threatened loss provokes from her adult children.

Although the following proximity measures refer to mother only, the criterion variable of caregiving refers to anyone who is sick or ill for an extended period. The logic behind using attachment measures vis a vis Mother and nonspecific caregiving targets lies in the assumption that the initial caregiving relationship has been internalized and shapes all expectations and social interactions that follow, whether these be caregiving to mother, to father, to one's children, or to strangers.

Although the mean distance lived from mother was 355 miles, this was influenced by extreme distances of a few respondents whose mothers lived presumably outside the continental United States. (Foreign countries were treated

as missing values). Half of the respondents lived within 20 miles of their mothers. (This does not include the 39 respondents whose mothers lived with them). The median distance lived from father, 45 miles, was more than twice the distance lived from mother, even without controlling for fathers' typical co-residence with mothers.

Maternal Proximity includes three measures of proximity seeking--how often respondent saw mother in the past 12 months, how often respondents called or wrote mother, and distance (in miles) lived from mother. For the first two variables, values were reverse coded and then converted to standardized scores so they could be summed with the geographic distance, also converted to z-scores, into a meaningful measure of symbolic and physical distance from mother. Values for the composite measure ranged from -.261 to 10.9. This sample does not include respondents whose mother co-resides with them. See Appendix A for details on the recoding of the constituent variables for this measure.

How often respondent wrote or called mother is similar to Cicirelli's concept of "symbolic attachment." This, as well as simply thinking about the attachment figure may enable adults to maintain active attachments over vast distances of time and geography. Interestingly, this symbolic proximity does not seem to compensate for geographic distance. The further R lives from mother, the less respondent calls or writes mother ($r = -.1514, p < .001$)

Emotional support. This is the number of relationships from whom respondents received advice or moral support during the past month. Values range from 0 = no one to 5 = advice/support from 5 or more relationships.

Although secure base and safe haven are distinct concepts in attachment theory, they both concern the use of attachment figures as a means to enhance

one's abilities. A secure base provides a foundation necessary for exploratory behavior (work and play), and the safe haven is a place to which to retreat for emotional and physical sustenance, as it is needed. The mother or primary caregiver is presumed to fill these functions in infancy and early childhood. Later, attachment is thought to be transferred to a hierarchy of attachment figures. By adulthood, spouse and other intimate peers are thought to fill this role. It was difficult to distinguish these two closely related concepts in the NSFH data so safe haven and secure base are treated as roughly synonymous with emotional support. Emotional support was emphasized over instrumental and material forms of social support because of the inability to factor out respondents' need for such support in this particular data set. It was assumed everyone could benefit from moral support.

Simple frequencies do show differences in which relationships are relied on most often for fulfilling certain types of safe haven/secure base functions. For example, respondents rely more on adult children (45%), and friends, neighbors, and co-workers (29%) and rely least on their parents (4%) for an emergency in the middle of the night. The same pattern held true for seeking emotional support and advice: 28% said they would ask friends, neighbors, and co-workers, 26% would ask adult children, and only 7% would ask parents. Even when asking for an emergency loan of \$200, respondents relied more on adult children (28%), than parents (18%). (This question provided a forced choice of persons not in respondent's household, so spouses were excluded as potential sources of help). These findings indicate the close proximity maintained by adults and their elderly parents is not due to the latter's continuing in the role of providing a safe haven or secure base. This function has been successfully transferred to other relationships.

Summary

This study involves testing a causal model between disruptions in childhood attachment, dimensions of adult attachment, and caregiving in later life. As such, it is intended to help fill a gap in both the attachment and the gerontological caregiving literatures. Research in attachment theory needs to be extended to the caregiving behavioral control system that Bowlby hypothesized. The importance of caregiving to attachment is obvious when one considers it is the quality of caregiving that is thought to be the most critical determinant of both attachment and all subsequent personality and emotional development (Belsky & Nezworski, 1988). This study should contribute to the gerontological caregiving literature by providing an alternative theoretical framework on which to test questions that remain unanswered. A third contribution this study can make is the provision of a framework for integrating research on seemingly disparate topics. In this specific study, an interdisciplinary linkage is begun by placing caregiving within the perspective of the lifespan development of prosocial behavior.

CHAPTER IV: RESULTS

Consistent with either attachment theory, the gerontological caregiving literature, or both, the path model in Figure 3 of Chapter III omits paths between a number of variables. However, the model was tested as fully recursive: all endogenous variables were regressed on each of the antecedent variables in order to determine if the path coefficients were close to or equal to zero as hypothesized. Data were analyzed using Regression on the Professional Statistical Packages, Version 6 of the Statistical Package for Social Sciences (SPSS) for Windows.

Variables were entered in seven steps in the order depicted in Figure 3. The three exogenous variables were entered in one step using block selection. The criterion for entry was set at the "Probability of F to Enter," (PIN), equal to .05 level of probability.

The tolerances of the variables were computed in order to detect any problems of collinearity between the independent variables. All of the tolerances were high indicating collinearity among independent variables is not a problem (Norusis, 1993).

Because only 18% of the respondents still had a mother living and only 16% of the total sample recalled a prolonged childhood separation from mother, for some correlations the large sample (N = 3,848) was severely reduced to as low as N = 513.

Insert Figures 4 and 4a here.

In order to take advantage of as much of the information as possible, the path model was tested first using listwise then pairwise deletion. With only a few minor differences, the results of these two deletion methods were consistent with one

