Personality, relationship closeness and loneliness of the oldest old and their children

M. Valora Raiser
Iowa State University

Follow this and additional works at: https://lib.dr.iastate.edu/rtd

Part of the Family, Life Course, and Society Commons, Gerontology Commons, and the Personality and Social Contexts Commons

Recommended Citation
https://lib.dr.iastate.edu/rtd/12232
INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor MI 48106-1346 USA
313/761-4700 800/521-0600
Personality, relationship closeness and loneliness of the
oldest old and their children

by

M. Valora Raiser

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

DOCTOR OF PHILOSOPHY

Major: Human Development and Family Studies (Life Span Studies)

Major Professor: Peter Martin

Iowa State University

Ames, Iowa

1997
This is to certify that the doctoral dissertation of

M. Valora Raiser

has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.

Major Professor

Signature was redacted for privacy.

For the Major Program

Signature was redacted for privacy.

For the Graduate College
# TABLE OF CONTENTS

**LIST OF FIGURES** iv  
**LIST OF TABLES** v  
**ACKNOWLEDGEMENTS** vii  
**ABSTRACT** viii  

**CHAPTER I  INTRODUCTION** 1  
- Statement of Purpose 1  
- Related Literature 5  
- Rationale 21  

**CHAPTER II  METHOD** 24  
- Overview 24  
- Sample 24  
- Measures 32  
- Procedure 44  
- Data Analyses 46  

**CHAPTER III  RESULTS** 52  
- Pilot Study 52  
- Questionnaire Results 57  
- Interview Results 80  

**CHAPTER IV  DISCUSSION AND CONCLUSION** 108  
- Generational Differences 109  
- Within-Generation Predictions 114  
- Cross-Generational Effects 122  
- Relationship Closeness Viewed from the Perspective of Qualitative Findings 123  
- Conclusions 127  
- Limitations 129  
- Future Directions 130  
- Implications 131  

**APPENDIX A  QUESTIONNAIRE AND INTERVIEW OUTLINE** 133  
**APPENDIX B  COVARIANCE MATRIX** 151  
**REFERENCES** 154
LIST OF FIGURES

Figure 1. A conceptual model predicting loneliness of oldest old adults (G1) and their adult children (G2). 5

Figure 2. Example of relationship closeness between oldest old adults and their adult children over their shared life span. 6

Figure 3. Basic path model predicting loneliness of oldest old adults and their adult children. 48

Figure 4. Mean group differences between oldest old adults' and adult children's perceptions of relationship closeness over time. 60

Figure 5. A model of predictors of oldest old adults’ and adult children’s loneliness. 66

Figure 6. Final model describing predictors of oldest old adults’ loneliness. 76

Figure 7. Final model describing predictors of adult children’s loneliness. 78

Figure 8. A model comparing oldest old adults and their adult children on predictors of relationship closeness and loneliness (adult children’s coefficients are in parentheses). 80

Figure 9. Relationship life line paths drawn by a parent and corresponding child. 102

Figure 10. Relationship life line paths drawn by siblings. 104

Figure 11. Relationship life line paths drawn by a parent for two children. 106
LIST OF TABLES

Table 1  Participants Characteristics  28
Table 2  Mean Participant Characteristics (Standard Deviations in Parenthesis)  30
Table 3  Measures for Attachment, Solidarity, Loneliness, Relationship Closeness, and Seven Control Variables  33
Table 4  Mean Differences in Attachment Style, Solidarity, Personality, Loneliness, and Control Variables  59
Table 5  Intergenerational Differences on Relationship Closeness for Oldest Old Adults and their Children  61
Table 6  Correlation Matrix of the Variables from Oldest Old Adults (Above the Diagonal) and from Adult Children (Below the Diagonal)  62
Table 7  Path Analysis of Oldest Old Adults' Loneliness, Solidarity, and Attachment  68
Table 8  Path Analysis of Oldest Old Adults’ Loneliness, Solidarity, and Attachment with the Inclusion of Control Variables  69
Table 9  Path Analysis of Adult Children’s Loneliness, Attachment, Personality, and Solidarity  70
Table 10  Path Analysis of Adult Children’s Loneliness, Attachment, Personality, and Solidarity with the Inclusion of Control Variables  71
Table 11  Path Analysis of Oldest Old Adults’ Loneliness Predicted by Adult Children’s Attachment, Solidarity, and Personality  72
Table 12  Path Analysis of Oldest Old Adults’ Loneliness Predicted by Adult Children’s Attachment, Solidarity, and Personality After Inclusion of Control Variables  73
Table 13  Path Analysis of Adult Children’s Loneliness as Predicted by Oldest Old Adults’ Attachment, Solidarity, and Personality  74
Table 14  Path Analysis of Adult Children’s Loneliness as Predicted by Oldest Old Adults’ Attachment, Solidarity, and Personality After Inclusion of Control Variables 75

Table 15  A Trimmed Model of Predictors of Oldest Old Adults’ Solidarity, and Loneliness 76

Table 16  A Trimmed Model of Predictors of Adult Children’s Solidarity and Loneliness 79
ACKNOWLEDGEMENTS

I am deeply appreciative of the support and direction that I have received from my major professor, Dr. Peter Martin. He not only has efficiently directed me through the process of this research, but he has been a role model for me on how to “be” a researcher. I have especially appreciated his commitment to integrity and to being an educator. The hours he willingly spent with me in discussion and in review of my work are sincerely appreciated. In addition, I sincerely thank my committee members who have not only been proficient in giving me direction through this process, but have been warmly supportive. A sincere “thank you” to Dr. Steven Garasky, Dr. Harvey Joanning, Dr. Joyce Mercier, and Dr. Daniel Russell.

I would also like to express my appreciation to Will, my husband, for his love, encouragement, patience and support through this long process.
ABSTRACT

The purpose of this study was to examine parent-child relationships in late life. The design of the first part of the study was quantitative. The sample consisted of 100 parent-child dyads. Personality, attachment, and dimensions of solidarity were hypothesized to predict loneliness for oldest old adults (i.e., 85 years of age and older) and their adult children. The design of the second part of the study was qualitative. Members of four intergenerational family units (i.e., parents and all children) were interviewed in order to explore factors that influenced relationship closeness over the life span.

Results from the quantitative study indicated that affective solidarity negatively predicted oldest old adults' loneliness, while depression (a control variable) positively predicted loneliness. Attachment positively predicted affective solidarity, while anxiety negatively predicted affective solidarity. Adult children's loneliness was predicted by associative and normative solidarity, extraversion, as well as by the quality of friendships and depression. Attachment positively predicted affective, associative and normative solidarity.

In addition to personality, affection, association, and expectations, the qualitative study identified the following factors that influenced relationship closeness of oldest old adults and their adult children: life events, education, financial status, friendships, marriage, social roles of parents and children, and individual and environmental factors.

Results from this study indicate that oldest old adults perceive relationships to be closer than do their adult children. Anxiety negatively predicts affective relationships for oldest old adults but not for their adult children. Based on a reduced number of close relationships and the high "stake" oldest old adults have in their children, affectionate
relationships with children are of prime importance for reducing loneliness. In contrast, it is association with parents, fulfillment of filial obligations, extraversion, and friendships that reduce adult children's loneliness.
CHAPTER I
INTRODUCTION

Statement of Purpose

The purpose of this dissertation was to examine parent-child relationships in late life. What do relationships in the past reveal about current relationships of oldest old adults and their adult children and how might those relationships be related to loneliness? In the first part of the study, loneliness of oldest old adults and their adult children was hypothesized to be predicted by the quality of perceived attachment during adult children's childhood and by solidarity in the current relationship.

The second part of this research retrospectively assessed the relationship closeness of oldest old adults and their children based on experiences over their shared life span (Birren, 1993; Burnside, 1996). Knowledge based only on current circumstances is not enough; the current relationship between oldest old adults and their adult children is a continuation of an integrated process that began in childhood and continues through adolescence on into adulthood (Ruth & Oberg, 1996). In order to gain some understanding of what affects relationship closeness over the life span of parents and children, case studies involving four intergenerational family units of oldest old adults and adult children (including siblings) were conducted. The Lifeline Interview Method, a biographical assessment method (Schroots, 1996), assisted in acquiring retrospective data from oldest old adults and their children.

Increased life expectancy affects family relationships. Both men and women can expect to be a parent and a child for the greatest proportion of their lives (Bengtson, Rosenthal & Burton, 1990; George & Gold, 1991). A person 85 years of age or older could easily have had a relationship with a child for 60 years. It was this population—oldest old adults and their adult children—that this study addressed to assess intergenerational relationships.

Attachment to a significant other in childhood begins a process of behavioral, social, and psychological development that extends over the life span (Bowlby, 1969a). Attachment
styles influence the quality of interactions. A secure relationship in childhood has the potential for continued secure, warm relationships over the life span, while insecure attachment in childhood (i.e., anxious/ambivalent or avoidant) may result in problem relationships over time. The quality of attachment formed in childhood has been found to be relatively stable, but relational experiences can alter the mental representations of attachment which will, subsequently, influence behavior (Caspi & Elder, 1988; Levitt, Coffman, Guacci-Franco & Loveless, 1994).

An abundance of research has examined attachment between parents and their young children (Ainsworth, Blehar, Waters & Wall, 1978; Easterbrooks & Goldberg, 1990; Erikson, Sroufe & Egeland, 1985; Main & Cassidy, 1988; Pastor, 1981) with an increasing expansion in the number of studies addressing the influence of childhood attachment in adolescence (Benson, Harris & Rogers, 1992; Papini, Roggman & Anderson, 1991), in college students (Dozier & Kobak, 1992; Kobak & Sceery, 1988; Rothbard & Shaver, 1994), on intimate relationships (Collins & Read, 1990; Hazan & Shaver, 1990; Simpson, Rholes & Nelligan, 1992) and in adult relationships (Main, Kaplan & Cassidy, 1985; Shaver & Hazan, 1993). However, there is a dearth of research examining the effect of childhood attachment on parent-child relationships in late life. The current study examined the effect of perceived attachment in childhood on relationships between oldest old adults and their adult children.

This study incorporated aspects of both attachment theory (Bowlby, 1969a) and the theory of intergenerational solidarity (Bengtson & Roberts, 1991) in order to examine the influence of oldest old adults' and adult children's perceived childhood attachment on current relationships. Rather than identifying attachment across the life span, this research examined the influence of perceived attachment in childhood on cohesiveness and loneliness in parent-child relationships when parents were oldest old adults and children were adults. While attachment theory has been used to examine adult relationships (Sperling & Berman, 1994) and to identify levels of current attachment between adult daughters and their older mothers
(Cicirelli, 1993, 1995), attachment theory has not been used to examine the effects of perceived childhood attachment on oldest old adults' and their adult children's current relationships. Furthermore, measures of intergenerational solidarity (Bengtson & Roberts, 1991) have not been linked to quality of attachment. One of the purposes of this study was to combine aspects of these two well-known theories in order to examine long-term intergenerational relationships.

This study is based on perceptions of attachment, solidarity, and loneliness. Perceptions are important, because perceptions are the basis for adaptation and action (LaRossa & Reitzes, 1989; Ruth & Kenyon, 1996; Thomae, 1992). Often the real event is of less importance than the perceived event (Cohler & Cole, 1996); the way people imagine their lives is the way they construct their realities (Randall, 1996). Retrospective perceptions are what connect and shape the life stories of relationships, creating continuity out of discontinuities (Mader, 1996); retrospective perceptions provide an evaluation of the relationships (Heikkinen, 1996). It is only as persons look back on life, that they can recognize the important, critical events and experiences that influenced the direction of their lives (Schroots, 1996). Perceptions of past, present, and future are closely interwoven; exploration of the past leads naturally to the present and future (Gearing & Coleman, 1996).

Use of the attachment theory is especially relevant for retrospective research as attachment theory is concerned with internal working models of self and others based on experiences with parents that can be revised over time in social interactions. Main et al. (1985) indicated that the mental model of the child's relationship to her or his primary caregiver represented not an objective picture, but rather a perception of the history of the parent's responses to the child's actions (Andersson & Stevens, 1993).

The collection of retrospective data from oldest old adults is supported by the notion that by old age identity has been established (Erikson, 1963). According to McAdams (1996), some older adults experience the last stage of life as a time to review their life story.
This story may be accepted (integrity) or rejected (despair) but can no longer be substantially changed; however, longer life and increased experience make it easier to put things in perspective (Heikkinen, 1996). Identifying the relationship closeness between oldest old adults and their adult children retrospectively provides valuable data for endeavoring to understand how perceptions of past history might differ or be similar and how perceptions of the past influence current behavior.

Loneliness of oldest old adults and their adult children was selected as the outcome variable for the first part of this study in response to a challenging question posed by Roberts, Richards and Bengtson (1991): "Do members of families with higher levels of intergenerational solidarity fare better in life?" (p. 35). Weiss (1974) claimed that individuals require attachment (as one of six key social provisions) to avoid loneliness. Attachment prevents emotional isolation (Reinhardt, 1996). While the relationship between oldest old adults and their adult children may not entirely explain perceived loneliness, the quality of the perceived parent-child relationship may affect emotional and/or social loneliness (Rook, 1984; Shaver & Rubenstein, 1980; Weiss, 1973). According to Weiss (1974), absence of attachment results in emotional isolation (i.e., emotional loneliness) as well as social isolation (i.e., social loneliness).

Understanding predictors of loneliness was important in the current study, because loneliness has been found to be significantly related to the well-being of older adults (Bowling, Edelmann, Leaver & Hockel, 1989; Creecy, Berg & Wright, 1985). Intimate relationships may prevent chronic loneliness—a possible threat to mental health (Rook, 1984; Rook & Peplau, 1982).

Figure 1 depicts the conceptual model for the first part of this study. Oldest old adults' (G1) loneliness was predicted to be influenced by their own and their adult children's solidarity, as well as by their own and their adult children's perceived attachment approximately 60 years previously. In addition, adult children's (G2) loneliness was
related Literature

The first goal of this study was to examine the relationship of perceived attachment to current solidarity in oldest old adults and their children, as well as the effects of perceived childhood attachment and current solidarity on loneliness in late life. The second goal was to
identify possible factors and processes that might influence the closeness of the intergenerational relationship over time. The following literature review is divided into five different areas: (1) oldest old adults as an emerging age group, (2) attachment across the life span, (3) solidarity in adult-filial relationships, (4) loneliness in old age, and (5) parent-child relationships over the life span.

**Oldest Old Adults as an Emerging Age Group**

Recent trends based on demographic data indicate that the numbers of persons eighty-five years of age and older (identified as the "oldest old") are increasing rapidly. Census estimates (Suzman, Manton & Willis, 1992) indicate that by the year 2080 the population of persons 85 years of age and older will grow from 3.3 million (1992) to 18.7 million. Some projections suggest that this number might be dramatically larger if there is no limit to the human life span as some research findings suggest (Johnson, 1994; Manton, Stallard & Singer, 1992; Taeuber & Rosenwaike, 1992).
Oldest old adults are a unique age group. They are likely to be single women (Suzman et al., 1992); more than half of oldest old adults will need help with instrumental and personal activities of daily living. Because the oldest old have a high risk of severe health problems including cancer, bone and joint problems, heart disease, urinary incontinence, and drug intoxication (Bould, Sanborn & Reif, 1989), they are more than four times as likely to live in nursing homes as those in the 75 to 84 age group (Suzman et al., 1992).

A higher proportion of oldest old women live in poverty than do members of other subgroups of the elderly (Rosenwaike, 1985; U. S. House Committee on Ways and Means, 1992). The oldest old are more likely to experience chronic resource limitations (versus acute limitations for younger generations) in several areas including financial and health disabilities (Bould et al., 1989). For example, health disabilities such as osteoporosis and financial resources are less likely to change for the better for the oldest old, whereas recovery from illness and the possibility for improvement in financial conditions is greater for younger persons. Shrinkage in social resources is more permanent for the oldest old as friends and family members die (Bould et al., 1989) than it is for younger generations where new family relationships are more likely to be formed and new friendships are more likely to be developed.

Because of health and financial difficulties, the oldest old need family and friends for support. However, the oldest old have experienced a shrinkage of size in their social network due to the death of family--as many as one-third of the men and women are childless (Johnson, 1994)--and intimate friends. At the very time when this age group is needing support, support is often lacking. Adult children are reaching their own life expectancy and may have died or, if they are still living, they may have health problems of their own and/or they may not live nearby (Bould et al., 1989).

Despite the unique characteristics of the oldest old population and the striking population shift occurring at the present time, relatively little research has been conducted
with this age group. Most often those 85 years of age and older are included with all older adults 65 years of age and older. The University of Georgia Centenarian Study has been comparing centenarians to those in their sixties and eighties (Poon et al., 1992) while at the University of California, San Francisco, the 85+ Study is exploring the adaptation of community-dwelling individuals (Johnson, 1994). However, neither of these research projects has addressed the influence of attachment between oldest old adults and their children in childhood on current parent-child solidarity and loneliness. The first phase of this study was used to assess quantitative data in order to gain an overall understanding of the influence of attachment in childhood on the quality of the relationship in adulthood. The second part of the study provided additional information as it addressed the unique experiences of four intergenerational family units. These case studies gave body to findings from the first part of the study.

In summary, studies predicting long-term intergenerational relationships via the oldest old population and their adult children are needed at this time. The oldest old population is rapidly increasing in numbers, the parent-child relationship of the oldest old is especially important based on the high rates of morbidity and comorbidity among the oldest old, as well as the increased prevalence of social loss and the increased number of years spent as a parent and as a child. Last, but not least, few researchers have addressed the relationship of oldest old adults and their adult children over their shared life span. This shared relationship begins at the adult child’s birth. The next section addresses the importance of attachment established in childhood and subsequent adult parent-child relationships.

Attachment

The attachment theory (Bowlby, 1969a) is highly relevant for examining parent-child relationships across the life span. Attachment theory highlights the place of cognitive formations (models of self and the social world) in childhood on later relationships, and it
provides evidence to support the long-term effects of early attachment or separation on later relationships (Shaver & Rubenstein, 1980). The major emphasis of this section is on literature that examines attachment across the life span. The importance of the parent-child relationship in establishing attachment and the place of mental representations in forming attachments is addressed in a cursory manner, not because parent-child relationships and mental representations are of less importance but because this study was most interested in the parent-child relationship over the life span.

The Parent-Child Relationship. Strong primary attachment relationships occur during the first year with gradual physical separation from the attachment figure occurring in the development of individuation as the child matures. The quality of the relationship between the attachment figure (i.e., usually a parent) and the child is important to the process. Parents that are regularly available, continually affectionate and supportive while also capable of urging separation and exploration will provide environments where children can develop security. According to Bowlby (1969a, 1973), anything less than this ideal behavior will more likely result in "anxious attachment," a pattern of behavior and emotions which includes undue anxiety upon separation, clinging, and a lack of confidence in others and self. Prolonged separation experiences may produce detachment and consequent inability to form attachments that are satisfying (Cicchetti, Toth & Lynch, 1995; Shaver & Rubenstein, 1980). A securely attached child will more likely be warm and outgoing, embracing other relationships, while anxious/ambivalent attachments will more likely produce individuals who desire close relationships with others but who will have difficulty developing secure relationships. An avoidant attachment in childhood will create individuals who will turn others away from them as they endeavor to protect their own self worth. Thus, the parent-child relationship in which attachment was initially formed is important when considering the quality of the long-term parent-child relationship.
Mental Representations. Mental representations of behavioral styles become established early in life. The mental model of the attachment figure and the model of the self are complementary and mutually confirming. Over time, individuals seek out relationships or create relationships that conform to their mental representations of attachment styles established early in life. Thus, it is important to recognize the strength of mental representations formed in early childhood attachment on later parent-child relationships.

Attachment Across the Life Span. While early research on attachment most often addressed childhood attachment, more recent research has examined attachment in later life (e.g., adolescent relationships, college students' attachment classifications, adult romantic relationships, marital relationships, and caregiving relationships). Sperling and Berman (1994) addressed attachment in adulthood, but most often adult attachment research has highlighted adult relationships other than the parent-child relationship.

In contrast to other adult attachment researchers, Rothbard and Shaver (1991) did address the adult parent-child relationship. They devised an adjective rating list for adult children (one for mothers and one for fathers) to assess attachment history and current relationships with parents. Rothbard and Shaver reported that secure adult children retrospectively described their mothers as relaxed, fun-loving, and dependable. The current relationship with mothers was described as available, emotionally supportive, warm, and respectful. Insecure adult children described current relationships with fathers as both emotionally and physically unavailable.

Although adult attachment styles have been reported to be similar to infant-parent attachment styles, more research is needed to address attachment between oldest old adults and their adult children. Oldest old adults, although still parents in "word," are no longer "parenting" their children. In contrast, adult children may be caring for oldest old adults (Anderson & Sabatelli, 1995; Cicirelli, 1995). This shift in roles in later life is one factor that may affect the current relationship of oldest old adults and their adult children. The case
studies for the second part of this study were used to explore life-span factors that help explain the relative closeness of the parent-child relationship when parents are oldest old adults. Findings based on semi-structured interviews are especially valuable for disclosing intra-individual variation in relationship closeness across the life span.

Data from siblings' perceptions of the parent-child relationship need to be compared. In a qualitative study of stories recalled about relatives, Martin, Dumka, Gale and Richards (1992) found that siblings' perceptions of relationships with their parents varied significantly. Sisters showed very different scores on family of origin dimensions when they focused on parent-child relations. Case studies are especially valuable in identifying and explaining variations in siblings' perceptions of their relationships to parents and in identifying and explaining variations in parents' perceptions of their relationships with multiple children as well as comparing parents' and children's perceptions of the relationship.

In summary, the attachment theory fits the purposes of this study well. For the first part of this study, attachment theory was pertinent for examining the beginning of long-term intergenerational relationships with possible subsequent effects on current intergenerational relationships. In addition, for the second part of this study, attachment theory was pertinent because it allowed for the assessment of change over time. Numerous studies have used attachment theory to examine the influence of childhood attachment on childhood, adolescent, and adult behavior. More research using attachment theory is needed on variations in siblings' perceived attachment to common parents, and possible variations between parents' and children's perceived attachment. In addition, attachment theory has not addressed long-term intergenerational relationships between oldest old adults and their adult children. These issues were addressed in this study.

In order to implicate the entire life span, current relationships between oldest old adults and their adult children were examined. The next section will address solidarity in adult filial relationships.
Solidarity

The intergenerational solidarity framework developed by Bengtson and Roberts (1991) was used to operationalize current relationships between older parents and their adult children. In the following section, the intergenerational solidarity theory is described. Next, arguments are presented as to why the intergenerational solidarity framework was appropriate for this study and as to how it was adapted for the purposes of this study.

Intergenerational Solidarity Framework. Bengtson and Schrader (1982) identified six dimensions of intergenerational solidarity to account for patterns of solidarity among parents and children: affective, associative, consensual, normative, functional, and structural. These dimensions are based on Nye and Rushing's (1969) multidimensional characterization of cohesiveness and solidarity. The framework was carefully grounded on conceptual contributions from social theory, social psychology, and family sociology.

The six elements of solidarity describe family interaction. Affective solidarity is defined as the type and degree of positive sentiment and degree of reciprocity. Associative solidarity refers to the frequency of interaction (e.g., on the phone, face-to-face, mail) and types of activities (e.g., recreational, special occasions). Consensual solidarity considers the extent of agreement on value/belief similarity. How similar are a parent's and child's personal and social values, opinions, attitudes, and beliefs? Functional solidarity addresses the giving and receiving of services and tangible goods. Normative solidarity identifies expectations regarding social support and obligations between parents and children. Structural solidarity considers the intergenerational network (e.g., number and gender of children, marital status, and geographic proximity). Subsequent to Bengtson's (Bengtson, Olander & Haddad, 1976) initial use of intergenerational solidarity measures to address parent-adolescent relationships, the framework has been used to examine the adult parent-child relationship.
Support for Using the Intergenerational Solidarity Framework. Bengtson and Roberts' (1991) intergenerational solidarity concepts have proven to be relevant and fruitful in current research. Researchers who have used the intergenerational solidarity framework have analyzed the types of relationships between parents and children, as well as the conflicts and tensions between generations (Bengtson & Harootyan, 1994). However, even though Bengtson has provided the means for examining relationships between adult family members, very few researchers (e.g., Hagestad, 1981) have assessed long-term intergenerational relationships (cf. Bengtson & Harootyan, 1994, for an exception). The current study attempted to fill this gap by examining the effect of perceived attachment in childhood on current solidarity of oldest old adults and their adult children.

In late life, when other types of social support may be absent (e.g., death of spouse and friends), affection, association, and filial expectations may be especially pertinent relative to the loneliness of oldest old adults. A loss of friends and spouse is a common experience of oldest old adults. Children may well be a major source of emotional support.

Silverstein, Lawton and Bengtson (1994) measured types of relations between parents and adult children using data from the 1990 AARP Intergenerational Linkages Survey. They found that tight-knit-helping relations (i.e., high on opportunity, high on closeness, high on helping behavior) fell precipitously after age 65, while two types of relations that have strong affective components (i.e., dispersed-helping and tight-knit-independent types) increased.

While these findings provide important information for the current study, Silverstein et al. (1994) did not assess oldest old adults and their adult children, nor did they consider the quality of childhood attachment. The current study attempted to assess the relationship between oldest old adults and their adult children based on perceived attachment in childhood. The semi-structured interviews in the second part of the this study were also beneficial in that they provided information from four intergenerational family units that described the relationship between oldest old adults and their adult children.
Adaptations. Atkinson, Kivett and Campbell (1986) critiqued the intergenerational solidarity model (the original model contained only three dimensions: associative and affective solidarity, and consensus) based on empirical research of their own. They found that the variables identifying solidarity were separate dimensions rather than defined as one concept. Giarrusso, Stallings and Bengtson (1995) used the variables as separate entities by selecting only affective solidarity when revisiting the "Intergenerational Stake" hypothesis. With support from Atkinson et al.'s (1986) suggestion that solidarity dimensions are independent, and Giarrusso et al.'s (1995) use of only one of these variables, this study used four of Bengtson and Roberts' (1991) six dimensions of solidarity: affective and associative solidarity, familial norms (i.e., expectations regarding social support and obligations), and family structure. Information is provided in the following paragraphs to delineate why consensual and functional solidarity were not examined and why affective, associative, normative and structural solidarity were retained as unique indicators of solidarity for the current study.

