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# Development And Testing Of An Instrument To Measure Emotional Loneliness In The Elderly.

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# DEVELOPMENT AND TESTING OF AN INSTRUMENT TO MEASURE EMOTIONAL LONELINESS IN THE ELDERLY

by

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A DISSERTATION

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ABSTRACT OF DISSERTATION
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Title Development and Testing of an Instrument to Measure Emotional Loneliness in the Elderly

The purpose of this study was to initiate development and testing of an instrument measuring emotional loneliness (Weiss, 1973) in the elderly. Using a phenomenological approach, seven dimensions of emotional loneliness were identified and theoretically defined. A 52-item summated rating scale (ELI), with 6 to 9 items per dimension, was developed and tested in 108 community-dwelling older women. Other measures of loneliness and affect were administered to establish construct validity of the ELI.

Alpha reliabilities for each of the seven subscales ranged from .71 to .81, and was .95 for the total scale. Correlation coefficients for all subscales and ELI were moderate to strong (.63 to .76 among the subscales and .82 to .87 for the subscales with ELI). Principal components factor analysis yielded 13 factors, with 50 of 52 items loading on 1 general factor. The most parsimonious measurement model was achieved with a 19-item version (ELI-19) (alpha = .93), with items representing all seven subscales. Correlation coefficients for ELI-19 and the related measures of affect ranged from .25 to .66, all in

the hypothesized direction and significant at the .01 level. The partial correlation for ELI-19 and a measure of social loneliness, controlling for the effect of emotional loneliness, was .20, $p < .02$. Scores for the ELI-19 ranged from 19 to 24, with a mean score of 40.6. Only 1 subject agreed that she was emotionally lonely; however, 13 subjects scored above the theoretical midpoint of 57 and were determined to be at risk for experiencing emotional loneliness.

Although data are insufficient to draw conclusions regarding subscale structure, it appears that the ELI-19 measures a unidimensional phenomenon. There is good evidence for reliability and content, and construct validation for ELI-19; evidence for divergent validity is less clear. The study sample was not particularly lonely.

The ELI-19 needs additional psychometric evaluation in larger and more diverse groups of the elderly. The identification of a neurobiological marker or objective behavioral indicator of emotional loneliness must be emphasized. Further theory testing regarding the two forms of loneliness is necessary to confirm Weiss' (1973) model.

Abstract Approved by: Committee Chairman Elizabeth G. Jackson

Program Director E. Hattenburger

Date 7/19/94 Dean of Graduate School Joan L. Lodden

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# CHAPTER I

## Introduction

Human beings are socially oriented and require positive interpersonal relationships to achieve a satisfying and meaningful life. Maslow (1970) contended that people hunger for affectionate relations with others, for a place in the peer group or family. This basic need for intimacy, for giving and receiving love, forms the foundation for accomplishing the challenges of self-esteem and self-actualization. Similarly, Sullivan (1953) believed that all human beings desire interpersonal intimacy throughout the life cycle, and that when people lack the kinds of relationships that provide intimacy, loneliness results. This premise is particularly significant when viewing the elderly, for whom intimacy needs remain intense (Lowenthal & Haven, 1968; Noelker & Poulshock, 1984; Traupmann, Eckels, & Hatfield, 1982), yet for whom "network dismantlement through change and loss" (Austin, p. 1989, p.27) often makes meeting those needs quite difficult (Walton, Shultz, Beck, & Walls, 1991).

Research on loneliness has, for the most part, focused on exploring and differentiating the concept from other phenomena. Specifically, studies have sought to identify and to describe forms and components of loneliness (Lopata,

1969), how to measure loneliness (Francis, 1980; Russell, 1982), degrees of loneliness (de Jong-Gierveld & Raadschelders, 1982), persons at risk for experiencing loneliness (Jones, Victor, & Vetter, 1985), correlates of loneliness (Baum, 1982; Lopata, Heinemann, & Baum, 1982; Schultz & Moore, 1984; Schmitt & Kurdek, 1985), and associated affective responses (Dean, 1962; Hanley-Dunn, Maxwell, & Santos, 1985). Several causal models of loneliness have been proposed and undergone preliminary testing (Creecy, Berg, & Wright, 1985; Hoeffer, 1987; Kivett, 1979).

The growing body of knowledge regarding the phenomenon of loneliness is limited, however, by its lack of systematic approach. There is little evidence that studies build upon prior work or attempt to link findings in such a way that definitions of loneliness are theoretical and related sets of statements are explicated.

Indeed, conceptualization and measurement of loneliness have varied considerably. Francis (1980) noted the difficulty in defining and measuring an abstraction such as loneliness, citing:

> the schism between what the phenomenologists call the lived experience ['I am lonely if I say I am lonely'] and the scientific abstraction and reductionism ['I am lonely if the objective measure says that I am lonely']. (p. 127)

Weiss (1982) acknowledged that it was unlikely that an objective correlate of loneliness could be identified so that loneliness could be assessed without having to ask the client. Weiss noted further that posing the question "Are

you lonely?" would provide a simple measure with high face validity. This approach, although used in several studies (Hoeffer, 1987; Mullins & Dugan, 1990; Townsend, 1968), lacks standardization in terms of interpretation and response, and fails to distinguish degrees and forms of loneliness. Further, due to the perceived social undesirability of loneliness, respondents might deny the existence of loneliness. Additionally, this method assumes that loneliness is a readily identifiable experience.

A standardized approach to measuring loneliness would offer the advantage of objectivity of measurement, more clear and precise communication regarding the phenomenon of concern, and a more economical method than subjective evaluation. Further, quantification would aid in theory building through the possibilities for more powerful data analysis and generalizability (Nunnally, 1978).

Russell (1982) emphasized that conceptualization and measurement of loneliness are inseparable. How the scientist measures the phenomenon depends upon the conceptual orientation, and likewise the measurement may limit or broaden the conceptualization of the phenomenon.

Two approaches to the development of instruments which would provide empirical support for various conceptions of loneliness have predominated. The unidimensional approach asserts that loneliness is a singular phenomenon with common themes in its experience. According to this approach, the variations in loneliness are not related to its antecedents, but rather to its experienced intensity

(Russell, 1982). Based on this premise, then, the same scale could be used to measure loneliness in both the new college student and the elderly, widowed individual.

The multidimensional view conceptualizes loneliness as a multifaceted phenomenon that cannot be captured with one global measure. This approach differentiates among types or manifestations rather than focusing on commonalities. Russell (1982) suggested that multidimensional scales which differentiate aspects of the loneliness experience might be particularly useful in designing interventions for the lonely.

Weiss' (1973) framework for viewing loneliness has been the predominant conception for guiding the inquiry of loneliness from a multidimensional perspective. This framework distinguishes loneliness based on two forms of isolation: emotional isolation and social isolation. The loneliness of emotional isolation (emotional loneliness) occurs when there is no close attachment figure (intimate other). The loneliness of social isolation (social loneliness) develops when access to an engaging social network is missing. For Weiss, then, loneliness is the affective response to relational deficits which are created when particular states of isolation occur. Although the states of isolation may be related (e. g., one may have fewer opportunities to develop close attachments when there is absence of a peer social group), one does not have to experience both states of isolation to feel lonely.

While numerous studies have purported to use Weiss' (1973) framework as the basis for inquiry, many of these have conceptualized and operationalized loneliness in a variety of ways. Two studies, however, have explicitly attempted to test Weiss' framework. Rubenstein and Shaver (1982) initially sought to identify the essence of loneliness from a phenomenological perspective. Based on interviews with 50 subjects, an 84-item questionnaire was developed and printed in six urban American newspapers. The questionnaire was intended to capture how loneliness feels, reasons for or causes of loneliness, and reactions to loneliness. A subset of 1,700 responses from two cities was used for data analysis. Demographic data of the respondents were not provided.

Data from the 84-item questionnaire were then factor analyzed and correlated with a loneliness measure, the 8-item NYU Loneliness Scale (Rubenstein & Shaver, 1982), a dispositionally biased instrument with all items including the word lonely. Reliability for the NYU Loneliness Scale was .88 for one sample (N = 200) and .89 for the second (N = 1,500). It should be noted that the NYU Scale does not differentiate emotional loneliness and social loneliness. The factor analysis of the 84-item questionnaire supported Weiss' (1973) framework, indicating different response sets for emotional loneliness and social loneliness. Specifically, the analysis of how loneliness feels yielded four factors: desperation, impatient boredom, depression, and self-deprecation. Of these, desperation (described by

adjectives such as panicked, helpless, afraid, and vulnerable) was likened to Weiss' description of emotional loneliness, while impatient boredom (described by adjectives such as bored, uneasy, and angry) was similar to social loneliness. The remaining two factors, depression and self-deprecation, were reconceptualized as reactions to loneliness rather than factors (Rubenstein & Shaver).

The analysis of reasons for loneliness yielded five factors, two of which corresponded to Weiss' (1973) framework. Being unattached was similar to emotional loneliness and correlated moderately with desperation ($r$ = .26, $p$ < .001). Alienation was deemed comparable with social loneliness and correlated moderately with impatient boredom ($r$ = .39, $p$ < .001). Finally, analysis of reactions to loneliness yielded four factors: sad passivity, active solitude, spending money, and social contact. These factors were not discussed by Rubenstein and Shaver (1982) in relation to Weiss' framework.

Rubenstein and Shaver (1982) concluded that their results supported the validity of Weiss' (1973) framework and suggested that separate scales could be constructed to measure emotional loneliness and social loneliness. They questioned, however, whether instruments should focus only on feelings, or should include items that explore situational variables as well. Indeed Weiss developed the framework from assessing both feelings and situations. To remain consistent with this interactionist theoretical perspective, it seems that both must be included.

Russell, Cutrona, Rose, and Yurko (1984) sought to determine whether people differentiate social loneliness and emotional loneliness, and if the two forms differ in their antecedents and the subjective experience associated with them. Subjects were 505 college students who completed the revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980), a 20-item scale which assumes a unidimensional perspective and is conceptually based upon the definition that loneliness is the subjective reaction to deficiencies in one's social relationships. Half of the items describe feelings of loneliness and half describe feelings of nonloneliness. In an attempt to determine the subjects' experiences of social loneliness and emotional loneliness, they were asked to read two-sentence descriptions, then rate on a 9-point scale how intensely they were experiencing each form. Finally, they completed the Social Provisions Scale which measured how well their current relationships supplied the six social provisions identified by Weiss (1974) as essential in meeting different interpersonal needs.

Results showed that the correlation between the responses to the descriptions of social loneliness and emotional loneliness was small, however significant ($r$ = .17, $p < .01$). This would seem compatible with Weiss' (1973) contention that the two forms are, for the most part, distinct. Next, responses to the descriptions were correlated with each item of the UCLA Loneliness Scale and with the total score of the Scale. Of the 20 items, only 6

showed significant differences between social loneliness and emotional loneliness. Social loneliness was more strongly associated with not feeling "in tune" with others, not feeling part of the group, and not having a lot in common with others. Emotional loneliness was more strongly correlated with not having someone to turn to, no longer being close to anyone, and feeling that nobody really knows one well. Based on these results, Russell et al. (1984) concluded that there were differences in the experiences of emotional loneliness and social loneliness. No differences were found in the correlations between emotional loneliness ($r$ = .46) and social loneliness ($r$ = .44) and the total loneliness score. This is not surprising, however, as the total loneliness score reflects a global, nonspecific measure.

Regression analyses were then performed to determine to what degree the measures of social provisions could predict the two forms of loneliness. As Weiss (1974) suggested, attachment emerged as a very strong predictor of emotional loneliness ($\beta$ = -.62, $F$ = 178.2, $p$ < .001). Social integration, hypothesized by Weiss (1974) as a predictor of social loneliness, was not as strongly confirmed ($\beta$ = -.106, $F$ = 3.51, $p$ < .10).

Russell et al. (1984) concluded by supporting Weiss' (1973) ideas concerning the determinants of emotional loneliness and social loneliness, and the apparent differences in the experiences of the two forms. However, the investigators also claimed that there was a high degree

of common core experience associated with the two forms of loneliness.

Additional work while the current dissertation was in progress provided further evidence to support Weiss' (1973) notion that two forms of loneliness exist. Vaux (1988) administered several items from the UCLA Loneliness Scale found to correlate more strongly with emotional and social loneliness, respectively, along with Russell et al.'s (1984) descriptions of emotional and social loneliness to a sample of 140 college students. Results showed correlations of .37 for the emotional and social loneliness descriptions, and .41 for the ULCA items measuring emotional and social loneliness. Vaux suggested that this indicated a degree of divergence supporting the notion that these are distinct constructs. However, when Vaux correlated the two emotional loneliness measures, with each other, and similarly the two social loneliness measures, the researchers obtained similar correlations of .34 and .41, respectively, thus, failing to support a high degree of convergence between the alternative measures of each. Vaux concluded that emotional loneliness and social loneliness are not highly distinct experiences, or that it was possible that the measures used failed to detect the distinction.

Even considering Russell et al.'s (1984) contention that a common core experience of loneliness may exist, both their work and that of Rubenstein and Shaver (1982) and Vaux (1988) yield rather conclusive support to the

framework proposed by Weiss (1973). It stands to reason that further study of loneliness, as viewed from this theoretical perspective, would be enhanced with instruments which measured the two forms of loneliness.

A review of available instruments used to measure loneliness indicated that none have the precise capability of differentiating subjects' experiences with emotional loneliness or social loneliness. The revised UCLA Loneliness Scale has been the most widely used instrument (Solano, 1986). As previously described, this instrument assumes a unidimensional perspective of loneliness and intentionally makes no mention of the word lonely. In an evaluation of the UCLA Loneliness Scale, Solano (1986) contended that the scale describes the core components of friendship and social companionship.

In a comparison of the UCLA Loneliness Scale and the Belcher Extended Loneliness Scale (BELS), a multidimensional measure including subscales for general loneliness, alienation, and anomie as well as a single-item self-report question, Solano (1980) found that UCLA Loneliness Scale scores correlated more highly with two BELS factors which addressed lack of social interaction and communication. Solano associated these factors with Weiss' (1973) notion of social isolation (Solano, 1980). Similarly, McNeil (1983) suggested that the UCLA Loneliness Scale seemed to be more of a measure of global social relationship deficit than loneliness.

Barron, Foxall, VonDollen, Shull, and Jones (1992), in their study of women greater than 75 years of age, found that the mean score for loneliness using the UCLA measure was much lower ($\bar{X}$ = 31.86) than Schultz and Moore (1984) had in their "younger" sample ($\bar{X}$ = 36.26). Barron et al. concluded that the type of loneliness measure and age of sample may influence the degree of loneliness in different studies.

Another concern with the UCLA Loneliness Scale lies in its emphasis on the temporal dimension of loneliness. The answer format yields scores which do not directly indicate the degree of loneliness, but rather the frequency with which a lack of companionship is felt.

The NYU Loneliness Scale (Rubenstein & Shaver, 1982) includes eight items, all including the word lonely. Four items assess the degree of loneliness felt and four items assess the respondent's perception of himself or herself as a lonely person. Scores range from an average to a high degree of loneliness. This scale differs from the UCLA Loneliness Scale in its dispositional bias, thus capturing a more enduring form of loneliness. It, like the UCLA Loneliness Scale, however, continues to focus on loneliness as a global experience.

Schmidt and Sermat (1983) adopted a multidimensional approach and attempted to distinguish forms of loneliness on the basis of dissatisfaction with four types of relationships: family, community, friend, and romantic. Schmidt and Sermat developed the Differential Loneliness

Scale (DLS), based upon the definition of loneliness as the felt discrepancy between the relationships one perceives as having and the relationships one would like to have. While the scale offers the advantage of identifying the category of person representing the relational deficit, it fails to yield information regarding the nature of the relational deficit. For example, an elder with a high score on the friend subscale could be experiencing either emotional loneliness or social loneliness.