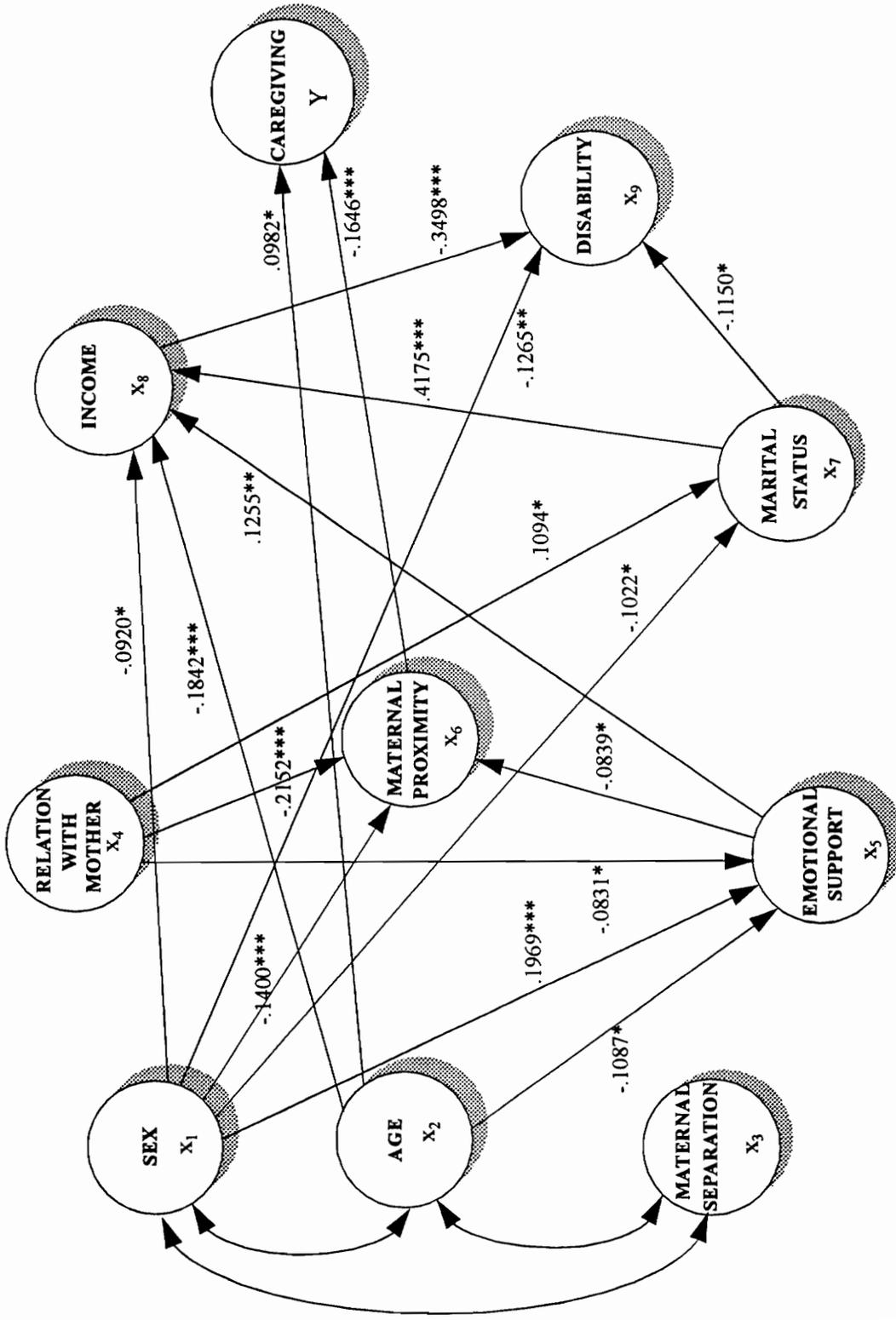


FIGURE 4: Path Model: Psychosocial Characteristics and Caregiving - Direct Effects, Listwise Deletion.

* p < .05, ** p < .01, *** p < .001

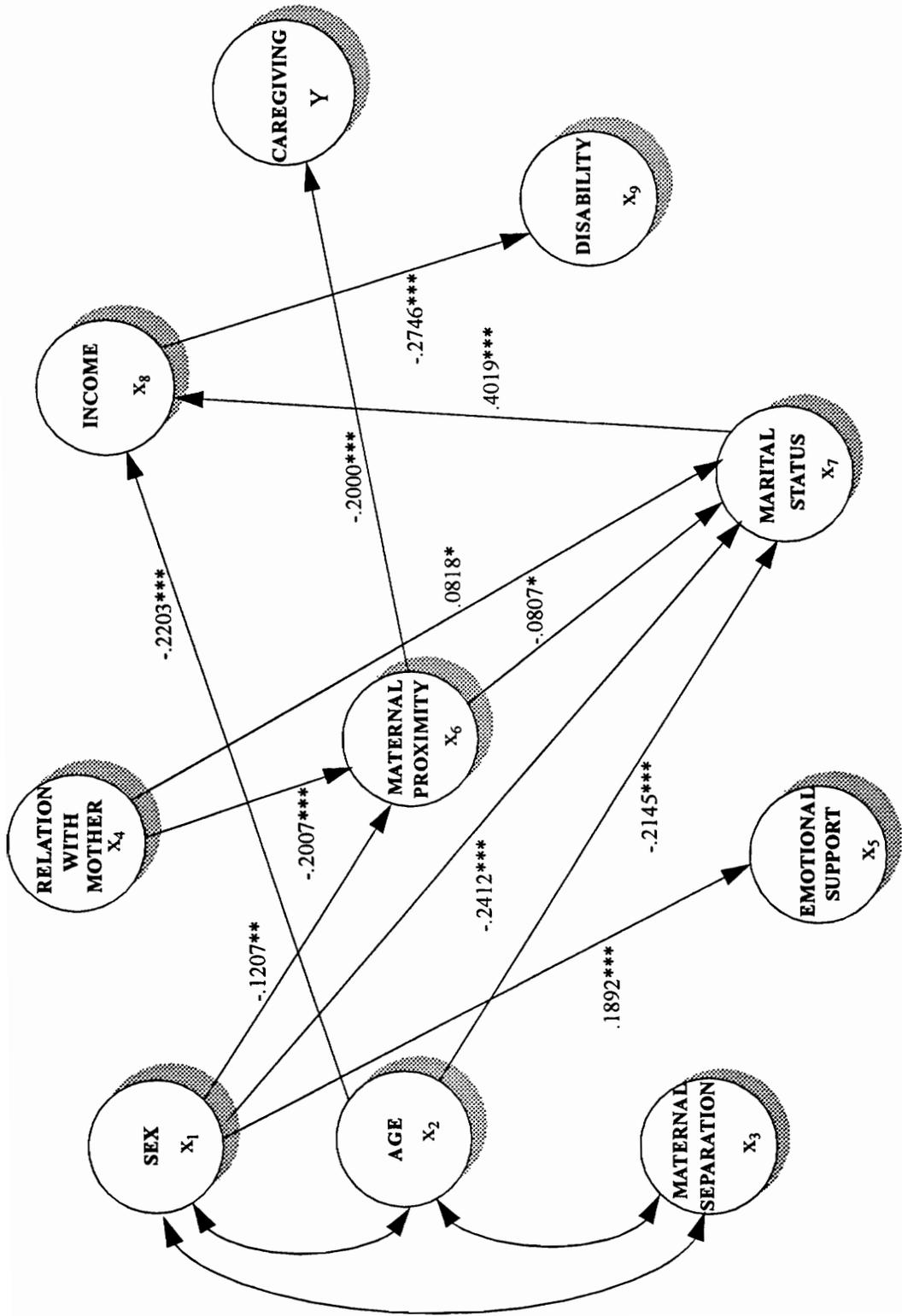


FIGURE 4a: Path Model: Psychosocial Characteristics and Caregiving- Direct Effects, Pairwise Deletion.
 * $p < .05$, ** $p < .01$, *** $p < .001$

another. Therefore I confine most of my discussion to the results obtained from listwise deletion, since it is the preferred method for regression.

Tables 3, 4, and 5 show the results of listwise deletion. The results of pairwise deletion are given in Tables 3a to 5a. Where there are discrepancies between the two forms, I have commented upon it within the text.

Tables 3 and 3a give the means, standard deviations, and intercorrelations for the sample using listwise and pairwise deletions respectively. In comparing the means for each, it can be seen that respondents in the subsample resulting from the listwise deletion are an average of eight years younger in age ($M = 57$), have more income, report better health, maintain less proximity to mother, report fewer prolonged separations from mother during childhood than do people representing the whole the sample of 3,848. They are more likely to be married and are more likely to receive emotional support from sources outside the marriage than are respondents representing the entire sample. Persons retained in the listwise deletion are twice as likely to provide care as does the "average" person in the full sample. This may be due in part to the fact their elderly mothers are still living.

Insert Tables 3 and 3a here.

Attachment Relevant Measures

Maternal Proximity

Tables 4 and 4a show the path coefficients or standardized regression coefficients of the model. A primary hypothesis of this study was that attachment constructs such as proximity seeking and proximity maintenance are positively associated with and causally linked to caregiving behavior. The data support such a link for maternal proximity and the number of persons to whom respondents provide

Table 3. Means, Standard Deviations, and Intercorrelations^a
Among Psychosocial Factors and Caregiving. Listwise Deletions. (N = 466)

	1	2	3	4	5	6	7	8	9	Y
SEX (X ₁)	1.00									
AGE (X ₂)	-.014	1.00								
MATERNAL SEPARATIONS (X ₃)	.071	-.001	1.00							
RELATIONSHIP WITH MOTHER (X ₄)	-.034	-.007	-.261	1.00						
EMOTIONAL SUPPORT (X ₅)	.229	-.086	-.021	-.070	1.00					
PROXIMITY TO MOTHER (X ₆)	-.135	.026	.090	-.197	-.110	1.00				
MARITAL STATUS (X ₇)	-.130	-.005	-.066	.166	-.068	-.033	1.00			
INCOME (X ₈)	-.128	-.193	-.061	.029	.083	.059	.416	1.00		
DISABILITY (X ₉)	-.086	.067	.015	-.057	.001	.062	-.032	-.279	1.00	
CAREGIVING (Y)	.008	.083	-.077	.002	.067	-.162	-.017	.002	-.04	1.00
		.036	.048			.000				
<i>M</i>	.586	57	.863	6.049	.794	.169	.603	28675	-.334	.227
<i>SD</i>	.493	5.651	2.813	1.462	1.033	2.345	.490	21624	1.694	.491

Note. Second figure given probability level. Nonsignificant results not given.