The intergenerational solidarity theory was initially constructed for parent-adolescent relationships (Bengtson et al., 1976). Consensus (i.e., to what extent does the respondent attribute similar attitudes and values to the referent other?) was an appropriate measure for solidarity or lack of solidarity for this dyadic relationship. However, the maturity that comes with age for oldest old adults and their adult children will less likely create relationship problems based on differences in values or beliefs. Even when values and beliefs vary, many adults have learned to avoid topics of conflict. Hagestad (1981) referred to this as "interaction management," a mechanism used to maintain family ties. Marshall (1995) found that perceived consensus was not necessarily a prerequisite of perceived affection.

The exchange dimension (i.e., functional solidarity) in the intergenerational solidarity construct is an objective measure and is limited to only one question regarding service assistance (gift exchange) and two questions of financial assistance. This measure was
Levels of affection and frequency and type of interaction are pertinent for identifying levels of closeness between oldest old adults and their adult children. Affection is a subjective measure of solidarity, while association is an objective measure of behavior. Measures of affection and association were used in this study.

Roberts et al. (1991) indicated that norms of familism lead to higher levels of association and affection (as well as exchange). In addition, caregiving expectations have been found to be highly pertinent for adult filial relationships (Gatz, Bengtson & Blum, 1990). For example, Wolfson, Handfield-Jones, Glass, McClaran and Keyserling (1993) identified 170 in-patient/adult children pairs from a general hospital to determine how adult children perceived their responsibility for the care of parents (parents ranged in age from 65 to 95). Children felt a strong moral obligation to provide emotional, physical and financial assistance for their parents. One question for this study was, how do parental and adult child expectations influence relationship closeness? Thus, normative solidarity was pertinent to this study as an indicator of current relationship quality.

A measure of family structure was important to this study in order to identify gender and number of children, marital status, and proximity. In the first part of the current study, proximity and marital status were used as control variables.

Based on the operationalization of the dimensions in the intergenerational solidarity construct and based on the characteristics of the sample selected for this study, affective and associative solidarity, familial norms, and family structure were the variables of choice to identify solidarity between oldest old adults and their adult children. The dimensions of consensual and functional solidarity were not used in the current study.

Researchers who have critiqued the intergenerational solidarity framework (Atkinson et al., 1986; Marshall, 1995; Rossi, 1995) have indicated the need for "subjective" (i.e., qualitative) measures of solidarity in adult parent-child relationships. Bengtson and Roberts considered to be of limited use in this study.
(1991) operationalized the six dimensions of solidarity as empirical measures. Rossi and Rossi (1990) suggested that attention needs to be given to qualitative data in identifying feelings of affection. Mangen and McChesney (1988) provided additional support for the need of qualitative data by stating that families develop unique patterns of solidarity within intergenerational systems. The semi-structured interviews in the second part of this study gave oldest old adults and their adult children the opportunity to communicate the influence of life span factors on present relationship closeness.

In summary, the intergenerational solidarity framework (Bengtson & Roberts, 1991) and the attachment theory (Bowlby, 1969a) compliment each other. The attachment theory identifies characteristics at the beginning of parent-child relationships, while intergenerational solidarity examines parent-child relationships in late life. Furthermore, attachment theory provides the opportunity for assessing intergenerational relationships over the life span, while intergenerational solidarity addresses the current relationship between oldest old adults and their adult children.

Constructs of intergenerational solidarity have been appropriately developed. However, because consensual and functional solidarity are considered to be of limited use for assessing solidarity between oldest old adults and their adult children, they were not used in this study. The variables affective and associative solidarity, normative expectations, and family structure are strong indicators of solidarity between oldest old adults and their adult children and were used in this study. One limitation of the intergenerational solidarity model is its focus on quantitative measures. Qualitative data identifying factors that might influence relationship closeness of oldest old adults and their adult children over the life span were collected for the second part of this study.
Loneliness in Old Age

While loneliness has been recognized as an important construct in late life, loneliness has not been used as an outcome variable predicted by long-term relationships. With the rapid increase in the population of oldest old adults, loneliness of oldest old adults and their adult children needs to be addressed. The following section provides background to describe loneliness in general, and then summarizes research findings related to attachment and adult loneliness.

Rook (1984) described loneliness as social distress when basic human needs for satisfying social ties are absent or disrupted. Freud (1926/1959) described loneliness as anxiety based on separation protest—missing someone who is loved and longed for (West & Keller, 1994).

Weiss (1973) categorized loneliness as social loneliness and emotional loneliness. Social loneliness is related to the basic human need for social ties. One may feel loved and understood but may still feel lonely because there is no one with whom to engage in desired activities. However, being with others does not always prevent loneliness (Peplau & Perlman, 1982). Psychological processes may determine whether individuals feel lonely. Perceptions and unfulfilled expectations may be the forerunner of loneliness. Individuals who perceive that they are not understood by significant others, that no one really knows what they are like, may experience loneliness (Rook, 1984). Other researchers (Cutrona, 1982; Russell, Peplau & Cutrona, 1980) have contended that loneliness is a single dimension comprised of two characteristics: emotional loneliness and social loneliness. Perceived inadequacies in interpersonal relationships have been found to have greater influence on loneliness than objective measures, such as number of friends and frequency of social contact (Cutrona, 1982; Peplau & Perlman, 1982; Russell, 1996).

Loneliness has also been categorized as trait loneliness and state loneliness. Trait loneliness may be what is sometimes referred to as chronic loneliness; defined as long-term...
isolated loneliness experienced by individuals who may never have had satisfying social ties. Russell (1996) reported that loneliness was found to be significantly related to Introversion-Extroversion and Neuroticism—i.e., personality characteristics. State loneliness, on the other hand, might be considered transitional (short-lived feelings of aloneness) or situational loneliness based on life circumstances (Rook, 1984; Shaver, Furman & Buhrmester, 1985; Young, 1982).

**Attachment and Loneliness.** This study is based on the premise that emotional loneliness is the prototype of all loneliness experiences (Shaver & Rubenstein, 1980) and might be related to inadequate previous attachment. The first part of this study examined the effects of perceived childhood attachment on oldest old adults' and adult children's loneliness.

Several researchers (Rook, 1984; Shaver et al., 1985) have indicated that for some people loneliness may be an enduring personality trait, suggesting that feelings of loneliness may persist even when there are no obvious external reasons for its persistence. Weiss (1973) indicated that the loneliness of adults might well be based on earlier childhood "states." The "states" may have been modified by maturation but still appear to be like the childhood syndromes in fundamental ways (p. 20).

Based on the attachment theory, Bowlby (1977) emphasized that insecurely attached persons are constantly anxious lest they lose their attachment figures. Some insecurely attached individuals may develop defensive attachment patterns (e.g., doing everything for themselves; keeping a stiff upper lip) in order to cover their loneliness and yearning for love and support (Bowlby, 1977; Rook, 1984). With in-depth interviews of lonely adults, Rubenstein and Shaver (1982) found that lonely people were either "clingy" in relationships or closed, aloof, and distant (Shaver & Rubenstein, 1980).

Adler and Buie (1979) studied intense loneliness as a component of borderline psychopathology and concluded that vulnerability to loneliness in adulthood could often be traced back to childhood experiences of mother-infant interactions during the second year of
life. Separation or rejection experiences and cognitive immaturity may combine to disrupt
the formation of images of a trustworthy caretaker.

Andersson and Stevens (1993) studied the effect of early childhood attachment to
parents on later life well-being (including loneliness). They found that older adults who had
lived with parents that were cold and inattentive were more likely to be lonely. When
parenting was recalled as attentive and warm, lower levels of loneliness were found.

**Family Solidarity and Loneliness.** While perceived childhood attachment would be
related to oldest old adults' and adult children's emotional loneliness, the effect of solidarity
on loneliness at the current time may be both emotional (i.e., perceived affection) and social
(e.g., frequency of association). In addition, affective solidarity and normative expectations
are more likely to be relatively stable over time, while frequency of association and proximity
may be situational, based on circumstances. Thus, while family solidarity had not previously
been used as a predictor of loneliness, it is highly appropriate since it can identify both
emotional and social loneliness as well as state and trait loneliness.

Social ties have been found to help individuals cope with difficult situations (as well as
provide intrinsic satisfactions that buffer loneliness) (Rook, 1984; Shaver & Rubenstein,
out that it is not merely the number of friends and frequency of contact with friends that
predicts loneliness, but it is the quality of the person's interpersonal relationships.

In summary, loneliness is an important mental condition of oldest old adults and their
adult children. This study fills the gap in current research by relating loneliness in late life to
childhood attachment. Furthermore, this study provides additional insight on the relationship
between intergenerational solidarity and loneliness.
Factors Influencing Relationship Closeness Over the Life Span

The second part of this study was designed to explore perceived factors that might affect the current relationship. In the following section, examples of research are provided that address factors influencing parent-child relationships over different stages of the life span. Life events, expectations, education, income, and proximity are some of the factors that affect changes in relationship closeness over time.

Life events including maturation, unique family experiences such as a family move, or historical changes might influence change or stability in parent-child relationships (Skolnick, 1986). Health events may also affect the relationship between oldest old adults and their adult children. Changes in the relationship may occur as an adult child assumes the responsibility and care of a parent (Mace & Rabins, 1991). Health problems of either the oldest old adult or the adult child may increase relationship closeness. Emotional and physical contact often are heightened. However, Walker, Acock, Bowman and Li (1996) found that an increase in the amount of care given by adult children to elderly parents was associated with a decline in satisfaction, but there was substantial individual variability.

Expectations play an important role in relationship closeness. Once expectations regarding other persons become established, they are quite resistant to change; they may be a stabilizing influence on the relationship (Fiske & Taylor, 1991). Greenwell and Bengtson (1997) found that parents who had lower incomes lived farther from their children and talked with them on the telephone less frequently than higher income parents. Income is a factor that may affect relationship closeness.

In a study testing for social class differences in social support among older adults, Krause and Borawski-Clark (1995) found that older adults in the upper education and upper income categories differed from those in the lowest brackets in terms of contact with friends, satisfaction of support received from social network members, and frequency of support provided to others. Krause and Borawski-Clark (1995) discussed their findings indicating
that in order for older adults to provide assistance to others, they must have adequate resources at their disposal, which would include insights and experiences as well as tangible goods. These findings added support for the current study to select income and education as factors that might influence relationship closeness of oldest old adults and their children.

Older people who live in close proximity to their children have been found to report lower levels of loneliness than those who lived farther away. Infrequent contact with children and friends can lead to social isolation (Dugan & Kivett, 1994).

In summary, there is need for life span studies that identify factors that might influence stability or change in parent-child relationships in order to understand current relationship quality. Positive relationships may change negative internal working models and, vice versa. Events over the life span may change levels of closeness in the parent-child relationship and, thus, help explain the current relationship. Expectations may have a stabilizing influence on relationships, but if expectations are violated, changes in relationship closeness may occur.

In conclusion, a major strength of this study was the use of semi-structured interviews as a compliment to the quantitative study. The first part of the study assessed the effect of perceived attachment and solidarity on oldest old adults and adult children, while the second part of the study explored factors influencing the current relationship based on relationship history.

**Rationale**

**Research Questions**

Research questions for the first part of this study addressed similarities and differences between the generations. The research questions were:

1. How similar or different are oldest old adults' and adult children's perceived attachment, solidarity, and loneliness?
2. How does perceived attachment in childhood relate to solidarity in oldest old adults and their children?

3. How does perceived attachment in childhood and solidarity influence loneliness in oldest old adults and their children?

Taking into consideration the premise that many older adults use memory of the past to produce a coherent present (Cohler & Cole, 1996), the research question addressing the second part of this study was: What specific factors contribute to relationship closeness over the life span of oldest old adults and their adult children, and how do oldest old adults and their adult children explain their perceptions of relationship closeness?

Hypotheses

The following hypotheses were examined to address the primary purpose of this study. Hypotheses 3 - 5 are based on the conceptual model depicted in Figure 1 (p. 5).

1. Based on research findings that oldest old adults have a higher “stake” in their children than children have in their parents (Bengtson and Harootyan, 1994; Giarrusso et al., 1995), attachment, solidarity, and relationship closeness will be perceived as higher by oldest old adults than by their adult children.

2. Because oldest old adults are more likely to be widowed and living alone, it is hypothesized that loneliness will be greater for oldest old adults than for their adult children.

3. Oldest old adults’ and adult children’s perceived attachment in their adult children’s childhood will positively predict their current levels of solidarity (i.e., affective, associative, and normative solidarity).

4. Oldest old adults’ and adult children’s perceived attachment in their adult children’s childhood, as well as affective, associative, and normative solidarity will negatively predict their current levels of loneliness even after controlling for educational status, level of income, perceived health, friendship quality, marital status, depression, and proximity.
5. Oldest old adults' attachment, affective solidarity, associative solidarity, and normative solidarity will negatively predict their adult children's loneliness after controlling for educational status, level of income, perceived health, friendship quality, marital status, depression, and proximity.

6. Adult children’s attachment, affective solidarity, associative solidarity, and normative solidarity will negatively predict oldest old adults’ loneliness after controlling for educational status, level of income, perceived health, friendship quality, marital status, depression, and proximity.

The second part of this study was an endeavor to retrospectively identify possible factors that influenced intergenerational relationships across the life span. Based on previous research findings, specific factors were hypothesized to influence relationship closeness: life events, educational status, financial status, friendships, marriage, and expectations. It was expected that other factors would evolve in the process of the semi-structured interview based on individual characteristics. In addition, within each intergenerational family unit, parents' perceptions of their relationship with each one of their children, parents' and children's perceptions of the relationship, and siblings' perceptions of their relationships with their parents were hypothesized to differ.
CHAPTER II.

METHOD

Overview

The oldest old adult-adult child dyad was used as the unit of analysis in the design of this intergenerational study in order to compare and contrast perceived attachment, solidarity and loneliness. Structured and semi-structured interviews were used to obtain data from oldest old adults and their adult children. Retrospective and current data were collected at one point in time.

While the first part of this study provided an overview of oldest old adults' and adult children's perceptions of their relationship, the second part of the study provided additional information to describe and assist in explaining factors that influenced long term (i.e., from childhood to current time) intergenerational relationships. Biographies of oldest old adults' and adult children's (including siblings) relationship closeness were explored in order to unfold the history of the relationship in the process of attempting to understand current solidarity. Using both qualitative and quantitative methodology combines opposing and complementary mechanisms to investigate the same entity (Svensson, 1996). Each method provided different kinds of data that satisfied the overall purpose of this study: to examine long-term intergenerational relationships.

Sample

Data for this study consisted of a sample of female and male adults 85 years of age and older currently living in the state of Iowa, and their children. These oldest old adults had
to have at least one living child who also lived with them before the age of 12 years, and had to be cognitively intact and in reasonable health to participate in the study. To be cognitively intact, participants could not be disoriented or demented. For the oldest old sample, the Short Portable Mental Status Questionnaire (Fillenbaum, 1988; Pfeiffer, 1975) was used as a screening device to examine mental status (see Appendix A). Adult children's mental status was not measured.

Part of the sample was attained from a currently on-going study identified as the Iowa Oldest Old Study (Martin, Mercier & Cook, 1996). Additional sample participants were selected through Iowa's Area Agencies on Aging, through contact with churches, nursing home and retirement facilities, and by referral from acquaintances. This provided a sample with a wide range of characteristics (i.e., economic, educational, residential locale, marital status, proximity of family members, race, etc.).

The sample size for the quantitative portion of this study was determined by power analysis. The power analysis is a function of a selected alpha level which is the chance a researcher is willing to take of committing a Type I Error (i.e., rejecting a null hypothesis that is true), number of participants, and effect size (i.e., the degree to which the null hypothesis is false) (Pedhazur & Schmelkin, 1991). With a selected alpha level of 0.05, three primary and seven control variables, and an effect size of 0.20 (i.e., R^2) for multiple regression analyses, at least 68 oldest old participants were needed in order to achieve a power of 0.80. In addition, Bentler & Chou (1987) indicated that there should be, at least, a 10 to 1 ratio of sample size to number of variables for the estimation of structural equation models by maximum likelihood methods in order to achieve correct model evaluation of chi-square probabilities.
Boomsma (1987) suggested that studies based on samples smaller than 100 may lead to false inferences (cf. Arbuckle, 1997).

Contacts were made with 163 oldest old adults; 116 of these individuals were interviewed face to face (a response rate of 71%) and 100 were retained for the current study. Reasons for not participating included difficulty in remembering, unwillingness to involve children, ill health, death of the oldest old adult before the interview could take place, no living children, did not want to be “bothered,” too young, too busy, did not want to “remember” past family relationships, and, in some cases, no reason was given. Subsequent to interviewing the oldest old adults, 6 cases were deleted because the adult children refused to participate in the study, 6 cases were deleted because adult child data had not been returned before analyses were conducted, 2 cases were deleted because the oldest old adult died before the adult children responded, 1 case was deleted due to a high number of errors on the mental status questionnaire, and 1 case was deleted due to a high proportion of missing data.

Questionnaires were mailed to 250 adult children; 208 questionnaires were returned (an 83% response rate). Some of the reasons that adult children did not complete the questionnaires included “too busy,” problems answering the questions, did not “do things like this,” poor relationship with parent, unwillingness to share family information, death of parent, not enough contact with parent to answer the questions, and changes in parent’s personality due to health problems. The researcher randomly selected one adult child (using a random number table) from each intergenerational family unit for the current study. This provided a sample of 48 first-born children, 39 second-born, 8 third-born, 4 fourth-born, and
1 fifth-born child.

Tables 1 and 2 provide a more detailed description of the characteristics of the sample for the quantitative portion of the study. A larger proportion of oldest old adults were widowed (84%), while adult children were more often married (69%). More oldest old adults were women (77%), while the proportion of men and women in the adult child sample were more similar (48% and 52%, respectively). Ninety-eight percent of both generations were Caucasian. Adult children were more likely to have acquired a college education than were oldest old adults; over 1/3 of the oldest old adults had only a high school education. A greater proportion of adult children were professional employees (67.9%) than were oldest old adults. Over three-quarters of the adult children had an income over $30,000 while one half of the oldest old adults had incomes below $15,000. While adult children were most often living in a community dwelling residence (96%), the largest proportion of oldest old adults lived in a nursing home or a retirement facility (82%). More oldest old adults lived alone (85%) (either in the community or in a facility), while most adult children lived with a spouse (78%). Almost one-half of the intergenerational family units lived within 50 miles of each other (49%), while slightly over one-third lived more than 500 miles apart.

The sample for this study was compared with the population of the state of Iowa in order to assess its representativeness. Based on 1990 census data representing the 85+ population (Goudy, Burke, Beebe & Gosselink, 1994), 26% were men, 52% of the men were married, and 81% of the women were widowed. The sample for the current study included 23% men, 21.7% of the men were married, and 78.6% of the women were widowed, under representing the percentage of men, men married, and women widowed. In addition, 1990
Table 1

Participant Characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Oldest Old Adults</th>
<th>Adult Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Married</td>
<td>14</td>
<td>69</td>
</tr>
<tr>
<td>Widowed</td>
<td>84</td>
<td>10</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Remarried</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>48</td>
</tr>
<tr>
<td>Female</td>
<td>77</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>Black</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-8 years</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>H.S. completed</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>Business/trade school</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>1-3 years college</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>4 years college completed</td>
<td>18</td>
<td>32</td>
</tr>
<tr>
<td>Post graduate college</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>42</td>
<td>57</td>
</tr>
<tr>
<td>Manager/skilled foreman</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Farmer</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Clerical/sales/technical</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td>Semiskilled operative</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Service worker/unskilled</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>84</td>
</tr>
</tbody>
</table>


Table 1. (Continued)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Oldest Old Adults</th>
<th>Adult Children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$1,000-$14,999</td>
<td>48</td>
<td>51.7</td>
</tr>
<tr>
<td>$15,000-$29,999</td>
<td>26</td>
<td>28.0</td>
</tr>
<tr>
<td>$30,000 or more</td>
<td>19</td>
<td>20.5</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>100.2</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing home</td>
<td>37</td>
<td>37.0</td>
</tr>
<tr>
<td>Retirement facility</td>
<td>45</td>
<td>45.0</td>
</tr>
<tr>
<td>Community dwelling</td>
<td>18</td>
<td>18.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
<tr>
<td>Living arrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives alone in community or in a</td>
<td>85</td>
<td>85.0</td>
</tr>
<tr>
<td>nursing or retirement facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives with spouse</td>
<td>12</td>
<td>12.0</td>
</tr>
<tr>
<td>Lives with child</td>
<td>3</td>
<td>3.0</td>
</tr>
<tr>
<td>Total*</td>
<td>100</td>
<td>100.0</td>
</tr>
<tr>
<td>Proximity to parent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 5 miles to 50 miles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51 miles-250 miles</td>
<td>11</td>
<td>11.0</td>
</tr>
<tr>
<td>251 miles-500 miles</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>more than 500 miles</td>
<td>34</td>
<td>34.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Some adult children lived with both spouse and children.

census data representing the 85+ population (Goudy et al., 1994) indicated that 35% lived in group quarters (i.e., a place where residents cannot leave the facility without supervision— including, but not limited to, nursing homes). The sample in the current study included 37% living in nursing homes, over representing the number of oldest old adults living in nursing homes. Thus, caution should be used in generalizing these results to all oldest old adults and their children.
Table 2

Mean Participant Characteristics (Standard Deviations in Parentheses)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Oldest Old Adults</th>
<th>Adult Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=100</td>
<td></td>
<td>n=100</td>
</tr>
<tr>
<td>Age</td>
<td>90.04 (3.90)</td>
<td>59.72 (6.91)</td>
</tr>
<tr>
<td>(age range from 84 to 102)</td>
<td></td>
<td>(age range from 42 to 78)</td>
</tr>
<tr>
<td>No. children born</td>
<td>2.52 (1.21)</td>
<td>2.56 (1.59)</td>
</tr>
<tr>
<td>No. grandchildren</td>
<td>6.86 (7.23)</td>
<td>2.67 (3.31)</td>
</tr>
<tr>
<td>No. great grandchildren</td>
<td>4.51 (5.14)</td>
<td>.006 (.32)</td>
</tr>
<tr>
<td>No. female children</td>
<td>1.26 (1.12)</td>
<td>1.21 (1.10)</td>
</tr>
<tr>
<td>No. male children</td>
<td>1.10 (0.85)</td>
<td>1.48 (1.41)</td>
</tr>
<tr>
<td>Friendship quality&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.25 (.58)</td>
<td>2.36 (.64)</td>
</tr>
<tr>
<td>Health (subjective)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.59 (.87)</td>
<td>2.24 (.73)</td>
</tr>
<tr>
<td>Marital happiness (subjective)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.54 (.88)</td>
<td>4.23 (1.12)</td>
</tr>
</tbody>
</table>

<sup>a</sup>from 0 to 3, the higher the score, the better the friendship quality and perceptions of health

<sup>b</sup>from 0 to 6, the higher the score, the greater the happiness

Table 2 provides further descriptive characteristics of this sample based on mean comparisons. Oldest old adults ranged in age from 84 (i.e., one oldest old adult was just short of being 85 years of age) through 102 years, while adult children’s age range was from 42 through 78 years. Oldest old adults had, on average, more grandchildren (6.9) and great grandchildren (4.5) than did adult children (2.7 and .01, respectively). Adult children had more male children (1.5) than did oldest old adults (1.1).

The sample for the second part of this study included four intergenerational family units (i.e., parents and all children that were able and willing to participate). Family One and Family Two were initially interviewed for the pilot study; their data were later combined with two more intergenerational family units for the second part of this study. Personal interviews were conducted with 7 adult children and 4 oldest old adults.
Family One consisted of a one-hundred year old widowed father and his only child, a son 70 years old, living within 5 miles of each other. Because the father was in the process of moving from an apartment to an assisted living facility, the son was interviewed first. Before an interview could be scheduled with the father, he died. However, previous interviews with the father as a participant in the Iowa Oldest Old Study (Martin et al., 1996) were used to assess the father's perceptions of relationship closeness to his son.

Family Two included a widowed mother of 90 years residing in a nursing home and her three children: a son age 58 living less than 5 miles from his mother, a daughter of 57 years living 140 miles from her mother, and a son age 53 living approximately 10 miles from his mother. The initial interview with the mother was conducted in her room in the nursing home. Within the same week, the children were individually interviewed in the oldest son's home.

Family Three consisted of an 88 year old father living in a retirement center in a metropolitan area. He was remarried subsequent to the death of his children's mother. The oldest child, a married daughter 48 years of age, lived between 150-250 miles of her father, while the second child, a son of 42 years, was not married and lived in an apartment within 50 miles of his father. The second child chose not to participate in the study due to ill health.

Family Four included a widowed mother 87 years of age who lived in a retirement center within 5 miles of her second child, a married son 57 years of age. The oldest child, a married daughter, lived between 250 and 500 miles of her mother.

Educational and income status varied for the participants. The majority of the oldest old adults and their adult children were highly educated. Three oldest old adults had attended
some college classes (between 1 and 3 years) while one individual had completed 4 years. Annual income for oldest old adults ranged from between $5,000-$10,000 to over $40,000. Education for adult children ranged from high school graduation through post graduate college while income ranged from $10,000 to over $40,000.

In recognition of the fact that qualitative data include researcher bias, characteristics and experiences of the interviewer need to be described. The researcher for this study was a 53-year-old woman, a doctoral candidate in Human Development and Family Studies. She was remarried after having experienced widowhood. Her relationship with her own family (i.e., parents and children) was relatively secure. She and her husband had five grown children. Her philosophy included a conviction that family relationships over the life span are important for life satisfaction. Her interest in life stories and her warm, affectionate, engaging personality may have been motivation for participants to tell their stories. In addition, this researcher was experienced as an interviewer having interviewed approximately 50 oldest old adults for the Iowa Oldest Old Study (Martin et al., 1996).