Another effort at multidimensional measurement of loneliness was contributed by de Jong-Gierveld and Raadschelders (1982). The three dimensions proposed were emotional characteristics, type of deprivation, and time perspective. de Jong-Gierveld and Raadschelders developed a 34-item instrument to assess these dimensions. Of interest to the present research is the type of deprivation which included the categories of intimate partner, emptiness, and abandonment. While the items measuring the category intimate partners (e. g., "I miss a man/woman, especially mine") begin to get at the notion of absence of close attachments, certain aspects are not addressed. Further, the emptiness and abandonment categories blur the distinctions of emotional loneliness and social loneliness as described by Weiss (1973).

Evidence does seem to indicate that emotional loneliness and social loneliness exist as separate forms of loneliness, but that instruments currently available for measuring loneliness do not provide a basis for

differentiating them as such. The present research aims to further the inquiry and developing theory of loneliness as a multidimensional construct by developing and testing an instrument to measure emotional loneliness. Further, the use of elderly subjects in this investigation represents a previously untapped population for use in loneliness instrument development. Finally, in light of Sauer and Warland's (1982) contention that accumulating evidence for reliability and validity of morale and life satisfaction measures of the elderly is scant, psychometric analyses of related measures administered to the subjects (See Chapter III) will contribute to a more systematic evaluation of the adequacy of these measures.

## Conceptual Framework

The conceptual framework for the study was derived from Weiss' (1973) view of loneliness and Flanders' (1976) concept of human contact, both of which have been adapted to include a developmental focus. Further, the framework includes a nursing perspective.

Weiss (1973) limited his conception of loneliness to the ordinary loneliness of ordinary people, and did not address other forms such as existential loneliness (Moustakas, 1961) or pathological loneliness (Fromm-Reichmann, 1959; von Witzleben, 1958). As stated earlier, Weiss distinguished forms of loneliness based on type of isolation--emotional or social--contending that different relational deficits were associated with each type. Since the focus of this research is on the measurement of

emotional loneliness, concepts related to the loneliness of social isolation are excluded from study. Weiss and Andersson (1990) supported the investigation of the two forms of loneliness as distinct phenomena. Further, the body of nursing knowledge already addresses the notion of social isolation (Black, 1973; Kim, McFarland, & McLane, 1984; Mills, 1984). The absence of close attachments and emotional isolation, however, has received less attention as phenomena of concern to nursing.

Weiss (1973) observed the phenomenon of emotional loneliness in subjects who were widowed or participating in the Parents Without Partners organization. For these persons, the particular relational deficit was determined to be the absence of a close attachment figure, and the formation of new friendships did not dispel their emotional loneliness. Weiss proposed that the remedy for this form of loneliness would require the integration of a new or previous emotional attachment.

The response to emotional loneliness has been likened to that of the distress felt by a young child who fears parental abandonment. Feelings of anxiety, apprehension, restlessness, and emptiness prevail. Weiss (1973) suggested that in fact these symptoms in adults may actually be a re-experiencing of anxiety felt during childhood separations. Welt (1987) agreed, stating that they indicate a "primitive form of loneliness" (p. 29). Another aspect of this form of loneliness is "a sense of utter aloneness" (Weiss, p. 21) reminiscent of the powerful

feelings that may have been present in the earlier life experiences of premature aloneness or loneliness, against which strong defenses, including dissociation, have occurred (Welt). This may occur even in the presence of accessible companionship.

Weiss (1973) relied on Bowlby's (1969) work on attachment to explain the dynamics of emotional loneliness. Initial attachment behavior is noted in the infant's first year, and actual physical presence of the attachment figure is thought to be essential for the infant's protection and security. As the child matures, increased tolerance for distance from the attachment figure occurs but availability and accessibility remain important. Welt (1987) termed this healthy aloneness, a state that is equated with the attachment figure, "the memory of whom becomes part of self-sustenance" (p. 27). If, however, the person becomes isolated from the attachment figure, loneliness results.

Further operationalization of Weiss' (1973) term close attachment was not provided. The literature on close relationships, intimacy, and confidants was useful, however, in helping to determine what is missing when close attachments are absent and emotional loneliness occurs.

Intimacy, which derives from the Latin root intimus, meaning inner or inmost, has variously been characterized by the following themes: closeness and interdependence; self-disclosure; and warmth and affection (Perlman & Fehr, 1985). Sullivan (1953) described an intimate relationship as one in which the individual is sensitive to the needs of

the significant other, and mutual validation of worth exists. Similarly, Rogers (1961) emphasized acceptance of the other as a valued, separate person. Rogers also identified open communication of feelings and deep empathic understanding as requisites for intimacy.

Waring, Tillman, Frelick, and Russell (1980) noted that affection, cohesion, expressiveness, compatibility, and sexuality were the most important facets of interpersonal behavior that affect intimacy. Adams (1985) concluded that intimacy and emotional closeness were indistinguishable, both being described by confiding, trust, understanding, openness, and acceptance. Similarly Richie (1987) identified themes of emotional closeness as: predictability, repetition, caring, personal investment, safety and security, confidence, reciprocity, and satisfaction.

In an effort to demonstrate the relationship between loneliness and intimacy, Flanders (1976) advanced a continuum of human contact with emotional intimacy and emotional loneliness at opposite ends. According to Flanders, Bowlby's (1969) concept of attachment is viewed as the childhood antecedent of the adult's disposition toward emotional intimacy. Features of the emotional loneliness-emotional intimacy continuum include time spent with the intimate other; informal interactions free of role demands; self-disclosure; touching; favorable exchange of resources, particularly of potentially scarce personal resources (time, money, and affection); and reciprocity

(Flanders, 1982). A seventh aspect of the dimension is a cognitive conclusion, the appraisal of the extent to which these features are present in the person's relationship with another.

To elaborate, Flanders (1976) noted that time for frequent interactions is essential for avoiding a relationship founded on the superficial. Further, the time dimension helps to ensure the certainty of a maintained relationship in the future. Informal interactions free of role demands help the participants to express themselves above and beyond the confines of the particular role requirements.

Given that time for frequent and informal interactions exists, intimacy is characterized by self-disclosure of personal information. Specifically, depth of self-disclosure indicates the degree to which one penetrates or gets to know the other person. Breadth of self-disclosure reflects the range of knowing. Both are deemed necessary in emotional intimacy (Flanders, 1976). The absence of touching, while theoretically feasible in a close relationship, seems to detract from the closeness experienced by two people. Flanders contended that ". . . for all practical and realistic purposes" (p. 51) touching is necessary for intimacy.

The favorable exchange of resources and reciprocity highlight the importance of investment in close relationships. The costs of time and effort that go into activities which benefit the dyad define the investment

that each person has in the relationship. According to Flanders (1976), little or no cost involved yields little or no investment in the relationship.

Similar to Flanders' (1976, 1982) ideas, Verwoerdt (1981), who examined loneliness and intimacy from an aging perspective, posited intimacy as the counterpart of loneliness and suggested that the sense of intimacy differs during each phase of development of the life cycle. These changes may be seen in the type of partner, the nature of sharing, the objects that are shared, and the way in which intimacy is subjectively experienced. Verwoerdt emphasized sharing in intimacy--sharing of material possessions, time, or the phenomenon called each other. From a systems perspective, "we" is greater than "I plus you."

Levinger (1977) referred to mutuality as an integral aspect of relatedness among human beings. Operationally, mutuality exists when persons possess shared knowledge of each other, care emotionally for one another, hold private norms to regulate their association, and assume responsibility for promoting each other's outcomes. "The deep as opposed to the shallow relationship, then, is characterized by stronger commonality, heavier emotional investment, and a more definite structure containing it" (Levinger, p. 7).

Erikson, Erikson, and Kivnick (1986) contended that reconciling the balance between the capacity for intimacy and the need for some isolation, and for maintaining a sense of mutuality in old age may be difficult. Death or

separation from lifelong partners and friends, physical distance from children and grandchildren, and physiological deterioration were cited as antecedents of isolation which may impinge on the elder's ability to achieve relationships of intimacy and mutuality.

Interrelationships of Concepts

Various dimensions of emotional closeness have been proposed. These are evaluated by the individual, and the extent to which the person appraises them as being present in the relationship(s) with another form the basis for feelings of closeness. Persons who perceive little or no feelings of closeness manifest emotional loneliness, while those who perceive great feelings of closeness manifest emotional intimacy (See Figure 1). In keeping with Weiss' (1973) and Erikson et al.'s (1986) theoretical perspective, the continuum of emotional closeness is viewed within the person's situational and developmental contexts.

## Purpose

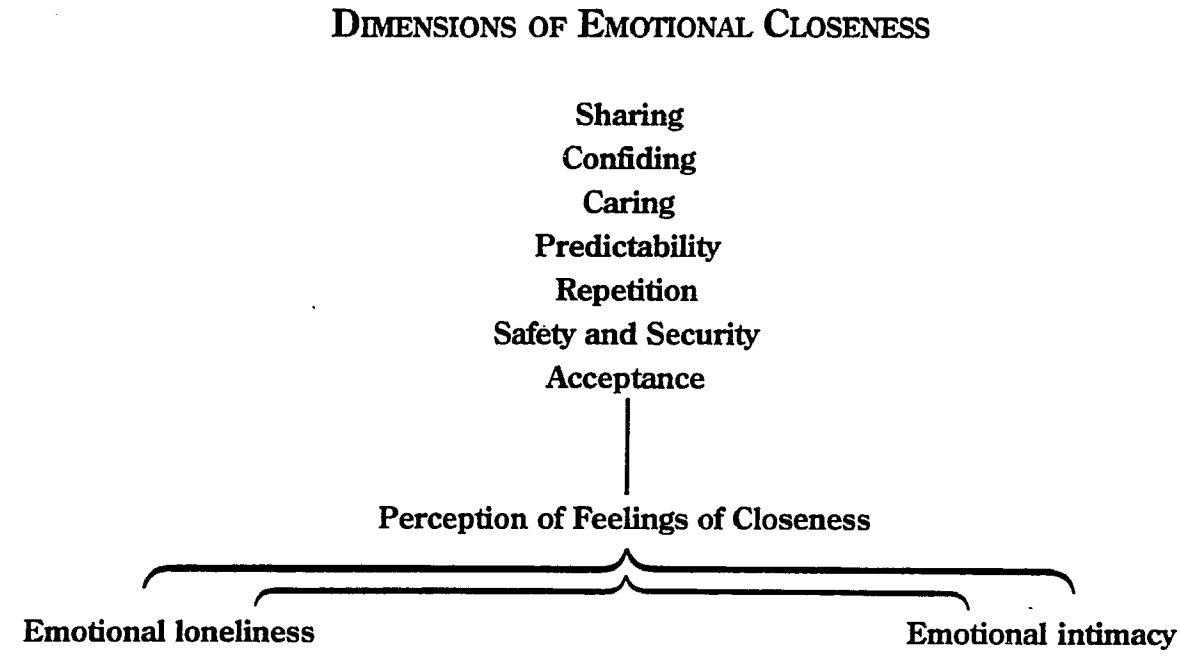
The purposes of this study were to initiate development and testing of an instrument measuring emotional loneliness in the elderly.

## Research Questions

The following research questions were generated for the purposes of this research:

1. What are the psychometric properties of the subscales and instrument?

2. What are the essential items necessary for mesuring emotional loneliness in the elderly?




Assumption: The continuum is viewed within the person's situational and developmental contexts.

(Adapted from Flanders, 1976; 1982).

Figure 1. Conceptual Map of the Continuum of Emotional Closeness

3. What is the preliminary support for content validity of the instrument?

4. What is the preliminary support for construct validity of the instrument?

5. What is the preliminary support for reliability of the instrument?

6. What is the extent of emotional loneliness in the study sample?

## Definition of Terms

The following terms were taken from the conceptual framework and were defined for the purposes of this study:

Emotional Loneliness--a dysphoric experience associated with unfulfilled needs for intimacy that results from absence of a close attachment (Weiss, 1973). Emotional loneliness is not an experience that is consciously chosen, and feelings of dread, anxiety, restlessness, and emptiness prevail.

Elderly--persons over the age of 59 years.

## Significance

While being old does not necessarily mean being lonely, the scope of loneliness in the elderly is of concern. Creecy et al. (1985) found that loneliness is a significant problem for approximately 40% of the elderly. Another national survey reported that older Americans ranked loneliness fourth among 12 areas of concern (Harris, 1975). Not only is loneliness in and of itself a dysphoric and undesired condition, it has also been associated with premature mortality and the development of other health

problems (Page, Wyre, & Cole, 1986). Francel (1963) contended that loneliness produces more psychic pain than any other subjective state of mental distress.

In a 9-year longitudinal study Berkman and Syme (1979) found an inverse correlation between social network and overall mortality, as well as mortality specifically associated with cardiovascular disease and cancer. West, Kellner, and Moore-West (1986) discussed D'Enes' 1980 study in which 48 elderly subjects were divided into "lonely" and "partially lonely" groups, and immunoglobulin (IgG, IgA, IgM) status was measured. The lonely group showed a greater decline of immunoglobulin levels, and, over 5 years, had a higher mortality rate.

The presence of intimate and confiding relationships has been associated with fewer symptoms of depression (Brown, Brolchian, & Harris, 1975) and anxiety (Miller & Ingham, 1976). Case studies of two people said to be without a close emotional attachment who developed hypertension were described by Lynch and Convey (1979). Further, loneliness has often been anecdotally related to death from a broken heart. Indeed, Young, Benjamin, and Wallis (1963) noted a 40% higher age-specific rate of mortality for widowers than nonwidowers. Finally, House, Landis, and Umberson (1988) noted growing evidence from experimental and clinical research on animals and humans that variations in exposure to interpersonal contacts produce psychological and physiological effects that might be associated with morbidity and mortality.

In light of these findings, and the fact that currently developed instruments are insufficient for detecting emotional loneliness, it is important to comprehend and to measure this phenomenon and its sequelae. In so doing, relations to physical and mental health might more comprehensively be understood. A valid and reliable instrument is essential for the conduct of inquiry into this form of loneliness. Research based on such an instrument should yield an empirically validated and improved knowledge base regarding emotional loneliness. This, in turn, will support nursing interventions which facilitate socially integrative and emotionally meaningful relationships for older clients.

## Assumptions

For the purpose of this study, the following assumptions were drawn:

1. All human beings require interpersonal relationships (Sullivan, 1953).

2. Emotional loneliness results from an absence of an intimate other (Weiss, 1973).

3. The elderly are susceptible to loneliness (Carnevali, 1979).

4. Loneliness can be measured (Russell, 1982).

## CHAPTER II

## Review of Related Literature

The review of literature for this investigation examines existing empirical evidence in the area of measurement of the continuum of human contact in the elderly. In that no reports of the specific form of emotional loneliness in the elderly were found, studies related to all forms of loneliness in the elderly are presented. Studies related to issues of intimacy in close relationships of elders are considered. Research related to the situational context is presented as it is addressed in the various studies. An overview of psychometric theory, as it relates to the present research, is provided.

### Loneliness

Conceptions of loneliness can usually be placed within the context of a continuum ranging from existential (universal) loneliness to pathological loneliness, with the normal or ordinary loneliness of ordinary people placed between the two (Zack, 1985). In this section, studies related to the ordinary loneliness of the elderly are reviewed and evaluated.