^a 1-tailed significance.

Table 3a. Means, Standard Deviations, and Intercorrelations^a
Among Psychosocial Factors and Caregiving. Pairwise Deletions. (N = 3,848)^b

	1	2	3	4	5	6	7	8	9	Y
SEX (X ₁)	1.00									
	3848									
AGE (X ₂)	.050	1.00								
	.001	3845								
	3845									
MATERNAL SEPARATIONS (X ₃)	.002	.020	1.00							
	.458	.106	3848							
	3848	3845								
RELATIONSHIP TO MOTHER (X ₄)	-.023	-.017	-.217	1.00						
	.273	.325	.000	.680						
	680	680	680							
EMOTIONAL SUPPORT (X ₅)	.187	-.084	-.013	-.074	1.00					
	.000	.000	.227	.033	.000					
	3552	3549	3552	626	3552					
PROXIMITY TO MOTHER (X ₆)	-.131	.000	.118	-.208	-.086	1.00				
	.000	.496	.001	.000	.019	.000				
	642	642	642	635	588	642				
MARITAL STATUS (X ₇)	-.248	-.226	-.041	.112	-.057	-.065	1.00			
	.000	.000	.006	.002	.000	.050	.000			
	3848	3845	3848	680	3552	642	3848			
INCOME (X ₈)	-.172	-.320	-.073	.025	.046	.046	.460	1.00		
	.000	.000	.000	.280	.008	.008	.000	.000		
	2941	2941	2941	538	2726	2726	2941	2941		
DISABILITY (X ₉)	.022	.151	.035	-.054	.008	.040	-.121	-.280	1.00	
	.092	.000	.016	.085	.320	.159	.000	.000	.000	
	3659	3656	3659	648	3515	610	3659	2803	3659	
CAREGIVING (Y)	.012	-.114	-.041	.010	.078	-.197	.078	.099	-.063	1.00
	.228	.000	.006	.398	.000	.000	.000	.000	.000	.000
	3843	3840	3843	679	3843	640	3843	2936	3654	3843
M	.637	65.8	1.258	6.075	.664	.000	.500	20154	.000	.110
SD	.481	9.777	3.548	1.446	.857	2.246	.500	19153	1.739	.362

^a 1-tailed significance

^b Minimum N for pairwise correlations = 515

Table 4. Causal Model of Psychosocial Characteristics and Caregiving. Direct Effects^a --Listwise Deletion.

INDEPENDENT VARIABLES	DEPENDENT VARIABLES								
	4	5	6	7	8	9	CAREGIVE		
1. SEX	<i>-.0109</i>	<i>.1969***</i>	<i>-.1400***</i>	<i>-.1022*</i>	<i>-.0920*</i>	<i>-.1265**</i>	<i>-.0257</i>		
2. AGE	<i>-.0184</i>	<i>-.1087**</i>	<i>-.0118</i>	<i>.0067</i>	<i>-.1842***</i>	<i>.0041</i>	<i>.0982*</i>		
3. MATERNAL SEPARATIONS	<i>-.2164***</i>	<i>-.0605</i>	<i>.0655</i>	<i>-.0196</i>	<i>-.0395</i>	<i>-.0082</i>	<i>-.0703</i>		
4. RELATIONSHIP WITH MOTHER	<i>-.0831*</i>	<i>-.2152***</i>	<i>.1094*</i>	<i>-.0307</i>	<i>-.0550</i>	<i>-.0425</i>			
5. EMOTIONAL SUPPORT	<i>-.0839*</i>	<i>-.0204</i>	<i>.1255**</i>	<i>.0719</i>	<i>.0550</i>				
6. MATERNAL PROXIMITY	<i>-.0596</i>	<i>.0774</i>	<i>.1646***</i>						
7. MARITAL STATUS	<i>.4175***</i>	<i>.1150*</i>	<i>-.0299</i>						
8. INCOME	<i>-.3498***</i>	<i>.0231</i>							
9. DISABILITY	<i>-.0342</i>								
R ²	<i>.0475***</i>	<i>.0582***</i>	<i>.0829***</i>	<i>.0309**</i>	<i>.2374***</i>	<i>.1123***</i>	<i>.0456*</i>		

Note. Italicized coefficients match hypothesized direction of the relationship and are > .05

^a Standardized regression coefficients.

(n = 466)

*p < .05; **p < .01; ***p < .001

Table 4a. Causal Model of Psychosocial Characteristics and Caregiving. Direct Effects*-Pairwise Deletion.

INDEPENDENT VARIABLES	DEPENDENT VARIABLES								
	4	5	6	7	8	9	CAREGIVE		
SEX (X ₁)	-.0078	.1892***	-.1207**	-.2412***	-.0651	-.0235	-.0042		
AGE (X ₂)	-.0175	-.0744	-.0036	-.2145***	-.2203***	.0717	-.0821		
MATERNAL SEPARATIONS (X ₃)	-.2175***	-.0280	.0737	-.0090	-.0638	.0018	-.0171		
RELATIONSHIP TO MOTHER (X ₄)		-.0765	-.2007***	.0818*	-.0184	-.0366	-.0384		
EMOTIONAL SUPPORT (X ₅)			-.0773	-.0262	.0713	.0323	.0516		
PROXIMITY TO MOTHER(X ₆)				-.0807*	.0732	.0464	-.2000***		
MARITAL STATUS (X ₇)					.4019***	.0245	.0203		
INCOME (X ₈)						-.2746***	.0626		
DISABILITY (X ₉)							-.0248		
R ²	.0477***	.0462***	.0729***	.1247***	.2773***	.0883***	.0625***		

Note. (N = 3,848; Minimum pairwise N = 513).

* standardized regression coefficients.

** p < .05; *** p < .001

care (Beta = $-.1644$, $p < .001$). This measure is interpreted as the greater distancing, the *less* the proximity seeking. For pairwise deletion, the direct effect of maternal proximity on the number of care recipients was slightly larger (Beta = $-.2000$, $p < .001$). Attachment theory explains this finding as the more a person actively seeks proximity to aging mother, the more likely that person is to give care to others in addition to mother. This is because proximity seeking indicates an activated attachment system, especially with regard to threatened loss of the attachment figure. By virtue of her advanced age, the older person's mother is apt to be perceived by the adult child as in need of "protection" or "buffering" from the environment.

As hypothesized, maternal proximity is significantly related to respondent's sex, quality of relationship with mother, and the amount of emotional support received. Women maintain greater proximity to mothers than do men (Beta = $-.1400$, $p < .001$) (Again recall that proximity is reverse coded, higher scores mean greater distance, less proximity). The better the quality of relationship with mother, the greater the proximity to mother (Beta = $-.2152$, $p < .001$). The more emotional support received, the less the psychological and physical distance maintained from mother (Beta = $-.0839$, $p < .05$). (This latter relationship was not significant using pairwise deletion although it was of similar magnitude and the direction was as expected.)

Maternal Separations and Caregiving

Attachment theory posits that the young "learn" or develop empathy as a direct result of the internalization of the caregiving--attachment dyad. Persons who had fewer and less severe disruptions in the primary caregiving relationship (formed most typically with mother) may have had greater opportunity to develop inner working models of self and other that are conducive to feeling and expressing

empathy for others, an essential precursor of caregiving.