Measures

Predictors of Loneliness

For the first part of this study, measures of attachment, solidarity, relationship closeness, and loneliness were assessed. Education, income, health, friendship quality, marital status, depression, and proximity were used as control variables. A summary of the measures can be found in Table 3.
### Table 3

**Measures for Attachment, Solidarity, Loneliness, Relationship Closeness, and Seven Control Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment</td>
<td>Attachment Style Measure Hazan &amp; Shaver (1986)</td>
<td>Secure (Higher score = higher levels of security)</td>
</tr>
<tr>
<td>Solidarity</td>
<td>Intergenerational Solidarity Roberts &amp; Bengtson (1990)</td>
<td>Affective, Associative, Familial Norms, Family Structure (Higher score = higher levels of affection, association, familism and closeness in proximity)</td>
</tr>
<tr>
<td>Loneliness</td>
<td>UCLA Loneliness Scale, Version 3 Russell (1996)</td>
<td>(Higher levels on the scale = greater loneliness)</td>
</tr>
<tr>
<td>Relationship Closeness</td>
<td>Relationship Closeness Scale Pipp et al. (1985)</td>
<td>Visual description of closeness of relationship based on positioning of circles (Higher score = greater closeness)</td>
</tr>
<tr>
<td>Education</td>
<td>Duke Older Americans Resources &amp; Services Multidimensional Functional Assessment Questionnaire (OARS) Fillenbaum (1988)</td>
<td>“How far did you go in school?” (Higher education = higher score)</td>
</tr>
<tr>
<td>Income</td>
<td>OARS Fillenbaum (1988)</td>
<td>“How much income do you have a year?” (Higher income = higher score)</td>
</tr>
<tr>
<td>Health</td>
<td>OARS Fillenbaum (1988)</td>
<td>“How would you rate your overall health?” (Better health = higher score)</td>
</tr>
<tr>
<td>Friendship Quality</td>
<td>Self-constructed</td>
<td>“How would you rate the quality of your relationship with your friends?” (Higher score = better relationship)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td>A categorical measure that was dichotomized as married or not married</td>
</tr>
</tbody>
</table>
Table 3. (Continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Geriatric Depression Scale Yesavage et al. (1983)</td>
<td>(Higher levels on the scale = greater depression)</td>
</tr>
<tr>
<td>Proximity</td>
<td>Intergenerational Solidarity Roberts &amp; Bengtson (1990)</td>
<td>“How far from your parents do you live?” (Greater distance = higher score)</td>
</tr>
</tbody>
</table>

Attachment. Attachment was operationalized with a scale developed by Hazan and Shaver (1986): the Attachment Style Measure. Hazan and Shaver (1986) developed a discrete, forced-choice retrospective measure consisting of three single items that presents simple descriptions of the three adult attachment styles (i.e., secure, anxious/ambivalent, avoidant). The attachment styles are based on descriptions of the corresponding infant styles. Participants are required to select the attachment style that is most applicable to their feelings about close relationships (Feeney, Noller & Hanrahan, 1994). Collins and Read (1990) modified this instrument by utilizing the measures as a Likert-type scale. In order to facilitate correlational analyses and consistent with Collins and Read’s (1990) use of the measure, this study used a scaled format of attachment. For each parent, adult children rated on a 10-point scale the extent to which each description characterized their relationship with their parent during childhood. In order to compare oldest old adults’ and adult children’s responses on perceptions of attachment styles, the measure was modified for oldest old adults. Changes were made in the wording only, in order to attain measures of the parent's perceived relationship with the child (see Appendix A).

Collins and Read (1990) used the Attachment Style Scale to confirm the validity of an adult attachment scale that they developed to identify the dimensions of closeness, dependability, and anxiety among college students. Using both a discriminant functional analysis and a cluster analysis, Collins and Read (1990) found that secure, anxious, and
avoidant attachment styles were three separate styles that correlated positively with closeness, dependability, and anxiety.

Pearson correlations were computed using data from the current study for the three attachment styles. Secure was negatively correlated with anxious/ambivalent (total sample, $r = -.45$; oldest old adults, $r = -.39$; adult children, $r = -.59$) and avoidant (total sample, $r = -.56$; oldest old adults, $r = -.31$; adult children, $r = -.57$), while anxious/ambivalent and avoidant were positively correlated (total sample, $r = .38$; oldest old adults, $r = .26$; adult children, $r = .53$).

During the analyses, only the secure subdimension was used to describe attachment as parental warmth and supportiveness. Higher levels of security indicated higher levels of attachment.

**Solidarity.** Four dimensions from Bengtson and Roberts' (1991) measure of solidarity were used in the current study: affective solidarity, associative solidarity, familial norms and family structure (i.e., kinship network and geographic proximity). Affective solidarity, associative solidarity, and familial norms were used as measures of solidarity while elements of family structure were used as control variables (i.e., marital status and proximity). Affective solidarity is defined as the nature and extent of positive sentiment towards other members in the family. The measure includes self-report assessments of relationships with other relatives, attributions in the relationship (i.e., respondents' perceptions of how their relatives feel about them), and an assessment of the overall quality of the relationship. Participants indicate levels of affection by how well they understand, trust, etc. a family member from 1 (not well) to 6 (extremely well) (Gronvold, 1988) (see Appendix A).

Associative solidarity is the degree to which family members share activities with other family members. Empirical indicators of associative solidarity include: (1) frequency of intergenerational interaction (i.e., face-to-face, telephone, mail), and (2) types of common activities shared (i.e., recreation, special occasions etc.) (Bengtson & Roberts, 1991). Levels
of association in various activities are scaled from 1 (almost never) to 8 (almost every day) (Mangen & Miller, 1988) (see Appendix A).

Normative solidarity is defined as the degree of intergenerational consensus regarding filial responsibility, while familial norms are defined as the degree of perceived filial responsibility. Empirical indicators of familial norms include: (a) ratings of importance of family and intergenerational roles, and (b) ratings of strength of filial obligations (Bengtson & Roberts, 1991). Levels measuring norms of familism are scaled from 1 (disagree) to 4 (agree) (see Appendix A).

Empirical indicators for family structure include kinship network and geographic proximity. Kinship network includes marital status, gender and number of children (biological, adoptive, and stepchildren). Marital status includes the categories “single,” “married,” “widowed,” “separated/divorced,” and “remarried.” For the current study, marital status was dichotomized as “married” or “not married.” Levels measuring geographic proximity are based on a five-category functional classification from 1 (coresidence) to 5 (an airplane flight or more than a day's journey) (McChesney & Mangen, 1988) (see Appendix A). Based on McChesney and Mangen's (1988) findings, only one generation needs to indicate proximity. Because the adult child will more likely travel distances to be with the oldest old adult and, therefore, will be more cognizant of distance, the adult child was asked in the current study to respond to the proximity measure.

Reliability and validity of affective solidarity, associative solidarity, familial norms, and family structure have been reported by different authors in Mangen, Bengtson and Landry (1988). McChesney and Mangen (1988) used generational level analyses with data from 2044 respondents in three generations to describe kinship network and geographic proximity. Based on an extensive sample of the intergenerational experiences of a large segment of the American Caucasian population, McChesney and Mangen (1988) found substantial agreement between different raters (i.e., grandparent, parent, child) of the same variables,
which suggested that the items measuring family structure were reasonably reliable.

Gronvold (1988) undertook a rigorous measurement analysis of the construct of affective solidarity operationalized as a global item, a long scale, and a short scale. She found that all three scales showed high internal consistency and validity. Factor loadings on the complete set of items indicated that there was one construct underlying each generational relationship. The reliability of each set of items ranged from 0.89 to 0.94. Alpha reliability across generations and roles were all above 0.99. A combination of the single-factor structure for each relationship and the congruence across factor structures indicated construct validity. In addition, the long scale, the short scale, and the global item were analyzed together to determine further validity. For the oldest generation, convergent validity (i.e., correlations of the long and short form scales with the single-item indicator) ranged from 0.68 to 0.95. Discriminant validity was determined by examining the correlations between different relationships and generations. The 18 correlations examined averaged only 0.19, indicating that participants were distinctly evaluating each relationship. Internal consistency using data from the current study was determined by Cronbach’s alpha: 0.92 for oldest old adults and 0.96 for adult children.

Measurement analyses of associative solidarity were conducted by Mangen and Miller (1988). At the generational level of analysis, LISREL was used to test several theoretical models. For the model with the best fit, alpha reliability ranged from 0.76 to 0.87 on six items depicting associative solidarity between generations. Construct validity was also defined by the consistency of results across groups. Convergent and discriminant validity over the three generations were indicated by correlating the global single item indicators of association and two other sets attained by using two different techniques of scoring the scale items. Convergent validity ranged from 0.39 to 0.92 when correlating reported associations within different role relationships by older adults and their adult children. However, within-method correlations were stronger than the correlations within specific role relationships,
suggesting a potential method bias. Internal consistency of associative solidarity for the current study was determined by Cronbach’s alpha: 0.71 for oldest old adults and 0.78 for adult children.

The scale for familism norms was assessed by Mangen and Westbrook (1988) using the same three-generational data base. Mangen and Westbrook (1988) found, when using a series of principal component factor analyses, that the original 10-item version did not possess consistent dimensional structure across the three generations. Based on a series of parallel analyses, Mangen and Westbrook (1988) dropped items one at a time in order to attain a single factor across each generation that was simultaneously internally consistent and congruent across the three generations. The process yielded a five-item scale with marginal reliability; however, construct validity was diminished. Bengtson and Roberts (1991) used three of Mangen and Westbrook's (1988) five items to empirically analyze data in order to construct their intergenerational solidarity model. They found norms of familism to be significantly predictive of parent-child affective orientations (i.e., ranging from 0.25 for parent's norms of familism predicting parent's affection for child to 0.33 for child's norms of familism to child's affection for parents at \( p < .001 \), as well as a fairly strong negative direct effect of child's norms of familism on association (i.e., -0.14 at \( p < .01 \)). Bengtson and Roberts (1991) suggested that these findings might reflect cognitive dissonance: children who could not associate often with parents were internalizing the expectations that they should be closer to their parents. Mangen and Westbrook's (1988) and Bengtson and Roberts' (1991) results support the reliability and validity of the familial norms construct, even though Mangen and Westbrook (1988) indicated a need for additional items to increase the specificity of normative behavior that respondents expect from their parents or children. Internal consistency using data from the current study was determined by Cronbach’s alpha: 0.60 for oldest old adults and 0.73 for adult children.
Relationship Closeness. The Relationship Closeness Scale is a visual-spatial measure of relationship quality based on retrospective data attained from college students and their parents (Pipp, Shaver, Jennings, Lamborn & Fischer, 1985). Students were asked to represent schematically with two circles their relations with their parents during infancy, childhood, adolescence, and at present. Pipp et al. (1985) found that circle distance correlated with verbal descriptions of parent-child relations during the same time periods (Levitt et al., 1994), with coefficients ranging from 0.57 to 0.92. In addition, reliability was acquired from a sample of 15 drawings by two independent raters ranging from 0.94 to 1.00 (Pipp et al., 1985).

The Relationship Closeness Scale consists of nine diagrams, each showing two circles. The circles are at progressively varying distances (see Appendix A). The Relationship Closeness Scale was adapted for the current study so that participants selected the circles that best identified perceived relationship closeness between themselves and their parent/child at specified time periods of the adult child's life. In this study, the nine circles were identified by numbers so that higher scores indicated greater relationship closeness. Specified time periods included the adult child's childhood, adolescence, 20-30 year age range, 30-40 year age range, 40-50 year age range, and present time. Data from the Relationship Closeness Scale were used to assist in selecting and analyzing the sample for the qualitative portion of this study.

Levitt et al. (1994) pilot-tested the scale with verbal expectation and relationship satisfaction measures from 103 undergraduate and graduate students and 55 women (mothers of 13-month-old infants). Respondents were asked to select the two-circle diagrams that best represented their relations with their mothers in infancy, childhood, adolescence, and at the present time. Participants selected circles that were significantly closer in infancy and further apart in adolescence with greater closeness at present than during adolescence. These findings (i.e., closer in infancy and further apart in adolescence) provided convergent
validation with the original Pipp et al. (1985) findings which also identified closer relationships in infancy and relationships that were more distant in adolescence. In addition, the spatial scale was highly correlated with Levitt et al.'s (1994) verbal Relationship Satisfaction Scale \( r = 0.70 \). Reliability of the Relationship Closeness Scale, using data from the current study, was indicated with an alpha coefficient of 0.94 for oldest old adults and 0.92 for adult children.

Loneliness. Loneliness was measured using the UCLA (University of California, Los Angeles) Loneliness Scale (Version 3; Russell, 1996) (see Appendix A). The scale is comprised of 20 items; eleven of the items reflect dissatisfaction (negatively worded) with social relationships and nine reflect satisfaction (positively worded). The items are scored from 1 (never) to 4 (always). Reliability, validity, and factor structure of this version of the scale are based on data from prior studies of college students, nurses, teachers, as well as 301 individuals over the age of 65 (180 females, and 121 males) who participated in a study assessing the impact of psychosocial factors on health and well-being (cf. Russell & Cutrona, 1991).

In addition to gathering data at baseline from the elderly sample with the UCLA Scale, Russell and Cutrona (1991) gathered data regarding characteristics of the participants' social network (i.e., number of kin and non-kin, average frequency of contact, and network density) as well as perceived availability of social support (Social Provisions Scale; Cutrona & Russell, 1987). Twelve months later, data were gathered once again by administering the UCLA Loneliness Scale. Reliability of the UCLA Loneliness Scale based on the elderly sample was indicated with an alpha coefficient of 0.89 and a test-retest correlation of 0.73 (Russell, 1996). In assessing convergent validity, Russell (1996) found a strong correlation between UCLA loneliness scores for the elderly sample and the Social Provisions Scale \((-0.54\)), a measure of social support. Other results provided discriminant validity identified by a stronger relationship between loneliness and personality and mood measures than
between social support and personality and mood measures (Russell, Kao & Cutrona, 1987). Using confirmatory factor analysis, Russell (1996) found that a single bipolar loneliness factor and two orthogonal method factors (one for the negative items and one for the positive items) provided an excellent fit to the data from the elderly sample, as well as to the data from college students, nurses, and teachers. Internal consistency using data from the current study was determined by an alpha coefficient of 0.87 for oldest old adults and 0.90 for adult children.

In accord with Russell's (1996) procedures, after nine items on this scale were reverse coded, the scores of each item were summed together. Higher scores indicated greater degrees of loneliness.

**Control Variables.** The first part of this study included social resources, economic resources, and depression as control variables. Social resources and economic resources have been adapted from the Duke Older Americans Resources and Services Multidimensional Functional Assessment Questionnaire (OARS; Fillenbaum, 1988). Data for the social and economic variables were collected with the general demographic information form (see Appendix A). The OARS questionnaire is derived from instruments of established validity and reliability. Forty-nine subjects from a pool of 130 patients affiliated with the Duke University Medical Center who had answered the questionnaire two years earlier were selected for a validity study. The 49 participants included men and women, and all combinations of functioning on each of the OARS dimensions. They answered the questions a second time. Criterion validity was represented by \( r = 0.68 \) in the area of economic resources. While the social resources area was not examined by Fillenbaum (1988), several social workers reported that they used the same items as those in the OARS in order to assess individuals' social resources. Interrater reliability based on a sample of 11 users of the OARS was 0.82 for the social dimension and 0.78 for the economic dimension. Intrarater reliability over a 12- to 18-month interval ranged from 0.67 to 0.95 for the dimensions of social
resources and economic resources (Fillenbaum, 1988).

In the current study, the variables defining social and economic resources were education, a subjective measure of health, marital status, a subjective measure of marital happiness, a subjective rating of the quality of relationships with friends, and income. While data for the variables education, income and health came from the OARS, a single item subjective rating of the quality of relationship with friends was self-constructed based on Russell's (1996) assertion that quality of friendships is more important in assessing loneliness than quantity or frequency of contact with friends. The wording of the statement is very similar to the wording of the subjective health question: “How would you rate the quality of your relationship with your friends?” “Excellent, good, fair, poor.” Higher scores indicated higher quality of relationships with friends. In addition, marital status was obtained from the family structure variable of the solidarity construct.

The Geriatric Depression Scale (GDS) used for this study (see Appendix A) was designed specifically as a self-rating scale for measuring depression in the aged (Yesavage et al., 1983). Forty older adults who were not depressed and 60 subjects under treatment for depression were selected to assess the reliability and validity of the scale. The subjects were both male and female. In order to assess convergent validity, responses from the GDS were compared to responses from the Hamilton Rating Scale for Depression (HRS-D; Hamilton, 1960) and the Zung Self-Rating Depression Scale (SDS; Zung, 1965). Questions were read aloud and answers recorded for subjects who were unable to complete the self-rating scales without assistance. Alpha coefficient measuring internal consistency for the GDS was 0.94. Convergent validity between the GDS and the SDS was found to be 0.84, while a correlation of 0.83 was reported between the GDS and the HRS-D.

In order to facilitate a measure of depression in the current study, a reliability analysis was computed on ten items from the GDS using two different samples: the Iowa portion of the Established Populations for Epidemiologic Studies of the Elderly (Cornoni-Huntley,
Brock, Ostfeld, Taylor & Wallace, 1986; Russell & Cutrona, 1991) and the Georgia Centenarian Study (Poon et al., 1992). The Iowa sample included 284 community dwelling, healthy individuals 65 years of age or older, while the Georgia sample consisted of community dwelling individuals 60 years of age and older. Internal consistency with the Iowa sample was at 0.74, while the alpha coefficient with the Georgia sample was at 0.83. Correlation between the long and short version of the Georgia sample (for centenarians) was $r_{(68)} = 0.89, p<.001$. Reliability of the GDS for oldest old adults in the current study was 0.71, and for adult children, 0.85.

**Relationship Closeness over the Life Span**

The second part of this study used an adaptation of the Life-Line Interview Method (Schroots, 1996; Schroots & ten Kate, 1989). This method was used to assess perceived relationship closeness between oldest old adults and their adult children across the entire life span, including future predictions of relationship closeness. In addition, the Life-Line Interview Method (LIM) takes into account affective aspects of relationship events.

The LIM was developed to enable each person to visually draw, within a temporal framework, her or his perceived life experiences (see Appendix A). After the life-line is drawn on a grid and peaks and dips of events are labeled by chronological age, the participant verbalizes her or his story. The interviewer records, verbatim, the participant's account of her or his life line. It is this verbatim account that, subsequently, is analyzed.

The LIM was adapted for purposes specific to this study. Oldest old adults and their adult children were requested to each depict their perceived closeness of the parent-child relationship over their shared life span based on chronological age of the adult child and possible events that might have occurred that affected the relationship. Because this instrument had not been used with oldest old adults, it was pilot tested and was found to be effective in creating a medium for discussing a shared life history.
Procedure

The Human Subjects Committee form was completed requesting permission to implement this study. A pilot study with two intergenerational family units using the Life-Line Interview Method was conducted. Results from the pilot study were analyzed and findings were used to adjust the questionnaires used for the quantitative study. Data from the quantitative study were analyzed. Participants in the second part of the study (i.e., four intergenerational family units) were selected from the quantitative sample; data were collected and content analyzed. The procedure followed for the first part of the study is described in the next section.

Questionnaires

Two intergenerational family units were selected from the Iowa Oldest Study (Martin et al., 1996) for a pilot study. Following the pilot study, letters that described the proposed study were mailed to current participants in the Iowa Oldest Old Study who had living children inviting them to participate in this study. Enclosed with the letter was a form requesting the names and addresses of all living children, in the event that the oldest old adult should agree to be a participant. The same letter was mailed to a list of oldest old individuals selected by the director of Area IV Agency on Aging. Within a week after the letters had been mailed, each oldest old adult was telephoned and was asked if she or he would be willing to participate in the study. This also provided the researcher the opportunity to answer potential participants' questions and to set up an interview date. Area Agency XI was also contacted. Administrators announced the study at meal sites and senior centers. Three participants responded to this request. Other participants were identified by responses to information displayed in church bulletins, by referral of acquaintances, and by activity directors and social workers in 22 of Des Moines' and Ames' nursing homes and retirement centers. Most often, the administrators of the facilities ascertained residents' willingness to
participate in the study before names were given to the researcher.

Interviews were conducted with each oldest old adult in her or his place of residence. At the beginning of the face-to-face interview, each participant was requested to read (or the interviewer read to them) and sign the informed consent form. The interviews lasted, on average, about an hour and a half.

The oldest old adult provided information on the names, addresses, and telephone numbers of their adult children. A letter, accompanied by directions, the informed consent form, and the questionnaire packet were mailed to all adult children of each oldest old adult requesting their participation in the study. The questionnaire packet included the same instruments (except for the Short Portable Mental Status Questionnaire) used in interviewing oldest old adults, however, the wording was changed to ask for information on perceived relationships with a parent. Adult children were asked one additional question: proximity in miles to the parent.

Adult children were requested to return the completed packets by the end of the week. If an adult child's questionnaire was not returned within two weeks, the individual was telephoned and asked if they had received the questionnaire and if they had any questions regarding it. In the event that the questionnaire still was not returned, a second packet was mailed to the adult child with an accompanying letter.

Interviews

The interview for the second part of this study (i.e., the qualitative study) was scheduled and conducted either in person (oldest old adults) or by telephone based on the method used by Schroots and ten Kate (1989) (see Appendix A). The adult children of the selected oldest old adult were interviewed face-to-face if they lived a reasonable distance from the interviewer; otherwise they were interviewed by telephone. Face-to-face interviews were video recorded and telephone interviews were audio recorded.
The interviewer asked the participant to write the target child's birth date at the bottom left hand corner of the grid and to write the child's current age below the perpendicular line on the right of the grid. The interviewer then explained that the space inside the grid represented the shared life experiences of the oldest old adult and adult child over time. The participant was then requested to begin at the dot positioned in the middle of the left perpendicular line (i.e., an average relationship) and to draw a relationship life line from the child's birth to present time with peaks and valleys, as appropriate, to represent closeness and distance at different time periods. After the relationship life line was completed, the participant was asked to tell the interviewer why he or she had drawn the line the way it was drawn, beginning at birth. The participant was encouraged to talk about factors that affected the relationship: e.g., “Why did you draw the dip at this point?” Where appropriate, if the participant had not already talked about possible influences of education, financial conditions, health, marital relationships, friendships, proximity, expectations, or life events, he or she was asked to address each topic.

Adult children who were not interviewed face-to-face were sent a life line grid, after an initial telephone contact, and an accompanying letter explaining how the relationship life line should be drawn (see Appendix A). Because the life line grid was drawn before the interview began for both face-to-face and telephone interviews, differences in data using the two methods were not anticipated. The interviewer conducted telephone interviews in the same manner that face-to-face interviews were conducted. The participant mailed the completed life line grid to the interviewer (in a pre stamped self-addressed return envelope) after the telephone interview was completed.

**Data Analyses**

Data analyses were conducted differently for the quantitative study than for the pilot study and the interviews. Participants’ data were not included if more than 30% of the items
were missing. In the quantitative study, mean substitution was used to replace missing values when fewer than 30% of the items were missing for a participant. Data analyses are described in the next two sections.

Quantitative Study

In order to assess differences between oldest old adults and their adult children on attachment, affective solidarity, associative solidarity, normative expectations, loneliness and the control variables, paired t-tests were computed. Responses of each oldest old adult were paired with the corresponding adult child’s responses, resulting in matched-pair dyads. Because part of the sample for this analysis consisted of one adult child paired with two separate parents within a family, over sampling of individuals occurred for four intergenerational family units. This non independence between some of the observations created the possibility that observed distributions could be biased. However, other analyses have used a similar sampling-with-replication strategy and found results to be substantively equivalent to those obtained when sampling was without replication (Bengtson & Roberts, 1991; Glass, Bengtson & Dunham, 1986).

Bivariate correlations were evaluated to assess the relationship between the variables of interest, both intergenerationally and intragenerationally. Multivariate analyses of variance were used to examine generational differences on the Relationship Closeness Scale.

Path analyses were computed with AMOS (an SPSS based program) to assess the structural relations among the variables represented by the path diagram in Figure 3. Four separate models were examined for this study. The first model examined the predictors of oldest old adults’ loneliness. In like manner, the second model examined within-generation predictors of adult children’s loneliness. Third, an intergenerational model was constructed to assess the extent to which oldest old adults’ attachment and solidarity affected their children’s loneliness. Finally, adult children’s loneliness was predicted by oldest old adults’
attachment and solidarity. Because measures of solidarity are considered to be three separate dimensions (i.e., affective solidarity, associative solidarity, and normative solidarity), each model included all three dimensions of solidarity. The structural equations were computed for all three models first without the control variables. The control variables (i.e., education, income, health, subjective rating of quality of friendships, marital status, depression, and proximity) were then added in order to assess the strength of the predictor variables above and beyond the influence of the control variables.

**Interview Study**

The purpose of the second part of this study was to explore processes and factors that influenced the intergenerational relationship over the life span. This part of the study was used to help explain differences in oldest old adults' and adult children's perceptions of
Analyzing the content of each participant's response to interviews conducted with the Life-Line Method consisted of identifying perceived factors that influenced stability and change over time in the closeness of the relationship. The data analysis was conducted based on an adaptation of the procedure suggested by Tesch (1987) and proceeded in the following manner:

1. Each participant's transcribed data were read and reread in order to get a sense of the whole.

2. Topic areas were noted by identifying transitions from one topic to the next (topics, not content, were analyzed at this stage). Topic areas were marked, and named in the margin next to the text.

3. All topics were listed on one sheet of paper and topics were compared by drawing lines between topics that were similar. On a separate sheet of paper, the topics were clustered (with a name for each cluster) that were connected by lines. A new list of topics was identified by three columns: a) major topics, b) unique topics, and c) left over topics.