#### Descriptions of Loneliness in the Elderly

In an extensive review of the literature, West et al. (1986) noted that although the findings regarding

loneliness in the elderly are mixed, the very elderly--those greater than 80 years--were generally found to be lonelier than other elderly. Page and Cole (1991) noted similar differences when the elderly were broken down into more specific age categories. Page and Cole conducted an extensive telephone survey of 8,634 persons, 1,536 of whom were greater than 65 years of age. In a 1-item measure, subjects were asked to indicate how often they felt lonely during the past year. Age group, as a predictor of loneliness in this sample, only approached significance (Wald's statistic = 3.63, $p$ = .06). Page and Cole did note that while the percentage of those describing themselves as lonely decreased into the 60 to 64 years of age group, the percentage increased in the 65 to 69 years of age group, and again in the over 70 years of age group.

Lopata's (1969) classic exploration of loneliness, as experienced by urban widows, yielded 11 forms of loneliness. Indepth interviews were conducted with an area probability sample of 300 subjects. Loneliness was conceptualized in symbolic interaction terms as being an emotion felt by an individual when her experienced level of interaction was deemed deficient. No further distinction was made in terms of the nature of the interaction.

From these qualitative data, the identified forms and components of loneliness were: (a) a desire to carry on an interaction with a particular other who is no longer available, (b) a feeling of no longer being loved, (c) absence of anyone to care for, (d) desire for

companionship, (e) desire for the presence of another being, (f) unhappiness focused on absence of another person who shared work load, (g) homesickness for life style carried out with another person, (h) alienation associated with status drop related to widowhood, (i) conflict in other interpersonal relationships related to role strain, (j) inability to make new friends, and (k) a combination of any of the above mentioned (Lopata, 1969). In discussing these findings Lopata cited factors such as the cultural aspects of bereavement, withdrawal of others due to their own death and loneliness anxiety, and prior dependency on husbands as being important to consider in understanding the loneliness of widowhood.

Lopata et al. (1982) extended the work on describing loneliness in widowhood, focusing on its extent and correlates, and examining the impact of family and friends on loneliness. Data were collected from two separate samples (N = 100, N = 967). Subjects in the first sample reported a much higher experience of loneliness (86%) than did those in the second sample (25%). The researchers attributed this variation to the fact that different measures of loneliness were used. Details of the measurement were not provided. Age, education, and income were not found to be associated with loneliness; however, health problems, unexpected bereavement, recent widowhood, and weak friendship support systems were related. Further, regression analysis showed that lack of support from

friends, but not from family, was a significant predictor of loneliness (Lopata et al.).

Similar personal and social variables were studied in relation to loneliness by Baum (1982). While loneliness was conceptualized using Fromm-Reichmann's (1959) definition, lack of meaningful contact with others, it was measured using the UCLA Loneliness Scale which focuses on the reaction to deficiencies in the social relationships. A sample of 75 subjects completed the UCLA Loneliness Scale and a battery of health and psychosocial instruments, including the Hopkins Symptom Checklist, Rotter's Locus of Control Scale, and the Purpose in Life Test. Findings showed that age and marital status were not related to feeling lonely. Statistically significant correlates at the .05 level included education ($r$ = -.32), depression ($r$ = .42), psychological well-being ($r$ = -.49), and physical health ($r$ = -.36) (Baum).

Quantitative and qualitative approaches were used by Schultz and Moore (1984) to identify personality characteristics and the meaning associated with loneliness in the elderly. Fifty-seven subjects were administered several psychosocial measures, including the UCLA Loneliness Scale, and asked to complete some open-ended questions concerning loneliness (e. g., "To me, loneliness means . . .").

Results showed that loneliness was positively correlated with state ($r$ = .53, $p$ < .001) and trait ($r$ = .56, $p$ < .001) anxiety, chance locus of control ($r$ = .43, $p$

< .005), social anxiety ($r$ = .35, $p$ < .05), and depression ($r$ = .44, $p$ < .01). Self-esteem ($r$ = -.38, $p$ < .01), happiness ($r$ = -.29, $p$ < .05), and life satisfaction ($r$ = -.28, $p$ < .05) correlated inversely with loneliness.

Schultz and Moore (1984) also developed and administered a measure to assess the frequency, intensity, duration, characteristics, and reasons for loneliness. Interestingly the UCLA Loneliness Scale did not correlate significantly with either the frequency or duration of the self-reported measures. Schultz and Moore suggested that the lack of association among these indices may indicate that these dimensions of loneliness are influenced by different factors.

Revenson and Johnson (1984) sought to examine social and demographic correlates of loneliness, and to determine if desolation (loss of attachment figure) rather than isolation (lack of social network) was the major cause of loneliness in late life. Loneliness was conceptualized from a cognitive perspective with an emphasis on perceptions and comparisons, and measured using the NYU Loneliness Scale. Approximately 75% of the 118 subjects were female. Findings showed that the loneliest subjects reported having few close friends and relatives ($r$ = -.29, $p$ < .01), and were less likely to have a confidant ($r$ = -.29, $p$ < .001). Multiple regression analysis showed that satisfaction with social life, satisfaction with the amount of support received from friends, relatives, neighbors, and

having a confidant were the strongest predictors of loneliness.

Revenson and Johnson (1984) concluded that the major transitions in late life involving loss (retirement, death of spouse, and relocation) affect both size of and satisfaction with social and emotional networks. Further, they proposed that future research investigate if involvements in one type of relationship could compensate for losses in another.

While this study yielded important information concerning correlates of loneliness, it should be noted that the NYU Loneliness Scale provides a global measurement. The desolation-isolation hypothesis might more precisely be tested using measures that differentiate emotional loneliness and social loneliness.

Work examining the relationship of loneliness with the presence of age-related losses, hopelessness, self-transcendence, and spiritual well-being was conducted by Walton et al. (1991). Loneliness was defined as the emotional response to the discrepancy between the desired and the available relationships, and was measured using the Version 3 UCLA Loneliness Scale. (The Version 3 form, developed while the present research was conducted, was designed specifically for use with middle-aged and elderly subjects.) The sample, described by the authors as relatively well-educated and independent, consisted of 107 subjects. A regression decision tree model revealed that

subjects who scored highest on the UCLA measure had higher hopelessness scores and lower transcendence scores.

The relationship of birth order and loneliness served as the focus of investigation by Andersson (1985a). Loneliness was conceptualized as consisting of emotional estrangement (lack of intimacy) and/or social estrangement (lack of relatedness to the social environment). The emphasis in this study was on emotional estrangement, and the framework was derived from affiliation theory which proposes that, in part because of child rearing practices and overprotectiveness, first borns have greater difficulty in attaining deeper levels of intimacy. The sample included 207 women who completed the UCLA Loneliness Scale, the Zung Depression Scale, and provided information regarding recent losses. No differences were found in loneliness of first borns and later borns. However, for those who had experienced recent social losses, the first borns felt significantly more lonely than later borns ($F$ = 7.03, $p < .01$). Again, it should be noted that measurement with the UCLA Loneliness Scale yielded a unidimensional loneliness score thus not providing a specific measure of loneliness as emotional estrangement.

A related piece of work by Andersson (1990) looked at the relationship between narcissistic intrusion during early childhood and the development of loneliness in late life. Narcissistic intrusion was defined as an upbringing characterized by the withdrawal of love, parental personality absorption, and a conflict between initial

adjustment of submissive propitiation and the later assumption of goal achievement. Andersson hypothesized that individuals who had been met with narcissistic intrusion would experience a greater degree of loneliness and would be found in higher social positions than would those who had not experienced the intrusion. Further, he expected that the lower the social position the more severe the loneliness. The sample of 207 women described above completed the short-form UCLA Loneliness Scale and various measures to assess social position and narcissistic intrusion. Results showed that the intruded group experienced a significantly higher degree of loneliness; narcissism explained 6% of the variance in loneliness ($F$ = 10.08, $p < .002$). As hypothesized, those in higher social positions were significantly less lonely ($r$ = .20, $p <$ .006). No significant correlation was found between narcissistic intrusion and social position.

While cautioning against overgeneralization based on one study, Andersson (1990) did believe this preliminary evidence supported his contention that dynamics in the family of origin had something to do with loneliness in old age. As suggested by Weiss (1973) and of great interest to the present study, is Andersson's conclusion that "emotional estrangement [isolation] could have its origins in the earliest attachment-separation period" (p. 92). Based on these findings Andersson called for the development of a reliable measure that would address the

specific differences between emotional loneliness and social loneliness.

The multidimensional stance was adopted by Schmitt and Kurdek (1985) who attempted to correlate loneliness scores (as measured by the DLS) with five theoretically related constructs: health status, locus of control, social support, depression, and self-consciousness. Loneliness was conceptualized as dissatisfaction with interpersonal relationships resulting from a change in social relationships or a change in one's needs and desires for relationships. Fifty-one elderly women who were members of a seniors volunteer group were studied.

Dissatisfaction with family relationships was found to be related to perceived family support ($\underline{r}$ = -.63), high depression ($\underline{r}$ = .47), poor health ($\underline{r}$ = .53), and internality ($\underline{r}$ = -.28). Dissatisfaction with community relationships was associated with high depression ($\underline{r}$ = .41), perceived social support from both friends ($\underline{r}$ = -.31) and family ($\underline{r}$ = -.24), poor health ($\underline{r}$ = .44), and internality ($\underline{r}$ = -.29). Significant correlates with respect to dissatisfaction with friendships were perceived social support from friends ($\underline{r}$ = -.54) and family ($\underline{r}$ = -.42), high depression ($\underline{r}$ = .51), and poor health ($\underline{r}$ = .54). Dissatisfaction with romantic relationships was related to perceived social support from family ($\underline{r}$ = -.41) and friends ($\underline{r}$ = -.41), internality ($\underline{r}$ = -.26), and high depression ($\underline{r}$ = .36). Finally, regression analyses showed that health status and social support emerged as most

significant in overall prediction of each of the four loneliness scores. Schmitt and Kurdek (1985) concluded that the four DLS subscales were nonoverlapping, but that components of loneliness are more closely related in the elderly than in a college student sample that was also studied.

Another study that described characteristics of the lonely and factors related to loneliness was conducted by Jones et al. (1985). Jones et al. used a semistructured interview approach to gain information about relationships and social activities, and measured functional disability, mobility, and mental disability as well. More detailed information about the interview schedule was not provided. These researchers concluded that loneliness was more frequently seen in the urban elderly than rural elderly, and among those recently widowed, depressed, and/or disabled. Further, loneliness was not related to the frequency of visits from others but rather to the perception of whether the subjects considered the number to be enough (Jones et al.).

Loneliness was conceptualized as dysphoria in response to temporary separation from cathected people and objects by Francis (1976), and studied in a sample of 133 hospitalized adults. An investigator-developed instrument, the Schedules for the Measurement of Loneliness and Cathectic Investment (SMLC), was introduced and found to have acceptable psychometric properties (Francis). Findings from this study showed that loneliness varied in a

direct manner with the amount of cathectic investment a person had with the separated object. Further, women and black subjects were found to have significantly higher loneliness scores. Francis speculated that women may invest more of themselves and have more meaningful attachments, and thus feel more lonely when separated from these.

Loneliness in the institutionalized elderly was studied by Francis and Odell (1979) and Rainwater (1980). In the former study, a probability sample of 42 residents in a home for the aged was administered the SMLC. The subjects were primarily Protestant, white females. Results showed that the subjects were minimally lonely as revealed both by the SMLC and a self-report item. Francis and Odell suggested that the creative and humanistic environment of the home likely was a factor in the lack of loneliness in this group.

Rainwater (1980) expected that the milieu of the institution would be a factor in the degree to which residents might be lonely. A sample of eight subjects from two nursing homes--one reportedly with no complaints or infractions and one in poor standing with the state regulatory agency--were studied. No standardized instruments were used to measure loneliness; rather, emotions commonly related to loneliness were used as indices. Subjects from both homes reported similar frequencies and severity of experiencing loneliness. However, greater physical illness in subjects from the home

in poor standing (assumed to be related to poor care) was associated with more loneliness (Rainwater). The extremely small sample size, absence of valid and reliable measuring instruments, and assumptions made in this study suggest that these results be considered with caution.

Several studies have examined the relationship of loneliness and physiologic variables, including dietary adequacy, low vision, and hearing loss. Walker and Beauchene (1991) investigated the relationship of loneliness, social isolation, and physical health to nutrient intake in older persons. Sixty-one subjects completed a 3-day food record, the revised UCLA Loneliness Scale, and questionnaires concerning social contact and physical health. While neither age nor physical health was related to degree of loneliness, there was a significant inverse correlation between loneliness and nutrient adequacy ratios for protein, iron, niacin, and ascorbic acid ($\underline{r} = -.28$, $\underline{p} < .05$).

Barron et al. (1992) and colleagues hypothesized that age-related physiologic changes, such as low vision, might prevent older women from being socially active, and thus contribute to their loneliness. Specifically, Barron et al. sought to identify predictors of loneliness, and to determine what mediates the lonely experience. Results showed that there was no relationship between visual acuity level and degree or duration of loneliness. Optimism together with social support satisfaction explained 43% of the variance in degree of loneliness. In a related study

in which all subjects (N = 93) had low vision and were assumed to experience some degree of loneliness, the overall sample was found to rarely be lonely (Foxall, Barron, VonDollen, Jones, & Shull, 1992). Despite the suggestion to the contrary, 62 subjects denied feeling lonely. The investigators speculated that perhaps the low vision was not as limiting as had been thought. Another possibility might reflect the lack of social desirability of acknowledging the presence of loneliness.

Noting that presbycuses (hearing loss) ranks as the second most common complication of aging, Christian, Dluhy, and O'Neill (1989) sought to determine the distribution and relationship of hearing loss and loneliness in the elderly. Interviews were held with 63 community living elders, and hearing acuity was quantitatively assessed using tetratone audiometers. Loneliness was measured by the revised UCLA Loneliness Scale. Based on the audiometer results, subjects were divided into two groups, those with normal or mild hearing loss, and those with serious or severe hearing loss. Although results showed that those with greater hearing loss were lonelier, a *t* test to compare mean loneliness scores between the two groups did not show a significant difference. In commenting on their experience with the UCLA Loneliness Scale, these authors noted that several subjects had difficulty with the double negative items that were designed to correct for the directional bias.

To summarize, much evidence exists to support correlations of poor health, depression, recent loss, and lack of social support with loneliness. Relationships of other variables including age, income, gender, and marital status with loneliness are less clear.

Loneliness and Isolation

The relationship of loneliness and isolation has received much attention in both theoretical and empirical accounts. Ernst, Beran, Safford, and Kleinhauz (1978) suggested that forms of social, emotional, and physiological isolation were the key intervening variables that could account for the functional symptoms of mental disorders in the elderly. These forms of isolation, however, were not defined.

Berezin (1980) utilized a case study approach to examine the dynamics of loneliness in the elderly. Berezin chose to use the term isolation instead of loneliness, however, because "conceptually . . . it comes closer to our understanding of a defense mechanism" (Berezin, p. 6). Thus Berezin's perspective of isolation as an intrapsychic phenomenon is revealed.

Based on the analysis of the case study findings, Berezin (1980) suggested that while isolation in the elderly may be a result of social conditions, decreasing sensory input, or organic dysfunction, it is important not to overlook long-standing conflicts that may play a significant role in the process. Further, he proposed that isolation serves as self-protection in the elderly as there

is a strong drive to avoid intimacy because of the fear that death will deprive the person of the loved one.

In a classic study of the elderly conducted in the 1960s, Townsend (1968) sought to determine the relationship of loneliness, isolation, and desolation. Loneliness was defined as the unwelcome feeling of lack or loss of companionship, and measured by the response to the question "Are you lonely?" Townsend identified four kinds of isolation: peer contrasted, generation contrasted, age-related (desolation), and preceding cohort isolation. Age-related isolation occurs when social relationships and activities enjoyed by people at an earlier stage of their life cycle are compared to current relationships and activities, and was interpreted by Townsend as a form of response to loss. In fact, this form of isolation was referred to as desolation, which was believed to better explain the loneliness of the elderly. Townsend stressed, however, that because many isolated people do not experience loneliness, and some people who appear socially integrated do feel lonely, that loneliness and isolation are not coincidental phenomena.