The effect of childhood separations from mother upon caregiving was in the expected direction for listwise deletions but was not statistically significant (Beta = $-.0703$, $p = .14$). For pairwise deletion the relationship was close to zero.

Although the direct effects of maternal separation on caregiving are not statistically significant, Table 5 shows that the total effects of "separations from mother" was the third largest factor in explaining caregiving variability. It is worth closer examination in future studies, if the data allows greater precision in measuring separations and other disruptions in early caregiver-infant bonds.

Insert Tables 5 and 5a here

In general, few variables had indirect effects that substantively or significantly caused the total effects to differ from the respective direct effect. Maternal separations during childhood was one exception. As shown in Tables 5 and 5a, the indirect effect of maternal separations upon current proximity to mother was sufficient to make the total effect statistically significant ($p < .01$). Recalling that proximity is reverse coded so that higher scores actually mean greater physical and symbolic distance, the positive correlation between childhood maternal separations and proximity to mother is interpreted as the more respondent was separated from mother during childhood, the greater the distance in respondent's current relationship with mother. This supports Bowlby's notion that the caregiving behavioral system is "deactivated" at least with respect to mother as an attachment figure when mother has failed to be a reliable and responsive caregiver. This effect

Table 5. Decomposition of Effects--Listwise Deletion. (N = 466)

Dependent Variable/ Independent Variables	Causal Effects ^a		
	Direct (A)	Indirect (B)	Total (A + B)
Support Received (X₅)/			
Sex (X ₁)	.1969***	.0013	.1982
Age (X ₂)	-.1087**	.0011	-.1076
Maternal Separations (X ₃)	-.0605	.0186	-.0419
Relationship With Mother (X ₄)	-.0831*	-----	-.0831
Proximity to Mother (X₆)/			
Sex (X ₁)	-.1400***	-.0134	-.1534
Age (X ₂)	-.0118	.0141	.0023
Maternal Separations (X ₃)	.0655	.0539	.1194
Relationship With Mother (X ₄)	-.2152***	.0079	-.2073
Support Received (X ₅)	-.0839*	-----	-.0839
Marital Status (X₇)/			
Sex (X ₁)	-.1022*	.0039	-.0983
Age (X ₂)	.0067	-.0009	.0058
Maternal Separations (X ₃)	-.0196	-.0319	-.0515
Relationship With Mother (X ₄)	.1094*	.0142	.1236
Support Received (X ₅)	-.0204	.0050	-.0154
Proximity to Mother (X ₆)	-.0596	-----	-.0596
Income (X₈)/			
Sex (X ₁)	-.0920*	-.0342	-.1262
Age (X ₂)	-.1842***	-.0098	-.1940
Maternal Separations (X ₃)	.0395	-.0920	-.0525
Relationship With Mother (X ₄)	-.0307	.0416	.0109
Support Received (X ₅)	.1255**	-.0189	.1066
Proximity to Mother (X ₆)	.0774	-.0119	.0655
Marital Status (X ₇)	.4175***	-----	.4175

Table 5. Decomposition of Effects--Listwise Deletion. (N = 466)

	Causal Effects ^a		
Disability (X ₉)/			
Sex (X ₁)	-.1265 **	.0384	-.0881
Age (X ₂)	.0041	.0635	.0676
Maternal Separations (X ₃)	-.0082	.0299	.0217
Relationship With Mother (X ₄)	-.0550	-.0036	-.0586
Support Received (X ₅)	.0719	-.0457	.0262
Proximity to Mother (X ₆)	.0653	-.0259	.0394
Marital Status (X ₇)	-.1150 *	-.0841	-.0309
Income (X ₈)	-.3498 ***	-----	-.3498
Caregiving (no. of care recipients past year)(Y)/			
Sex (X ₁)	-.0257	.0404	.0147
Age (X ₂)	.0982 *	-.0148	.0834
Maternal Separations (X ₃)	-.0703	-.0077	-.0780
Relationship With Mother (X ₄)	-.0425	.0243	-.0182
Support Received (X ₅)	.0550	.0179	.0729
Proximity to Mother (X ₆)	-.1646 ***	.0007	-.1639
Marital Status (X ₇)	-.0299	.0107	-.0192
Income (X ₈)	.0231	.0120	.0351
Disability (X ₉)	-.0340	-----	-.0340

^a Standardized regression coefficient

*p<.05; **p<.01; ***p<.001

Table 5a. Decomposition of Effects--Pairwise Deletion.

Dependent Variable/ Independent Variables	Causal Effects ^b		
	Direct (A)	Indirect (B)	Total (A + B)
Support Received (X ₅)/			
Sex (X ₁)	.1892***	-.0017	.1909
Age (X ₂)	-.0744	-.0009	-.0735
Maternal Separations (X ₃)	-.0280	.0166	-.0114
Relationship With Mother (X ₄)	-.0765	-----	-.0765
Proximity to Mother (X ₆)/			
Sex (X ₁)	-.1207**	-.0103	-.1310
Age (X ₂)	-.0036	.0081	.0045
Maternal Separations (X ₃)	.0737	.0444	.1181
Relationship With Mother (X ₄)	-.2007***	.0059	-.1948
Support Received (X ₅)	-.0773	-----	.0773
Marital Status (X ₇)/			
Sex (X ₁)	-.2412***	-.0035	-.2375
Age (X ₂)	-.2145***	-.0006	-.2139
Maternal Separations (X ₃)	-.0090	-.0270	-.0360
Relationship With Mother (X ₄)	.0818*	.0178	.0996
Support Received (X ₅)	-.0262	.0052	-.0210
Proximity to Mother (X ₆)	-.0807*	-----	-.0807
Income (X ₈)/			
Sex (X ₁)	-.0651	-.0910	-.1561
Age (X ₂)	-.2203***	.0892	-.3110
Maternal Separations (X ₃)	-.0638	-.0026	-.0664
Relationship With Mother (X ₄)	-.0184	.0203	.0019
Support Received (X ₅)	.0713	-.0136	.0577
Proximity to Mother (X ₆)	.0732	-.0324	.0408
Marital Status (X ₇)	.4019***	-----	.4019

Table 5a. Decomposition of Effects--Pairwise Deletion.

Dependent Variable/ Independent Variables	Causal Effects ^b		
	Direct (A)	Indirect (B)	Total (A + B)
Disability (X ₉)/	-.0235	.0380	.0145
Sex (X ₁)	.0717	.0784	.1501
Age (X ₂)	.0018	.0305	.0323
Maternal Separations (X ₃)	-.0366	.0096	-.0462
Relationship With Mother (X ₄)	.0323	-.0199	.0124
Support Received (X ₅)	.0464	-.0132	.0332
Proximity to Mother (X ₆)	.0245	-.1104	-.0859
Marital Status (X ₇)	-.2746***	-----	-.2746
Income (X ₈)			
Caregiving (no. of care recipients) past year)/			
Sex (X ₁)	-.0042	.0220	.0178
Age (X ₂)	-.0821	-.0317	-.1138
Maternal Separations (X ₃)	-.0171	-.0216	-.0387
Relationship With Mother (X ₄)	-.0384	.0383	-.0001
Support Received (X ₅)	.0516	.0184	.0700
Proximity to Mother (X ₆)	-.2000***	.0000	-.2000
Marital Status (X ₇)	.0203	.0272	.0475
Income (X ₈)	.0626	.0068	.0694
Disability (X ₉)	-.0248	-----	-.0248

^a Minimum n for pairwise correlations = 513

^b Standardized regression coefficient

*p < .05; **p < .01; ***p < .001

of childhood maternal separations from mother upon late life proximity to mother is important. Of all the model variables, maternal proximity explains the most variability in caregiving.

The total effect of childhood maternal separations on caregiving was not statistically significant, but for listwise deletions, (Beta = $-.0780$), it ranked third of the nine independent variables in accounting for caregiving variability. The more maternal separations experienced during childhood, the fewer persons to whom the respondent provided care.