4. Preliminary coding was done based on the list of major topics in step 3. The codes were written next to the appropriate segment of the text.

5. In order to refine the preliminary organizing system, topics were examined to determine if some topics were closer in content to certain topics than others; or whether some topics were sub categories of others.

6. The content of each topic was identified and summarized by generation looking for similarities, differences, and uniqueness in content.

7. After the data were analyzed, the researcher gave participants a copy of the results of the content analysis in order to be assured that interpretations were made correctly.

In order to preserve confidentiality, information was not presented as case studies and some characteristics of the participants were altered. Parents' identification of factors over the
life span influencing current relationship closeness was contrasted and compared to children’s identification of perceived factors over the life span influencing relationship closeness.

Just as in quantitative research, it was important to establish trustworthiness in qualitative research. However, qualitative researchers use different terminology in describing reliability and validity. Dependability is analogous to establishing reliability in quantitative analysis. Dependability is concerned with consistency and stability of the data. In this research, the use of different methods (i.e., requesting both visual and verbal responses), and collecting data from both oldest old adults and their adult children assisted in establishing the dependability of the data. In addition, viewing and listening to tapes for additional insights into the responses of the participants and analyzing the written transcriptions increased the dependability (i.e., the reliability) of the findings.

Credibility, transferability, and confirmability in qualitative research are similar to validity in quantitative research. Credibility asks about the match between the constructed realities of the participants and those realities represented by the investigators. Credibility addresses the interfacing factors that influence interpretations (Brotherson & Goldstein, 1992). Credibility in qualitative research is similar to internal validity in quantitative research (Lincoln & Guba, 1985). In order to establish credibility in the qualitative portion of this study, the researcher made several contacts with the participants (e.g., mail, telephone, two separate data collection contacts with most participants) in order to reduce researcher bias and overcome possible bias in participants’ responses. The methods used to establish dependability also increases the credibility of findings. The researcher in this study acquired both quantitative and qualitative data from two or more perspectives, and had both tapes and verbatim transcriptions available for analyses. In addition, the researcher of this study checked back with participants after their data were analyzed in order to make sure that data had been interpreted correctly. All collected data were reviewed by the researcher’s major professor for cross validation of findings.
While quantitative research needs to represent the population from which it comes in order to be valid, qualitative research seeks to interpret or describe a particular context without attempting to represent the population. In order for the findings of this study to be beneficial to a relatively wide range of its specified population, the sample was selected based on variations in characteristics and in responses to the Relationship Closeness Scale. Choosing intergenerational family units with different patterns of relationship closeness increased the transferability of the findings. The researcher in this study attempted to collect data not only sufficient in quantity but also sufficient for addressing all of the areas of the study. Description of the data included both the individual participant's perceptions and ways in which the dyadic perceptions were similar or different. This kind of "thick description" increases transferability of the findings to other similar contexts.
RESULTS

The results of this study are presented in accord with the procedure established in the method's chapter. First, results of the pilot study will be presented, followed by the results from the questionnaires (i.e., the quantitative study). The last section will describe results from the interviews (i.e., the qualitative study).

Pilot Study

A pilot study was conducted in order to evaluate variables pertinent to this study. Two oldest old adults were selected from the Iowa Oldest Old Study (Martin et al., 1996). Subsequently, all family members of each oldest old adult were also contacted for personal interviews. A summary of the results of the pilot study is provided in the following sections.

First Family

The first family was chosen because the widowed parent lived independently in a retirement center, had one living child, and, based on his response to the affective and associative questions asked during the Iowa Oldest Old interview (Martin et al., 1996), had a close relationship with his child. The son was married and lived in the same city as his father. The son was interviewed first. Subsequently, the father died before an interview could be scheduled. However, some data describing the father’s perception of relationship closeness were available from recent interviews conducted for another study (i.e., the Iowa Oldest Old Study, Martin et al., 1996). After drawing a path within a grid describing the
relationship with his father across time, the son talked about several factors that contributed to relationship closeness. During childhood, these included the parent’s personality characteristics, their common interests, and the influence of the Great Depression. During the son’s middle age adulthood, the relationship was influenced by the child’s more independent activities and interests and the establishment of his family of procreation; educational background; consistency in maintaining association; physical proximity, and a recognition of his parent as a role model for relationships. An example follows describing the influence of proximity and responsibilities within the family of procreation on the older parent-child relationship. The son’s busy schedule requiring him to be gone from home for an extensive amount of time made it difficult for him to establish good communication with his parent (as well as with his family of procreation). In addition, the time and energy required of this son to maintain his expanding family of procreation reduced the time he could spend with his parent:

...I was in politics for a number of years.... I was on the go all of the time. If you weren’t campaigning, you were gone to the legislative sessions, or you were doing something. And it entailed a certain amount of travel....and then after I moved down here for the first 6 years, I traveled almost entirely. I was gone more than I was home, you know....it’s hard to establish real good communications within your own family group, too.

And, ...I think, too,...with any child—, that as their own family expands...you know (chuckles), why naturally it takes time away from your parents.

In late years, relationship closeness increased again based on closer proximity, continued admiration and respect for the parent, the parent’s personality, and, possibly, the child’s caregiver role.
While several factors were described as contributing to the closeness of the relationship, the son consistently identified personality as a predictor of relationship closeness over the life span. With regard to childhood, for example, the son commented: "He was always attentive and he was always receptive to anything I ever said or did. He was very supportive." At the end of the interview, the son reaffirmed his appreciation for his father and their relationship by saying, "He is so kind, and so honest, and so worthy, you know...he just worked so hard all of his life; he set his goals, and he knew where he was going. He's consistent, to say the least."

Second Family

This family was chosen for the pilot study because the widowed mother resided in a nursing home and had three children who lived within a 50 miles radius of her. In addition, this parent's responses to questions asked during the interview for the Iowa Oldest Old Study (Martin et al., 1996) reflected lower scores on affection and less association with adult children than was noted for the first parent. This information led the researcher to believe that this family would provide a different perspective on filial relationship closeness than that acquired from the first family.

Each participant was interviewed separately. Major factors that were identified by family members influencing relationship closeness included marriage, proximity, association, personality, expectations, and behavior. As an example of the influence of expectations, one child said:

...she knows I will look after her interests; she's trusting, and I will look after her interests, you know, and protect her
...you take care of your mother and that's the right thing to do.

Maturity was also identified as a factor by the parent and one child. Other topics mentioned included the influence of religious beliefs and the assumption of a caregiver role.

Personality was consistently described or alluded to by both parent (P) and children (C):

P: When he was young, he was the most bashful kid....

I: So you felt pretty close to him...he felt pretty close to you and you felt pretty close to him during that time?

P: Yeah, I did at that time.

From one child's perspective, the following comment was made:

C: ...to me Mom was one that kind of laid down the law to a certain extent. Dad, he was more easier going (laughs).

I: So did that draw you closer to her or make you..., separate you more....?

C: I'd say it probably draw--; technically, it would draw you more closer. I think it would draw you more closer. Cause as you're growing up, that—that sets your whole life.

These comments are only a few of the many other comments made by family members that described the influence of specific factors on relationship closeness. Prior to the pilot study, provisions had been made to measure association, marital status, proximity, and expectations; however, the pilot study emphasized the need to also include personality as a possible variable affecting relationship closeness.

Personality has been found to have implications on relationships even in early parent-child relationships. Egeland and Farber (1984) found that mothers' personalities had a greater influence on security in very young children over a 6 month period of time than changes in
life circumstances. Even so, shifts in parental sensitivity and competence may leave a child vulnerable for a time, but if the child has been securely attached initially, she or he may be able to recover quickly if the attachment relationship once more becomes supportive (Erikson et al., 1985).

Personality has also been found to be a factor that influences relationship closeness during the adult years. Social support researchers (Antonucci, 1990; Bandura, 1986; Costa & McCrae, 1989; Sarason, Sarason & Pierce, 1989) found that personality characteristics, such as mastery, locus of control, efficacy, and social competence, related to social support as antecedents, consequences, or both.

Because personality was important, a shortened version of the 16PF Scale (Cattell, Eber & Tatsuoka, 1970) was included in this study to assess two dimensions of personality: extraversion and neuroticism (see Appendix A). Martin, Poon and Johnson (1996) applied exploratory factor analyses to develop a short form of the 16PF Scale using data obtained from 78 community-dwelling centenarians in the Georgia Centenarian Study. The Anxiety Scale consisted of three factors: Emotionality, Apprehension, and Tension. Cronbach’s alpha for Anxiety was 0.71. Significantly high correlations were obtained between the long and short version of the Anxiety Scale with a coefficient of 0.63. The alpha coefficient measuring internal consistency using data from the current study was 0.80 for oldest old adults and 0.82 for adult children.

The Extraversion Scale consisted of three factors defined as follows (cf. Martin et al., 1996): Warmth, Sociability, and Assertiveness. Cronbach’s alpha for extraversion was 0.66. Significantly high correlations were obtained between the long and short version of the
Extraversion Scale with a coefficient of 0.71. The alpha coefficient for extraversion using data from the current study was 0.74 for oldest old adults and 0.74 for adult children. Based on the findings of the pilot study, it was hypothesized that personality would significantly predict perceived attachment, solidarity, and loneliness. Anxiety was hypothesized to negatively predict oldest old adults' and their adult children's attachment and solidarity, while anxiety was hypothesized to positively predict oldest old adults' and their adult children's loneliness. In contrast, extraversion was hypothesized to be positively predictive of relationship closeness (i.e., attachment and measures of solidarity) and to be negatively predictive of loneliness.

Based on the results of the pilot study, the model for this study was changed to include extraversion and anxiety as additional predictors of retrospective attachment, current filial solidarity, and loneliness. The next section will examine results attained from the first part of this study.

**Questionnaire Results**

First, t-tests were computed to assess differences in the variables of interest between oldest old adults and their children. Second, multivariate analyses of variance examined generational differences on the Relationship Closeness Scale. Third, bivariate correlations were evaluated to assess the relationship between the variables of interest. Finally, path analyses were computed to examine predictors of loneliness within the oldest old adult generation, within the adult child generation, and across generations.
Generational Differences

Paired t-tests were computed to assess generational differences in attachment, personality, solidarity, and loneliness, as well as for the control variables (Table 4). Oldest old adults perceived their relationship with their children as warmer (i.e., attachment), $t(100) = 4.92, p < .001$, and more affectionate, $t(100) = 5.37, p < .001$, than did their adult children.

In addition, oldest old adults were more likely to indicate that family members should interact with each other, $t(100) = 2.95, p < .01$, than did their adult children. Adult children were found to be higher on educational status, $t(100) = -7.22, p < .001$, income level, $t(100) = -10.56, p < .001$, health, $t(99) = -5.62, p < .001$ and were more likely to be married, $t(100) = -9.28, p < .001$, than oldest old adults. Oldest old adults were higher on depression, $t(100) = 4.17, p < .001$ than were their adult children. There were no significant differences in personality, nor in loneliness between oldest old adults and their adult children.

In summary, the results provided evidence that oldest old adults perceived relationships to be closer than did their adult children. Adult children were higher on educational and financial status, and were more likely to be married, when compared to oldest old adults. There were no significant differences between oldest old adults and their children on measures of personality, associative solidarity and loneliness.

Analyses of Variance

Two (generation) X 6 (time) repeated measures multivariate analyses of variance were computed to assess group mean differences in perception of relationship closeness during adult children's childhood, adolescence, 20-30 year age range, 30-40 year age range, 40-50...
Table 4

Mean Differences in Attachment Style, Solidarity, Personality, Loneliness, and Control Variables

<table>
<thead>
<tr>
<th>Construct</th>
<th>Oldest Old Adult</th>
<th>Adult Child</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment Style (Scale: 1-10)</td>
<td>9.04</td>
<td>7.59</td>
<td>4.92***</td>
</tr>
<tr>
<td>Solidarity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective (Scale: 13-78)</td>
<td>70.89</td>
<td>64.84</td>
<td>5.37***</td>
</tr>
<tr>
<td>Associative (Scale: 10-80)</td>
<td>34.27</td>
<td>33.60</td>
<td>.87</td>
</tr>
<tr>
<td>Normative (Scale: 3-12)</td>
<td>9.91</td>
<td>8.98</td>
<td>2.95**</td>
</tr>
<tr>
<td>Personality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety (Scale: 10-30)</td>
<td>13.51</td>
<td>13.51</td>
<td>.00</td>
</tr>
<tr>
<td>Extraversion (Scale: 9-27)</td>
<td>18.25</td>
<td>18.57</td>
<td>-.82</td>
</tr>
<tr>
<td>Loneliness (Scale: 10-80)</td>
<td>35.00</td>
<td>36.86</td>
<td>-1.57</td>
</tr>
<tr>
<td>Education (Scale: 1-7)</td>
<td>4.43</td>
<td>5.60</td>
<td>-7.22***</td>
</tr>
<tr>
<td>Income* (Scale: 1-8)</td>
<td>4.90</td>
<td>7.15</td>
<td>-10.56***</td>
</tr>
<tr>
<td>Health* (Scale: 0-3)</td>
<td>1.59</td>
<td>2.24</td>
<td>-5.62***</td>
</tr>
<tr>
<td>Marital status (Scale: 0-1)</td>
<td>.14</td>
<td>.69</td>
<td>-9.28***</td>
</tr>
<tr>
<td>Friendship quality (Scale: 0-3)</td>
<td>2.25</td>
<td>2.36</td>
<td>-1.26</td>
</tr>
<tr>
<td>Depression (Scale: 0-10)</td>
<td>1.95</td>
<td>.91</td>
<td>4.17***</td>
</tr>
</tbody>
</table>

\(n=93, *n=99.\)

\(*p<.01, ***p<.001.\)

year age range, and at present time. These results are presented in Figure 4. Oldest old adults rated consistently higher than adult children on perceived closeness over time.

The multivariate analyses of variance indicated significant main effects for generation, \(F(1,99) = 60.18, p<.001,\) and for time, \(F(5,95) = 18.31, p<.001.\) In addition, there was a significant interaction effect for generation X time, \(F(5,95) = 3.89, p<.01,\) indicating that oldest old adults’ and adult children’s perceptions of relationship closeness particularly differed during adolescence and the 20-30 year age range.
Table 5 summarizes results from the univariate analysis of variance, indicating that oldest old adults perceived the relationship as closer than did their children over all time periods. The effect size indicates that the greatest differences in perceptions of closeness were during the teen and young adult years.

Correlations

The third analysis computed bivariate correlations in order to examine the relationship between variables for each generation and to examine the relationship between generations on each variable (Table 6). The corresponding covariation matrix is provided in Appendix B. The bold correlation coefficients on the diagonal describe between-generation correlations on the same variable. First, intergenerational correlations will be addressed.
Table 5

Intergenerational Differences on Relationship Closeness for Oldest Old Adults and their Children.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean Oldest Old Adults</th>
<th>Mean Adult Children</th>
<th>Effect size*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood</td>
<td>7.76</td>
<td>6.68</td>
<td>.08***</td>
</tr>
<tr>
<td>Adolescence</td>
<td>7.34</td>
<td>5.62</td>
<td>.43***</td>
</tr>
<tr>
<td>20-30 years</td>
<td>7.45</td>
<td>5.76</td>
<td>.12***</td>
</tr>
<tr>
<td>30-40 years</td>
<td>7.46</td>
<td>6.01</td>
<td>.18***</td>
</tr>
<tr>
<td>40-50 years</td>
<td>7.63</td>
<td>6.38</td>
<td>.04***</td>
</tr>
<tr>
<td>Present time</td>
<td>8.01</td>
<td>6.85</td>
<td></td>
</tr>
</tbody>
</table>

Note. df = 6, n = 100.
*Effect size for current time was the comparison variable.
***p<.001.

While there were no significant correlations between generations on loneliness nor attachment, there was a significant positive relationship between oldest old adults and their adult children on affective $r(100) = .28, p<.01$, and associative, $r(100) = .66, p<.001$ solidarity. In addition, oldest old adults’ education and income were positively related to adult children’s education and income, $r(100) = .45, p<.001$ and $r(93) = .25, p<.05$, respectively.

Next, correlations of variables were examined by generation. Loneliness was negatively related to affection for oldest old adults, $r(100) = -.45, p<.001$, but there was no significant correlation between loneliness and affection for adult children. However, there was a significant negative correlation between loneliness and association for both oldest old adults and their adult children, $r(100) = -.21, p<.05$; $r(100) = -.24, p<.05$, respectively. There was no significant relationship between loneliness and normative solidarity for either oldest old adults or their children. Loneliness was positively related to anxiety for both oldest old
Table 6

Correlation Matrix of the Variables from Oldest Old Adults (Above the Diagonan) and from Adult Children (Below the Diagonan)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criterion Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1- Loneliness</td>
<td><strong>.01</strong></td>
<td>-0.20</td>
<td>-0.45***</td>
<td>-0.21*</td>
<td>-0.05</td>
<td>0.45***</td>
<td>0.00</td>
<td>0.03</td>
<td>-0.21</td>
<td>-0.34**</td>
</tr>
<tr>
<td><strong>Predictor Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Attachment Solidarity</td>
<td>-0.16</td>
<td><strong>0.08</strong></td>
<td>0.40***</td>
<td>0.05</td>
<td>0.02</td>
<td>-0.11</td>
<td>-0.03</td>
<td>-0.20*</td>
<td>-0.10</td>
<td>0.12</td>
</tr>
<tr>
<td>3- Affective</td>
<td>-0.12</td>
<td><strong>0.62</strong>*</td>
<td><strong>0.28</strong></td>
<td><strong>0.39</strong>*</td>
<td>0.02</td>
<td>-0.29**</td>
<td>-0.08</td>
<td>-0.03</td>
<td>-0.00</td>
<td>0.24*</td>
</tr>
<tr>
<td>4- Associative</td>
<td>-0.24*</td>
<td><strong>0.33</strong>*</td>
<td><strong>0.46</strong>*</td>
<td><strong>0.66</strong>*</td>
<td>-0.01</td>
<td>0.13</td>
<td>0.07</td>
<td>0.25*</td>
<td>0.26*</td>
<td>-0.03</td>
</tr>
<tr>
<td>5- Normative</td>
<td>-0.17</td>
<td><strong>0.37</strong>*</td>
<td><strong>0.25</strong></td>
<td>0.14</td>
<td>0.07</td>
<td>-0.10</td>
<td>-0.23*</td>
<td>-0.02</td>
<td>0.09</td>
<td>-0.02</td>
</tr>
<tr>
<td><strong>Personality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6- Anxiety</td>
<td><strong>0.38</strong>*</td>
<td>-0.05</td>
<td>-0.05</td>
<td>-0.01</td>
<td>0.00</td>
<td><strong>0.12</strong></td>
<td><strong>0.40</strong>*</td>
<td>-0.06</td>
<td>-0.08</td>
<td>-0.24*</td>
</tr>
<tr>
<td>7- Extraversion</td>
<td>-0.35***</td>
<td>0.00</td>
<td>-0.01</td>
<td>0.14</td>
<td>0.07</td>
<td><strong>0.23</strong></td>
<td><strong>0.16</strong></td>
<td>-0.04</td>
<td>0.02</td>
<td>-0.06</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8- Education</td>
<td>-0.15</td>
<td>-0.06**</td>
<td>-0.02</td>
<td>-0.02</td>
<td>-0.10</td>
<td>0.07</td>
<td>-0.19*</td>
<td><strong>0.45</strong>*</td>
<td><strong>0.51</strong>*</td>
<td>0.02</td>
</tr>
<tr>
<td>9- Income</td>
<td>-0.22*</td>
<td>-0.07</td>
<td>-0.05</td>
<td>-0.14</td>
<td>-0.19</td>
<td>0.01</td>
<td>0.07</td>
<td><strong>0.53</strong>*</td>
<td><strong>0.25</strong></td>
<td>0.05</td>
</tr>
<tr>
<td>10- Health</td>
<td>-0.32**</td>
<td>-0.13</td>
<td>-0.09</td>
<td>-0.05</td>
<td>-0.15</td>
<td>-0.26**</td>
<td>0.14</td>
<td><strong>0.19</strong></td>
<td><strong>0.36</strong>*</td>
<td>-0.05</td>
</tr>
<tr>
<td>11- Marital status</td>
<td>0.01</td>
<td>0.06</td>
<td>-0.08</td>
<td>0.02</td>
<td>0.04</td>
<td>-0.06</td>
<td>0.14</td>
<td>-0.10</td>
<td>-0.22**</td>
<td>-1.1</td>
</tr>
<tr>
<td>12- Friendship Quality</td>
<td>-0.56***</td>
<td>0.05</td>
<td>0.01</td>
<td>0.05</td>
<td>0.09</td>
<td>-0.24*</td>
<td><strong>0.29</strong>*</td>
<td><strong>0.15</strong></td>
<td>0.11</td>
<td>0.24*</td>
</tr>
<tr>
<td>13- Depression</td>
<td><strong>0.59</strong>*</td>
<td>0.05</td>
<td>0.03</td>
<td>-0.01</td>
<td>0.16</td>
<td><strong>0.55</strong>*</td>
<td><strong>0.19</strong></td>
<td>-0.17</td>
<td>-0.27***</td>
<td>-0.34***</td>
</tr>
<tr>
<td>14- Proximity</td>
<td>0.13</td>
<td>-0.12</td>
<td>-0.07</td>
<td>-0.65***</td>
<td>-0.05</td>
<td>-0.08</td>
<td>0.04</td>
<td>0.07</td>
<td>0.11</td>
<td>0.05</td>
</tr>
<tr>
<td>Criterion Variable</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1- Loneliness</td>
<td>-.08</td>
<td>-.30**</td>
<td>.65***</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predictor Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Attachment</td>
<td>-.20</td>
<td>-.05</td>
<td>.08</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solidarity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3- Affective</td>
<td>-.09</td>
<td>.31**</td>
<td>-.24*</td>
<td>-.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4- Associative</td>
<td>.07</td>
<td>.15</td>
<td>-.10</td>
<td>-.51***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5- Normative</td>
<td>-.01</td>
<td>-.09</td>
<td>.08</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6- Anxiety</td>
<td>-.24*</td>
<td>.09</td>
<td>-.19</td>
<td>.50***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7- Extraversion</td>
<td>.06</td>
<td>.07</td>
<td>.08</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8- Education</td>
<td>.15</td>
<td>.25*</td>
<td>-.04</td>
<td>-.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9- Income</td>
<td>.35**</td>
<td>.11</td>
<td>-.13</td>
<td>-.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10- Health</td>
<td>-.09</td>
<td>.23*</td>
<td>-.33**</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11- Marital status</td>
<td>-.01</td>
<td>.08</td>
<td>-.03</td>
<td>-.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12- Friendship Quality</td>
<td>.14</td>
<td>-.03</td>
<td>-.23*</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13- Depression</td>
<td>.01</td>
<td>-.31*</td>
<td>.17</td>
<td>-.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14- Proximity</td>
<td>.01</td>
<td>-.09</td>
<td>-.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Bold faced correlations are between generations correlations. 
*p<.05. **p<.01. ***p<.001.
adults, $r_{(100)} = .45, p<.001$ and their children, $r_{(100)} = .38, p<.001$. While loneliness was negatively related to extraversion for adult children, $r_{(100)} = -.35, p<.001$, there was no significant relationship between loneliness and extraversion for oldest old adults. In examining loneliness and the control variables for both samples, loneliness was negatively related to health for oldest old adults, $r_{(99)} = -.34, p<.01$ and their children, $r_{(100)} = -.32, p<.01$ as well as to friendship quality, $r_{(100)} = -.30, p<.01; r_{(100)} = -.56, p<.001$, respectively. In addition, for both oldest old adults and their children, loneliness was positively related to depression, $r_{(100)} = .65, p<.001; r_{(100)} = .59, p<.001$, respectively. While loneliness was negatively related to income for adult children, $r_{(98)} = -.22, p<.05$, there was no significant relationship between loneliness and income for oldest old adults.

Attachment was highly positively related to affection for both oldest old adults, $r_{(100)} = .40, p<.001$ and for their children, $r_{(100)} = .62, p<.001$. While attachment was positively related to current association and normative solidarity for adult children, $r_{(100)} = .33, p<.001$ and $r_{(100)} = .37, p<.001$, respectively, there was no significant relationship between attachment and current association nor normative solidarity for oldest old adults. Affection was positively related to associative solidarity for both oldest old adults, $r_{(100)} = .39, p<.001$ and their adult children, $r_{(100)} = .46, p<.001$. Affection was positively related to normative solidarity for adult children, $r_{(100)} = .25, p<.05$, but there was no significant correlation between affection and normative solidarity for oldest old adults.

Personality was not significantly related to perceived attachment nor current relationships for adult children. However, oldest old adults’ anxiety was negatively related to
affection, $r(100) = -0.29, p<0.01$, while extraversion was negatively related to normative solidarity, $r(100) = -0.23, p<0.05$.

In summary, there was no significant correlation between oldest old adults’ and adult children’s loneliness, but there were significant correlations between generations on affective and associative solidarity. Within generation correlations indicated that associative solidarity had a significant negative correlation with loneliness for both generations, but affective solidarity was significantly correlated with loneliness only in the oldest old adult generation. Evidence was provided that described a significant positive relationship between anxiety and loneliness in both generations, but extraversion was significantly correlated with loneliness only for adult children. Attachment was positively correlated with affective solidarity in both generations, but attachment and associative and normative solidarity were significantly correlated only for the adult child generation. Oldest old adults’ anxiety and affective solidarity as well as extraversion and normative solidarity were negatively related.

Path Analyses

The predictors of loneliness were computed with path analyses in three steps. In the first step, predictors of loneliness were examined within generations (i.e., for oldest old adults and again for adult children), and in the second step predictors of loneliness were examined across generations. The same path model (Figure 5) was used for both analyses. Each analysis was first computed without the control variables and a second time with the control variables in order to determine if personality, attachment, and solidarity retained their effectiveness as predictors of loneliness after controlling for education, income, health,
friendship quality, marital status, depression and proximity. In the third step, path models were computed using the variables identified as significant predictors of loneliness from the previous intragenerational and intergenerational analyses. These post-hoc analyses tested more parsimonious models within and across generations.