Fischer and Phillips (1982) attempted to look at correlates of isolation from a social network perspective, and to specifically identify a special kind of isolation: having few or no intimate confidants. They suggested that people experiencing this form of isolation were particularly vulnerable to emotional loneliness. Social isolation was defined to be "knowing relatively few people

who are probable sources of rewarding exchanges" (Fischer & Phillips, p. 22). Confidants were differentiated from other associates in that they provided essential emotional support and guidance. Interviews were conducted with 46 elderly males and 82 elderly females. Questions designed to tap the subjects' perceptions of the adequacy of their networks asked whether they "wished to have more people to talk to, more people to have fun with, and more people to help?"

Findings showed that for males, aging tripled the risk of isolation from nonkin persons. Further, 66% of the males reported either a severe or moderate lack of a confidant while 20% of the females noted a moderate lack. Fischer and Phillips (1982) summarized the difficulty in examining the processes of relationships and complexity of social networks:

> No simple question can capture the various dimensions of personal milieux; we do different things with different people with different consequences. Our neighbors will water the plants, but distant relatives will lend us money. To ignore this complexity is to risk empirical error. (Fischer & Phillips, 1982, p. 37)

Holmen, Ericsson, Andersson, and Winblad (1992) examined the relationship of loneliness and social network as well. Loneliness was described as "complex" (Holmen et al., p. 44): a subjective experience related to a lack or want of social contact, a lack of close or intimate relations, and alienation. The sample consisted of 1,725 persons over the age of 75 years, who were asked "Do you experience loneliness often, sometimes, seldom, or never?"

These investigators contended that the 1-item measure was better adapted for use with elderly subjects because it concerns the loss experienced by older persons. No further elaboration concerning measurement was provided. Results showed that 25% felt they did not have anyone they could call a good friend. Of these, 45% reported often or sometimes feeling lonely. People with a close relationship felt significantly less lonely than others ($p < .001$). In discussing their findings Holmen et al. pointed out that while a partner relationship protects against loneliness, the loss of such a relationship, as occurs so frequently with the elderly, then results in bereavement, and quite possibly, loneliness.

Kaufman and Adams (1987) acknowledged the lack of conceptual clarity between social isolation and loneliness. Based on interviews with 1,879 elderly Mississippians who were selected by a quota sampling technique, Kaufman and Adams developed a three-dimensional conceptualization of social isolation: kin interaction, affective isolation, and nonkin interaction. The affective isolation dimension, seemingly a resemblance to Weiss' (1973) notion of emotional loneliness, reflected frequent and problematic feelings of loneliness. Thus, this conceptualization posited loneliness as a dimension or component of the larger construct social isolation.

Social isolation was measured using a 15-item instrument designed to tap the subjects' social activities and social interactions. Scores for each of the three

dimensions, kin interaction, affective isolation, and nonkin interaction, were summed to form a Cumulative Isolation Index which then was divided into thirds to indicate low, moderate, and high isolation. Only 3% of the sample reported high isolation. Of great importance to the present research, however, was the finding that 20% achieved high scores on the affective isolation dimension (Kaufman & Adams, 1987). Thus, while kin and nonkin interactions were sufficient to preclude a high overall isolation score, loneliness remained a significant component of their interpersonal experiences.

Further analyses examined background characteristics in relation to the Cumulative Index and dimension indices. These revealed that at the .01 level of significance, the old-old (> 75 years) had higher scores on all three dimensions than the young-old; those in poor health were higher on the affective isolation and Cumulative indices than were those in good health; the less educated scored higher on affective isolation, nonkin interaction and Cumulative indices; the lower income group had higher affective isolation scores; and the non-married had both higher affective and Cumulative isolation indices. Race, gender, and geographic location of residence (rural or urban) did not significantly affect any of the isolation indices (Kaufman & Adams, 1987). Findings from this study emphasize the fact that adequate contact with relatives, friends, and neighbors was not necessarily associated with the absence of loneliness.

Mullins and Dugan (1990) and Mullins, Tucker, Longino, and Marshall (1989) explored the relationships among loneliness, isolation, relations with family and friends, and depression. These authors contended that loneliness and isolation are not coincidental, and pointed out the inconsistencies regarding elders' preferences for contact with family versus friends. One study surveyed 2,731 Canadian seasonal residents of Florida. The single-item measure "Would you say you feel lonely?" was thought to be appropriate for this large multifaceted project. Other questions looked at health, aspects of relationships with family and friends, and other variables previously found to be related to loneliness. The discriminant function analyses explained 12.78% of the variance in loneliness, with the lonely tending to be younger, female, less well-educated, not married, and in poor health.

The relationship of poor health to loneliness was thought to be indirect, that is, poor health predisposes older people to social and emotional isolation which then leads to loneliness. Reasons given by the subjects for their loneliness most often were missing family, death of spouse, and death of a friend (Mullins et al., 1989). In discussing the impact of family and friends, these investigators encouraged a closer look at the qualitative aspects of these relationships which the present research aimed to do.

The second study sought to examine the influence of depression, family and friendship relations on loneliness

in residents of congregate housing (Mullins & Dugan, 1990). A sample of 208 subjects completed a 10-item version of the revised UCLA Loneliness Scale, the question "How often do you feel lonely?" and questions concerning the relationship variables, and the 15-item version of the Geriatric Depression Scale (GDS). Although the sample was not particularly lonely or depressed (mean scores for both measures were below the scale midpoint), and they were satisfied with the frequency of contact and the quality of their relationships with family and friends, there was a strong and statistically significant correlation between loneliness and depression ($r$ = .64, $p$ < .05). Further, there were effects of the relationship variables on loneliness, beyond that of depression, including satisfaction with the quality of relationships with children ($\beta$ = .17) and close friends ($\beta$ = .31), and satisfaction with the frequency of contact with neighbors ($\beta$ = .16). In discussing the findings these investigators pointed out that although the difference of reciprocity and asymmetrical exchanges within friend and family relationships were not tested directly in the study, Mullins and Dugan believed that greater satisfaction with the quality of friendship relations and greater frequency of contact with friends were particularly important in diminishing feelings of loneliness in older persons.

Loneliness and Affect

Several studies examined the relationship between loneliness and affective changes in the elderly. Dean

(1962) used disengagement theory to hypothesize that, as people age, they lose the capacity for intense, enduring affective involvement with others. Two hundred subjects were interviewed over a 6-year investigation in which active emotional states (irritation and anger) and passive emotional states (boredom and loneliness) were assessed. Although the interview schedule was not specifically described, it appeared that subjects were asked about the frequency with which they experienced the emotional states. Loneliness was also assessed with the question "When are you most likely to feel lonely?"

Findings from this study indicated that loneliness was associated with anger ($\chi^2$ = 2.32, $p$ = .10) but not with feelings of irritation. Further, Dean (1962) concluded that loneliness for the elderly meant absence of activity rather than absence of interaction. The subjects most frequently mentioned loneliness in response to "having nothing to do" secondary to physical incapacity, lack of money, or unavailability of transportation.

Hanley-Dunn et al. (1985) explored the actual cognitions that the lonely person has about other people in the interpersonal interaction. Twenty college females and 20 elderly females were shown age-appropriate interpersonal scenarios and questioned about motives and intents of persons in the scenarios, the results of which were computed for an interpersonal negativism score. Loneliness was measured using the UCLA Loneliness Scale. The $t$ tests showed no difference between the age groups on loneliness

scores or negativism scores. For subsequent analyses with the age variable disregarded, significant correlations were found between loneliness and negativism ($r$ = .75, $p$ < .001). Hanley-Dunn et al. argued that the focus on negativism indicated a disruption in the normal developmental process leading to intimacy, and suggested that loneliness interventions might have to include relearning the process of interpersonal relating.

Noting that most "socially disruptive" life events occur near the end of the lifespan, Hansson, Jones, Carpenter, and Remondt (1986, p. 42) suggested that adjustment to old age depends on one's own active efforts to replenish support networks and on one's receptivity to the efforts of others. These researchers hypothesized that older people who were lonely would possess negative emotional characteristics such as hostility, have poor social skills, make fewer efforts to build relationships, and be less responsive to the efforts of others. Two studies were designed to test the hypotheses.

Study 1 examined two adjustment mechanisms: social comparison activity (attempts to identify and emulate normative states, e. g., support groups) and rehearsal for widowhood (e. g., making new friends, assuming responsibility for finances). The sample consisted of 75 subjects who completed the revised UCLA Loneliness Scale, Behavioral Rehearsal Index, Beck Depression Inventory (short form), and other scales looking at emotional and relational statuses. After partialling out the effects of

income, education, global assessment of health and frequency of illness, the following variables remained significantly correlated with loneliness: desperation ($r$ = .43, $p$ < .01), fear ($r$ = .40, $p$ < .05), depression ($r$ = .45, $p$ < .01), anxiety ($r$ = .49, $p$ < .001), satisfaction with children ($r$ = -.37, $p$ < .05), satisfaction with friends ($r$ = -.49, $p$ < .001), satisfaction with organizational affiliations ($r$ = -.54, $p$ < .001), and satisfaction with life ($r$ = -.35, $p$ < .05) (Hansson et al., 1986).

The purpose of Study 2 was to determine the extent to which lonely older persons would be responsive to the efforts of others providing outreach supportive services. The sample in this study included 102 persons greater than 60 years of age. Loneliness was measured using a short (10-item) version of the revised UCLA Loneliness Scale. Results showed that loneliness was negatively related, in a consistent pattern, to measures of emotional and relational statuses, and to a lesser degree, health status (Hansson et al., 1986).

In summarizing their findings, Hansson et al. (1986) pointed out that loneliness was associated with factors that might discourage the restoration of satisfying relationships (e. g., shyness, suspiciousness), thus perpetuating the lonely experience. While not proposing a causal model, these researchers suggested that the ability to restore and maintain one's relationships and to access

available support is important in prolonging health and independence.

Causal Models of Loneliness

Kivett (1979) conceptualized loneliness as an unpleasant experience associated with failure to achieve the need for human intimacy and sought to determine predictive models for classifying rural elderly persons according to levels of loneliness (quite often, sometimes, almost never). The sample included 380 subjects who were selected using a sampling ratio technique. Loneliness was measured by responses to the global question "Do you find yourself feeling lonely quite often, sometimes, or almost never?" Stepwise discriminant analysis showed that the most important variables in terms of their discriminating power were adequacy of transportation ($F = 12.4$, $p < .01$), widowed versus married contrast ($F = 10.33$, $p = .01$), self-rated health ($F = 10.48$, $p < .01$), adequacy of vision ($F = 4.86$, $p < .01$), organizational activity ($F = 4.11$, $p = .01$), and frequency of telephoning ($F = 4.57$, $p = .01$). Interestingly, frequency of visits with friends and neighbors was not significant in distinguishing between levels of loneliness when health, marital status, and vision were controlled. Based on these findings, Kivett proposed that loneliness interventions address social activities and relationships, health and vision, and transportation and communication.

Conceptual inconsistencies are evident in this study as the definition of loneliness seems to refer to the

emotional form, measurement takes on a global and temporal perspective, and the recommendations drawn from the findings primarily emphasize aspects of the social network.

Creecy et al. (1985) tested a causal model in which certain background characteristics (marital status, health, income, age, and gender) were thought to have both direct and indirect effects on one's social activity, social fulfillment, and degree of loneliness. Loneliness was conceptualized as a psychological condition that results from the interrelationships between losses in an individual's support system, decreased participation in social activities, and a diminished sense of social fulfillment. Thus, the emphasis appears to be on social loneliness.

Data from 2,797 respondents of the 1974 Harris National Survey were analyzed. Loneliness was measured with a single question asking whether loneliness was not a problem, a somewhat serious problem, or a very serious problem.

Path analysis showed that the model, excluding age and gender, accounted for 36% of the variance in loneliness. Social fulfillment had a significant direct effect ($\beta$ = -.43) and was concluded to be the most important predictor of loneliness. Creecy et al. (1985) concluded that loneliness is a response to an environment that does not provide an adequate sense of social fulfillment.

Finally, Hoeffer (1987) extended the work of Creecy et al. (1985) and proposed that potential proximal causes

(living with others, social networks, contacts, etc.) of loneliness in elderly widows are found in the nature of a person's social relationships. Distal factors (age, education, etc.) were thought to directly and indirectly affect the proximal factors. Loneliness was defined as a subjective, unpleasant experience resulting from deficiencies in a person's social relationships, and measured by a single item which asked whether subjects felt lonely often, sometimes, rarely, or never.

Secondary analysis of 816 widows selected with probability sampling showed that the model explained 27% of the variance in loneliness. With the exception of having a confidant, all proximal factors had significant direct or indirect effects on feeling lonely. The strongest predictors were perception of time passing slowly ($\beta$ = .35), being alone ($\beta$ = .19), and perceived health ($\beta$ = .31). While the correlation between having a child and having a confidant was significant ($r$ = .15, $p$ < .001), Hoeffer (1987) suggested that having a confidant did not moderate against loneliness because confiding relationships with children may involve less reciprocity.

Analysis of the conceptual bases of the causal models proposed by both Creecy et al. (1985) and Hoeffer (1987) reveals that these seem primarily oriented to the social form of loneliness. Both are limited by the single item measurement which treats loneliness unidimensionally and, in the case of the Hoeffer study, emphasizes frequency as the basis for reporting loneliness.

de Jong-Gierveld (1987) sought to develop and test a framework concerning loneliness that would consider background variables, personality characteristics, characteristics of the social network, and evaluative aspects of the quality and nature of social activity. Additionally, de Jong-Gierveld hoped to construct a notion of loneliness that "would do justice to the highly subjective, personal ideas of the people involved" (p. 119).

The sample included a total of 554 subjects with ages ranging from 25 to 75 years. Loneliness was measured using the Loneliness Deprivation Scale which focuses on feelings of emptiness and abandonment, and longing for a close friend or confidant, as well as with a 1-item, 4-point response to the question "How lonely are you?" The correlation between the two loneliness measures was $r$ = .66, $p < .001$ (de Jong-Gierveld, 1987).

Analysis of the data revealed that loneliness was negatively predicted by living with a partner ($\beta$ = -.21) and positively predicted by being single ($\beta$ = .23). The strongest effects were produced by living arrangements, dissatisfaction with one's social network, and desire for new relationships. Other variables contributing more minor effects included employment status, social anxiety, introversion/extroversion, and evaluation of one's neighborhood. In all, the model accounted for 52.3% of the variance in loneliness.

Intervention in Loneliness

Using Weiss' (1973) framework as a guide for study, Evans, Werkhoven, and Fox (1982) attempted to evaluate the effectiveness of an outreach program with a sample of visually impaired elderly persons. Assuming that visual impairment contributed to social isolation and thus loneliness, a group telephone conference call was introduced as the experimental intervention. Loneliness, as measured by the UCLA Loneliness Scale, was found to be significantly lower in the treated subjects postintervention. More important, however, was Evans et al.'s conclusion that despite the conceptual orientation of loneliness as a response to isolation, the loneliness score as generated by the UCLA Loneliness Scale might actually reflect an objective measure of social isolation rather than the loneliness response per se. This not only points out the difficulty in quantitatively distinguishing loneliness and isolation, but also raises the possibility that the UCLA Loneliness Scale is biased toward social loneliness.