I am not aware of any of the general caregiving literature that examines the relationship between childhood separations from mother and late-life caregiving. In terms of direct effects (see Table 4), childhood maternal separations were statistically significant in accounting only for relationship with mother (Beta = $-.2164$, $p = < .001$). In other words, the more respondent was separated from mother during childhood, the worse the respondent's rating of the current quality of relationship with mother. This was in the direction predicted and also held for pairwise deletion. Since maternal separations is an exogenous variable in this model, it is impossible to know if some other common variable(s) caused or contributed to both the separations(s) from mother and the relationship with mother. This is quite likely to be the case and should be addressed in future studies.

Emotional Support and Caregiving

Attachment theory suggests that persons with a secure base and safe haven

will be more able to give care to others. Because they have internalized an image of the original secure base, safe haven, which was provided by the mother (or primary caregiver), securely attached people are more likely to have successfully developed other adult relationships through which they receive ongoing social support. This enhances their ability to give care to others. Attachment theorists (Belsky & Isabella, 1988; Marris, 1991) have argued that the caregiver to the young need social support. Gerontologists have argued the same needs exist for caregivers to the frail elderly.

Although the effects were in the expected direction, emotional support did not account for a statistically significant amount of variation in caregiving in either listwise or pairwise deletion methods. This may have more to do with the limitations of the emotional support measure than with the actual relationship between emotional support and caregiving.

Emotional Support and Maternal Proximity

The more emotional support respondents received the closer symbolic and geographic proximity respondents maintained with their mothers, (Beta = $-.0839$, $p < .05$). Since elderly parents no longer play a role of primary social support for their adult children in terms of who these adult children approach for various types of assistance or moral support, it is assumed here that proximity seeking vis a vis the elderly mother is due to the respondent's desire to support and protect mother through maintaining presence. This is not to imply that the benefits of such protection are unidirectional. Caregivers also benefit to the extent they feel effective in this role.

Emotional Support and Sex

As hypothesized, sex was strongly linked with the amount of emotional

support received. Women reported receiving significantly more emotional support than did men (Beta = .1969, $p < .001$). This was supported across both listwise and pairwise deletion analyses. It is quite likely that this sex linked difference represents a reporting bias rather than an objective difference in how much emotional support was actually provided. Interestingly though, emotional support did account for a significant proportion of the variability in income. Those reporting higher incomes also receive more emotional support (Beta = .1255, $p < .01$).

It may be that women are more able or willing than men to recognize and report the forms of social support received. Men may underreport social support because it undermines the image of the self-sufficient, stoical, and independent self-made man, an image assumed to be particularly salient for these older male respondents than it is for younger cohorts of males.

Emotional Support and Age

It is interesting to note that for listwise deletion an increase in age accounted for a decline in received emotional support (Beta = -.0831, $p < .05$). It is not known whether this is due to an actual decrease in emotional support, or as may be the case with men, cultural factors that induce older people to greater stoicism or reduced acknowledgment of received emotional support. Alternatively, emotional support may be reduced because with age, friends and family members have moved away, died, or grown frail. It might also be due to the absence of co-workers for retirees.

Emotional Support and Income

As an indicator of the attachment concepts secure base and safe haven, emotional support was expected to contribute positively to a person's total income. The model supported this (Beta = .1255, $p < .01$). People who are able to make

effective use of social support are more likely to have a secure attachment style. As stated in Chapter II, secure attachment is associated with more effective exploratory behavior and fewer problems in "personal adjustment" both in school and the work place. If securely attached persons are more suited for niche exploitation, they are more likely to secure adequate incomes and to optimally utilize and invest that income.

Emotional Support and Disability

It was hypothesized that emotional support would negatively affect disability, or in other words, emotional support would have a positive effect on respondents' health. This is because sensitive, effective, and timely social support, as one aspect of the adult's secure base and safe haven, would strengthen the individual's immune system. It might also provide a network of persons with whom respondents would discuss health problems as they arise and these people would in turn prompt respondents to seek medical care early. People receiving emotional support are thought to also enjoy an enhanced sense of self and other. This would promote feelings of well-being and belonging, and commitment to others, which in turn would serve to minimize certain self-destructive and risk-taking behaviors that, over the life course have a cumulative negative effect on health.

This hypothesis was not supported by the data. Both the direct and total effects of emotional support on disability were statistically insignificant for both listwise and pairwise deletion. Furthermore, they were not in the hypothesized negative direction but were positive.

The absence of a relationship between emotional support and disability may be due to the way emotional support was measured rather than the actual relationships between constructs. The emotional support measure only refers to emotional or

moral support received during the month previous to the interview from persons not co-residing with the respondent. It is doubtful that this one month duration preceded respondents' disabilities. Further, the disabled persons may be more restricted to the home and this would then reduce the amount of emotional support they are likely to receive from persons outside the household.

Marital Status and Caregiving

Marital status is one indicator, of the availability of at least one attachment figure for a respondent. "Happy" marriages (as 89% of the married respondents rated their marriages) may function as an especially potent form of social support. With the secure base and safe haven, a "happy" marriage presumably provides, respondents' ability to utilize resources would be enhanced. Given sufficient resources, respondents were expected to give care to more people. The caregiving literature would also generally support a positive correlation between marital status and caregiving. Contrary to the model, marital status did not account for any of the variability in caregiving in either types of deletion.

Age, Sex, and Marital Status

In late adulthood, age influences marital status ($\text{Beta} = -.2145, p < .001$): the older people are, the more likely they are to be single, either through divorce or widowhood. Because older men are more likely to be married than are older women ($\text{Beta} = -.2412, p < .001$), sex suppresses the effect of age on marital status.

Attachment theory does not state whether the capacity for bonding increases or decreases or what transformations it might take in maturity. It is possible that people have less inclination to marry or remarry as they age. This could be due to developmental changes in the forms of bonding, and it certainly could be attributed to social, economic, and reproductive pressures.

Marital Status and Mother

Attachment theorists have said the child's relationship with the primary caregiver, usually mother, provides the context and model for child's emergent sense of self, other, and world. Obviously this would then affect individuals' later intimate relationships, particularly marriage. The higher respondents rated relationship with mother, the more likely they were to be married (Beta = .1094, $p < .05$).

There was also a positive effect of proximity to mother on marital status (Beta = -.0807, $p < .05$) although this was only significant for the pairwise deletion. In other words, the greater the symbolic and physical distance people keep from mother, the more likely they are to be unmarried in the latter half of life. Presumably this is due to the inner working models of self and other that first originated in the attachment bond with mother and continue to affect intimate bonds with both mother and spouse in later life.

Attachment Neutral Variables

Age and Caregiving

It was hypothesized that older people in this sample would give less care than do younger, or middle aged respondents, based on the gerontological literature. Attachment theory does not specify caregiving behavior in late life other than to hypothesize that it continues in some form throughout the lifespan.

The model gives contradictory evidence for the link between age and caregiving. For listwise deletion (Beta = .0982, $p < .05$), the data are opposite the predicted direction. In other words, in this subsample, the older one gets, the more apt one is to give care to more people. However, for pairwise deletion, the hypothesized direction between age and caregiving was confirmed though the

relationship was not significant ($\text{Beta} = -.0821, p = .08$). The most probable explanation for this seeming contradiction is that, across the lifespan, caregiving is curvilinear. As a person matures, she or he acquires more family and other social responsibilities, one being caregiving to dependent others. With maturity, people are more capable of meeting the demands of others, yet in early old age (before 65 in this sample), people begin to give care to fewer people. This may be due to their own failing health, the loss of parents, spouse, or others in need of their care, or a combination to these and other factors.