In order to analyze the effects of personality, attachment, and solidarity on loneliness, both within generations and across generations, path analyses (with each variable described by a single indicator) were computed using AMOS through SPSS (Arbuckle, 1997). AMOS is based on maximum-likelihood estimation. AMOS computes chi-square and other fit statistics when there are no missing values. In the analyses for this study, $\chi^2$ fit indices, GFI (goodness of fit index) and AGFI (adjusted for degrees of freedom) were used to assess goodness of fit (Jöreskog & Sörbom, 1984). For GFI and AGFI, values close to one indicated a good fit, with unity indicating a perfect fit (Arbuckle, 1997). Whenever possible, multiple group analyses were used to compute within generation predictors of oldest old adults’ and their adult children’s loneliness. For this reason, the fit indices in multiple group
analyses reflect the fit to both groups (i.e., oldest old adults and adult children) simultaneously.

In an analysis with incomplete data (which occurred when the control variables were entered into the equation), AMOS does not display fit indices for testing goodness of fit. Instead, AMOS displays a log likelihood in conjunction with number of parameters. Log likelihood statistics can identify goodness of fit only when two or more models are compared (Arbuckle, 1997). Two models with incomplete data appropriate for comparing goodness of fit were not available in these analyses.

Within-Generation Analyses. The first computation assessed data from the oldest old adult sample. The criterion variable was oldest old adult loneliness. Predictor variables included current affective, associative, and normative solidarity, attachment, and personality defined as anxiety and extraversion (Table 7). Anxiety was found to be positively predictive of loneliness, while extraversion, and affective and associative solidarity were negatively predictive of loneliness. While 34% of the variance was explained for loneliness, 23% of the variance was explained for affective solidarity, 2% for associative solidarity, and 5% for normative solidarity. While the relatively high GFI = .95 indicated an acceptable fit to the data, chi-square statistics, χ²(6) = 36.71, p<.001, and AGFI = .57 indicated that this model was not an optimal fit for the data. When the control variables were entered into the equation (Table 8), anxiety and extraversion were no longer significantly predictive of loneliness. Oldest old adults' affective solidarity retained its significance, while attachment emerged as a significant negative predictor of loneliness. The control variable, depression, was highly positively predictive of loneliness. With the inclusion of the control variables, 61% of the
Table 7

Path Analysis of Oldest Old Adults' Loneliness, Solidarity, and Attachment

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>S.E.</th>
<th>C.R.*</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td></td>
<td></td>
<td></td>
<td>.34</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.05</td>
<td>.47</td>
<td>-.52</td>
<td></td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td>-.25</td>
<td>.11</td>
<td>-2.73</td>
<td></td>
</tr>
<tr>
<td>Associative Solidarity</td>
<td>-.16</td>
<td>.08</td>
<td>-1.97</td>
<td></td>
</tr>
<tr>
<td>Normative Solidarity</td>
<td>-.05</td>
<td>.29</td>
<td>-.55</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.21</td>
<td>.22</td>
<td>-2.30</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.47</td>
<td>.20</td>
<td>5.07</td>
<td></td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td>.37</td>
<td>.38</td>
<td>4.19</td>
<td>.23</td>
</tr>
<tr>
<td>Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.27</td>
<td>.17</td>
<td>-2.79</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.04</td>
<td>.19</td>
<td>.45</td>
<td></td>
</tr>
<tr>
<td>Associative Solidarity</td>
<td>.06</td>
<td>.56</td>
<td>.61</td>
<td>.02</td>
</tr>
<tr>
<td>Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.13</td>
<td>.25</td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.02</td>
<td>.28</td>
<td>.20</td>
<td></td>
</tr>
<tr>
<td>Normative Solidarity</td>
<td>.02</td>
<td>.15</td>
<td>.16</td>
<td>.05</td>
</tr>
<tr>
<td>Attachment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.01</td>
<td>.07</td>
<td>-.13</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.22</td>
<td>.08</td>
<td>-2.10</td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>.01</td>
<td>.05</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 indicates significance at .05 level.

Next, path modeling was used to examine the adult children's loneliness predicted by personality, attachment, and the three solidarity dimensions: affective, associative, and normative (Table 9). For the adult children sample, extraversion was found to be negatively
predictive of loneliness, while anxiety was positively predictive of loneliness. In addition, attachment was positively predictive of affective, associative, and normative solidarity. For adult children, 39% of the variance in loneliness was explained, 39% of the variance was explained for affective solidarity, 13% for associative solidarity, and 14% for normative solidarity. While the relatively high GFI = .95, indicated an acceptable fit to the data, chi-square statistics, $\chi^2(6) = 36.71, p<.001$, and AGFI = .57, indicated that this model was not an optimal fit for the data. When the control variables were entered into the equation, adult children’s extraversion continued to be a significant predictor of loneliness, however anxiety was no longer found to predict loneliness (Table 10). Associative and normative solidarity
Table 9

Path Analysis of Adult Children’s Loneliness, Attachment, Personality, and Solidarity

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
<th>C.R.*</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td>.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>-.07</td>
<td>.36</td>
<td>-.67</td>
<td></td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td>.05</td>
<td>.08</td>
<td>.49</td>
<td></td>
</tr>
<tr>
<td>Associative Solidarity</td>
<td>-.16</td>
<td>.08</td>
<td>-1.92</td>
<td></td>
</tr>
<tr>
<td>Normative Solidarity</td>
<td>-.10</td>
<td>.32</td>
<td>-1.20</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.43</td>
<td>.26</td>
<td>-5.23</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.48</td>
<td>.21</td>
<td>5.89</td>
<td></td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td>.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>.62</td>
<td>.33</td>
<td>7.90</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.02</td>
<td>.27</td>
<td>-.29</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.01</td>
<td>.32</td>
<td>.16</td>
<td></td>
</tr>
<tr>
<td>Associative Solidarity</td>
<td>.13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>.33</td>
<td>.35</td>
<td>3.53</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.02</td>
<td>.28</td>
<td>-.21</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.15</td>
<td>.34</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td>Normative Solidarity</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>.37</td>
<td>.08</td>
<td>3.91</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.01</td>
<td>.07</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.07</td>
<td>.08</td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.06</td>
<td>.08</td>
<td>-.53</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>.01</td>
<td>.10</td>
<td>.10</td>
<td></td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 indicates significance at .05 level.

emerged as negative predictors of loneliness. Depression was found to positively predict loneliness, while friendship quality was found to negatively predict adult children’s loneliness. With the inclusion of the control variables, 68% of the variance in loneliness was explained.
Table 10

Path Analysis of Adult Children’s Loneliness, Attachment, Personality, and Solidarity with
the Inclusion of Control Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>SE</th>
<th>C.R. *</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td>.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>-.07</td>
<td>.27</td>
<td>-.86</td>
<td></td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td>.02</td>
<td>.06</td>
<td>.30</td>
<td></td>
</tr>
<tr>
<td>Associative Solidarity</td>
<td>-.16</td>
<td>.06</td>
<td>-2.64</td>
<td></td>
</tr>
<tr>
<td>Normative Solidarity</td>
<td>-.17</td>
<td>.24</td>
<td>-2.79</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.21</td>
<td>.22</td>
<td>-3.11</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>.14</td>
<td>.21</td>
<td>1.38</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-.05</td>
<td>.42</td>
<td>-.71</td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>-.11</td>
<td>.39</td>
<td>-1.53</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>-.09</td>
<td>.82</td>
<td>-1.24</td>
<td></td>
</tr>
<tr>
<td>Friendship quality</td>
<td>-.31</td>
<td>.91</td>
<td>-4.70</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td>.04</td>
<td>.58</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>.35</td>
<td>.38</td>
<td>4.48</td>
<td></td>
</tr>
<tr>
<td>Proximity</td>
<td>.01</td>
<td>.24</td>
<td>.10</td>
<td></td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 indicates significance at .05 level.

Between-Generation Analyses. The second step in the structural equation analyses addressed the relationship between personality, attachment, and dimensions of solidarity and the loneliness of the other generation. First, oldest old adults’ loneliness was regressed on adult children’s attachment, solidarity (i.e., affective, associative and normative), and personality (i.e., anxiety and extraversion), initially without the inclusion of the control variables and then with the control variables entered into the equation. Next, adult children’s loneliness was regressed on oldest old adults’ attachment, solidarity and personality. Both standardized and unstandardized coefficients are reported based on Pedhazur’s (1982)
recommendation that b's should be used when comparisons of causal models are made across different groups.

While adult children's affective solidarity was negatively predictive of oldest old adults' loneliness, there were no significant relationship between adult children's associative and normative solidarity and oldest old adults' loneliness (Table 11). There was no relationship between attachment and loneliness, but adult children's anxiety was positively predictive of oldest old adults' loneliness. Ten percent of the variance in oldest old adults'

Table 11
Path Analysis of Oldest Old Adults' Loneliness Predicted by Adult Children's Attachment, Solidarity, and Personality

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>b</th>
<th>C.R.*</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1 Loneliness</td>
<td></td>
<td></td>
<td></td>
<td>.10</td>
</tr>
<tr>
<td>G2 Attachment</td>
<td>.12</td>
<td>.37</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>G2 Affective Solidarity</td>
<td>-.24</td>
<td>-.18</td>
<td>-2.00</td>
<td></td>
</tr>
<tr>
<td>G2 Associative Solidarity</td>
<td>-.13</td>
<td>-.11</td>
<td>-1.30</td>
<td></td>
</tr>
<tr>
<td>G2 Normative Solidarity</td>
<td>-.01</td>
<td>-.02</td>
<td>-.06</td>
<td></td>
</tr>
<tr>
<td>G2 Extraversion</td>
<td>-.08</td>
<td>-.22</td>
<td>-.78</td>
<td></td>
</tr>
<tr>
<td>G2 Anxiety</td>
<td>.20</td>
<td>.48</td>
<td>2.05</td>
<td></td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 identifies significance at .05 level.

loneliness was explained by adult children's attachment, personality and solidarity. While the relatively high GFI = .97, indicated an acceptable fit to the data, chi-square statistics, 

\[ \chi^2(3) = 12.94, p < .005 \]

and AGFI = .68, indicated that this model was not an optimal fit for the data. With the addition of control variables, adult children's affective solidarity retained
its significant relationship with oldest old adults’ loneliness (Table 12). However, adult children’s anxiety and their current associative solidarity were no longer significantly predictive of oldest old adults’ loneliness. Oldest old adults’ depression and friendship quality emerged as significant predictors of loneliness. With the inclusion of measures of

Table 12

Path Analysis of Oldest Old Adults’ Loneliness Predicted by Adult Children’s Attachment, Solidarity, and Personality After Inclusion of Control Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>( \beta )</th>
<th>( b )</th>
<th>C.R.*</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1 Loneliness</td>
<td>.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G2 Attachment</td>
<td>.13</td>
<td>.39</td>
<td>1.37</td>
<td></td>
</tr>
<tr>
<td>G2 Affective Solidarity</td>
<td>-.17</td>
<td>-.12</td>
<td>-2.02</td>
<td></td>
</tr>
<tr>
<td>G2 Associative Solidarity</td>
<td>-.10</td>
<td>-.09</td>
<td>-1.43</td>
<td></td>
</tr>
<tr>
<td>G2 Normative Solidarity</td>
<td>-.08</td>
<td>-.31</td>
<td>-1.12</td>
<td></td>
</tr>
<tr>
<td>G2 Extraversion</td>
<td>.03</td>
<td>.08</td>
<td>.40</td>
<td></td>
</tr>
<tr>
<td>G2 Anxiety</td>
<td>.10</td>
<td>.24</td>
<td>1.41</td>
<td></td>
</tr>
<tr>
<td>G1 Education</td>
<td>.15</td>
<td>.70</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>G1 Income</td>
<td>-.17</td>
<td>-.83</td>
<td>-1.84</td>
<td></td>
</tr>
<tr>
<td>G1 Health</td>
<td>-.12</td>
<td>-1.06</td>
<td>-1.57</td>
<td></td>
</tr>
<tr>
<td>G1 Friendship quality</td>
<td>-.14</td>
<td>-2.01</td>
<td>-1.98</td>
<td></td>
</tr>
<tr>
<td>G1 Marital status</td>
<td>.00</td>
<td>.03</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>G1 Depression</td>
<td>.57</td>
<td>2.25</td>
<td>7.55</td>
<td></td>
</tr>
<tr>
<td>Proximity</td>
<td>.10</td>
<td>.37</td>
<td>1.48</td>
<td></td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 indicates significance at .05 level.

oldest old adults’ education, income, health, friendship quality, marital status, depression, and proximity, 56% of the variance in oldest old adults’ loneliness was explained.

Next, path analysis was used to examine the relationship between oldest old adults’ perceived attachment, current solidarity, personality and adult children’s loneliness. Oldest
old adults' attachment, solidarity, and personality were not significantly related to adult
children's loneliness (Table 13) and explained only 5% of the variance in adult children's
loneliness. While the relatively high GFI = .94, indicated an acceptable fit to the data, chi-
square statistics, $\chi^2(3) = 23.78, p<.001$, and AGFI = .46, indicated that this model was not an
optimal fit for the data.

When the control variables were entered into the equation, adult children's friendship
quality was found to be a significant negative predictor of their own loneliness. In addition,
adult children's depression positively predicted their loneliness (Table 14). With the addition
of the control variables, 56% of the variance in adult children's loneliness was explained.

Trimmed Models. As a third step, analyses were computed using only those variables
that had been found to be significant predictors of relationship closeness and loneliness.

Table 13

Path Analysis of Adult Children's Loneliness as Predicted by Oldest Old Adults' Attachment,
Solidarity, and Personality

<table>
<thead>
<tr>
<th>Variables</th>
<th>$\beta$</th>
<th>$b$</th>
<th>C.R.*</th>
<th>R$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>G2 Loneliness</td>
<td>.03</td>
<td>.20</td>
<td>.32</td>
<td>.05</td>
</tr>
<tr>
<td>G1 Attachment</td>
<td>.05</td>
<td>.06</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td>G1 Affective Solidarity</td>
<td>-.14</td>
<td>-.15</td>
<td>-1.42</td>
<td></td>
</tr>
<tr>
<td>G1 Associative Solidarity</td>
<td>-.06</td>
<td>-.23</td>
<td>-.59</td>
<td></td>
</tr>
<tr>
<td>G1 Normative Solidarity</td>
<td>-.12</td>
<td>-.32</td>
<td>-1.10</td>
<td></td>
</tr>
<tr>
<td>G1 Extraversion</td>
<td>.18</td>
<td>.43</td>
<td>1.59</td>
<td></td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 indicates significance at .05 level.*
Table 14

Path Analysis of Adult Children's Loneliness as Predicted by Oldest Old Adults' Attachment, Solidarity, and Personality After Inclusion of Control Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>b</th>
<th>C.R.*</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>G2 Loneliness</td>
<td>.01</td>
<td>.04</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>G1 Attachment</td>
<td>-.03</td>
<td>-.05</td>
<td>-.44</td>
<td></td>
</tr>
<tr>
<td>G1 Affective Solidarity</td>
<td>-.04</td>
<td>-.04</td>
<td>-.58</td>
<td></td>
</tr>
<tr>
<td>G1 Associative Solidarity</td>
<td>.02</td>
<td>.07</td>
<td>.28</td>
<td></td>
</tr>
<tr>
<td>G1 Normative Solidarity</td>
<td>-.13</td>
<td>-.35</td>
<td>-1.68</td>
<td></td>
</tr>
<tr>
<td>G1 Extraversion</td>
<td>.11</td>
<td>.26</td>
<td>1.34</td>
<td></td>
</tr>
<tr>
<td>G1 Anxiety</td>
<td>-.09</td>
<td>-.58</td>
<td>-1.31</td>
<td></td>
</tr>
<tr>
<td>G2 Education</td>
<td>-.06</td>
<td>-.04</td>
<td>-.82</td>
<td></td>
</tr>
<tr>
<td>G2 Income</td>
<td>-.11</td>
<td>-1.35</td>
<td>-1.50</td>
<td></td>
</tr>
<tr>
<td>G2 Health</td>
<td>-.39</td>
<td>-5.33</td>
<td>-5.47</td>
<td></td>
</tr>
<tr>
<td>G2 Friendship quality</td>
<td>-.09</td>
<td>-.85</td>
<td>-1.31</td>
<td></td>
</tr>
<tr>
<td>G2 Marital status</td>
<td>.41</td>
<td>1.95</td>
<td>5.53</td>
<td></td>
</tr>
<tr>
<td>G2 Depression</td>
<td>.08</td>
<td>.30</td>
<td>1.10</td>
<td></td>
</tr>
</tbody>
</table>

'C.R. greater than 1.96 identifies significance at .05 level.

Within-generation significant predictors of loneliness in the oldest old adult model included attachment, affective solidarity and depression. In addition, affective solidarity was regressed on attachment and anxiety, while normative solidarity was regressed on extraversion (Figure 6). Oldest old adults’ affective solidarity was found to be a significant negative predictor of loneliness, while depression was highly positively predictive of oldest old adults’ loneliness (Table 15). Attachment in childhood was no longer found to be a direct predictor of oldest old adults’ loneliness but both anxiety and attachment indirectly predicted loneliness through affection. The low ratio of chi-square to degrees of freedom, χ²(9) = 11.12, p = .27, and the high goodness-of-fit indices, GFI = .97 and AGFI = .90, associated with this model indicated...
Figure 6. Final model describing predictors of oldest old adults' loneliness.

Table 15

A Trimmed Model of Predictors of Oldest Old Adults' Solidarity and Loneliness

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>S.E.</th>
<th>C.R.*</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td>.51</td>
<td></td>
<td>n/a</td>
<td>.51</td>
</tr>
<tr>
<td>Attachment</td>
<td>-.15</td>
<td>.41</td>
<td>-1.94</td>
<td>.22</td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td>-.25</td>
<td>.10</td>
<td>-3.26</td>
<td>.22</td>
</tr>
<tr>
<td>Depression</td>
<td>.62</td>
<td>.28</td>
<td>8.72</td>
<td>.22</td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td>.37</td>
<td>.38</td>
<td>4.19</td>
<td>.22</td>
</tr>
<tr>
<td>Attachment</td>
<td>.37</td>
<td>.38</td>
<td>4.19</td>
<td>.22</td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.25</td>
<td>.16</td>
<td>-2.84</td>
<td>.22</td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.23</td>
<td>.07</td>
<td>-2.34</td>
<td>.22</td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 indicates significance at .05 level.
an acceptable fit to the data. Oldest old adults’ anxiety, attachment, affective solidarity and depression explained 51% of the variance in loneliness.

The trimmed model for predictors of adult children’s loneliness included loneliness regressed on associative and normative solidarity, on extraversion and on previous control variables: depression and quality of friendships. Adult children’s loneliness was negatively predicted by associative and normative solidarity, by extraversion, and by friendship quality (Figure 7; Table 16). Depression continued to be a strong positive predictor of adult children’s loneliness. In addition, attachment predicted loneliness indirectly through associative and normative solidarity. Attachment, associative and normative solidarity, extraversion, depression, and friendship quality explained 60% of the variance in adult children’s loneliness. The low ratio of chi-square to degrees of freedom, $\chi^2(14) = 20.50, p = .12$, and the relatively high goodness-of-fit indices, GFI = .95 and AGFI = .88, associated with this model indicated an acceptable fit to the data.

The final model describing predictors of oldest old adults’ loneliness across generations included adult children’s affective solidarity and oldest old adults’ depression and quality of friendships. Because affective solidarity was the only adult child variable that significantly predicted oldest old adults’ loneliness, a trimmed model was not computed. In addition, because adult children’s loneliness was not significantly predicted by oldest old adults’ relationship closeness, a trimmed model was not computed.

In the initial stages of this study, the models assessed, based on chi-square statistics, did not optimally fit the data. However, when the within-generation models were trimmed post-hoc, the more parsimonious models fit the data well.
Summary. In summary, relationship closeness and loneliness were predicted differently dependent on the generation being assessed (Figure 8). Oldest old adult loneliness was negatively predicted by affective solidarity. Oldest old adults’ attachment was positively predictive of affective solidarity, while oldest old adults’ anxiety was negatively predictive of affective solidarity. Affective solidarity served as a mediator between loneliness and anxiety and attachment. Extraversion was negatively predictive of normative solidarity. Depression, a control variable, was also a strong positive predictor of oldest old adults’ loneliness.

Adult children’s loneliness was predicted by extraversion, and associative and normative solidarity. Adult children’s attachment predicted affective, associative, and
Table 16

A Trimmed Model of Predictors of Adult Children’s Solidarity and Loneliness

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>S.E.</th>
<th>C.R.*</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td></td>
<td></td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td>Associative Solidarity</td>
<td>-.17</td>
<td>.06</td>
<td>-2.63</td>
<td></td>
</tr>
<tr>
<td>Normative Solidarity</td>
<td>-.18</td>
<td>.24</td>
<td>-2.82</td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.17</td>
<td>.21</td>
<td>-2.54</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>.49</td>
<td>.32</td>
<td>7.37</td>
<td></td>
</tr>
<tr>
<td>Friendship quality</td>
<td>-.34</td>
<td>.93</td>
<td>-4.94</td>
<td></td>
</tr>
<tr>
<td>Affective Solidarity</td>
<td></td>
<td></td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>Attachment</td>
<td>.62</td>
<td>.33</td>
<td>7.92</td>
<td></td>
</tr>
<tr>
<td>Associative Solidarity</td>
<td>.33</td>
<td>.35</td>
<td>3.50</td>
<td>.11</td>
</tr>
<tr>
<td>Attachment</td>
<td>.37</td>
<td>.08</td>
<td>3.90</td>
<td>.13</td>
</tr>
</tbody>
</table>

*C.R. greater than 1.96 indicates significance at .05 level.

normative solidarity. Attachment was indirectly predictive of loneliness through associative and normative solidarity. In addition, the control variables, depression and quality of relationship with friends, significantly predicted adult children's loneliness.

Looking across generations, oldest old adults’ loneliness was predicted by their adult children’s assessment of affective solidarity. Adult children’s loneliness was not predicted by the oldest old adult generation.
Figure 8. A model comparing oldest old adults and their adult children on predictors of relationship closeness and loneliness (adult children’s coefficients are in parentheses).

Interview Results

The results of the semi-structured interviews with four intergenerational family units will be presented in the following sections. After the data were analyzed, all participants of the qualitative study were given copies of the results of the content analyses (with an accompanying letter requesting response if there were any concerns, questions, or comments about the analyses) in order to cross check the researcher’s interpretations. Participants from three separate intergenerational family units responded favorably to what had been written. The participant from the remaining family unit did not respond which was an indication that he did not have questions or comments to make about the analyses. In order to preserve confidentiality of family members, results are not presented as case studies.

This portion of the study was designed to explore and compare oldest old adults’ and their children’s perceptions of factors affecting relationship closeness over the life span.
Participants were asked to draw a relationship life line from the time the adult children were born to current time and beyond (i.e., to describe the anticipated future relationship). Once the relationship life line was drawn, participants were invited to talk about the path they had drawn and to describe factors that influenced the relationship. The interviewer interspersed questions for clarification and addressed hypothesized topics (i.e., events, educational and financial status, friendships, marriage, and expectations), if the participant did not volunteer information on these topics.

The results of the qualitative study will be summarized in four steps. First, findings describing relationship closeness will be compared and contrasted to findings from the first part of the study. Second, the factors hypothesized to influence relationship closeness over the life span (i.e., life events, educational and financial status, friendships, marriage, and expectations) will be assessed. Third, additional emerging factors that were not initially hypothesized as being important will be examined. Finally, examples will be given to compare a child's and a parent's perception of the same relationship, siblings' views of the relationship with a common parent, and a parent's perception of relationship closeness with different children.

Comparisons and Contrasts Between Quantitative and Qualitative Findings

This section will be used to highlight findings from the qualitative study describing (1) attachment during childhood, (2) current affection, (3) current association, and (4) normative solidarity (i.e., perceived expectations and obligations) across the life span.
Comparisons will be made between findings from the quantitative and qualitative study on the influence of attachment and personality on dimensions of solidarity.

**Attachment.** Attachment in the adult child’s childhood was defined in the quantitative study as level of the parent’s warmth and responsiveness and was assessed by both parents and children. Being supportive and feeling comfortable in the relationship were indicative of positive attachment. The qualitative study helped explain attachment as parents and their children described factors contributing to attachment.

A couple of parents explained that desperately wanting children influenced their warmth and responsiveness. One parent drew the relationship path during childhood at the very top of the grid, explaining that past efforts to have children had failed. Finally, full tenue of a pregnancy occurred:

> when the little girl came, she was a beautiful child and a honey in every possible respect....We were so thrilled and so happy and so pleased that I just frankly couldn’t quite see how I could make that mark any lower. She was always sweet and responsive....And all in all her childhood, in my opinion, was as delightful a childhood as parents could ask for.

From the viewpoint of one adult child, attachment meant being comfortable with a familiar relationship and being able to depend on the parent: “...as a child, you’re just dependent....you live with them; you’re a little community and you’re a family and you don’t know anything outside of the family and you’re very trustworthy of the person—of the people that are raising you.”

Parents who were supportive, responsive and close contributed to adult children’s feelings of attachment:
Well, I think from the years that a child would be aware of that relationship...we were a very close family; very family oriented. And...with my father...he was always there. He was never gone for extended periods. He was always attentive and he was always receptive to anything I ever said or did. He was very supportive.

The qualitative study also found that sometimes parents were not so responsive nor warm. One child alluded to a relationship that was influenced by parental demands more than warmth: "(parent) was not...I would say a warm type of person, you know. Honesty was important." As a child "you did it (i.e., whatever parent asked the child to do) because you had to do it and because...(parent) wanted you to do it rather than kind of talking you into doing it and reasoning things out a little bit."