Andersson (1984) used an experimental design to test a small group intervention which was structured to provide social comparison, personal control, and opportunity for confiding relationships. Andersson's framework of loneliness, as emotional estrangement and/or social estrangement, served as the basis for the study. Subjects included 108 females on a waiting list for public housing who self-reported loneliness. Andersson pointed out that

the single question used to determine loneliness--"Does it happen that you feel lonely?"--lacked precision, but had the advantages of providing high face validity, and it did not presume any unestablished characteristics of loneliness. Subjects were also administered the UCLA Loneliness Scale, which correlated moderately with the single question response ($r$ = .44).

Findings from Andersson's (1985b) study indicated that the subjects who received the group intervention were less lonely, more able to trust, had more social contacts, and higher self-esteem. Background characteristics (marital status, age, work history, etc.) were analyzed for their impact on predicting loneliness scores as well. The only variable to enter the multiple regression equation was the number of years on the same job, leading Andersson to conclude that most of the variance in loneliness is not explained by background variables.

The relationship between older persons and pet animals has received considerable attention in recent years. Calvert (1989) hypothesized that residents of a nursing home who had greater levels of interaction with pets would experience less loneliness than those with lower levels of interaction. An ex post facto nonexperimental study with a total of 65 subjects was conducted. Loneliness was measured using a simplified version of the revised UCLA Loneliness Scale. Results confirmed the hypothesis ($t$ = 2.24, $p < .03$). In commenting on the use of the revised UCLA Loneliness Scale with an elderly sample, Calvert noted

that the subjects had difficulty interpreting the language of some items, including "in tune" with others around but "not with" them.

Mahalski, Jones, and Maxwell (1988) examined the attitudes toward pet cats and whether pet cats helped to diminish feelings of loneliness in older women. The sample included 40 subjects who participated in interviews. Questions were asked about cat ownership, feelings of closeness, and included several items from the UCLA Loneliness Scale. Only 15% reported often feeling lonely, and all indicated they felt close to someone. No differences in the loneliness scores were found between the cat owners and nonowners. In light of these findings, Mahalski et al. wondered if loneliness is more closely tied to the presence or absence of people, but that nevertheless work should continue to look at the role pets might have in alleviating loneliness in different ways.

## Intimacy

Shanas (1979) challenged the "social myth" of the elderly as alienated, asserting that geographic mobility of families and increased use of human service agencies by the elderly have mistakenly given the impression that older people are frequently alienated. Indeed Shanas noted the finding that, although proximity to family members may not be close, the notion of "intimacy at a distance" (p. 6) often exists. What is known about the nature of intimate relationships in the elderly? In this section, studies

related to the intimacy end of the human contact continuum are reviewed and evaluated.

Lowenthal and Haven's (1968) work has served as the catalyst for many of these investigations. These authors hypothesized that a close personal relationship might serve as a buffer against age-linked social losses. A sample of 280 community-resident elders were interviewed three times at yearly intervals.

Included in the interview schedule were questions regarding number of social roles, level of social interaction, morale (satisfaction-depression), and an item concerning relative deprivation (whether the subject thought he or she was better or worse off than his or her age peers). An objective measure of mental health status was based on psychiatrists' ratings.

Findings showed that there was a clear and consistent relationship between social resources and good morale. The presence of a confidant was positively associated with all three indicators of adjustment (subjective, relative deprivation, and objective measures). Further, these investigators concluded that the maintenance of an intimate relationship might serve as a buffer against depression that might otherwise result from decreased social roles or interaction. In the face of serious illness, however, the outlook is not so promising. Those who reported serious physical illness were overwhelmingly depressed, regardless of whether they had an intimate relationship. Thus, Lowenthal and Haven (1968) concluded that a social support,

such as an intimate other, could be a mediator when confronted with social losses, but it could not cross system boundaries or compensate for physical losses.

In further theoretical work, Lowenthal and Robinson (1976) noted the relativity of the concept of intimacy. These authors contended that the need for intimacy varied across the life course, and that the trajectories of men and women differ.

Weiss (1977) explored the relationship of intimacy, defined as physical and emotional closeness between two people, and adaptation to stress. Comparisons were sought between younger and older adults. The cross-sectional sample included 171 males and females who ranged in age from 21 to 72 years. The sample was primarily white and came from the middle to lower-middle socioeconomic classes. Subjects were interviewed along a structured format and provided answers to the Weiss Intimacy Ranking Scale (WIR), the SCL, the Life Event Questionnaire, and General Morale Index.

Results showed that spouse intimacy decreased from younger to older adults but friendship intimacy did not differ by life stage. For the older subjects, higher levels of intimacy increased adaptation to stress, more so for married couples than for friends.

Haas-Hawkings (1978) surveyed the family sociology, psychology, and gerontology research and determined that two themes were revealed with respect to the significance of widowhood as a precipitator of loneliness in the

elderly. Haas-Hawkings concluded that findings supported the notion that a stable, intimate relationship was important in moderating the stress of widowhood. Haas-Hawkings also identified a difference based on sex in coping with that stress.

Citing the work of Lowenthal and Haven (1968) among others, Haas-Hawkings (1978) concluded that the literature is consistent in demonstrating a more successful adjustment to widowhood by those women who have an intimate confidant. On the other hand, literature regarding men suggested that they lack intimate relationships other than those with the spouse, and thus show much poorer adjustment to widowhood. Extending this theme, Haas-Hawkings contended that not only does the man's wife serve as an intimate confidant, but she also acts as the primary link between her husband and the larger social network.

The findings of Keith, Hill, Goudy, and Powers (1984) demonstrate another perspective of the impact of having a confidant on elderly males' psychological well-being. These authors hypothesized that having a confidant would contribute to positive well-being by providing social support, fostering and sustaining feelings of self-esteem and competency, and reducing feelings of isolation and estrangement. Twelve hundred white males, greater than 60 years of age, completed the Rosenberg Self-Esteem Scale, Srole's Anomie Scale, and the Life Satisfaction-Z form. Additionally, the subjects provided information regarding whether they had an intimate friend with whom they

confided, if the confidant was the spouse or someone else, the age and sex of the confidant, and the frequency of contact with the confidant.

A total of 77% reported having a confidant, 44% of whom were the spouse. Surprisingly the presence of a confidant was not significantly related to self-esteem but was significantly, although weakly, related to alienation ($r$ = .09, $p$ < .05) and life satisfaction ($r$ = .11, $p$ < .05). In explaining these findings Keith et al. (1984) suggested that support provided by a confidant might be more apparent in times of crisis, or that men's needs for intimacy have been overestimated. These investigators did recommend that more specific measures regarding the confidant relationship be developed. Specifically, the content of what is shared, the amount of self-disclosure, the value placed on disclosure, and the importance of these on well-being were identified as measurement concerns.

The content and function of confidant relationships served as the focus of research conducted by Mades (1985). Questionnaires were administered to 39 female subjects in their homes. Measures of morale, health, network size, and questions regarding the confiding relationships were used. Findings showed that there were no differences in morale between subjects who had a confidant and those who did not. Subjects did view confiding relationships as reciprocal.

Similar findings were reported by Sellers (1986) who studied the relationship of confidants and morale in a sample of 61 female nursing home residents. Subjects

completed the Philadelphia Geriatric Center Morale Scale and provided descriptive data about their confidants. No significant differences were found in morale scores of those reporting and not reporting a confidant. A significant relationship was found, however, between morale and loss of a confidant. This may be indicative of the response of emotional loneliness.

Barrett (1981) contended that traditional resources are inadequate to meet widows' intimacy needs and that the "unique and intriguing" relations that they develop should challenge researchers to reconceptualize the definition of intimacy. Although theoretical in nature, Barrett's conclusions are based upon empirical accounts reported in the social gerontology literature. Barrett pointed out that the development of new friendships is difficult for widows; deprivation of human touch and physical intimacy is significant; and that relationships with family members, while providing some satisfaction, also cause anxiety.

Given these situations, Barrett (1981) suggested that the widow pursues other avenues for meeting emotional needs, including illusions of the spouse's presence, relationships with God, making herself the object of her own compassion (being her own best friend), intense relationships with pets, and assuming vicarious relationships with television characters. While admitting that her review is a "stark accounting of the possibilities" (Barrett, p. 482), Barrett does contribute

important thoughts to consider in the developing inquiry of intimacy.

Demellier (1981) purported to take a qualitative look at friendship intimacy and adaptation to stress. Subjects (N = 107) provided demographic data and completed four measures of intimacy, including a frequency count of contact with closest friend, questions regarding length of acquaintance and proximity to friend, and the WIR. Adaptation was measured using the Life Satisfaction-A Index and the Life Event Scale. All of the friendship measures, except the WIR, were significantly related to adaptation. Other findings showed that good health, frequent contact with the close friend, long-standing friendship, and proximity to the friend were associated with adaptation and life satisfaction. Results focused more on the quantitative aspects of the intimate relationship, however, rather than on the meaning per se.

Another investigation in this area explored the relationship among friendship intimacy, financial security, and morale in 140 elderly women. Primas (1984) found that the social interaction with intimate friends was not significantly correlated with morale as measured by the Philadelphia Geriatric Center Morale Scale. Income was the strongest predictor of morale.

Traupmann et al. (1982) also focused on the relationship between intimacy and psychological well-being. They conceptualized intimacy as passionate love, a highly intense emotional state associated with sexual feelings,

elation, and anxiety, and companionate love, a low-key emotion characterized by friendly affection and deep attachment. Subjects were given definitions of passionate and companionate love and asked to rate the level felt for their partner. Satisfaction with the sexual aspect of their intimate relationship was also measured using a 5-point scale. Well-being was determined using a modified version of the SCL-90 and an investigator-developed life satisfaction measure.

Results showed that satisfaction with the intimate relationship correlated highly with overall life satisfaction ($r$ = .74, $p$ < .001). Further, psychological symptomatology was negatively correlated with intimate relationship satisfaction ($r$ = -.406, $p$ < .001). Passionate love was shown to be a significant component of the subjects' intimate lives ($r$ = .39, $p$ < .001), as was companionate love ($r$ = .427, $p$ < .001). Finally, sexual satisfaction was significantly correlated with overall satisfaction with the intimate relationship ($r$ = .376, $p$ < .001). Traupmann et al. (1982) concluded that the distinction between passionate and companionate love may diminish over time in that the feelings of emotional closeness and security reported by older, married couples are a blend of the two types of love. The study was limited, however, in that only those women who declared a sexual relationship with their intimate other were included.

Snow and Crapo (1982) examined the relationship between emotional-bondedness, subjective well-being, and health status in elderly medical patients. Emotional bondedness was defined as the sense that one receives emotional support from a particular person and has a sense of mutual sharing and positive affect with that person. A sample of 205 males (68% of whom were married) completed the Life Satisfaction Index-A (LSI-A), the Affect Balance Scale, a 12-item Emotional Bondedness Scale, and a self-health rating.

Regression analyses showed that subjective well-being was significantly predicted by the self-health rating, emotional bondedness, and psychosocial health. Snow and Crapo (1982) noted that factors, such as age, marital status, and income, did not influence the self-health ratings. Snow and Crapo concluded that the presence or absence of a dyadic relationship, characterized by a high degree of emotional bondedness, is important for successful adjustment in later life.

Noelker and Poulshock (1984) explored the extent and nature of intimate interactions in a home for the aged by interviewing 40 residents and 26 staff. The intimate interaction was conceptualized as consisting of self-disclosure, physical contact, and emotional expression. Subjects were questioned about the presence of a confidant, discussion of highly charged topics (including dependency, loneliness, dying), whether they engaged in emotional expressiveness, and with whom and under what circumstances.

Findings showed that 9 of 10 residents named a confidant; however, none named a staff member. Only 20% self-reported loneliness; however, two-thirds thought that other residents were lonely. Noelker et al. (1984) concluded that the subjects were unwilling to acknowledge loneliness and/or defined themselves as nonlonely in relation to others. One-half of the staff respondents said the residents were lonely, indicating perhaps their application of cultural stereotypes of aging to the residents. Finally, while greater than 50% of the staff reported that residents confided in them, 80% said they did not reciprocate this confidence with the residents.

Noelker and Poulshock (1984) concluded that the absence of intimacy between staff and residents occurred because the staff acted in accordance with traditional norms of service providers which are contrary to the norms of affective expression and reciprocity which characterize intimate relationships. This is a conclusion worth noting in that Barrett (1981), among others, has suggested that service providers are a source of potential intimates for the elderly.

Citing the lack of clear understanding of the effects of intimate relationships on emotional well-being, despite the attention of social support in the literature, Essex, Klein, Lohr, and Benjamin (1985) sought to study these effects on depression in older women. Subjects were interviewed twice, 1 year apart. The subjects completed

the SCL-90 and answered questions about the quality of their intimate relationships.

Results showed that the more depressed the women were, the more they felt their intimate relationship was less friendly, the more the relationship involved less reciprocity, consistency, and predictability, and the less time there was spent with the significant other. Essex et al. (1985) used Seligman's learned helplessness model to explain the findings, contending that the womens' perceptions regarding their relationships led them to feel helpless and to develop pessimistic thoughts which reinforced their feelings. Obviously this study did not take into account how other sources of stress and support could explain the variables.

In a follow-up to the previous study, Essex (1987) suggested that it is important in treating depressed women to consider the potential sources of intimacy that could enhance her self-esteem and sense of self-sufficiency. For example, widows may need help in completing the grieving process and establishing new relationships that can provide intimacy.

Murphy (1985) examined the relationship of intimacy and depression as well, hypothesizing that when depression is severe, close ties are disrupted as a consequence of the symptoms. The healing effect of the close emotional support is then weakened. Over a 1-year period, 124 elderly persons with depression were followed. Subjects were interviewed regarding demographic data and medical

history, a psychiatric interview was conducted, and a modified version of the Bradford College Life Events and Difficulties Schedule was administered. This schedule included questions about the quality of interpersonal relationships that yielded a depth of intimacy rating.

Results showed that, after 1 year, the intimacy rating improved in 32% of the subjects who had shown recovery from depression. In subjects who had relapsed or continued to be depressed, intimacy rating improved in 3% ($\chi^2$ = 18.84, $p$ < .001). Murphy (1985) concluded that there is increased capacity to make new close relationships in the convalescence stage of depression and that interventions to improve social interaction are more beneficial at this point. Further, Murphy noted that the broader social network is not a good indicator of a person's close relationships. That is, one could be surrounded by casual acquaintances and not feel intimate with anyone.

Arling (1976), based on the premise that a meaningful relationship must include a degree of autonomy which results from the ability to reciprocate, hypothesized that elderly women want to contribute to their relationships. A sample of 409 subjects participated in interviews in which they were questioned (yes/no, semantic differential) about family involvement, friendship, and morale.

Findings showed that availability and contact with children were unrelated to the indices of morale. Significant correlations were found between neighbors being able to visit and nonloneliness ($r$ = .14, $p$ < .01) and

friends in the neighborhood and nonloneliness ($r$ = .24, $p$ < .01). When frequency of contacts with friends and neighbors were controlled for, analyses continued to demonstrate that involvement with children had little effect on the elders' morale. Arling (1976) concluded that there are separate domains of involvement for family and friends/neighbors. Despite lifetime bonds and deep concern for family members, difficulty in sharing and empathizing with each other were evident.

In continuing work, Arling (cited in Blehar, 1979) focused on the concept of reciprocity. Arling hypothesized that friendship involves social reciprocity while parent-child relationships are more one-sided. Specific research questions addressed the relationship between companionship and morale, reciprocity and morale, and reciprocal exchanges with family and friends. Questionnaires were administered to 239 subjects. A social reciprocity measure using seven paired statements to assess give-and-take of several types of assistance was developed. Morale was measured using the Philadelphia Geriatric Center Morale Scale (PGCMS).