Attachment theorists state that attachment persists into late old age and probably throughout the entire lifespan. As a developmental model, attachment behaviors/caregiving behaviors are not static but take different forms and different "goals" over time. It is possible that with advanced age, attachment/caregiving bonds with others weaken and/or take new forms (e.g., attachment to place or pets). Identifying these alternate forms of attachment was beyond the scope of this study. The gerontological literature suggests that it is not chronological age that contributes to a reduction (if any) in caregiving, but other factors such as the caregivers' declining health that accounts for the relationship. However, the model certainly does not support this interpretation. Both disability and income had extremely weak and statistically insignificant effects on caregiving.

Income, Disability, and Caregiving

The hypothesis that higher income would contribute to better health (or less disability and illness) was confirmed ($\text{Beta} = -.3498, p < .001$). Higher income is associated with better nutrition, housing, and medical care, as well as higher levels of education and these all contribute to better health.

I hypothesized that higher incomes would be associated with more care

recipients per respondent. Although pairwise deletion yielded a modest positive relationship between income and caregiving (Beta = .0626), neither it nor listwise deletion were statistically significant and so the hypothesis was not supported.

Based on gerontological assumptions influenced by exchange theory, the greater the respondent's level of disability, the fewer people to whom he or she could and would give care. Although in both types of deletions the correlation was in the direction predicted, the respondent's disability level had essentially no effect on the amount of caregiving, at least in terms of the number of persons to whom the person provided care.

Neither disability nor income are attachment-related variables. They were included in the model as plausible alternative psychosocial factors affecting the variability of caregiving. It is interesting that respondent's age *does* account for a statistically significant decrease in the proportion of the decrease in caregiving, and disability and income do not, given that the latter measures are what gerontologists might first suspect underlie an age-based decrease.

Sex and Caregiving

Because both men and women are equally likely to have secure attachments, they would be equally likely to give care, all things being equal, according to attachment theory. Nevertheless, attachment theorists, as have most child developmentalists, have long observed that for reasons not yet fully understood, it is women who most frequently serve as primary caregivers to infants. Parallel with this observation, gerontologists have documented that women perform the greatest amount of caregiving to the frail elderly. Therefore I hypothesized that sex has a direct influence on the number of people to whom a person provides care.

This hypothesis was not supported by the data. In fact the data showed there

was almost no relationship at all between sex and this measure of caregiving for either listwise or pairwise deletion.

CHAPTER V--DISCUSSION

Purpose

In this study I assessed the extent to which psychosocial characteristics, within the context of theory driven model, explained the variation in caregiving to numbers of frail or ill persons. I applied some of the concepts and assumptions of the Bowlby-Ainsworth Attachment theory to two previously unexplored domains--(a) the mother-child bond in both childhood and late adulthood, and (b) late life caregiving. I sought to answer the following questions:

- a) What are the direct and indirect effects of extended childhood separations from mother in explaining later life caregiving?
- b) To what extent do dimensions of adult attachment explain caregiving behavior?
- c) What are the interactive effects of childhood and adult attachment dimensions with structural variables on later-life caregiving?

Beyond these general research questions, the hypothetical path model (See Figure 3 in Chapter III) specified the expected direction of the direct effects of the relationship between variables.

It is a truism among gerontologists that elderly adults are more heterogeneous than their younger counterparts. This complicates the study of caregiving in late life. Unlike children who are by definition dependent on others for care, most elderly persons neither require nor give personal care to others. For those who do give care, there are numerous, perhaps competing, reasons for giving or withholding care, making it difficult to attribute caregiving to one or two single factors.

Major Findings

Two of the attachment concepts showed statistical and substantive

significance in explaining a small amount of the variation in caregiving behavior. These indicate that proximity to the primary caregiver throughout childhood and proximity to attachment figures in later adulthood may influence the provision of care in late life. If caregiving is seen as a specific type of prosocial behavior requiring investment of self (commitment), it follows that proximity to attachment figures, during both early and late life, facilitates and engenders prosocial behavior, both in the self and other. The mechanisms by which this occurs need to be tested further with other measures of caregiving and prosocial behaviors.

Proximity appears to be a more sensitive measure for attachment related constructs than is the more global concept, "quality of relationship." This is in part due to the proximity measure's inclusion of respondent-initiated proximity maintenance such as letters and phone calls. This, and other component behavioral measures such as residential proximity and visits to mother, distinguish between persons with avoidant and secure attachment styles.

As modestly as the attachment-related variables performed in explaining caregiving behavior, structural variables such as income, health and sex, were even less helpful in explaining caregiving variability. One exception was the effect, both total and direct, of age on caregiving. The negative effect of age on caregiving was not attributable to poor health or reduced income.

The gerontological literature suggests that it is not chronological age that contributes to a reduction in caregiving, but usually other factors such as the caregivers' declining health that confound the relationship between age and disability. The data in the present analysis do not support this interpretation, however. Both disability and income had essentially no effect on caregiving. The absence of effects of income and disability upon caregiving indirectly supports

attachment theory as an alternative motivational factor in caregiving.

Bowlby posited that the attachment/caregiving behavioral system are universal, cutting across all social classes and all income levels. The theory does not explicitly address an association between income and caregiving in terms of number of care recipients, although some researchers have suggested the quality and stability of care may decrease under austere and stressful conditions.

Gerontological researchers have examined caregiving and income primarily in terms of exchange or equity theory. Some have suggested financial reimbursements as incentives or compensation to persons providing care. The assumption is that money or other material compensation is a motivator for human caregiving. The data here seem to point out that some motivator other than material reward is at work in human caregiving. Attachment theorists suggest proximity maintenance to the attachment figure is a primary motivator for caregiving. Proximity maintenance serves the evolutionary- based need for mutual protection and enhances the chances of survival. The relative strength of the proximity variable lends support to the attachment and caregiving behavioral systems as prime motivators of caregiving behavior in later adulthood.

Sex obviously differentially affected certain model variables such as proximity to mother and received emotional support. The model appears to have a better fit for explaining female caregiving than it does male caregiving behavior. It is surprising and somewhat dubious that men claimed to give care to as many care recipients as did women. This contradicts most previous research. Using the same NSFH sample but a different measure of caregiving, I found that women provide far more *hours of care* than did men. It may be that the care the men reported giving was a singular event, or perhaps they felt a sense of sponsorship or vicarious

participation in experience the care their wives, sisters, or employees performed. A third possible explanation is that men provided care in ways that have been overlooked in this and previous research.

Contributions to the Literature

This study contributes to the gerontological caregiving literature by providing a theoretical framework to an area plagued with atheoretical studies. In addition to the provision of relatively well-developed constructs, attachment theory with its multidisciplinary origins provides a framework for integrating research on seemingly disparate topics. In this specific study, an interdisciplinary linkage is begun by placing caregiving within the perspective of the lifespan development of prosocial behavior. It can easily be extended to incorporate experimental studies involving the neurophysiology of attachment as well as qualitative approaches.

Limitations

Real or threatened separations from mother during early childhood are one of the "classic" causes of disruptions in the attachment bond first identified by Bowlby. In order to maintain maximum possible sample size for correlations, my measure included separations through age 17 rather than the early childhood separations emphasized by Bowlby. Although it is reasonable to assume mother retains an important role in the child's socio-emotional development at least through early adulthood, beginning in early childhood and increasingly throughout the teen years, people are thought to transfer their exclusive attachment with mother to a hierarchy of other attachment figures. The effect of maternal separations summed over 17 years is presumably a diluted measure of maternal separations at an earlier age.

Another weakness in the maternal separations measure is the inability of many

people to recall separations from mother, especially those that occurred during the more critical early years. This measure only captures people who have been told by others that they underwent a prolonged separation from mother. Furthermore, the measure does not include people who may have had separations from mother lasting less than four months at a time. Attachment theory and empirical research are quite clear that separations of much shorter duration--even a few minutes--elicit in most young children the beginning of the separation distress response.