In summary, parents and children in the qualitative study provided examples of attachment that supported the definition of attachment in the quantitative study. From the viewpoint of parents, a strong desire to have children contributed to responsiveness and warmth. Warm, responsive, supportive parents and a comfortable parent-child relationship appeared to contribute to adult children’s feelings of positive attachment. In addition, lack of parental warmth in combination with demands appeared to detract from a warm attachment.

**Current Affection.** Affection was not always clearly identified. Parents used derivatives of the word “love” and spoke of “feelings” more often than did their adult children. In addition, while parents more often described affection from their adult children, adult children were more likely to allude to their affection for their parent. In the quantitative study, affection was measured by trust, respect, fairness, understanding, communication and feelings of closeness. These same descriptors will be used to assist in highlighting affectionate relationships in this section.
One parent described being kissed as a lovable act from adult children:

(Child) is lovable and (child) will come and (child) always kisses me. (Another child) comes and puts (child’s) face up for me to kiss.

Adult children most often approached affection as the affection they felt for their parent rather than considering their parent’s affection for them. In addition, adult children rarely used the word “love.” Respect for a parent, understanding, and desire to care for a parent were some descriptors used to express affection. While several children alluded to the respect they felt for their parents, one child expressed an increase of respect over time:

I do think that the older I’ve gotten, the more respect I have for my father and the wiser I think he is. I’m sure I did not always feel this way but I certainly do now.

Understanding between parent and child was also a descriptor of affection. One child commented: “I don’t think—although I could say something that hurt her feelings—but, y’know, there’s that understanding between us.” And, finally, one son defined his feelings of affection for his father by explaining that he cared for his father because “you want to do it. And so, you know, it isn’t a burden or a sacrifice in any way…."

In summary, parents often talked about the current affection they felt from their child, while adult children were more likely to refer to affection for their parent, although the word “love” was rarely used. Instead, adult children more often talked about respect, understanding and assisting the parent because they wanted to rather than because they felt an obligation to do so.
Association. Association in the quantitative study was described by frequency of interaction; proximity was assessed as a question separate from the measure of association. In the qualitative study, proximity appeared to be especially important to adult children in maintaining a close relationship as is demonstrated with the following examples. Living in closer proximity permitted “a little easier to see her…that’s where we got a little bit-, a little closer,” as one adult child commented in reference to the relationship life line that was drawn up hill. Even though one son and his father had maintained contact through telephone calls and letters over the years, he still maintained:

C Well, yeah, a lot of telephone calls, and, ah, letter writing. And of course we visited….But it still isn’t the same as when you’re in a more proximal situation.

I That sounds like an important part of the relationship—just the closeness in miles.

C Oh, yes, I think so. I think emotionally you’re just as close but, you know, you’re not, ah, you’re not on a daily basis of communication.

Another adult child and her husband chose to change residences so that they could live closer to their parents:

And the reason we moved was to be closer to our families. I didn’t want our children to grow up not knowing their grandparents, because I thought that was such an important part of my life….

The importance of proximity appeared to escalate for adult children when they lived some distance from their parents (or had done so in the past). In contrast, one child who lived within 5 miles of his parent, did not even mention proximity as an issue in relationship closeness.
Proximity did not always increase relationship closeness; sometimes closer proximity decreased the closeness of the relationship. For example, an adult child was asked if closer proximity affected the parent-child relationship. The adult child indicated that closer proximity in conjunction with the parent’s personality might make the relationship a little harder:

Ah, it might make it just a little harder. You notice, I didn’t draw the line (i.e., the relationship life line which was near present time) up a little. I kind of kept it at a straight line; it might be going down a little bit but not an awful lot. But, you know...when you’re...around (parent) more, you’ve got to deal with (parent’s) arbitrariness a lot more...the fact that (parent is) so inflexible.

Proximity did not appear to be so important to parents in maintaining relationship closeness with their children because they still communicated. One parent responded to the interviewer:

I How is it now...with (child) retired? Do you see them more often, or does it—-? Do you think that makes your relationship any closer....?

P No; we talk every Sunday.

In addition, frequency of association was not necessary for relationship closeness when parents and children each had their own activities. One parent said:

I do what I want to do and (child) does what (child) wants to do, and I am happy with what (child) is doing and (child) is so glad I am here.... (Child) says, “Well my (parent) is just so busy all the time sometimes I don’t even get a chance to talk to (parent). (Parent) won’t answer the phone” (the parent says this with pride)....Then I have them over for dinner every couple of months. They are so busy I don’t do it often.
Other factors such as health influenced association in relationships. One parent commented about a child’s presence during (the parent’s) illness (the child is a nurse):

...when I have been ill, and last year I was to the hospital twice and (name of a person) called (daughter). The first thing (child) said, should I come? So that gave us a good feeling....

In summary, proximity was found to be a major factor in establishing relationship closeness for adult children. However, close proximity did not always define a closer relationship. Proximity might increase conflict, or relationship closeness might be maintained through telephone calls despite distal proximity. Proximity and association did not appear to be as important to parents as it was to their adult children in maintaining relationship closeness. Association for one older parent was more important when health was an issue.

**Normative Solidarity.** Normative solidarity in the quantitative portion of this study identified broad issues of filial obligations as perceived by oldest old adults and their adult children. The personal nature of the qualitative study permitted a closer scrutiny of how normative solidarity (i.e., expectations and feelings of obligation in the qualitative study) influenced the parent-child relationship. This section will provide examples that identify parents as the initiators of expectations and describe how expectations appeared to have a strong influence on behavior. The examples will also demonstrate that expectations were relatively stable for some, but changed for others. First, examples will be given demonstrating parents’ expectations of their children and of themselves. Next, examples will be provided to demonstrate that adult children almost always spoke of the expectations parents had of them.
Parents most often spoke of the expectations they had of their children's behavior both during the child's younger years and at present time. In order to disclose the stability of expectations over time, in some instances both past and current expectations will be provided. In one case, a parent drew the relationship life line consistently high for an adult child and explained how the child had met her parent's expectations in childhood:

She was always sweet and responsive. So obviously she joined the little things—campfire girls and girl scouts and things like that. And conducted herself so nicely. And in school she did well, very well.....She had friends. Lots and lots of little friends. And all and all her childhood in my opinion was as delightful a childhood as parents could ask for. Teenage of course there is a little inclination to rebel once in a while, “Why can't I stay longer or why must I go here,” and that sort of thing. Never serious.

The parent continued to express pleasure in the way this child behaved over time, and currently the parent described extreme pride in this child in the following words: “Very, very proud. Who wouldn’t be?”

In contrast, another parent described high expectations for her child at birth. When the child was older, “a little trouble” occurred, but it was expected—“nothing of a serious nature.” But as time passed, this child did not meet the parent’s expectations. Over time, this parent’s expectations changed. At the current time, the parent states “...but after what I have gone through for (a stated number of) years—....Down in my heart I am pessimistic.” The path of the relationship life line was near the bottom of the grid.

Parents also indicated that they had certain expectations of how they should behave in relation to their children. The familial norm of one parent was not to interfere in adult children’s married lives. This parent explained:
...we would never come unless we were invited. Or if we had something we wanted to come by for, we would never come without calling. And I know (spouse of child) was a little uncomfortable at first. But we left them entirely alone and they would come to our house for meals or invite them for this and that.

Adult children almost always spoke of their response to parents’ expectations of them. On only one occasion was a passing comment made expressing a child’s expectations of her parent’s behavior: “Now sometimes I...sometimes feel like--well, (parent) is (an identified age) years old and (parent) doesn’t have time to come up and see me and I, and that just astonishes me.”

Adult children’s perceptions of their parents’ expectations influenced their behavior as the following example portrays:

...you know, it's the only (parent) you got so, so you put up with the (parent) you got....And (parent) knows I'll look after (parent’s) interests; (parent is) trusting and I will look after (parent’s) interests, you know; and protect (parent) but it's...more of a--...you take care of your (parent) and that's the right thing to do. It's...more of that type of relationship; It's not that...I do it because I have this tremendous warmth towards my (parent); I do it because it's the only (parent) I got and, and (parent) needs help and you do it because that's the right thing to do.

Behavior appeared to be influenced by expectations. One child indicated that her mother did not expect her children to make her happy; the mother had her own life and “she doesn’t ever make us feel guilty.”

In summary, adult children almost always addressed expectations they felt from their parents, while parents were more likely to talk about both their expectations of their children’s and their expectations of their own behavior. Expectations, such as staying out of adult children’s married lives and providing protection for a parent, appeared to have a
strong influence on behavior. While expectations were relatively stable over time, some expectations did change.

**Attachment and Personality as Predictors of Solidarity.** In the first part of the study, significant positive relationships were found between retrospective perceptions of attachment and affection in current relationships of both oldest old adults and their adult children. In seven out of eight cases in the qualitative study, participants drew relationship life lines that described relationships in childhood and at current time as very similar even when there were dips in between.

Children who currently had affectionate relationships with their parents were likely to recall close relationships from childhood even though the relationship was likely more distant during adolescent and young adult years. One child stated:

> I remember being very close to my (parent)....I was really wanted....We did everything as a family. Thirteen (i.e., in reference to age) drops down drastically and I don't know that it—I hope I didn't make that look like an abnormal drop, but as a teenager I didn't really want to be around my parents at all.

Association also played an important part in maintaining childhood attachment. One son described a strong attachment to his father during childhood; the relationship life line almost touched the top grid line in childhood. Over the years, even though the father and son were separated by distance and the son's busy schedule, association continued through letters, telephone calls, and visits. The son explained that the current increased closeness was based on closer proximity as well as admiration and respect for his father.

Childhood attachment and normative expectations at current time were also related. For example, past relationships that were remembered as difficult for adult children
influenced current relationships. One child who recalled a parent as “doing things that I think—, you know when we were kids, that used to just drive me up a wall—that inflexible behavior,” responded with the following statement when asked what the current relationship was like with the parent: “I think duty...more than a real loving caring type of relationship.”

In the quantitative portion of this study, oldest old adults who were anxious (i.e., high on tension, apprehension, and emotionality) were less likely to perceive their relationship with their children as close. Two parents who described conflictual relationships with one or more of their children in the qualitative study, also rated themselves as being somewhat anxious on the 16PF Scale in the quantitative study.

In the quantitative study, extraverted oldest old adults were less likely to express normative solidarity. In the qualitative study, an example of this was provided by a mother whose child described her as “strong,” “sensible,” “people are what mean the most to her,” and as having “a real good sense of humor” (i.e., descriptors of extraversion). The mother described herself as undemanding in her relationship to her children: “I am not demanding. Really made it a point to let them go and not interfere unless—and I can’t even think of anything real serious.” This type of behavior described a low level of normative solidarity in the current study.

Parents and children often spoke of the personalities of other family members as conducive to relationship closeness or as handicapping relationship closeness. One parent described difficulty with a child based on the child’s “bossiness...he was mouthy, you know!” However, personality was not necessarily the only component of relationship closeness as one parent said of a child, “She has a wonderful personality. She can, if you
talked with her, you say, gosh this girl is brilliant. Her command of the language is excellent; she meets people quite well....” Despite personality, the relationship between these two family members was a difficult one.

In summary, the qualitative portion of this study supported quantitative findings from the larger sample: oldest old adults’ retrospective perceptions of attachment were positively related to current relationships. If early relationships were warm, current relationships were likely to be warm. If past relationships were difficult, current relationships were more likely to be difficult.

Examples from the qualitative study indicated that adult children’s attachment to their parents related to current levels of closeness, association, and expectations. Children who recalled warm attachments in childhood also described current relationships as warm and talked about maintaining association with their parents. The quality of attachment in childhood was also found to influence normative behavior in the current relationship. Personality of family members was found to affect relationship closeness in the qualitative study. Credibility of the results of this study was heightened by consistency of data between the quantitative and qualitative portions of the research.

Hypothesized Factors Affecting Relationship Closeness

Specific factors were hypothesized to affect relationship closeness of oldest old adults and their adult children including life events, educational status, financial status, friendships, marriage, and expectations. Expectations were addressed in a previous section under normative solidarity so will not be addressed again. While significant events, and
expectations were more likely discussed by family members without prompting, the interviewer often had to ask about the influence of educational status, financial status, friendships and marriage.

**Life Events.** Important life events altered the lives of children and their parents, sometimes influencing relationship closeness. Death increased relationship closeness in some instances. Children were drawn closer to the surviving parent as they recognized their responsibility for supporting this parent and as they became more aware of shrinking family size and shrinking time for association with the parent. One child drew the relationship life line higher after his father died. He said:

...I remained level (referring to the life line)...
until about age fifty, and that’s about the time my dad... died. So...I felt (silence) well, naturally felt closer to my mom than I do my dad.

A little later this comment was made by the same individual:

I think, y’know, Dad’s gone. And I do accept that responsibility to see that she’s taken care of, that she’s happy and healthy....

In another instance, relationship with a mother was affected by the event of a father’s death.

The death created personal trauma for this adult child as it split up the family:

I Did you feel that your dad dying brought you any closer to your mother?

C Closer for a while, but that’s when I moved away.

I ...it was more the distance...that separated you, do you think, more than the fact that your father had died?
C  Probably that had something to do with it; maybe we would have been home more often...cause the family would never have split up. We’d of still been there probably, possibly, if that accident had not happened. I’d probably still be on the farm. And that’s ...why you see that big drop. I moved away; clear down to (town). It really was hard on me.

Health was another event that influenced relationship closeness as described by some oldest old adults and their children. One mother had had several major surgeries over her adult years. The daughter, a nurse, most often came to be with her mother. The mother commented: “She was here for my back surgery, my cancer surgery and that means a lot....it is nice to have her.”

In another instance a child’s ill health required extra attention from the parent: “I held him up more than one night over my shoulder.” One parent described feelings of joy at the birth of a “healthy” baby.

One other major event that appeared to affect the closeness of a parent-child relationship was a change in residence during the child’s adolescent years. The parent drew a decided downward path on the life line to define relationship closeness at that time and proceeded to describe a decline in the child’s behavior. Closeness in the relationship was never recovered. The parent commented: “I don’t know where we went wrong, except going to (name of town). That is the only place that I can see where we went wrong. Because here (referring to the time before the move displayed on the path diagram) she was associating with other (children her age). She was doing well in school.”
Education. Education appeared to affect relationship closeness for some participants. For example, one child agreed that education had a positive influence on the parent-child relationship as it provided a foundation for shared interests in current events, for taking leadership roles in organizations, and education increased the ability to understand people and relationships. In another case, in which the relationship was relatively conflictual, the adult child with a higher educational attainment than that of the parent commented, “I just didn’t want to be like them. And, of course, education was an outlet to get away from being like them.” One child said, “…my (parent)...isn’t intellectual at all...so we’re a little different on the...mind level.” In this case, the relationship remained strong despite the differences in intellectual interests.

Financial Status. Financial status did not emerge as a factor affecting relationship closeness. However, some insights were provided when the question was asked in the interviews. For example, the effects of hard times during the Great Depression were viewed as a positive influence on one parent-child relationship:

And so it was always a nice environment, you know, in spite of the hard times; that was during the Depression years...we didn’t have all of the entertainment that we have today....Everybody had just about the same because there weren’t many things to purchase and as long as you could keep body and soul together was about the only goal anybody had at that point. So, I think people were closer; there were more social activities, church and community, that type of thing....But, I think all of that...brought families closer together at that time....There weren’t all the distractions that we encounter today, too.

Friendships. In most cases, adult children believed that their own friends were welcomed by their parents, so friendships did not appear to be a major determinate of the parent-child relationship. However, one parent was concerned because the child “did not
associate herself with the kind of kids that she should have. She associated herself with the rif raf.” Even in retrospect, this parent expressed disturbed feelings about the child’s behavior and drew the relationship life line lower during the teen years:

And in those... years we repeatedly felt that she was not associating with the right crowd. She... was not in any way regarding our feelings....

In one instance, a child described the influence of the parent’s friendships on the parent-child relationship. After the death of a parent, this adult child talked about the increased closeness of her relationship with her surviving parent and demonstrated this on the life line. Eventually, the parent started to “become more involved in... work and... I felt like (parent) was seeing other people.... We kinda became a little more independent of each other again” (and here the life line showed a dip).

**Marriage.** Marriage was another factor that appeared to affect the closeness of the parent-child relationship. One child responded when asked about marriage:

I  Do you think your marriage influenced your relationship with your mom?

C  Somewhat.

I  In what way?

C  Maybe more distant, I’d say, because you’re trying to make the best of your marriage. There’s always going to be some conflict and ...you’re more apt to go with your spouse as you would, probably, a parent.

Another child indicated that the marital relationship of the parents did not detract from the parent-child relationship by saying: “They had their own life pretty much, but they were
always there for us. We felt like we came first. Now, whether we did or not, I'm sure we
did, but not over their relationship."

In summary, educational status, financial status, friendships, and marriage did appear
to influence parent-child relationships over time. Events were more often recognized as a
major source of influence on the relationship. Some events had more of a contextual effect
on relationships as in the case of the Great Depression. On the other hand, a parent's death
often had a more direct effect: in some cases drawing family members closer together and, in
other cases, creating separation.

**Additional Factors Affecting Relationship Closeness**

The participants disclosed additional factors that influenced intergenerational
relationships. Most of these will be summarized under two headings: social roles, and
individual and environmental influences. Social roles in the relationship included being an
adolescent/teenager, gender of the child, being an only child, being employed, being a parent,
being retired, and being a caretaker. Individual and environmental influences were also
found to affect relationship closeness: the community, a baby's temperament, the influence
of parents through religious beliefs, the example they set, common interests, and being a
mediator for the "other" parent. Evidence of these factors will be provided in this section.

Social Roles. Being an adolescent was described by more than one person and by
both generations as a factor influencing relationship closeness. Often this was only a short
period in the total life span. One adult child explained why the teenage years were
problematic to parent-child relationships. Being a teenager meant leaving the innocence of
childhood and dependency on parents and learning what life was like outside the boundaries of home. New associations and experiences emphasized the importance of one’s own ideas which might differ from those of a parent:

...as a teenager, you know, you got all the answers... and your parents don’t know anything. And, we lived on a farm, so... I only knew my family until I went off to school.... Who else can you turn to to answer questions, except for your parents as a child? ...but then, you know, you get out among others and you see how others live and everything, and you get your own little ideas....

A unique topic identified by some oldest old adults was the gender of the child. A boy baby was greeted with a special measure of joy especially by fathers. One father said, “It was pretty delightful, and he was quite a boy. He really was all boy....” In another case, a mother described how elated a father was when the second baby was a boy:

And when they told me I had a girl, my husband said, “Well, my wife wanted a girl.” And then he was elated when it (i.e., the second baby) was a boy. He left the delivery room and went downtown and told everybody he had a boy.

One mother indicated that because she was an only child, she had a strong desire to have her first child as well as a second child. Other roles that influenced oldest old adults’ closeness to their adult children included the children’s professions (e.g., one daughter was a nurse so she was able to support her mother during her mother’s illnesses), and the responsibilities of an adult child’s employment and parenthood (e.g., “She was kind of grumpy that time. Worried and had all the work to do at home and had buying to do....”). In addition, a retired child had more time to associate with his parent.
The caretaking role was found to influence relationship closeness. One child commented:

C you know we've been caregivers as far as (parent's) concerned....

I Do you think that's influenced your relationship at all?

C I suppose in a sense you could say it brings us closer, but still...you don't consider it part of your job...you just do it because you want to do it...it isn't a burden or a sacrifice in any way.

Individual and Environmental Influences. The environmental context of relationships influenced relationship closeness as well. A unique topic identified by one adult child was the influence of the community on relationship closeness within families.

When the accident happened...all us neighbors, we always worked together. We played cards together. When anybody had a birthday, we had a birthday—. It wasn't even relatives....Everybody knew everybody and everybody helped everybody....That also has an effect on how close you are to your parents.

In one case, the baby's temperament influenced a parent's response to the child. Parents' religious beliefs were found to be influential on current relationship closeness, because the beliefs affected the way life was perceived, as one adult child stated:

The greatest gift they've (included both parents even though father was currently deceased) given us is to know God. Because it makes your vision different. The greatest gift is the gift of faith.

This same adult child was asked to identify the one thing about the parent that most influenced her relationship with that parent over time. She explained that it was her parent's...
responsiveness to the needs of others: "I think, caring for others. Being able to see needs of others and just taking care of it, because you want to."

Two individuals indicated that common interests with a parent were important to relationships closeness. In one case, common interests promoted relationship closeness while in the other case, the relationship between a son and his mother declined as the son began sharing more common interests with his father.

Another child spoke of how influential her mother (currently deceased) had been in her (the child's) close relationship to her father:

As I try to remember back...I think my mom probably deserves a lot of credit for that because my dad has been a very hard worker...and worked long, long hours....My Mom, as I try to remember it, always included my dad whether he was there or not. You know, he was always part of every decision; part of everything. We would wait until eight o’clock at night for him to come home to eat dinner.

Being able to accept one another “as is” as described by one child also apparently influenced the closeness of the relationship:

...she’s learned to accept me as...I am, and I’m willing to accept her as she is. And I think that makes a lot of difference.

A little later in the conversation, this child said again:

Well, y’know, she finally accepted my philosophy and I accepted hers, and...if it was a real serious deal, we never discussed it. If we are gonna get worked up about it, we won’t talk about it.

In summary, several additional factors that had not previously been described as affecting relationship closeness between oldest old adults and their adult children were identified in this section. The social roles of parents and children influenced relationship
closeness. These roles included being a teenager, gender roles, being an only child; the role of an adult child, being employed, being a parent, being retired and being a caretaker. Individual and environmental influences also had an impact on the parent-child relationship. Some factors identified by parents and their children included the community, temperament of a baby, the influence of parents’ religious beliefs, the example parents set, sharing common interests, and the influence of the “other” parent. In addition, learning to accept the other person “as is” had an effect on the relationship.

**Comparisons of Family Members’ Perceptions**

Three different types of comparisons of family members’ perceptions of the parent-child relationship will be drawn in this section. First, a parent’s perception of a relationship will be compared to the child’s perception of the same relationship. Next, siblings’ perceptions of their relationships to a common parent will be compared, and finally an oldest old adult’s perceptions of the relationship with two children in the family will be compared. One family will be selected for each of the three different types of relationships.

**Comparing a Parent’s and a Child’s Perception of the Same Relationship.** Oldest old adults frequently drew their paths higher than did their corresponding adult child. A specific example is provided in Figure 9. Both generations perceived a close relationship during childhood and again at current time, even though the oldest old adult and the adult child did not perceive the middle years similarly.
Figure 9. Relationship life line paths drawn by a parent and corresponding child.
The interview provided the opportunity to understand the differences between the oldest old adult's perceptions of the relationship during the middle years and that of the adult child. Following is the response from the oldest old adult:

I So you were pretty close all the time during childhood.

P Yeah.

I Was there ever a time when that relationship shifted or changed? Any time during his life?

P No... Oh, he wanted to buy something and I told him no. We disagreed but we didn’t argue about it.

I So, how would you draw this? Would you say it stays the same the whole time? (Interviewer was drawing the line at the parent’s direction.)

P Yeah. Okay.

The relationship during the middle years as perceived by the adult child was somewhat different as this child recalled a significant event that precipitated a move away from the parent:

The reason that dips like that....When (other parent) got killed, I moved to (town) and (parent) lived up at (different town). This is kind of when (parent) probably moved back to (town) here (i.e., moving back up the hill after being in the valley) and that’s where we got a little...closer; a little easier to see (parent), and so forth.

Comparing Siblings’ Perceptions of their Relationship to a Common Parent.

Siblings’ perceptions of their relationship with their parent also differed. In one family, the oldest sibling’s perception of the parent-child relationship was drawn relatively stable, neither extensively high nor low (Figure 10). The parent’s personality apparently influenced
Figure 10. Relationship life line paths drawn by siblings.
the path of this relationship. It was continuously a source of contention from childhood years up through present time.

The second sibling, the only daughter, perceived her relationship with her parent in early childhood as one of dependency. It was not until she became a “typical teenager” seeking her independence, that relationship closeness declined. This was followed by time away from home attending school. Relationship closeness increased with marriage and children as she explained:

And I probably was about 25 years of age when I got married. Ah, I don’t know, beyond that—; it’s just, you know, you just realize...your parents (laughs) mean a lot to you and they’ve done an awful lot for you...you don’t realize that until you get away from home and start out on your own—marriage; maybe a family.

The third sibling identified a very close, stable relationship with the parent until the other parent died which lead to a move away from the family home, new employment, and marriage. It was not until the child and parent were once again living in closer proximity that relationship closeness increased. As has been demonstrated, each sibling viewed the parent-child relationship from a different perspective (i.e., personality, recognizing the value of relationships, and the death of a parent).

Comparing an Oldest Old Adult’s Perception of Relationships with Different Children in the Family. Similarities and differences were observed in comparing an oldest old adult’s perception of relationships with two children (Figure 11). While closeness with the children was described as fairly similar through early adulthood, closeness with the daughter consistently increased over time, while closeness with the son remained stable. The parent explained that the relationship with both children was fairly close during early
Path drawn by parent describing relationship with oldest child (son)

Path drawn by parent describing relationship with second child (daughter)

Figure 11. Relationship life line paths drawn by a parent for two children.

count but changes occurred for the oldest child when he entered college and got "bold," and the second child when she left home for school and "got ugly towards me!" When each child married, the relationship improved. While the parent perceived the relationship with the son as relatively stable, the relationship with the daughter continued to improve. The
parent was not sure why the relationship with the daughter became closer and wondered if it might have been her marriage, or religious involvement:

After she was married for awhile, she changed. She became CLEAR DIFFERENT! She does everything now....—if she realized, between her husband and her, what she was doing and they did something that corrected it. I don’t know....something changed. She’s so different now! Now she’ll do everything for me! Honest!!