Findings showed that subjects who reported a large number of persons with whom they exchanged support had higher morale. Further, there was a strong correlation between social reciprocity and two of the three personal morale dimensions--attitudes toward aging and lonely dissatisfaction. With respect to the role relations, friends and neighbors were more likely to be selected for

reciprocated companionship, while family members predominated for giving and receiving other forms of assistance. Arling (cited in Blehar, 1979) concluded that perhaps families should not necessarily feel compelled to solve all of their elder members' problems, thus limiting opportunities for reciprocity.

Rook (1987) extended the work on reciprocity and sought to identify differences in relationships (peer vs. kin) and categories of support (companionship, emotional support, and instrumental support), and how these related to social satisfaction. Standardized interviews were conducted with 120 elderly widowed women. Reciprocity was measured using a modification of social network survey. Social satisfaction was measured globally using a 9-item loneliness scale and specifically using questions regarding closeness, comfort, and satisfaction with relationships.

Results showed that exchanges with friends were more likely to be reciprocal than exchanges with adult children ($t = 7.02$, $p < .001$) (Rook, 1987). Contrary to expectations, companionship and emotional support were less likely to be characterized by reciprocity than was instrumental support.

To summarize, with the exception of a few studies, the presence of intimate, confiding relationships has generally been found to be related to positive feelings of well-being. Various dimensions of closeness, including reciprocity, caring, and disclosure, have specifically been

identified as important features of the intimate relationship.

## Psychometric Theory

The development of a research instrument must be well grounded in psychometric theory if valid and reliable measurement of the phenomenon of concern is to occur. In this section an overview of psychometric theory as it relates to the purposes of this study is presented.

### Measurement of Personality

The essence of personality measurement centers on identifying features that characterize and distinguish an individual from others. For the purposes of discussing measurement of personality, Nunnally (1978) used the terms trait, characteristic, and attribute synonomously. These are defined as "a measurable dimension of behavior, either . . . dichotomously or in finer gradations" (Nunnally, p. 547), and can include emotional, motivational, and interpersonal characteristics (Anastasi, 1976).

Efforts to measure personality traits generally derive from a nomothetic perspective; that is, the view that general laws exist that are applicable to all people. Five overlapping categories of personality traits that are subject to measurement have been identified: social traits, motives, personal conceptions, adjustment versus maladjustment, and personality dynamics (Nunnally, 1978). Of these, measurement of emotional loneliness seems most closely related to the adjustment versus maladjustment

category which addresses the relative freedom from emotional distress.

Validity and Reliability

The concepts of validity and reliability are basic to the development, testing, and use of an instrument of measure. Both are essential in demonstrating that acceptable psychometric standards have been achieved; and discussions of which one should be addressed first or is deemed more important are viewed as pedantic.

The concept of validity centers on what is being measured and how well this is done (Anastasi, 1976). Nunnally (1978) contended that validity is a relative concept and that validation theoretically addresses the use to which an instrument is put rather than the instrument per se.

Nunnally (1978) conceptualized validity according to the three major functions of psychological measurement. Predictive validity corresponds to the establishment of a statistical relationship with the phenomenon of concern, content validity corresponds to the representation of a specified domain of content, and construct validity corresponds to the measurement of particular traits. Validity also can be conceptualized in terms of generalizability.

Predictive validity refers to the use of an instrument to appraise an aspect of behavior that is external to the instrument itself (Nunnally, 1978). Thus results, as measured by the instrument, are checked against a

criterion, which is a direct or indirect measure of the phenomenon purported to be predicted by the instrument (Anastasi, 1976).

Anastasi (1976) cautioned of criterion contamination, a source of error in which the instrument score influences the person's criterion status. Another issue related to predictive validity is the availability of criterion variables (Carmines & Zeller, 1979). The more abstract the concept (e. g., loneliness), the more difficult it is to identify an appropriate reference criterion.

Predictive validity is determined by computing a validity coefficient using bivariate or multivariate correlational analyses. The correlation also demonstrates the degree of validity for the generalization between the instrument and a criterion. Nunnally (1978) warned that, because of the complexities of people and the situations in which criterion data are collected, only modest correlations between instrument and any criterion should be expected. Conditions which may affect the validity coefficient include the nature of the normed group, sample heterogeneity, changes related to the passage of time, and the mathematical form of the relationship between the instrument and the criterion (Anastasi, 1976).

Lack of adequate external criteria has hampered validity studies of loneliness instruments (Russell, Peplau, & Ferguson, 1978). Measures of a person's social network may provide similar referents, but loneliness and social isolation are not synonymous. Russell (1982)

suggested that use of a known group approach could be fruitful in differentiating individuals who are expected to be lonely based on some a priori basis (e. g., emotionally disturbed prisoners). While the known group may differ from a comparison group on the loneliness measure, it also is quite likely that other variables (e. g., anxiety, depression) could differentiate them as well. de Jong-Gierveld (1978) used another approach to establish predictive validity, that of comparing others' ratings of a person's loneliness to the loneliness measure. This approach assumes that the lonely person has communicated his or her feelings to others.

Content validity refers to the degree to which the instrument addresses a representative sample of the domain to be measured (Anastasi, 1976) in a "sensibly" constructed form (Nunnally, 1978). From examining content validity one can determine the extent to which generalization from a particular set of items to all possible items representing the domain can be done.

Limitations for establishing content validity relate to two areas. Content validity assumes an agreed upon domain of content relative to the concept being measured. "Acceptance of the universe of content as defining the variable to be measured is essential" (Cronbach & Meehl, 1955, p. 282). Carmines and Zeller (1979) contended that it is impossible to randomly sample the content of most social science concepts. Inability to do so makes it

difficult to definitively conclude the representativeness of the particular items.

Evidence for content validity can be drawn from "appeals to reason" that the items are adequate in their representation of the concept or from a comparison of scores on the instrument taken before and after an intervention to effect the phenomenon (Nunnally, 1978). Content validity also can be established by correlating scores on two different instruments which claim to measure the same phenomenon. Certainly these circumstantial ways of documenting content validity can be fraught with flaws (e. g., in the latter method both instruments may be measuring the same inaccurate dimension or the same dimension inaccurately).

Content validity has, for the most part, been assessed in previously developed loneliness instruments through the use of a self-report question "Are you lonely?" (Russell, 1982). While this approach may be reasonable for instruments that purport to measure loneliness as a unidimensional construct, limitations exist in that the problems of social desirability or response set biases could markedly affect responses and thus validity.

Further, the fact that content validity assumes an agreed upon domain content relative to the phenomenon poses a problem in establishing validity for loneliness measures. The essence of loneliness continues to be explored, but lacks consensus at present.

In light of the limitations for establishing predictive validity and content validity, construct validity is a particularly important concept to consider in the measurement of abstract phenomena. This type of validity refers to the degree to which the instrument relates to other measures which are consistent with the theoretical hypotheses concerning the phenomenon of concern (Carmines & Zeller, 1979). With respect to generalization, construct validity implies that one or several instruments can be general to a broader class of measures whose results all are accorded the same name (e. g., anxiety) (Nunnally, 1978).

The process of construct validation is "theory laden" and involves three phases (Carmines & Zeller, 1979). Theoretical relationships among the concepts must be specified, the empirical relationships among the measures of the concepts must be examined, then interpreted in terms of how they clarify the construct validity of the instrument of concern. In summary, validation of the measurement of a construct requires that the construct be embedded within a theoretical perspective so that hypotheses can be generated and tested using the instrument.

Campbell and Fiske (1959) contended that construct validity of an instrument should be demonstrated not only by showing correlations with variables with which it should theoretically relate (convergent validation), but also by showing that it fails to significantly correlate with

variables with which it would theoretically differ (discriminant or divergent validation). They proposed a method for evaluating these two forms of validation called the multitrait-multimethod matrix. This procedure involves assessing two or more variables by two or more methods. The matrix reveals correlations between different variables measured by different methods, correlations between different variables measured by the same method, and validity coefficients which reflect correlations of scores obtained for the same variable using different methods. Acceptable construct validity is demonstrated when the validity coefficients exceed the correlations between different variables measured by different methods, as well as the correlations between different variables measured by the same method (Anastasi, 1976).

Russell (1982) contended that attempts at construct validation of loneliness instruments have been rare. Indeed the strong relationship among loneliness, anxiety, and depression underscores the importance of establishing that loneliness instruments measure a phenomenon that is different from other related constructs. Russell et al. (1980) noted that with such strong correlations reported between loneliness and these constructs it was possible that, in a linear combination, the constructs might account for much of the variance in loneliness scores. On the contrary, Russell et al. found that a combined model of mood and personality factors accounted for 43% of the variance in scores on the revised UCLA Loneliness Scale.

After eliminating this variance, a self-reported loneliness index remained a significant predictor of the UCLA Loneliness Scale loneliness score ($F = 81.01$, $p < .001$).

Similar results were obtained by Weeks, Michela, Peplau, and Bragg (1980) who used a structural equation analysis to study the relationship between loneliness and depression. A sample of 333 college students completed the UCLA Loneliness Scale, the Beck Depression Inventory, and the Profile of Mood States. Their findings suggested that, while loneliness and depression were correlated, they were distinct constructs. Further, Weeks et al. concluded that neither was the cause of the other although they seemed to share origins.

In summary, the concept of validity is used to evaluate an instrument's usefulness in scientific investigations. Various techniques, including the statistical model of factor analysis, are available to the researcher to demonstrate an instruments's validity.

Reliability refers to the extent to which a measurement can be repeated (Nunnally, 1978). This concept derives from theory of measurement error which posits that an observed score is comprised of the true score plus random error. While a true score is rarely observable (Carmines & Zeller, 1979), it theoretically reflects the average score that would be obtained if the subject was measured an infinite number of times on that variable. Random error, expected to be normally distributed, reflects the dispersion of the observed scores. The wider the

spread of observed scores about the true score, the more error there is in using the instrument (Nunnally, 1978). Thus, an instrument is deemed reliable to the extent to which the measurement error is small.

The estimate of reliability is expressed with the reliability coefficient which reflects the degree of correlation between two sets of scores (Anastasi, 1976). Using the correlational analysis model as a framework, it can be seen that the square of the reliability coefficient yields the percentage of true score variance explained by the fallible score, or one in which a degree of measurement error is involved, and vice versa (Nunnally, 1978). Four basic methods are generally used for estimating the reliability of empirical measurements. These are test-retest, alternative form, internal consistency, and the split-half technique.

The test-retest approach involves administering the instrument to the same subjects on one occasion and then again after a given period of time. In this instance the reliability coefficient indicates the correlation of the scores on the two occasions. A reliable instrument is presumed to correlate in that responses reflect the same variable on each occasion, while error variance corresponds to the random fluctuation of performance on any given occasion.

Nunnally (1978) cautioned that the test-retest method is not without problems and recommends its use only in select situations. Most important is the likelihood that

the experience of the first measurement will influence the responses provided on the second testing. Consideration must also be given to the possibility that the underlying theoretical concept itself has changed (Carmines & Zeller, 1979). The amount of time elapsed between administration is another factor. Thus results of the test-retest correlation, high or low, must be carefully interpreted.

The alternative form method is similar to that of test-retest but utilizes a different, but comparable, form of the instrument on the second occasion. This reliability coefficient is the correlation between the scores obtained on the two forms (Anastasi, 1976). This coefficient actually provides an indication of the measure over time, as well as the consistency of responses to different item samples.

Obviously the creation of fundamentally comparable forms of the instrument is essential if this type of reliability indicator is to be used. Anastasi (1976) suggested that forms be designed to meet the same specifications, including same number of items, equal range and level, and identical format.

Limitations of the alternative form method include (a) failure to totally eliminate practice effects, (b) the degree to which the nature of the instrument will change with repetition, and (c) the practical difficulty in constructing alternative forms (Anastasi, 1976; Carmines & Zeller, 1979). Nunnally (1978) contended, however, that alternative forms are useful when the phenomenon varies

considerably over a short period of time. This would be particularly true for mood states. Further, the ability to construct an alternative form demonstrates that a definable domain of content exists (Nunnally).

Internal consistency indices provide estimates of reliability that are based on the average correlation among items within the instrument. Coefficient alpha (Cronbach, 1951), the most commonly used of these indices, is equal to the mean of correlations for all possible combinations of items into two half-tests. Coefficient alpha has also been shown to be the expected correlation between an instrument and a hypothetical alternative form of the instrument (Nunnally, 1978). This statistic is affected by the number of items included in the instrument and generally can be raised by increasing the number of items as long as the additional items do not significantly lower the average interitem correlation.

The Kuder-Richardson 20 (KR-20) is a special case of coefficient alpha used for determining internal consistency of scales composed of dichotomously scored items. Interpretation of KR-20 follows the same guidelines as those for interpreting alpha. Nunnally (1978) contended that alpha and KR-20 provide good estimates of reliability in that the major source of measurement error is related to sampling content.

The split-half technique relies on subdividing an instrument and correlating the scores from the two half-tests. This correlation is then corrected to yield the

reliability coefficient for the whole instrument (Carmines & Zeller, 1979). This approach offers the advantage of assessing reliability with one administration and one form of the instrument.

The major limitation of the split-half approach is that the correlation between the two halves will depend upon how the instrument was divided. According to Nunnally (1978) this variance raises questions concerning what the reliability actually is. He recommends using coefficient alpha or KR-20 in lieu of the split-half approach.

In general, test-retest and internal consistency indices have been used to establish reliability for loneliness measures (Russell, 1982). Internal consistency indices have provided good evidence of reliability for both unidimensional (Rubenstein & Shaver, 1982; Russell; Russell et al., 1978) and multidimensional (Schmidt & Sermat, 1983) measures. In that test-retest assumes the stability of the phenomenon over time, it is essential that reliability coefficients be examined within the theoretical context as revealed in the items. That is, it is important to determine whether the instrument reflects a state or trait perspective of loneliness.

In summary, the alternative form method and coefficient alpha technique are generally thought to be more accurate indices of reliability than test-retest and split-half determinations (Carmines & Zeller, 1979; Nunnally, 1978). While the "acceptable" level for a reliability coefficient must be determined based upon the

nature of the findings and how decisions will be impacted by small differences in scores, a general rule is that reliability should not fall below .80 (Carmines & Zeller).

# CHAPTER III

## Methodology

The purposes of this study were to initiate development and testing of an instrument measuring emotional loneliness in the elderly. This chapter presents the methods employed in the two phases of the investigation, including design, procedures, sample selection, measurement, a review of the instruments, analysis of data, and protection of human subjects.

### Design

A descriptive, psychometric design was utilized. This approach permitted an explication of the items necessary for measuring emotional loneliness and provided data for answering the research questions regarding psychometric properties of the subscales and instrument. Descriptions are essential in the process of theory development (Polit & Hungler, 1978).

### Theoretical Approach to Instrument Development

The approach selected to measure emotional loneliness was that of self-inventory via a Likert-type scale. Nunnally (1978) contended that the most valid measures of personality have evolved from someone's impressions--either the individual's own impressions or those of another who knows the individual.

## Method

The study occurred in two phases. This section presents the purpose and procedures for each phase.

### Phase One Purpose

The aim of this phase was to construct the instrument, Emotional Loneliness Instrument, hereafter referred to as ELI.

### Phase One Procedures

The work of this phase followed the model suggested by Lynn (1986) for the development of affective instruments. During Stage I - Development, (a) the scaling model was selected, (b) dimensions and/or subdimensions of the affective variable were identified, (c) items for all dimensions and subdimensions were generated, and (d) items were assimilated into usable form (Lynn). A fourth activity of this phase was selection of the scaling model.