Because maternal separations was an exogenous variable in this model, it is impossible to know if some other common variable(s) caused or contributed to both the separation(s) from mother and the relationship with mother. A poor relationship with mother may be due more to the underlying reasons for the separations than the separations themselves. This is quite likely to be the case and should be addressed in future studies.

The Multiple R^2 's shown in Table 4 reveal one of the major limitations of this explanatory model. The R^2 for caregiving is only .0456, ($p < .05$) using listwise deletion, and .0635 ($p < .001$) for pairwise deletion. In other words, the model explains only 4.6% to 6.4% of the variability in caregiving as it is measured here, the number of care recipients per respondent. Much of this may be due to the model variables being confined to caregivers' psychosocial characteristics. Explanatory power would surely be improved if the model included transactional factors such as information regarding care recipients and their relationship to both actual and potential caregivers.

Implications for Practice

The limited ability of this model should caution service providers and policy makers who too often lapse into thinking that if someone is providing "too much" or

"too little" care to others, the "problem" is vested in the individual. This thinking leads to interventions at the level of the individual and dyad, typical of most counseling and program interventions. A macro-level approach may be more appropriate even though it is more difficult to accomplish. Professionals need to avoid quick conclusions as to the "why" someone is behaving as they are but instead proceed slowly and recognize the limitations of our present theoretical understanding of human bonds. It is premature to speak of "codependents," and "compulsive caregivers" and "enmeshment" as if the "problem" of caregiving burden lay within the individual or dyad. Although the use of specialized terminology may serve to bolster professional's need for certainty and control in ambiguous situations, a premature rush to define or "reframe" a caregiving relationship will do little to help people identify their needs within that bond.

Despite the inability of the attachment related constructs to explain a substantive amount of the variation in propensity to give care in late life, they still did better than the structural variables. The importance of caregiving to attachment is obvious when one considers it is the quality of caregiving that is thought to be the most critical determinant of both attachment and all subsequent personality and emotional development (Belsky & Nezworski, 1988). As more knowledge about normal and optimal social behavior accumulates, this should suggest interventions to growing social problems. Abuse and neglect, sociopathy, and mood disorders are all characterized by a diminution or absence of prosocial and bonding behaviors. They, as well as a host of other problems, have been characterized as possible attachment disorders. Understanding the precipitant events and the underlying mechanism of these conditions should eventually result in intervention and preventive measures.

Implications for Research

Little is known about the attachment/caregiving behavioral system in young adulthood and even less in later adulthood. This study addressed that need but certainly further research is warranted. The data supported the hypothesis that age contributes to a decrease in caregiving that was not attributable to poor health or reduced income. This raises the question: do bonding behaviors decline with age and if so, under what conditions? If there is a decreased bonding with age there may be a neurophysiological basis. Research has linked the endogenous opioid system in attachment behaviors (Kalin, Shelton, & Barksdale, 1988; Panksepp, Sivey, & Normansell, 1985) and these are thought to undergo age-related changes (Laping, Dluzen, & Ramirez, 1990).

Attachment theory does not state whether the capacity for bonding increases or decreases or what transformations it might take in maturity. It is possible that people have less inclination or ability to form new bonds as they age. This could be due to developmental changes in the forms bonds take. It could also be attributed to social, economic, and reproductive pressures. Constructs in this model such as attachment and caregiving behavioral systems, social support, and proximity are latent; they cannot be directly observed but can be measured by number of observed variables. Future studies would benefit from a more powerful analytical tool such as that found in structural equation analysis.

Such a method could account for measurement error, of obvious benefit given that it is these measures are not without error. Beyond this, future studies could focus on the development of more reliable and valid measures of such multidimensional constructs as "disruptions in childhood attachment," "social support as a secure base," and "caregiving."

As discussed earlier, given the multiple sources of measurement error in the variable of maternal separations, it is reasonable to assume the relationship would be stronger if future studies could minimize the sources of error. Such studies should examine total effects not just direct effects as maternal separations appears to operate indirectly more so than directly, at least on such variables as income, disability and marital status. For listwise deletions, the indirect effects of maternal separation were much larger than its direct effects, and sometimes larger than its total effects as in the case of income regressed on maternal separation (See Table 5.)

A cross-sectional design as was used here cannot detect age-related changes but can only compare members of older and younger age groups with one another. Differences between groups may be due to factors other than age. For example, historical and environmental events may affect one cohort differently than another. When the second wave of the NSFH survey is available, it will be possible to compare changes in the same individuals over time. If there is indeed a decrease in caregiving with age, it may be that the caregiving behavioral system as well as the propensity for forming new attachments do not simply progressively weaken with age, but are transformed into new expressions of attachment. If such a change is detected, it will be important to differentiate between chronological age and the many factors such as health and socioeconomic status that often confound studies of aging and "decline."

It may also be that older people simply find new ways to express care that do not show up with such gross measures as used here. Such a reduction in the caregiving behavioral system, if it exists at all, would not necessarily be detrimental, it may serve some adaptive function. For example, if adults, as they age, are more

likely to entertain questions and concerns over spiritual and religious matters, this may indicate a developmental transformation of attachment. Several theorists have suggested bonds are transferred and extended from first oneness with mother, with other family members, with peers, with lover, with children, with community and the future, to attachment to metaphysical "truths" (McAdams, 1988; Pearce, 1977; Viorst 1986). Detecting the patterns of such transformations, if they exist at all, requires further study, preferably combining multimethod approaches. Longitudinal studies, and content analysis of life histories gathered through in depth interviews would be helpful in detecting if such transitions take place.

Conclusions

In this study I tested a causal model between disruptions in childhood attachment, dimensions of adult attachment, and caregiving in later life. Previous studies on late life caregiving did not include attachment related variables from both childhood and current adult attachments. With the exception of Cicirelli's (1983) study on adult children's helping behaviors toward parents, there have been no attachment theoretical studies examined caregiving in late life. This study begins the process of filling a large void in both the attachment and the gerontological caregiving literatures. It also builds on a much larger literature linking early life experiences with developmental outcomes in adulthood.

In addition to contributing to basic research in a number of topical domains, an attachment driven model of caregiving can alternately inform decision makers and their constituents in the formulation of a more humane social environment. Much as people evaluate new construction in terms of its environmental impact, they could benefit from evaluating existing policy and procedure in terms of its "human bonding impact." The giving and receiving of care is a developmental process

essential for the effective functioning of both individuals and societies. For too long caregiving and care taking have been confined to either ends of the life spectrum, associated with dependency and not coincidentally, with women, children, elderly persons and that other spectre--poor people. This is an illusory segregation, however. The empathy, interdependence, and commitment that undergird caregiving are essential to the well-being of all humans at all ages.

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APPENDIX A: CONSTRUCTED VARIABLES

CRITERION VARIABLE

CAREGIVING

Reference Question:

Q.37 Sometimes people help take care of relatives who are seriously ill or disabled, and who do not live with them. Have you provided such care at any time during the last 12 months?

RECODE

m37num

(0 = 0) (1 = 1) (2 = 2) (3 = 3) (4 = 4) (ELSE = SYSMIS) INTO m37numr .

VARIABLE LABELS m37numr 'Number of persons not in household R cared for'.

RENAME VARIABLES (m37numr = carerec)

INDEPENDENT VARIABLES

X₁ SEX

RECODE

m2dp01

(1 = 0) (2 = 1) INTO sex

VARIABLE LABELS sex "R's sex".

VALUE LABELS sex

0 "male"

1 "female"

X₂ AGE

RECODE

m2bp01

(97 through 98 = SYSMIS) (ELSE = Copy) INTO AGE

VARIABLE LABELS AGE "r's age".

X₃ MATERNAL SEPARATIONS

VARIABLE LABEL for MSEPTOTL: # of times, from birth through age 17, R reported separations from mother lasting 4 months or more.