In summary, parents’ and children’s relationship life lines differed based on their different perceptions of the relationship. Siblings perceived quite different relationships to the same parent. And finally, a parent perceived different relationships with different children. Consistency between verbal and visual data provided by oldest old adults and their adult children verified the dependability of the data collected.
CHAPTER IV

DISCUSSION AND CONCLUSION

The purpose of this study was to examine parent-child relationships in later life based on perceptions of relationship closeness over the life span and to assess the influence of parent-child relationship closeness on loneliness of oldest old adults and their adult children. Two different methods of data collection and data analysis were used. This triangulation increased the validity of findings. Questionnaires were administered to over 100 oldest old adults and their adult children in an effort to assess personality, relationship closeness, and loneliness. Four intergenerational family units were selected for more in depth interviews in order to acquire qualitative data that would assist in identifying factors contributing to relationship closeness.

In the first portion of the study, differences and similarities between oldest old adults’ and their adult children’s personality, perceptions of attachment, solidarity, and relationship closeness were assessed. The effects of each generation’s personality and perception of relationship closeness on their own and the other generation’s loneliness were estimated. The second part of the study used the Life-Line Interview Method (LIM) (Schroots, 1996; Schroots & ten Kate, 1989) to assess perceived relationship closeness between oldest old adults and their adult children across the entire life span. The LIM permitted each person to visually draw, within a temporal grid, her or his perception of the parent-child relationship. This portion of the study provided “real life” examples of the influence of numerous factors on closeness (and lack of closeness) between parents and their children.
The discussion which follows will be directed by the research questions and hypotheses established at the initiation of this study and after the pilot study (i.e., hypotheses related to personality) and will address the following eight concerns: (1) generational differences of attachment, solidarity, personality, and loneliness, (2) within generation predictions of solidarity and loneliness, (3) cross generation effects on solidarity and loneliness, (4) additional factors contributing to relationship closeness addressed by the qualitative study, (5) conclusions, (6) limitations of the study, (7) future directions and (8) implications. Where appropriate, findings from the qualitative study will be discussed in conjunction with findings from the quantitative study. This method is used because the qualitative nature of this part of the study provided family members with the opportunity to disclose information that could help enlighten or explain the quantitative findings.

Generational Differences

Differences in Relationship Closeness

In partial support of the first hypothesis, results from paired t-tests and multivariate analyses of variance on the Relationship Closeness Scale indicated that oldest old adults perceived attachment, affection, normative solidarity, and relationship closeness to be consistently higher over time than did their adult children. In particular, adult children rated their relationship closeness significantly lower during adolescence and young adulthood.

Results from the life-line method also indicated that oldest old adults most often drew the relationship life line higher than did their adult children. In addition, the qualitative study described differences in perceived relationship closeness between oldest old adults and their
adult children during adolescence and early adulthood, thus providing support for findings in
the quantitative study that found a significant difference between oldest old adults and their
adult children during adolescence and young adulthood.

The results of this study support findings on the intergenerational stake hypothesis
espoused by both Bengtson and Kyupers (1971) and Giarrusso et al. (1995). Bengtson and
Kyupers (1971) used data from middle aged parents and their young adult children and, based
on their findings, proposed that because parents and children had different developmental
concerns, each had a different “stake” in the intergenerational relationship and, thus, rated the
relationship differently. Parents were concerned about passing on values and desired to
maintain close relationships within the family, while young adults were seeking to establish
autonomy from their parents in values and social relationships; thus, parents rated the
relationship higher than did adult children. Giarrusso et al. (1995) used data from older
parents (average age, 63.5 years) and their adult children (average age, 39.5 years) and
compared means over time, finding that the intergenerational stake phenomenon extended
across the life course. Giarrusso et al. (1995) concluded that investment of affect by the older
generation appeared to be greater than investment of affect by the younger generation and
that this was the result of lineage position rather than psychosocial development as Bengtson
and Kyupers (1971) had suggested.

Findings from the current study, based on retrospective data over the life span, would
indicate that there is an element of both lineage position and developmental concerns in the
relationship between oldest old adults (i.e., average age of 90 years) and their adult children
(i.e., average age of 60 years). Results of the current study indicated that, across time, oldest
old adults perceived the relationship to be closer than did adult children which would support Giarrusso et al.'s (1995) findings. In addition (contrary to Giarrusso et al.'s findings), the current study demonstrated that time period also made a difference. Adult children perceived the relationship to be particularly more distant during the adolescent and young adulthood years. One possible explanation for differences in findings between the current study and Giarrusso et al.'s (1995) study is that Giarrusso et al.'s (1995) data did not include childhood, whereas data from the current study described relationships beginning at childhood.

Childhood relationships were often described as close (as was demonstrated by both oldest old adults and their adult children on the relationship life lines); having childhood years with which to compare the rest of the life span may have encouraged more detailed consideration of the adolescent/young adult years.

It is also well to consider that “stake” may be defined differently by parents who are 85 years of age and older than by parents who were middle aged (cf. Bengtson & Kyupers, 1971) or even than parents who averaged 65 years of age (cf. Giarrusso et al., 1995). Oldest old adults are at an age when they are more likely interested in making sense out of their lives as they prepare for their death. This may mean that they consciously select experiences in order to give positive meaning to their lives (Birren, Kenyon, Ruth, Schroets & Svensson, 1996). In the qualitative study, oldest old adults were more likely to talk about affection from their children rather than affection for their children. Oldest old adults may mentally and emotionally construct the relationship with their children as close in an endeavor to understand and feel good about their lives as they approach death.
On the other hand, adult children are perceiving the parent-child relationship over the life span from a different perspective. They likely recall adolescent years as a time of greater distance from parents as they developed their autonomy. In addition, results from the qualitative study indicated that at current time, adult children recognized that there was not much time left with their parents. Having parents who are oldest old, adult children are more likely to be in a position of responsibility for their parents’ happiness. These interpretations coincided with adult children’s talking about their affection for their parents rather than talking about affection from their parents as they might have done during their formative years. Developmental issues likely influence adult children’s perceptions of relationships with their parents (Anderson & Sabatelli, 1995). In addition, retrospective bias will less likely be as apparent in adult children’s responses as their “stake” will less likely be in their parents. Based on norms of society, adult children’s “stake” will more likely be in their family of procreation (White, 1991).

In essence, the current study has provided additional information for understanding relationships between oldest old adults and their adult children over the life span. An increased understanding of why the relationship is perceived differently by oldest old adults and their adult children at different stages in the life span would warrant future research. Further research is also needed to confirm whether, indeed, the intergenerational stake is based on both lineage and developmental factors.
Generational Differences in Loneliness

The second hypothesis that loneliness of oldest old adults would be greater than loneliness of their adult children was not supported by the findings in this study. There were no significant differences between oldest old adults and their adult children on loneliness; however (as will be addressed later in the discussion), manifestations of loneliness were different for each generation. It was hypothesized that oldest old adults would be lonelier because they were widowed and living alone. Weiss (1973) proposed that one of the risks of aging was increased vulnerability to loneliness because relationships were lost through death or changing circumstances. However, while the sample for this study included many widowed oldest old adults, often times they were living either in a nursing home or in a retirement center rather than alone in the community. Russell, Cutrona and de la Mora (in press) suggested that loneliness might motivate individuals to seek admission to nursing homes as a means of achieving desired forms of social contact. Absence of loneliness for oldest old adults in the current study may be a reflection of living in a nursing home or retirement facility. Oldest old adults’ increased opportunity for social contact may partially account for the lack of significant differences between generations on loneliness.

However, the current findings may also be a reflection of the sample selected for this study. In order to be part of this study, oldest old adults had to have children who were also willing to participate in the study. This may have biased the data by providing responses from participants who (1) had adult children and (2) had adult children who cared enough to be involved in the study. Sample selection may therefore have underestimated loneliness in the oldest old sample.
Within-Generation Predictions

Personality and Close Relationships

Based on the findings of the pilot study, it was hypothesized that personality would significantly predict oldest old adults’ and adult children’s perceived attachment and current solidarity. Anxiety was hypothesized to negatively predict attachment, affective, associative, and normative solidarity. Extraversion was hypothesized to positively predict relationship closeness.

This hypothesis was partially supported by findings from this study. While the quantitative study found that personality of oldest old adults was associated with affective solidarity, there was no evidence that adult children’s personality predicted relationship closeness. The quantitative study found that oldest old adults who were anxious were also lower on affection in their current relationships with their adult children. Findings from the qualitative study described “real life” examples of the relationship between anxiety and lower affective solidarity. Two of the oldest old parents who had conflictual relationships with at least one of their adult children also rated higher on anxiety. These findings provide additional information in support of the adult attachment literature that has assessed anxiety as one type of attachment style based on mental representations of relationships. While the attachment literature has not addressed oldest old adults’ and their adult children’s relationships, attachment researchers have studied anxiety in other types of adult relationships and have found that anxious individuals desire affectionate relationships, but the relationships do not satisfy their needs (Feeney & Noller, 1990; Hazan & Shaver, 1987). The current study confirmed that anxiety detracted from affectionate relationships.
Results from the quantitative study indicated that oldest old adults who were extraverted rated lower on normative solidarity. An extraverted person is described as warm, sociable, and assertive, while high levels of normative solidarity in the current study was described as feeling obligated to support family members, interact frequently, and to give more weight to family members’ opinions than to the opinions of outsiders before making major decisions. Results in the quantitative study indicated that a warm, sociable, assertive oldest old adult rated normative solidarity relatively low. The qualitative study supported the quantitative findings. One example was provided by an oldest old parent (described as warm, assertive, and sociable by one of her children) who did not expect frequent interaction with her children. She was described by her children as independent; having her own life apart from theirs. In addition, this oldest old adult disagreed with two items on the normative solidarity measure (response choices ranged from strongly agree to strongly disagree).

Extraverted individuals are more likely to be involved in social activities and to have their own network of friends. A network of friends provides support outside the family and, thus, may lessen the need for family interaction, support, and opinions in making life decisions. Greater autonomy decreases the need to obligate children with demands for emotional and instrumental support.

The current study provides seminal evidence that personality needs to be considered as an important influence on relationship closeness. A weakness of the quantitative portion of the study is the use of a shortened version of a personality measure. A more detailed assessment of personality may have provided additional insight.
Attachment and Solidarity

The third hypothesis that oldest old adults' and adult children's perceived attachment would positively predict solidarity was partially supported. Quantitative and qualitative results indicated that both oldest old adults' and adult children's retrospective perceptions of attachment were positively predictive of current affective relationships. This is an important finding for two reasons: (1) It indicates that parents and children may maintain positive or conflictual affective bonds into late life and (2) perceived attachments in childhood influence later relationships.

Findings from the current study support attachment literature that has addressed the stability of attachment styles over the life span. Bowlby (1969b) proposed that attachment behavior is normal from the cradle to the grave. Numerous studies have examined attachment styles in childhood (Ainsworth et al., 1978), adolescence (Papini et al., 1991), early adulthood (Rothbard & Shaver, 1994), intimate relationships (Collins & Read, 1990), and later adulthood (Main et al., 1985) and consistently have found that the attachment established with a significant other in childhood continues to influence not only the parent-child relationship, but other relationships as well. This does not mean, however, that attachment styles do not change. There is a propensity for stability but changes can occur. This may be more likely to occur around adolescence or young adulthood when cognitive functions are changing and when new relationships are being established (Ricks, 1985). However, Norris and Tindale (1994) indicated that attachment to parents does not diminish over time; attachment may change in characteristics as people go through different stages, but the mental representations remain fairly stable.
Many oldest old adults at 85 years of age or older have lost a spouse and intimate friends (Bould et al., 1989; Suzman et al., 1992) and, subsequently, may be more dependent on emotional attachment with children. The characteristics of attachment may have changed for oldest old adults who are now more likely to be care receivers rather than caregivers, but the attachment of earlier years will likely continue to be represented in current affection for their children. Especially at this stage of their lives, oldest old adults need affectionate relationships with their adult children.

Attachment predicted all dimensions of solidarity for adult children. In accord with attachment theory, it is likely that adult children raised in a secure environment would continue to respond affectionately to parents with whom they have associated all of their lives (Hagestad, 1981). Cicirelli (1993) proposed that feelings of affection or love are derived from earlier attachment. Relative stability of attachment over time would also indicate that children who experienced lower levels of childhood attachment would also express lower levels of affection for parents as adults. An example was given of this in the qualitative study as one adult child explained that the parent was never a warm type of person. This child also explained that the current relationship was not based on affection.

The positive relationship between attachment and associative and normative solidarity for adult children is also understandable when recognizing the position of adult children who have parents that are 85 years of age and older. As the participants in the qualitative interviews expressed, parents are at an age where they may not be around much longer; children take advantage of the time that is left by associating with the parent as much as possible. In addition, adult children may now be accepting the filial obligation to care for an
aging parent. This would support other researchers who have studied obligatory responses to aging parents (Brody, Johnsen & Fulcomer, 1984; Cicirelli, 1993; Wolfson et al., 1993). Current responses to association and normative expectations would likely be affected by perceptions of past attachment whether that be based on retrospective bias or mental representations that were established in childhood and are continuing to be expressed.

This study adds further insight into attachment by combining perceptions of past attachment with current affective, associative, and normative solidarity. The differences between oldest old adults and their adult children relative to associative and normative solidarity would benefit from further research in order to gain additional insights into reasons for these discrepancies.

**Personality and Loneliness**

The hypothesis that oldest old adults' and adult children's level of anxiety would positively predict loneliness and that oldest old adults' and adult children's level of extraversion would negatively predict loneliness was partially supported. While there was no direct association between oldest old adults' personality and loneliness, results in the quantitative study indicated that adult children who were extraverted were less likely to be lonely.

Because extraversion is defined as warmth and sociability, extraverted persons would more likely be in the company of friends and family. Social contact facilitated by an extraverted personality would account for lower levels of loneliness in the individual. The
results are consistent with Russell’s (1996) findings that loneliness was significantly related to extraversion.

While personality did not directly predict loneliness in the oldest old, anxiety did predict loneliness indirectly through affective solidarity. There was a significant negative relationship between anxiety and affective solidarity and, in turn, affective solidarity was a negative predictor of loneliness for oldest old adults. Therefore, affection serves as an important mediator in the relationship between anxiety and loneliness. When anxiety prevents close parent-child relationships, loneliness will more likely be evident. This is an especially important implication for oldest old adults as spouse and intimate friends are likely absent. This finding reaffirms the importance of affection in parent-child relationships to buffer loneliness for the oldest old adult population.

**Relationship Between Attachment, Solidarity and Loneliness**

The fourth hypothesis that oldest old adults’ perceptions of attachment and solidarity would negatively affect their loneliness after controlling for educational status, level of income, perceived health, friendship quality, marital status, depression, and proximity was partially supported. Oldest old adults’ perceptions of affection did reduce their feelings of loneliness even after the control variables were entered into the equation; however, neither retrospective attachment, association with their children nor their beliefs about filial expectations directly predicted loneliness. Attachment indirectly affected loneliness through current affection. The fact that attachment and current affection were related to loneliness
adds further support to the notion that perceived filial relationships serve as a buffer to loneliness for oldest old adults (Lopata, 1973).

These findings are supportive of other researchers’ work in the area of loneliness who also reported that loneliness scores were weakly related to objective characteristics of interpersonal relationships, such as frequency of contact, when assessing elderly populations (Cutrona, 1982; Peplau & Perlman, 1982; Russell, 1996; Weiss, 1973). Russell (1996), for example, reported that loneliness scores were much more strongly related to perceived qualities of interpersonal relationships than to frequency of social contact and network density.

The second part of hypothesis 4, that adult children’s perceived attachment and current solidarity would negatively predict their current levels of loneliness even after controlling for educational status, level of income, perceived health, friendship quality, marital status, depression, and proximity was partially supported. Associative and normative solidarity did negatively predict adult children’s loneliness. In addition, attachment indirectly predicted loneliness through associative and normative solidarity. However, there was no relationship between current affection and loneliness. In addition to a strong positive relationship between depression and loneliness, the quality of the adult children’s friendships was significantly related to loneliness.

It was interesting to note that it was actual frequency of contact with parents as well as quality of relationship with friends that decreased loneliness for adult children rather than affective closeness. There was an indirect relationship from attachment to loneliness by way of associative and normative solidarity. This would indicate that adult children’s association
with their older parents and their beliefs about filial expectations are being influenced by
perceptions of attachment.

Why is the source of loneliness different for oldest old adults than for their children
who are relatively old themselves (i.e., an average age of 60 years)? Emotional needs of
oldest old adults may be fulfilled through adult children in the absence of spouse and friends
who may have died (Johnson & Troll, 1992).

For adult children, another important buffer to loneliness might be their positive
commitment to familial norms. It may be that as adult children invest time and energy into
their relationship with older parents, filial bonds are strengthened which would then decrease
emotional loneliness. Neither solidarity nor loneliness research has addressed the issue of
adult children’s loyalty to parents and their own loneliness.

Caregiving researchers (e.g., Gatz et al., 1990) have found that there is a mixture of
responses that range from depression to increased closeness for adult children who fulfill
their obligations as caregivers. It may be that because the parents in the current study were
relatively healthy, adult children’s opinions about filial obligations were more positive,
resulting in increases in closeness which would decrease loneliness. This is an area that
needs to be researched further in order to explain the association between adult children’s
loyalty to parents and loneliness.
Cross-Generational Effects

Personality, Close Relationships and Loneliness

The hypothesis that oldest old adults’ and their adult children’s level of anxiety and extraversion would predict their family member’s loneliness was not supported. Findings from the quantitative study did not provide evidence that a participant’s loneliness was associated with the personality of the “other” generation. An explanation for this lack of association may be that participants were asked to rate their own personalities and not the personalities of the “other” family member. This may, in part, account for the failure to identify significant associations across generations on loneliness. However, perhaps, as has already been suggested, it is not the personality traits that determine loneliness as much as it is association and affection shared by older parents and their adult children.

Attachment, Solidarity and Loneliness

The fifth and sixth hypotheses that oldest old adults’ and their adult children’s attachment and solidarity would negatively predict their family member’s loneliness after controlling for educational status, level of income, perceived health, friendship quality, marital status, depression, and proximity were minimally supported. Only adult children’s affection for their older parents predicted their parents’ loneliness. Oldest old adults who have children that trust, respect, are fair, understand, and feel close to them, are less likely to experience emotional loneliness. Feeling loved and understood is a psychological process. Individuals who perceive that they are not understood by significant others; that no one really knows what they are like, may experience loneliness (Rook, 1984). Oldest old adults who
perceive that they are understood and valued by their children are less likely to feel lonely. These findings support Weiss' (1973) proposal that the availability of emotional attachments with another person fends off emotional isolation. The affection of children is especially important in alleviating loneliness for oldest old adults, because they are likely widowed and have lost many of their intimate friends.

Adult children's loneliness was not associated with oldest old adults' accounts of relationship closeness. Because adult children are likely to have a social network consisting of friends and family members in their family of procreation, their parents are less likely to influence loneliness. In addition, because their parents are oldest old adults, adult children will more likely be concerned for their parents' welfare (Gatz et al., 1990) rather than being consumed by their parents' response to the relationship.

**Relationship Closeness Viewed from the Perspective of Qualitative Findings**

The qualitative study specifically assessed factors that were hypothesized to affect relationship closeness between oldest old adults and their adult children. These factors were life events, educational status, financial status, friendships, marriage, and expectations.

There was evidence from the qualitative study that some of these factors had a greater effect on the closeness of the relationship than others. For example, the death of a parent changed relationships in important ways. The death of a parent most often increased the closeness of the child to the surviving parent. Heightened awareness of shrinking time and shrinking family size encouraged some adult children to spend more time with their parents. This finding supports other research that has reported increased support given to a surviving
parent (Norris & Tindale, 1994). However, the death of a parent can also mean that the child feels great emotional trauma (Anderson & Sabatelli, 1995) with subsequent impact on the entire family system. This did occur for one adult child in the current study wherein the death of a parent decreased relationship closeness with the surviving parent.

While financial status did not normally have a major impact on relationship closeness, when financial status was connected with an historical event as it was during the Great Depression, shortage of financial resources was found to have a positive influence on the parent-child relationship. Because families within entire communities were in similar financial states, people were more sympathetic with one another. Communities had to work together to provide social activities which drew families closer together. Health was also found to influence the parent-child relationship in positive ways. This occurred both when a parent was ill and when a child was in need of extra care. This supports findings from other research (Gatz et al., 1990) that addressed caregiving stress. While the relationships of some parents and caregivers are influenced negatively by the stress of caregiving, the experience draws other family members closer together.

In most cases, friendships were not a major issue in the parent-child relationship. One adult child did recognize a change in the parent-child relationship when the parent began forming friendships after the death of the child's mother. There was an increase in relational distance between the parent and child. The parent's desire to become involved with friends after the death of the spouse supports social support research (Antonucci, 1990; Norris & Tindale, 1994) indicating that friendships provide a different kind of support than do family members. Friendships are a reciprocal relationship and are a source of emotional support.
Family support, on the other hand, may be given out of obligation rather than a desire for interaction.

Education was found to be influential in older parent-child relationships. In one case a negative relationship appeared to influence a child’s desire to have a higher education because the child did not want to be like the parent. However, education was also found to have a positive influence on the relationship as it provided a foundation for shared interests and increased the ability of one child to understand people and relationships. This would support Krause and Borawski-Clark’s (1995) findings that older adults with higher education were more likely to be satisfied with support from social network members and frequency of support provided others.

Marriage was another factor that was described by some adult children as having affected the closeness of the parent-child relationship. This might be either the child’s or the parent’s marital relationship. When a child establishes her or his own family, changes occur in the family system, that are expected to change the parent-child relationship (Anderson & Sabatelli, 1995). One adult child indicated that the parents’ marital relationship was of primary importance in the family system but this did not detract from the parent-child relationship. This finding supports Belsky’s (1984) declaration that parents who have a positive marital relationship were more likely to be supportive in the parent-child relationship.

One major influence on parent-child relationships in the qualitative study was behavioral expectations. In almost every case, it was the parent who held the expectation of how the child should behave. When the child met the expectations of the parent, the
relationship was perceived by both parent and child as positive. However, when the child did not meet the parent's expectations, conflict was more likely to occur in the relationship. Rebellion of children against parental authority during adolescent years—a rather common occurrence that usually did not last beyond early adulthood—provided an example of conflict in parent-child relationships based on behavioral expectations. This finding supports family system theorists who recognize adolescence as a time for establishing personal autonomy (Anderson & Sabatelli, 1995). While the issue of familial norms has been addressed rather extensively in intergenerational solidarity research (Bengtson & Harootyan, 1994; Roberts et al., 1991), rarely has normative behavior been viewed through qualitative research.

Other factors that influenced relationship closeness also emerged in the qualitative study. Proximity was one factor that appeared to have a major influence on relationship closeness, especially from the viewpoint of adult children. More than one child indicated that living closer to a parent increased the closeness of the relationship. Other researchers (Atkinson et al., 1986; Roberts et al., 1991) have also found that proximity was one of the strongest predictors of association between older parents and their children. Proximity provides the opportunity for more frequent contact.

Additional influences on relationship closeness mentioned by participants included social roles and individual and environmental factors. For example, a baby's pleasant temperament was mentioned by one parent as an important aspect in the relationship. This finding supports Chess and Thomas' (1984) work in examining the impact of a child's temperament on parent-child relationships. Parents may become irritable, impatient, demanding, and punitive with difficult children, but this is less likely to be the case with
children who have a pleasant temperament. In the oldest old generation, having a boy appeared to be a special source of joy and pride for fathers at the time of birth, perhaps contributing to a life-long relationship closeness. An adult child’s profession was especially important to relationship closeness in one family because the child was a nurse and was able to support the parent during times of sickness. The responsibilities of a family of procreation and career involvement were mentioned as deterrents to parent-child interaction on one occasion when a parent was ill. Caregiving literature (Gatz et al., 1990) has emphasized the added stress of other responsibilities when an adult child accepts the role of caregiver to an aging parent. However, caregiving was also found to be a positive influence on parent-child relationships.

In summary, the qualitative study provided additional information for understanding relationship closeness between oldest old adults and their adult children over time that was not assessed in the quantitative study. Factors were described by both oldest old adults and their adult children and included educational status, financial status, friendships, marriage, expectations, life events, social roles, proximity, and individual and environmental influences. While these factors were not examined in depth in the qualitative study, they provide additional information that can be used in future studies.

Conclusions

In conclusion, results from this study would indicate that oldest old adults and their adult children perceive the closeness of their relationship differently. While oldest old adults appear to have a “stake” in the relationship which likely biases past recollections of the
relationship, adult children's "stake" is more dependent on developmental issues such as seeking autonomy in adolescence.

It appears that personality is important for influential relationships, but this also varies by generation. Anxious oldest old adults are more likely to have less affectionate relationships with their children. While anxiety does not directly affect oldest old adults' loneliness, it may influence their loneliness through a lower level of affection with their children. In contrast, extraversion was more important for adult children's reduction of loneliness. It is proposed that adult children who are warm and sociable are more likely to have friends and a close relationship with their spouse and family of procreation and, thus, have lower loneliness.

In assessing relationship closeness and loneliness, a major finding of this study appears to be the variation between the two generations on predictors of loneliness. Recollections of attachment (as an indirect influence) and current affection shared with adult children were of prime importance in reducing oldest old adults' loneliness. This makes sense based on the circumstances surrounding oldest old adults' current age (i.e., 85 years and older) and their "stake" in the relationship. Oldest old adults are at an age when spouse and intimate friends will most likely be deceased; their adult children become their major source of affection, thus, reducing loneliness. In addition, because oldest old adults have such a high "stake" in their children, believing in the affection of their children becomes even more important to their well-being. In contrast, adult children's loneliness appears to be influenced not by their relationship with their older parents for whom they may be currently caring, but by the quality of their friendships and fulfilling their parental responsibilities.
Limitations

This study was limited by use of the shortened form of the 16PF Scale. A more detailed examination of personality may have exposed additional significant influences of personality on relationship closeness and loneliness. Retrospective bias on measures of attachment may have reduced the validity of attachment data; however, this was offset by tapping into an assessment of perceptions on relationship closeness. The study was limited by using only the secure dimension of the attachment measure; anxious/ambivalent and avoidant attachment styles were not specifically identified.