Selection of scaling model. Carp (1989) noted the ageism often reflected by the "common investigator set" (p. 94) which holds that studies of the elderly be designed with the expectation that concentration, cooperation, and comprehension are likely to be low. Carp argued against this approach, asserting that no one scale design posed particular difficulty to this group. With this in mind, the investigator entered this phase of the research process with an open mind, intent upon reviewing all possibilities for the scaling model.

A scaling model is the internally consistent plan for developing a new measure (Nunnally, 1978). The scale

represents the assignment of numbers by individuals to whom it is administered, indicating quantities or degrees of the characteristic being assessed (Kerlinger, 1986; Nunnally, 1978). The model chosen for this investigation, that of a summated rating scale of the Likert-type with a 5-point response format, was based on two factors: measurement characteristics and appeal for use with elderly persons.

Kerlinger (1986) described the summated rating scale as:

> A set of attitude items, all of which are considered of approximately equal "attitude value," and to each of which subjects respond with degrees of agreement or disagreement (intensity). (pp. 453-454)

The summative model is most frequently used in measuring psychological traits and sentiments. The resulting summation of item scores is approximately linearly related to the trait being measured (Nunnally, 1978).

Appealing characteristics of the summated rating scale include: (a) one item is the same as any other item in attitude value; and (b) intensity of attitude expression is allowed, yielding greater variance. Unfortunately subjects may tend to develop a certain response pattern (e. g., primarily selecting neutral responses), known as response set bias. Obviously, this confounds the attitude variance. Nunnally (1978) and others have emphasized the threat to valid measurement caused by response set bias, however Kerlinger (1986) warns against becoming "paralyzed" over the issue. Advantages of the Likert-type approach include ease in construction, high in reliability, ease in adapting

to the measurement of many kinds of attitudes, and their history of producing meaningful results.

The number of scale steps to be used in a summated rating scale has been controversial in research with older persons. Many, including Bradburn (1969), Lawton (1972), and Yesavage et al. (1983), have contended that the elderly as a cohort are not familiar with multiple choice formats, that a large number of response categories is confusing to them, and that they have difficulty making up their minds. Based on these beliefs, numerous instruments for measuring attitudes and sentiments in the elderly have been constructed using a 2-step or dichotomous (Yes - No) format. These do provide the advantages of being easy to administer and possibly reducing frustration on the part of respondents, however, they may not provide adequate opportunity for expressing more precise views (Carp, 1989). Further, the psychometric effect of using a dichotomous format may significantly decrease the reliability of the scale.

Nunnally (1978) noted that the "reliability of individual rating scales is a monotonically increasing function of the number of steps" (p. 595); however, this tends to level off around seven steps. In the case of the dichotomous format, the phi coefficients are limited by the differences in p values of items: if there is a large standard deviation of p values over items, the mean correlation of items with one another will tend to be low, and thus the reliability will be low. Conversely, as the

number of scale steps increases, the restrictions on correlations are less. Another issue concerns the number of items. If the scale consists of at least 20 items, reliability is rarely increased by adding more scale steps.

A final aspect of the scale structure to be determined is the use of an odd or an even number of response categories. The inclusion of an odd number of categories permits the use of a neutral step, which frequently makes respondents feel more comfortable. In addition, some believe there should be an option for noting legitimate neutral opinions. However, this must be weighed against the possibility that a response style set emerges. While this issue needs to be deliberated, Nunnally (1978) concluded that if scores are summed across a number of subscales it is not a critical issue.

In light of these scale attributes, a 5-point version for the ELI was selected. This is consistent with Carp's (1989) finding that the 5-point response option was a good compromise for the elderly, in which they would not be overwhelmed by response options, but neither would the loss of variance possible with too few options be experienced.

Identification of dimensions. From the review of literature and the phenomenological work described earlier, the following concepts associated with emotional closeness were identified: attachment (Bowlby, 1969); interdependence, self-disclosure, and warmth (Perlman & Fehr, 1985); sensitivity and mutual validation of worth (Sullivan, 1953); acceptance, open communication of

feelings, and deep empathic understanding (Rogers, 1961); affection, cohesion, expressiveness, compatibility, and sexuality (Waring et al., 1980); trust, understanding, and openness (Adams, 1985); predictability, repetition, caring, personal investment, safety and security, confiding, and reciprocity (Richie, 1987); satisfaction, time spent with each other, informal interactions, self-disclosure, and touching (Flanders, 1976); and reciprocity and mutuality (Levinger, 1977).

These were then clustered into related themes, from which six dimensions and the perceptions category emerged. Placing the concepts of emotional loneliness and emotional intimacy (closeness) at opposite ends of the continuum of human contact completed the revised conceptual map. Theoretical definitions for emotional loneliness and each of the dimensions were then constructed. These guided the development and selection of items for the instrument (ELI).

Emotional loneliness--a subjective, dysphoric experience associated with unfulfilled needs for intimacy, which results from the lack of an intense, relatively enduring relationship with another person. Feelings of dread, anxiety, restlessness, and emptiness prevail (Russell et al., 1984; Weiss, 1973).

Caring--the loving and kind attitudes that emanate from an individual's concern for and sensitivity to the needs of the signficant other. There is individual regard, acceptance, respect, and attachment for the other (Watson,

1985). Caring generates deep feelings at several levels: intellectual, physical/sexual, and emotional.

Sharing--the mutual or reciprocal process in which time, activities, material possessions, and "each other" are exchanged, thus enabling the development of joint views, goals, and directions, through which the definite structure of the close relationship is provided (Weiss, 1978). The costs of time, effort, and resources that go into sharing define the investment that the partners have in the relationship.

Confiding--the exchange of one's innermost thoughts and feelings with the significant other. Andersson (1986) noted that the intimate interaction confirms an attachment and implies confidence. The process of self-disclosure is a demonstration of the trust within a relationship, and further deepens the nature of the relationship through a gradual spiraling build-up of expressiveness (Flanders, 1976).

Protection--a more specific and instrumental form of caring. Through protection, helpful behaviors are provided to ensure the physical and emotional safety and security of the significant other.

Continuity--the temporal component of closeness. Repeated encounters provide history for the relationship in which the participants can reminisce, and a view of the future in which there is an expectancy which encounters with the signifcant other will continue to occur (Flanders, 1976). There is usually some predictability as to how,

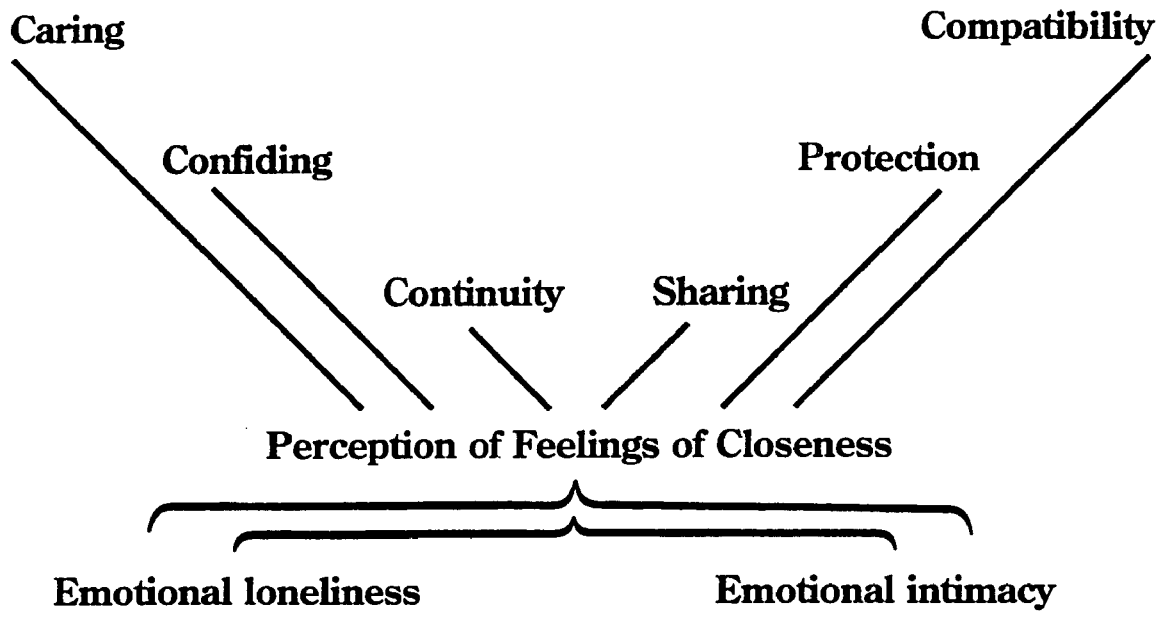
when, and where these will happen. Commitment to future interaction derives from the feelings associated with the previously meaningful encounters (Weiss, 1978), and is characterized by a sense of anticipation and "counting on" regarding these future encounters (Richie, 1987).

Compatibility--the harmonious way of relating in which there is comfort and ease in the relationship (Weiss, 1978). This provides a source of pleasant, warm, and contented feelings.

Perceptions of feelings of closeness--the conclusion reached after the six dimensions of emotional closeness are appraised by the individual, and the extent to which these are perceived as being present in the person's relationship with another is determined. Persons who perceive little or no feelings of closeness manifest emotional loneliness. According to de Jong-Gierveld (1987), "the subjective evaluation (cognitive conclusion) of the network is the intermediating factor between the descriptive characteristics of the network and loneliness" (p. 120).

Using these definitions, the revised conceptualization can be seen in Figure 2. This conceptualization framed the remainder of the investigation.

The purpose of each item on a summative scale is to yield reliable variance with respect to the phenomenon of concern. Further, most of the items should be either moderately positive or moderately negative (Nunnally, 1978). The type of item selected for use in ELI were those in which responses were independent (i. e., a response to




Assumption: The continuum is viewed within the person's situational and developmental contexts.

**INTERRELATIONSHIPS OF CONCEPTS:**

Six dimensions describing the continuum of emotional closeness are proposed. These are appraised by the individual, and the extent to which they are present in the person's relationship with another form the basis for feelings of closeness. Persons who perceive little or no feelings of closeness manifest emotional loneliness, while those who perceive feelings of closeness manifest emotional intimacy. In keeping with Weiss' (1973) and Erikson, Erikson, and Kivnick's (1986) theoretical perspectives, the continuum is viewed within the person's situational and developmental contexts.

Figure 2. Continuum of emotional closeness.

one item is not related to the response on another items). The advantages of this kind of item are economy and the applicability of many statistical responses (Kerlinger, 1986).

Thus, to develop the item pool, all available instruments measuring loneliness, or its counterpart intimacy, were reviewed. Any of the items thought to be consistent with the dimensions as defined above were selected and modified as necessary for use in the ELI. All other items were developed by the investigator.

Caring--8 items. The items selected to measure this dimension were intended to tap the aspects of passionate feelings of several levels, support, acceptance, and concern for the significant other. Watson (1985) stated that caring transcends the mere performance of actions for or to someone, and includes a philosophy of moral commitment to the other. In addition, these items looked at aspects of the person's relationship which served to sustain the person's strength and condition. (NOTE: Items taken from other instruments are noted in reference parentheses; all other items were constructed by the investigator. Wording of the items taken from other instruments has been adapted in order to provide consistency of format and appropriateness to an elderly population.)

"I am accepted by someone special" (Weiss, 1978).

"I have a strong emotional attraction for someone" (Weiss, 1977).

"I don't feel cared for."

"I feel unloved."

"I am in a caring relationship."

"I have respect for someone special" (Weiss, 1978).

"There is no one who really respects and values me."

"No one ever hugs me."

Sharing--7 items. Items that examined the notions of reciprocity, commitment, and interdependence were selected for use in measuring the dimension of sharing. Weiss (1978) noted that having a common interest in and personal concern for particular topics enhanced conversation, which facilitated communication and thus a strengthening of the relationship.

"I feel a special commitment to someone."

"I have no one to share my feelings with."

"I feel needed by somebody."

"I have someone special I like to help."

"There is no one special to share activities with me."

"I have someone on whom I depend and who depends on me."

"I don't feel like I am wanted by the person most important to me" (Paloutzian & Ellison, 1982).

Confiding--9 items. Trust, self-disclosure, expressiveness and understanding were the major concepts of interest in measuring this dimension.

"There is no one I can turn to" (Russell et al., 1980).

"No one really knows me well" (Russell et al., 1980).

"I cannot confide in anyone" (McNeil, 1983).

"There is someone in whom I can confide."

"I feel like the person most important to me understands me" (Paloutzian & Ellison, 1982).

"I have someone who really knows me well" (Weiss, 1977).

"There is no one I can really trust."

"I confide in someone special" (McNeil, 1983).

"I don't have anyone who really understands me."

Protection--5 items. Items selected for this dimension were intended to tap the notions of safety and security, nourishment and sustenance, and accessibility to the significant other.

"When I need someone no one is there."

"I have someone who is supportive of me" (Weiss, 1978).

"Even when other people are around me I feel very vulnerable and afraid."

"I feel safe and secure with someone."

"There is someone who will help me out when I need help" (Weiss, 1977).

Continuity--8 items. One cannot be intimate with what is new or unfamiliar, strange or alien. Recognition is essential (Verwoerdt, 1981). Thus, the major concepts underlying the items comprising this dimension were predictability, repetition, and familiarity.

"I don't expect anyone in particular to contact me."

"I have someone who has stuck close by me."

"I long to be with someone special."

"I have someone with whom I have been close for quite a while."

"I have someone special with whom I have regular contact."

"I feel satisfied knowing that I have someone who will keep in touch with me."

"I can't count on anyone special to do things with."

"I look forward to being with someone who is special to me."

Compatibility--6 items. Companionship promotes comfort and ease within the relationship, mutual validation of worth, and facilitates a sense of belonging. Acceptance, or the notion that one is received favorably, regarded as suitable, and recognized as appropriate by another, is another component of this dimension.

"I don't have a relationship that is satisfying to me."

"I wish I had a relationship that provided me with warm and contented feelings."

"I have someone with whom I have common interests" (Weiss, 1978).

"I have someone who is enjoyable to be around" (Weiss, 1978).

"I have someone with whom I share similar attitudes (ideas, morals, values, etc.)" (Weiss, 1978).

"I have someone who is comfortable and easy to be with" (Weiss, 1978).

Perceptions of feelings of closeness--8 items. Items in this category were intended to reflect the conclusions reached in relation to feelings of closeness.

"I don't feel like I belong to anyone."

"I feel the need to be close to someone."

"I no longer feel close to anyone" (Russell et al., 1980).

"I feel close to someone in particular."

"I am distant from my family and friends" (McNeil, 1983).

"I have a relationship with someone who means a great deal to me."

"Although I have some good friends and family, I miss not having someone special" (de Jong-Gierveld & Raadschelders, 1982).

"I feel restless because I have no one close to me."

In summary, 20 items were chosen from existing, psychometrically sound instruments as being consistent with one of the dimensions as conceptually defined. Eleven items were taken as is, or with minor wording changes, from the WIR (Weiss, 1978), two items from the Abbreviated Loneliness Scale (ABLS) (Paloutzian & Ellison, 1982), three items from the revised UCLA Loneliness Scale (Russell et al., 1980), three items from the Relationship Status Scale (RSS) (McNeil, 1983), and one item from the de Jong-Gierveld Loneliness Scale (de Jong-Gierveld & Raadschelders, 1982). In addition, 32 original items were developed, for a total number of 52 items for ELI (Appendix

A). While this made for a lengthy instrument, the intent was to adequately represent each domain with 6-9 items. Carmines and Zeller (1979) and Nunnally (1978) both contended that it is preferable to generate too many items than too few because using more items decreases the domain sampling error. Similarly, Gorsuch (1974) stated that at least five items are needed for each dimension to enhance future replication of results.