VALUE LABELS MSEPTOTL

0 "never separated through age 17"

1 "separated at least 1 time for at least 4 mo."
 17 "separated at least 17 times for at least 4 mo."

.

RECODE

biom1 biom10 biom11 biom12 biom13 biom14 biom15 biom16 biom17 biom2
 biom3 biom4 biom5 biom6 biom7 biom8 biom9 biombir
 (1=0) (6=0) (2=1) INTO msep1dm msep10dm msep11dm msep12dm
 msep13dm msep14dm msep15dm msep16dm msep17dm msep2dm msep3dm
 msep4dm msep5dm msep6dm msep7dm msep8dm msep9dm msepbird .

VARIABLE LABELS biombir to biom17

1 circled (*lived with mother at birth re: M44*)
 2 not circled (*did not live with mother at birth*)
 6 inapplicable (*lived with mother from birth to age 17*)
 9 no answer (*no codes entire row-missing values*)

Note: There are no frequencies for the value of "9" in this sample. This is presumably due to only .37% of the total original sample fell in this category.

VARIABLE LABELS 'maternal sep' /msepbird 'dummy maternal separation at birth.

Compute

MSEPTOTL = SUM(msepbird,msep9dm,msep8dm,msep7dm,msep6dm,msep5dm,msep4dm,msep3dm,msep2dm,msep10dm,msep11dm,msep12dm,msep13dm,msep14dm,msep15dm,msep16dm,msep17dm,msep1dm).

X₄ RELATIONSHIP WITH MOTHER

RECODE

e1304

(96 to 99 = SYSMIS) (ELSE = Copy) INTO RELMTHR

VARIABLE LABELS relmthr 'quality of relationship with mother'

VALUE LABELS relmthr

1 "very poor"
 2
 3
 4
 5
 6
 7 "excellent"

.

X₅ EMOTIONAL SUPPORT RECEIVED

VARIABLE LABELS spprtrcd '# of types of relationships from whom R received

advice and moral support'.

VALUE LABELS spptrcd

- 0 "rcv'd advice/moral support from no one"
- 1 "rcv'd advice/moral support from 1 relationship category"
- 5 "rcv'd advice/moral support from 5 relationship categories"

VARIABLE LABELS E219E1 TO E219E5 Advice,encouragement, moral or emotional support recv'd from whom during past month

- e219e1 Friends, neighbors, coworkers
- e219e2 Sons or daughters (19 and over)
- e219e3 Parents
- e219e4 Brothers/sisters
- e219e5 Other relatives

VALUE LABELS E219E1 TO E219E5

- 1 circled
- 2 blank
- 7 refused
- 9 no answer

RECODE

e219e1 e219e2 e219e3 e219e4 e219e5
 (1=1) (2=0) (ELSE=SYSMIS) INTO e219e1dm e219e2dm e219e3dm
 e219e4dm e219e5dm .

COMPUTE

SPPRTRCD
 SUM(e219e1dm,e219e2dm,e219e3dm,e219e4dm,e219e5dm).

X₆ MATERNAL PROXIMITY

VARIABLE LABELS E1307A 'How often see mother past year' and E1307B "How often R writes or phones mother'

VALUE LABELS E1307A to E1307B

- 0 Mother lives with R
- 1 not at all
- 2 about once a year
- 3 several times a year
- 4 1-3 times a month
- 5 about once a week
- 6 several times a week

96 inapplicable
 97 refused
 98 don't know
 99 no answer

RECODE

e1307a e1307b

(1 = 0) (2 = 1) (3 = 2) (4 = 3) (5 = 4) (6 = 5) (ELSE = SYSMIS) INTO
 MPROXSEE MPROXSYM

VALUE LABELS MPROXSEE and MPROXSYM

0 "not at all"
 1 "about once a year"
 2 "several times a year"
 3 "1-3 times/mo"
 4 "about once/wk"
 5 "several times/wk"

RECODE

MPROXSEE and MPROXSYM

(5 = 0) (4 = 1) (3 = 2) (2 = 3) (1 = 4) (0 = 5) INTO
 RMPRXSEE and RMPRXSYM

RECODE

E1305

(9994 TO 9999 = SYSMIS) (ELSE = copy) INTO
 MPROXRES

VALUE LABELS Miles R lives from mother.

1

8000

.

CONVERT RMPRXSEE, RMPRXSYM and MPROXRES TO ZCORES: ZRMPRXSE,
 ZRMPRXSY, ZMPROXRE.

COMPUTE

MPROX = SUM(ZMPROXRE,ZRMPRXSE,ZRMPRXSY).

X₇ MARITAL STATUS

Variable labels M2CP01 'Marital status of respondent'

Value labels

1 married

2 separated
 3 divorced
 4 widowed
 5 never married

RECODE
 (1 = 1) (2 = 0) (3 = 0) (4 = 0) (5 = 0) INTO
 MARRGDM

VALUE LABELS MARRGDM
 1 married
 0 single

X₈ INCOME

VARIABLE LABELS ictot2mv "couple's total income" /irtot2mv "R's total income".

RECODE
 ictot2 irtot2
 (900000 to 9999999999 = SYSMIS) (ELSE = Copy) INTO ictot2mv irtot2mv .

Compute INCTOTAL =
 IF (m2cp01 = 1) inctotal = ictot2 .

IF (m2cp01 > 1) inctotal = irtot2 .

Variable labels M2CP01 'Marital status of respondent'

Value labels
 1 married
 2 separated
 3 divorced
 4 widowed
 5 never married

VARIABLES = inctotal
 VARIABLE LABELS inctotal "total income".

COMPUTE
 INCTRM1 = INCTOTAL IF INCTOTAL < OR = \$100,000.

X₉ DISABILITY

MISSING VALUES e207 TO e207 ("6" to "9").

RECODE
 e207
 (1 = 5) (2 = 4) (3 = 3) (4 = 2) (5 = 1) (ELSE = SYSMIS) INTO e207rvrs .

VARIABLE LABELS e207rvrs 'health reverse coded'.

VALUE LABELS e207rvrs

1 "excellent"

5 "poor"

MISSING VALUES e211a TO e211f ("6." TO "9.").

Q. 11 Do you have a physical or mental condition that limits your ability to:

E211A Care for personal needs, such as dressing, eating, or going to the bathroom?

E211B Move about inside the house?

E211C Work for pay?

E211D Do day-to-day household tasks?

E211E Climb a flight of stairs?

E211F Walk six blocks?

Responses for E211A-E211F

1=yes

2=no

7-refused

9-no answer

RECODE

e211a e211b e211c e211d e211e e211f

(1 = 1) (2 = 0) (ELSE = SYSMIS) INTO e211adm e211bdm e211cdm e211ddm
e211edm e211fdm .

COMPUTE

E211SUM

=SUM(e211adm,e211bdm,e211cdm,e211ddm,e211edm,e211fdm)

Transform and save e211sum as ze211sum and e207rvrs as ze207rvs

COMPUTE zillness = SUM(ze207rvr,ze211sum).

RENAME VARIABLE (zillness = Disability).

VITA

Rhoda Hurst Rojiani received her Masters in Social Work from Virginia Commonwealth University and a Bachelors in Anthropology from San Diego State University. Her social work practice experience includes home health, hospice, nursing home, family counseling in juvenile and domestic relations, and directing a Big Brother/Big Sister program. Her research interests currently focus on applications of attachment theory to late life caregiving, prosocial development, and implications of these for physical and mental health. In January, 1994, she will assume a faculty position with joint appointments in the Departments of Gerontology and Social Work at the University of South Florida.

A handwritten signature in black ink that reads "Rhoda Hurst Rojiani". The signature is written in a cursive style with a large initial 'R' and a long, sweeping tail on the 'i'.