This study did not test multiple indicator latent variable models. Latent variables would have allowed the inclusion of measurement error for each variable. In addition, this study did not provide for the possibility that arrows in the path models could have been drawn in either direction. For example, perhaps it was loneliness that predicted perceptions of childhood attachment or solidarity rather than perceptions of attachment and solidarity predicting loneliness.

This study was also limited by having a somewhat biased sample. Just over one-third of the oldest old adults lived in a nursing home. In addition, the sample included only those oldest old adults whose children were also willing to participate. Oldest old adults knew that the study was assessing filial relationships and that their children would also be participating. These characteristics would likely bias data towards underestimation of loneliness and overestimation of relationship closeness in comparison to the population.

In the quantitative study, when the control variables were entered into the equation, the ratio of sample size to number of variables fell short of meeting Bentler and Chou’s
(1987) 10 to 1 ratio. For this reason, caution should be exercised in making inferences to the population of all oldest old adults and their adult children.

The study was also limited by the small sample size for the qualitative study. Additional family units would have provided more information on factors surrounding relationship closeness. In addition, readers need to recognize that data collected were influenced by the interviewer's interest in life stories and her warm, engaging personality.

**Future Directions**

Additional research is needed to address the relationship between oldest old adults and their adult children. In the quantitative study, relationship closeness was assessed based on one child and a parent. Future research needs to examine relationship closeness from the perspective of multiple children. Loneliness was selected for the current study as the outcome variable. Much more work needs to be done in order to understand loneliness relative to parent-child relationships of oldest old adults. Additional questions may include: Why is oldest old adults' loneliness not influenced by adult children's association and opinions about family interaction? What is the nature of the relationship between loneliness and depression? What is the relationship between friendship quality and loneliness for oldest old adults? For adult children, how much influence does marital status and family of procreation have on their loneliness? Would the results of this study be repeated if the G2 and G3 generations were examined? And finally, how might loneliness predict personality and relationship closeness? For example, Weiss (1973) proposed that a symptom of loneliness is anxiety.
Future studies need to analyze the model as a latent variable structural equation model. For example, all three styles of attachment (i.e., secure, anxious/ambivalent, and avoidant) rather than ratings on one attachment style (i.e., secure), would define attachment more comprehensively.

While the current study compared intergeneration responses on relationship closeness, future studies would benefit from examining relationship closeness between oldest old adults and all of their children with a latent growth analysis in order to examine the influence over time of individual member’s response to the dyadic relationship. Intuitively, it would seem that oldest old adults who are often widowed and living in facilities should experience greater loneliness than their adult children. The current study did not find this to be true. Perhaps this was the result of biased information. In order to validate oldest old adults’ verbal responses to questions on loneliness, future research might also include observational data; especially for oldest old adults living in group facilities.

**Implications**

Because oldest old adults have more often lost a spouse and friends, oldest old adults depend on other sources of affection to reduce their loneliness. While this study found that adult children were especially important for providing affection, administrators in nursing homes and retirement centers, church leaders, and counselors might also be encouraged to enlarge the network of friendships with this age group. It appears that oldest old adults would benefit from knowing that they are understood, respected, trusted, and loved.
The adult children in this population are likely either providing care or on the threshold of being caregivers to their older parents. Caregiving at times can be a stressful and lonely experience if caregivers must give constant, prolonged attention to a chronically ill parent. Friendships outside the family might alleviate some of the social and emotional loneliness that may well occur. Friends in similar circumstances may be more sympathetic than siblings to the burdens of caregiving.

Recognizing the strong influence of childhood attachment on future relationships, parents (and those associated with them) should be encouraged to establish secure relationships during children’s formative years. In their old age, parents will likely reap the rewards of their commitment.
APPENDIX A

QUESTIONNAIRE AND INTERVIEW OUTLINE
PRELIMINARY QUESTIONNAIRE

[ASK QUESTIONS 1-10 AND RECORD ALL ANSWERS. (ASK QUESTION 4a ONLY IF SUBJECT HAS NO TELEPHONE.) CHECK CORRECT (+) OR INCORRECT (-) FOR EACH AND RECORD TOTAL NUMBER OF ERRORS BASED ON TEN QUESTIONS.]

<table>
<thead>
<tr>
<th></th>
<th>(+)</th>
<th>0</th>
<th>(-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. What is the date today? ________________________________
   Month Day Year

2. What day of the week is it? _____________________________

3. What is the name of this place? _________________________

4. What is your telephone number? _________________________
   a. [ASK ONLY IF SUBJECT DOES NOT HAVE A PHONE.]
   What is your street address?
   ________________________________

5. How old are you? ___________________________________

6. When were you born? ________________________________
   Month Day Year

7. Who is the president of the U. S. now? ________________

8. Who was the president before him? _________________

9. What was your mother’s maiden name? ________________

10. Subtract 3 from 20 and keep subtracting 3 from each number you get all the way down.

   [CORRECT ANSWER IS: 17, 14, 11, 8, 5, 2]

_________ Total number of errors.
Attachment

(for Oldest Old Parent)

Please indicate on a scale from 0 to 10 how you (as a parent) would characterize your parenting style with each one of your living children, individually, with 0 indicating strongly disagree and 10 indicating strongly agree.

Please indicate "son" or "daughter": ____________________________
(answer only for currently living child)

___ 1. Warm/Responsive-I was generally warm and responsive; I knew when to be supportive and when to let my child operate on her/his own; our relationship was almost always comfortable, and I have no reservations or regrets about it.

___ 2. Cold/Rejecting-I was fairly cold and distant, or rejecting, not very responsive; my child wasn't my highest priority, my concerns were often elsewhere; sometimes I felt like I wish I had never had a child.

___ 3. Ambivalent/Inconsistent-I was inconsistent in my reactions to my child; sometimes warm and sometimes not; I had my own agendas which sometimes got in the way of my receptiveness and responsiveness to my child's needs; I definitely loved my child but didn't always show it in the best way.

(for Adult Child)

Please indicate on a scale from 0 to 10 how you would characterize your parents' caregiving style prior to your entering junior high with 0 indicating strongly disagree and 10 indicating strongly agree. Please answer for currently living parents.

___ 1. Warm/Responsive-She/he was generally warm and responsive; she/he was good at knowing when to be supportive and when to let me operate on my own; our relationship was almost always comfortable, and I have no major reservations or complaints about it.

___ 2. Cold/Rejecting-She/he was fairly cold and distant, or rejecting, not very responsive; I wasn't her/his highest priority, her/his concerns were often elsewhere; it's possible that she/he would just as soon not have had me.

___ 3. Ambivalent/Inconsistent-She/he was noticeably inconsistent in her/his reactions to me, sometimes warm and sometimes not; she/he had her own agendas which sometimes got in the way of her/his receptiveness and responsiveness to my needs; she/he definitely loved me but didn't show it in the best way.

(Adapted from Hazan & Shaver's (1986) unpublished questionnaire; used by permission.)
FAMILY SOLIDARITY ASSOCIATION

Response Options: Circle one:  
1 = almost never  
2 = about once a year  
3 = several times a year  
4 = every other month or so  
5 = about once a month  
6 = about once a week  
7 = several times a week  
8 = almost every day

WITH YOUR (FAMILY MEMBER) HOW OFTEN DO YOU DO THE FOLLOWING?

1. Recreation outside the home (movies, picnics, swimming, trips, hunting, and so on)  
   1  2  3  4  5  6  7  8

2. Brief visits for conversation  
   1  2  3  4  5  6  7  8

3. Family gatherings like reunions or holiday dinners where a lot of family members get together  
   1  2  3  4  5  6  7  8

4. Small family gatherings for special occasions like birthdays or anniversaries  
   1  2  3  4  5  6  7  8

5. Talking over things that are important to you  
   1  2  3  4  5  6  7  8

6. Religious activities of any kind  
   1  2  3  4  5  6  7  8

7. Writing letters  
   1  2  3  4  5  6  7  8

8. Telephoning each other  
   1  2  3  4  5  6  7  8

9. Dinner together  
   1  2  3  4  5  6  7  8

Single-Item indicator: How often do you do things together with this son/daughter?  
   ___ Seldom  ___ Pretty often  
   ___ Not too often  ___ Very often  
   ___ Some  ___ Extremely often
FAMILY SOLIDARITY

AFFECTIONAL

Rating Scale: 1 to 6; circle one:
1 = not well
2 = not too well
3 = some
4 = pretty well
5 = very well
6 = extremely well

1. How well do you feel your family member understands you? 1 2 3 4 5 6
2. How well do you feel your family member trusts you? 1 2 3 4 5 6
3. How fair do you feel your family member is towards you? 1 2 3 4 5 6
4. How much respect do you feel from your family member? 1 2 3 4 5 6
5. How much affection do you feel your family member has for you? 1 2 3 4 5 6
6. How well do you understand him/her? 1 2 3 4 5 6
7. How much do you trust your family member? 1 2 3 4 5 6
8. How fair do you feel you are toward your family member? 1 2 3 4 5 6
9. How much do you respect your family member? 1 2 3 4 5 6
10. How much affection do you feel toward your family member? 1 2 3 4 5 6
11. Taking everything into consideration, how close do you feel is the relationship between you and your family member? 1 2 3 4 5 6
12. How is communication between yourself and your family member? 1 2 3 4 5 6
13. Generally, how well do you and your family member get along together? 1 2 3 4 5 6
FAMILY SOLIDARITY
NORMATIVE EXPECTATIONS

Rating Scale: Disagree 1 2 3 4 Agree; Circle one:

1. A person should talk over important life decisions (such as marriage, employment, and residence) with family members before taking action. 1 2 3 4

2. As many activities as possible should be shared by married children and their parents. 1 2 3 4

3. Family members should give more weight to each others' opinions than to the opinions of outsiders. 1 2 3 4

FAMILY SOLIDARITY
FAMILY STRUCTURE

1. Are you single, married, divorced or separated?
   1. Single (never married)
   2. Married
   3. Widowed
   4. Separated
   5. Divorced
   6. Remarried

2. Number and gender of children

<table>
<thead>
<tr>
<th>Biological</th>
<th>Adoptive</th>
<th>Stepchildren</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Male</td>
<td>Male</td>
<td>Male</td>
</tr>
</tbody>
</table>
3. How far from your mother/father do you live?
(Please indicate "mother", or "father"

____ Live together
____ Less than 5 miles
____ 5 - 50 miles
____ 51 - 150 miles
____ 151-250 miles
____ 251 - 500 miles
____ more than 500 miles (an airplane flight or more than a day’s journey)

(IF YOUR PARENTS DO NOT LIVE TOGETHER, PLEASE ANSWER FOR SECOND PARENT.)

____ Live together
____ Less than 5 miles
____ 5 - 50 miles
____ 51 - 150 miles
____ 151-250 miles
____ 251 - 500 miles
____ more than 500 miles (an airplane flight or more than a day’s journey)
In the boxes below, write the letter (corresponding to the letter from the boxes in the Relationship Closeness Scale above) that best describes the closeness of your relationship to your mother/father or daughter/son at each specified time period.

### UCLA LONELINESS SCALE III

**Instructions:**

The following statements describe how people sometimes feel. For each statement, please indicate how often you feel that way by writing a number in the space provided. Here is an example:

*How often do you feel happy?*

If you never feel happy, you would respond with a 1 ("never"); if you always feel happy, you would respond with a 4 ("always").

<table>
<thead>
<tr>
<th>NEVER</th>
<th>RARELY</th>
<th>SOMETIMES</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. How often do you feel that you are "in tune" with the people around you?  
2. How often do you feel that you lack companionship?  
3. How often do you feel that there is no one you can turn to?  
4. How often do you feel alone?  
5. How often do you feel part of a group of friends?  
6. How often do you feel that you have a lot in common with the people around you?  
7. How often do you feel that you are no longer close to anyone?  
8. How often do you feel that your interests and ideas are not shared by those around you?  
9. How often do you feel outgoing and friendly?  
10. How often do you feel close to people?  
11. How often do you feel left out?
UCLA Loneliness Scale III

<table>
<thead>
<tr>
<th>NEVER</th>
<th>RARELY</th>
<th>SOMETIMES</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

12. How often do you feel that your relationships with others are not meaningful?  

13. How often do you feel that no one really knows you well?  

14. How often do you feel isolated from others?  

15. How often do you feel you can find companionship when you want it?  

16. How often do you feel that there are people who really understand you?  

17. How often do you feel shy?  

18. How often do you feel that people are around you but not with you?  

19. How often do you feel that there are people you can talk to?  

20. How often do you feel that there are people you can turn to?  

*(Responses to these questions need to be reversed coded in order that higher levels on the scale equal greater loneliness.)*
GERIATRIC DEPRESSION SCALE
(Short Form)

(Please circle your answer.)

1. Do you feel that your life is empty?  Yes No
2. Do you often get bored?  Yes No
3. Are you bothered by thoughts you can't get out of your head?  Yes No
4. Do you often feel helpless?  Yes No
5. Do you frequently worry about the future?  Yes No
6. Do you often feel downhearted and blue?  Yes No
7. Do you feel pretty worthless the way you are now?  Yes No
8. Do you worry a lot about the past?  Yes No
9. Do you feel that your situation is hopeless?  Yes No
10. Do you frequently feel like crying?  Yes No
16PF SCALE
(Short Form)

Now I would like to ask you a bit about you as a person: how would you describe yourself? What are your strengths? What are your weaknesses?

I would like to ask you a few specific questions about yourself:

1. I have always known how to be diplomatic and persuasive to get people moving.
   a. yes  b. in between  c. no

2. Often I get angry with people too quickly.
   a. yes  b. in between  c. no

3. I sometimes get in a state of tension and turmoil as I think of the day’s happenings.
   a. yes  b. in between  c. no

4. Once in a while I have a sense of vague danger or sudden dread for reasons that I do not understand.
   a. yes  b. in between  c. no

5. I have vivid dreams disturbing my sleep.
   a. Often  b. occasionally  c. practically never

6. I am known as the type of person who almost always puts forward some ideas on a problem.
   a. yes  b. in between  c. no

7. I get tense as I think of all the things lying ahead of me.
   a. yes  b. in between  c. no

8. I am the energetic type that keeps busy.
   a. yes  b. in between  c. no

9. I sometimes can’t get to sleep because an idea keeps running through my mind.
   a. true  b. uncertain  c. false
10. I make smart, sarcastic remarks to people if I think they deserve it.
   a. generally   b. sometimes   c. never

11. I have been let down by my friends.
   a. hardly ever   b. occasionally   c. quite a lot

12. Small things sometimes “get on my nerves” unbearingly, though I realize they are trivial.
   a. yes   b. in between   c. no

13. I have been elected to:
   a. only a few offices   b. several   c. many offices

14. I hold back from criticizing people and their ideas.
   a. yes   b. sometimes   c. no

15. I consider myself a very sociable, outgoing person
   a. yes   b. in between   c. no

16. I occasionally tell strangers things that seem to me important, regardless of whether they ask about them.
   a. yes   b. in between   c. no

17. I find it easy to mingle among people at a social gathering.
   a. true   b. in between   c. false

18. I feel that some punishment is coming to me even when I have done nothing wrong.
   a. yes   b. occasionally   c. never

19. People sometimes warn me that I show my excitement in voice and manner too obviously.
   a. yes   b. in between   c. no
GENERAL DEMOGRAPHIC INFORMATION

Date ________________

Residence
(specify "home" or type of institution)

1. Sex:
   0 Male
   1 Female

2. Race:
   1 Caucasian
   2 Black
   3 Oriental
   4 Other

3. Birthdate ________________

4. Age ________________

5. How far did you go (have you gone) in school?
   1 None
   2 1-8 years
   3 High school completed
   4 Business or trade school
   5 1-3 years college
   6 4 years college completed
   7 Post graduate college

6. Who lives with you?
   (1=Yes; 0=No)
   ____ No one
   ____ Husband or wife
   ____ Children
   ____ Grandchildren
   ____ Brothers and/or sisters
   ____ Other relatives
   ____ Friends
   ____ Non-related paid helper (includes free room)
   ____ Other (specify)______________________

7. Number of Children (include biological and adopted children) ________________

8. Number of Grandchildren ________________

9. Number of Great Grandchildren ________________
10. How would you rate the quality of your relationship with your friends?
   Excellent
   Good
   Fair
   Poor

11. The dots on the following line represent different degrees of happiness in your marital relationship.
   The middle point, "happy," represents the degree of happiness of most relationships. If you are currently
   married, please circle the dot which best describes the degree of happiness, all things considered, of your
   marital relationship.

   0 | 1 | 2 | 3 | 4 | 5 | 6
   ---|---|---|---|---|---|---
   Unhappy | Fairly | A Little | Happy | Very | Extremely | Perfect
   Unhappy | Unhappy | Unhappy | Happy | Happy | Happy

12. How would you rate your overall health at the present time: excellent, good, fair, poor?
   Excellent
   Good
   Fair
   Poor

13. What kind of work have you done most of your life?
   (Circle the one most appropriate)
   1 Never employed
   2 Housewife
   3 Other (state specific occupation in detail)

14. Does your husband/wife work or did he/she ever work?
   (Question applied only to spouse to whom married the longest)
   1 Yes
   0 No
   2 Never married
   a) If yes, what kind of work did or does he/she do?

15. How much income do you (and your husband/wife) have a year?
   1 $0-$999
   2 $1,000-$4,999
   3 $5,000-$9,999
   4 $10,000-$14,999
   5 $15,000-$19,999
   6 $20,000-$29,999
   7 $30,000-$39,999
   8 $40,000 or more

16. How many people altogether live on this income (it provides at least half of their income)?
LIFE LINE INTERVIEW
(for Oldest Old Adult)

I am interested in the closeness of your relationship with your child from the time of her/his birth to the present time. I would like to know about all of the ups and downs, level periods, pulling together and pushing apart that have occurred.

The bottom and top lines of this grid represent time. Please write in the year of your adult child's birth at the bottom of the vertical line on the left. The vertical line to the right of the center of the grid identifies current time. Please write in your adult child's current age at the bottom of this line.

The vertical space inside the grid represents the closeness of the relationship between you and your adult child. The top of the grid (see positive [+] sign at top of left corner) represents as close as you could possibly ever be and the bottom of the grid represents complete separation. The middle of the grid would be considered average closeness of your relationship.

Please begin at your adult child's birth (on dot at the left vertical line) and draw a path representing the closeness of your relationship over your life together and end at the line representing present time.

Now, continue to draw a line beyond the vertical line representing time to indicate how you perceive your relationship with your adult child in the future.

Please label each peak and dip by chronological age of your adult child.

Please explain to me why you drew the path the way you did beginning at the birth dot.

(ASK ANY OR ALL OF THE FOLLOWING QUESTIONS IF THESE TOPICS ARE NOT ADDRESSED BY THE PARTICIPANT.)

1. Please describe events that might have occurred to change your relationship?
2. How did your expectations influence the closeness or distance in your relationship?
3. How might your and this family member's personalities have influenced the closeness or distance in your relationship over time?
4. How might your formal education have influenced the closeness or distance in your relationship with this family member?
5. How might your financial status have influenced the closeness or distance in your relationship with this family member?
6. How might your marital status have influenced the closeness or distance in your relationship with this family member?
7. How might your or this family member's friendships have influenced the closeness or distance in your relationship?
LIFE LINE INTERVIEW
(for Adult Child)

Please complete a relationship Life Line Scale for yourself and each one of your living parents (that is, you will draw two relationship life lines if you have two living parents).

I am interested in the closeness of your relationship with your mother/father from the time of your birth to the present time. I would like to know about all of the ups and downs, level periods, pulling together and pushing apart that has occurred.

The bottom and top lines of this grid represent time. Please write in the year of your birth at the bottom of the vertical line on the left.

The vertical line to the right of the center of the grid identifies current time. Please write in your current age at the bottom of this line.

The vertical space inside the grid represents the closeness of the relationship between you and your mother/father. The top of the grid (see positive [+ ] sign at top of left corner) represents as close as you could possibly ever be and the bottom of the grid represents complete separation. The middle of the grid would be considered average closeness of all relationships.

Please begin at your birth (at the dot on the left vertical line) and draw a path representing the closeness of your relationship over your life together and end at the line representing present time.

Now, continue to draw a line beyond the vertical line representing present time to indicate how you perceive your relationship with your mother/father in the future.

After you have drawn the path representing your and your mother's/father's relationship over time, label each peak and dip by your chronological age.

Please use the enclosed addressed pre stamped envelope to return to me one copy of each completed life line. Please keep one copy of each life line for yourself.

When I call you on the telephone, I will ask you to explain to me why you drew the path the way you did, beginning at your birth.
APPENDIX B

COVARIANCE MATRIX
Covariance Matrix of the Variables from Oldest Old Adults* (Above the Diagonal) and from Adult Children* (Below the Diagonal)

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Loneliness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Attachment</td>
<td>-3.52</td>
<td>.44</td>
<td>4.10</td>
<td>.75</td>
<td>.05</td>
<td>-.64</td>
<td>-.30</td>
<td>-.53</td>
<td>-.25</td>
<td>.16</td>
</tr>
<tr>
<td>3- Affective</td>
<td>-11.29</td>
<td>18.45</td>
<td>22.72</td>
<td>23.29</td>
<td>.01</td>
<td>-6.75</td>
<td>-.87</td>
<td>-.21</td>
<td>-1.11</td>
<td>1.17</td>
</tr>
<tr>
<td>4- Associative</td>
<td>-19.90</td>
<td>8.45</td>
<td>50.05</td>
<td><strong>53.08</strong></td>
<td>.12</td>
<td>3.87</td>
<td>2.45</td>
<td>3.19</td>
<td>3.81</td>
<td>.08</td>
</tr>
<tr>
<td>5- Normative</td>
<td>-3.36</td>
<td>2.26</td>
<td>6.45</td>
<td>3.18</td>
<td><strong>.46</strong></td>
<td>-.44</td>
<td>-.148</td>
<td>.02</td>
<td>.39</td>
<td>-.16</td>
</tr>
<tr>
<td>6- Anxiety</td>
<td>11.43</td>
<td>-.44</td>
<td>-1.72</td>
<td>.00</td>
<td>.04</td>
<td><strong>.93</strong></td>
<td>4.24</td>
<td>-.36</td>
<td>.58</td>
<td>-.49</td>
</tr>
<tr>
<td>7- Extraversion</td>
<td>-8.59</td>
<td>-.03</td>
<td>.18</td>
<td>3.79</td>
<td>.45</td>
<td>2.22</td>
<td><strong>1.12</strong></td>
<td>-.16</td>
<td>.10</td>
<td>-.05</td>
</tr>
<tr>
<td>8- Education</td>
<td>-1.70</td>
<td>-.23</td>
<td>-.27</td>
<td>-.45</td>
<td>-.36</td>
<td>.29</td>
<td>.45</td>
<td><strong>1.10</strong></td>
<td>1.48</td>
<td>.04</td>
</tr>
<tr>
<td>9- Income</td>
<td>-3.29</td>
<td>-.31</td>
<td>-.102</td>
<td>-.229</td>
<td>-.73</td>
<td>.07</td>
<td>.23</td>
<td>.92</td>
<td><strong>.70</strong></td>
<td>.07</td>
</tr>
<tr>
<td>10- Health</td>
<td>-2.02</td>
<td>-.27</td>
<td>-.83</td>
<td>-.44</td>
<td>-.26</td>
<td>-.65</td>
<td>.00</td>
<td>.17</td>
<td>.47</td>
<td><strong>.05</strong></td>
</tr>
<tr>
<td>11- Marital status</td>
<td>-.06</td>
<td>.14</td>
<td>.85</td>
<td>.04</td>
<td>.07</td>
<td>-.20</td>
<td>.29</td>
<td>-.16</td>
<td>-.35</td>
<td>-.02</td>
</tr>
<tr>
<td>12- Friendship Quality</td>
<td>-3.17</td>
<td>.07</td>
<td>-.05</td>
<td>.24</td>
<td>.12</td>
<td>-.53</td>
<td>.49</td>
<td>.01</td>
<td>.03</td>
<td>.09</td>
</tr>
<tr>
<td>13- Depression</td>
<td>9.76</td>
<td>.22</td>
<td>.49</td>
<td>-.36</td>
<td>.67</td>
<td>3.54</td>
<td>-.58</td>
<td>-.29</td>
<td>-.79</td>
<td>-.45</td>
</tr>
<tr>
<td>14- Proximity</td>
<td>2.45</td>
<td>-.71</td>
<td>-1.50</td>
<td>-14.47</td>
<td>-.27</td>
<td>-.65</td>
<td>-.11</td>
<td>.26</td>
<td>.43</td>
<td>.05</td>
</tr>
</tbody>
</table>

Note: The bolded values indicate statistically significant covariances.
Covariance Matrix (Continued)

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Loneliness</td>
<td>-.37</td>
<td>-1.35</td>
<td>9.56</td>
<td>3.16</td>
</tr>
</tbody>
</table>

| Predictor Variables | 2- Attachment | .23 | -.05 | .19 | -.10 |
| Solidarity          | 3- Affective  | -.58 | 1.08 | -2.30 | -2.18 |
|                     | 4- Associative| .54 | .68 | -1.87 | -9.68 |
|                     | 5- Normative  | .02 | -.13 | .52 | .33 |
| Personality         | 6- Anxiety    | .20 | -.34 | 3.28 | .17 |
|                     | 7- Extraversion| .17 | .25 | -.21 | .04 |

| Control Variables   | 8- Education  | .21 | .23 | -.04 | -.26 |
|                     | 9- Income     | .40 | .11 | -.40 | -.24 |
|                     | 10- Health    | -.07 | .12 | -.39 | .12 |
|                     | 11- Marital status | .05 | .04 | .04 | -.18 |
|                     | 12- Friendship Quality | .08 | -.01 | -.21 | -.04 |
|                     | 13 - Depression| .01 | -.39 | .25 | .11 |
|                     | 14 - Proximity | -.02 | -.14 | -.11 | 4.84 |

Note. Bold faced covariations are between generations covariations.

\( n = 92, n = 98. \)
REFERENCES