Data analysis. Once the 52 items were identified, feedback was sought from a panel of seven colleagues, all of whom had expertise in measurement, affective instrumentation, and/or geropsychiatric nursing. The panel was given a copy of the conceptual map and the theoretical definitions of the dimensions. The panel was asked to: (a) assign each item to one of the dimensions (a forced choice procedure); (b) determine whether the 52 items represented the domain of each dimension, and the degree to which the larger domain of emotional loneliness was tapped; (c) identify any item(s) thought to fail to fit the conceptualization; (d) suggest additional items that might enhance content validity; (e) assess the appropriateness and clarity of the items for use in an elderly sample; and (f) recommend any wording changes that would facilitate understanding from an older person's point of view.

This activity constituted the appeals to reason approach (Nunnally, 1978) at testing for content validity. In that the domain of content lacks consensus at present, this was recognized as a circumstantial means of beginning

to establish content validity. Nevertheless, it was thought to be a necessary activity, particularly in light of the state of concept development of the phenomenon.

Results from this panel of experts showed that 65% of the items were assigned to the correct dimension. Most of the incorrect assignments were due to placement of an item in CARING when it theoretically had corresponded to PERCEPTIONS (and vice versa). Similarly, items belonging to the COMPATIBILITY dimension were placed in SHARING (and vice versa). Some consideration was given to combining these two sets of dimensions, however, the decision was made to await statistical analyses for help in clarifying these conceptual blurs.

All members of the panel thought that the 52 items addressed the dimension and construct domains, and no additional items were suggested. Other feedback included some minor wording changes that were incorporated.

To reduce the potential for response set bias, 26 items were worded to reflect emotional loneliness, and 26 were worded to reflect nonloneliness. Responses to the 26 items that reflected nonloneliness could then be reverse scored and summed with the responses to the items that reflected loneliness for an overall loneliness score. Thus, the higher the score, the greater the experienced loneliness. The principal advantage of using a summative model was that the importance of individual items is minimized (Nunnally, 1978). Items were recognized as having considerable specificity and measurement error.

Other features of this approach included the possibility of making fine differentiation among individuals with different characteristics, and the ability to perform a variety of analyses based on the model's technical properties (Polit & Hungler, 1978). In readying the items for administration, the reverse scored items were interspersed with the other items.

Response format. Decisions were made regarding the anchor according to which the subjects would rate the items. While ideally it would be preferable to know both the frequency with which subjects felt the way described in the items and the intensity with which they felt the way described, it was decided that the 2-way format might be too confusing. Therefore, the scale was constructed so that subjects would simply note their degree of agreement with each item. Agreement scales have been found to be easy to work with, are easily understood by subjects, and yield results that are easily interpreted (Nunnally, 1978).

Another decision dealt with the issue of theoretical and measurement value for the "undecided/don't know/no answer" responses. In order to simplify the choice for respondents and to accord a fairly neutral score for whatever the reason agreement or disagreement with the item could not be reached, it was resolved that "undecided" would serve as the midpoint of the scale. Thus, a 5-point scaling approach using equal appearing intervals (Anastasi, 1976) was used to format the scoring:

| | | |
|---|---|---|
| Strongly Disagree | = | 1 |
| Disagree | = | 2 |
| Undecided | = | 3 |
| Agree | = | 4 |
| Strongly Agree | = | 5 |

Phase Two Purpose

The focus for this phase was to collect data from the subjects. The collected data were used to answer the research questions.

Population and sample. The population from which the study sample was drawn consisted of women over the age of 59 years who resided in senior high rise congregate living complexes or who attended an activities program at a senior citizens center in a major city in the southeastern United States. These sources provided elders who were deemed "independent." Initially, contact was made with the managers of two buildings with 150 and 650 residents, respectively. The purposes and methods for data collection were explained to the managers, and their agreement to conduct the study was obtained. Recruitment strategies included posting flyers on the bulletin boards and in the elevators, and distributing these to the individual apartments by floor captains. The flyers contained a "tear-off" section for name and telephone number which could be completed by interested residents and left in a collection box for the investigator. The investigator also attended chapel services and activity programs to announce the study and answer questions. Few subjects were

forthcoming despite the investigator's maintaining a presence in the buildings by participating in building activities and continued announcements and flyers publicizing the study.

After 3 months, two additional complexes with 220 and 238 residents were approached, and data collection using similar recruitment strategies was begun in these sites. After 2 additional months, 60 subjects had participated in the study interviews. At this time, an additional strategy, that of providing an incentive gift, was introduced. In order to prevent the subjects who had already participated without the incentive from feeling slighted, and to encourage them to urge their co-residents to participate, thank-you notes and gifts were sent to this group. The gift consisted of a 16-count book of stamps and a bookmark. Conceivably the use of the gift served to reinforce subjects' self-worth by recognizing their time, effort, and the value of their experience (Carp, 1989).

A fifth site, the Senior Citizens Center, was added 2 months later. The investigator set up a table with a poster publicizing the study in the center welcome area. Despite an attendance of approximately 50 women at the center, only 10 agreed to participate.

In 9 months, a total of 108 subjects had been interviewed for the study. While not achieving the number of subjects hoped for, the decision to terminate data collection at that point was made. The difficulty in

attracting more subjects to participate is discussed further in Chapter V.

Procedures. Potential subjects were informed that if they wished to participate, they should complete the "tear-off" providing their name and telephone number. They were then telephoned and a time was arranged for the interview. Subjects in the apartment buildings were allowed to choose a place of their preference where the interview could be conducted. All selected their apartments, likely feeling most comfortable in familiar surroundings (Carp, 1989). Subjects from the Senior Center were interviewed in a private office at the Center.

The structured interview was selected as the method for data collection. Scores for the responses were marked by the investigator on the interview schedule as the procedure progressed. Field notes, anticipated to be helpful in informing the quantitative results, were noted as well.

Measurement. The interview began with the investigator describing the study as one in which information regarding contact with family and friends, loneliness, and social relationships would be sought. Subjects were reminded that they did not have to be lonely or to know a lot of people to provide valuable information. Demographic data were obtained (Appendix B). The purpose of collecting demographic data was to be able to describe the norm group. Further, in keeping with the theoretical

perspective of the study, situational variables could be examined as they relate to emotional loneliness.

The ELI was administered. The ELI, in addition to being the major element of concern in this study, was the longest of the instruments to be administered. Therefore, it was decided to place it early on in the interview schedule. Subjects were informed that for each item they were to indicate their degree of agreement or disagreement that the item described them. The subjects were also told that they could choose the "Undecided" response. Items were read aloud to the subjects. A 5" x 7" prompt card (Appendix C) on which the response alternatives were written in large print and was pointed to by the interviewer was provided for their use as well. Several practice items were administered to familiarize subjects with the procedure and responses. According to Carp (1989), responses are not influenced by the location of the anchor poles. Providing both audio and visual cues are thought to increase understanding of the content and response choices.

In the next portion of the interview, subjects were administered several additional measures for the purpose of establishing construct validity of the ELI. These included two measures theoretically related to emotional loneliness, one measure of social loneliness, the Geriatric Depression Scale (Yesavage et al., 1983), selected items from the UCLA Loneliness Scale (Russell et al., 1980), the Philadelphia

Geriatric Center Morale Scale (Lawton, 1972), and the Affect Balance Scale (Bradburn, 1969).

A two-sentence description of emotional loneliness (EL) was provided (Appendix D), to which subjects indicated on a 5-point scale (the same scale used for ELI) their degree of agreement or disagreement that the statement reflected their experience. The description was developed by Russell et al. (1984) who correlated the response with answers on a similarly constructed description of social loneliness and scores on the UCLA Loneliness Scale. They found a small, but significant correlation between responses to the two descriptions ($r$ = .17, $p$ < .01), indicating that the two measures are largely independent. The responses to the description of emotional loneliness also correlated significantly to three of the UCLA Loneliness Scale items which theoretically relate to emotional loneliness ("No one I can turn to," $r$ = .40; "No longer close to anyone," $r$ = .44; "No one knows me well," $r$ = .35) (Russell et al.). Wording of the description was slightly modified to reflect the experience of the elderly.

The second measure theoretically related to emotional loneliness included four items (ATTACH) from the Social Provisions Scale (Cutrona, 1982; Cutrona & Russell, 1987) which measure attachment (Appendix D). Two items were stated positively and two negatively. Subjects were asked to indicate on the same 5-point scale how true each item reflected their current relationship(s). Russell et al. (1984) found that the scores for these items significantly

predicted emotional loneliness as measured by responses to the two-sentence description ($\beta$ = -.622, $F$ = 178.20, $p$ < .001).

The measure of social loneliness (SL) was the two-sentence description previously mentioned (Appendix E). Again, the wording was slightly modified for use with the elderly. Subjects were asked to indicate on the 5-point scale their degree of agreement that they were experiencing the phenomenon.

The GGDS (Yesavage et al., 1983) was developed specifically for use with the elderly and was designed to avoid the problems often presented in studying depression in this population, including the confound of somatic symptoms as a key to depression, the confusion of dementia with depression in the elderly, and their increased resistance to psychiatric evaluation. Also, Yesavage et al. were concerned that the Likert-type format with multiple response alternatives requiring subtle discrimination frequently used in many depression scales was difficult for older persons, and that the simpler Yes - No format was preferable.

The GDS (Yesavage et al., 1983) contains 30 items which address the following aspects of depression: somatic complaints, cognitive complaints, motivation, future/past orientation, self-image, losses, agitation, obsessive traits, and mood. Of the 30 items, 20 indicate presence of depression when answered positively, and 10 indicate depression when answered negatively (Yesavage et al.).

Internal consistency for the GDS has been reported with Cronbach's alpha = .94, median correlation with total score = .56, and test-retest = .85, $p < .001$. Discriminant validity was shown when depressed subjects were classified into two groups (mildly depressed and severely depressed) using the Research Diagnostic Criteria. ANOVA was conducted in which the classification variable served as the between subjects factor, while subjects' total score on the GDS served as the dependent measure. Main effects for the classification were highly significant [$F(2,97) = 99.48$, $p < .001$]. Finally, convergent validity was demonstrated with two other reliable and valid measures of depression. The GDS was significantly correlated with the Hamilton Rating Scale for Depression ($r = .83$, $p < .001$), and the Zung Self-Rating Depression Scale ($r = .84$, $p < .001$) (Yesavage et al., 1983).

Three items from the UCLA Loneliness Scale (Russell et al., 1984), which were found to differentiate the responses to the two-sentence social and emotional loneliness descriptions, correlating more strongly with social loneliness, were administered (Appendix F). It was expected that discriminant validity would be confirmed by lack of correlation between responses on these items and ELI, indicating that ELI measures a different phenomenon.

In that emotional loneliness is conceptualized as an affective response, the degree to which it is associated with other measures of mood would provide further evidence of construct validity. Positive mood states should

theoretically fail to relate to ELI, while negative mood states are more likely to relate. Thus a measure of affect, the Bradburn Affect-Balance Scale (ABS) (Bradburn, 1969) was selected for psychometric comparisons.

The ABS (Bradburn, 1969) was designed to reflect psychological well-being as measured by the difference between an individual's position on two independent dimensions of positive and negative affect. Included in the scale were five items measuring each dimension, constructed in a Yes-No format. Scores were computed by assigning a value of 1 for each Yes response, and summed separately for the positive and negative items. The difference between the two sums yields the final score which is an indication of the individual's level of psychological well-being (Sauer & Warland, 1982). For ease in computation, Moriwaki (1974) suggested adding a constant of 5, yielding a score range from 0 to 10.

Tests of reliability for the ABS show internal consistency with coefficient alphas of .66 for the positive affect, .70 for the negative affect and ranges of .52 to .59 for the total score. Validity has been shown with factor-item coefficients for the positive dimension of .50 to .57 and .42 to .68 for the negative dimension (Sauer & Warland, 1982).

In other psychometric testing Morawaki (1974) utilized the known groups and the independent criteria methods to assess validity of the ABS in older subjects. One group consisted of psychiatric outpatients and the other

consisted of church members (normals) who were determined to be physically and mentally healthy by an informant. Results showed that the ABS was highly significant in discriminating the normals, with a mean of 8.27, from the psychiatric group whose mean was 4.25 ($t$ = 5.58, $p$ < .001). Significant differences existed between the groups on the two-dimension subscales as well. Analyses of independent criteria showed that the ABS was (a) significantly and negatively correlated with degree of role loss ($r$ = .52, $p$ < .05); (b) significantly and positively correlated with the Rosow Morale Scale ($r$ = .61, $p$ < .01); and (c) positively, but not significantly, related to the individuals' self-report of overall happiness. Moriwaki (1974) reported that, as other investigators have noted, elderly subjects have less affect, demonstrating perhaps that standards for defining satisfaction may differ with age. Therefore, differential age norms for the ABS may need to be developed.

The PGCMS (Lawton, 1972) sought to measure morale in the elderly using a dichotomous format. A multidimensional conceptualization of morale was defined as freedom from distressing symptoms, satisfaction with self, feeling of syntony between the self and environment, and ability to strive appropriately while still accepting the inevitable. One facet of morale particularly addressed was social interaction. The original scale contained 22 items; factor analysis yielded six factors.

Further testing and modification of the PGCMS (Lawton, 1975) on three new populations resulted in a 17-item scale, comprised of three factors: Agitation (6 items), Attitude toward own aging (5 items), and Lonely Dissatisfaction (6 items) (LONSS). A high degree of internal consistency was noted with Cronbach's alpha of .85, .81, and .85, respectively. The three-factor scale was thought to be preferable to the six-factor version as the longer factors in the former are likely to yield better reliability scores (Morris & Sherwood, 1975).

Lawton (1975) contended that social relationships form a domain separate from morale. Lonely dissatisfaction, so named "for its obverse, since meaning seemed easier to express in this manner" (Lawton, 1972, p. 155), represents the subjects's acceptance or dissatisfaction with the social interaction they are currently experiencing. Items such as "How much do you feel lonely?" and "Do you see enough of your friends and relatives?" are intended to capture the feelings in relation to the level of engagement or disengagement.

Analysis of data. The data were analyzed using the Statistical Package for Social Sciences (SPSS) computer program. Descriptive statistics were used to describe the sample, including frequencies and percents of the age (collapsed as young-old and old-old; Neugarten, 1974), marital status, race, and living arrangement variables.

The statistical relationships of the items within each subscale were examined by calculating means, standard

deviations, and interitem correlation coefficients. Principal components factor analysis was performed to determine the goodness of fit of the ELI and its subscale structure with the conceptualization.

The essential items necessary for measuring emotional loneliness in the elderly were determined during item development, the subsequent panel of experts ratings, and finally by retaining only those items whose corrected item-total correlations exceeded a predetermined value without compromising the reliability of ELI.

Content validity was determined by the panel of experts ratings and by computing correlation coefficients between the ELI and the two measures thought to assess emotional loneliness (EL and ATTACH). Correlation coefficients between the ELI and the related measures of affect (GDS, ABS, PGCMS, LONSS) and between the ELI and the measures of social loneliness (SL and UCLASL) were computed to assess construct validity. Item-total correlations and coefficient alpha as a measure of internal consistency were computed to examine the reliability of the instrument.

Descriptive statistics were computed to determine the extent of emotional loneliness in the study sample. ANOVAs were performed to examine differences in subgroups of subjects based on demographic variables.

## Protection of Human Subjects

Prior to conducting the study, permission from the Institutional Review Board of the University of Alabama at Birmingham was obtained. Further, procedures for ensuring

the protection of subjects stipulated by the agencies serving as sources for the sample subjects were adhered to.

There were no perceived physical, psychological, or social risks associated with participating in this study. Confidentiality and anonymity of all data were strictly maintained. Only the investigator, her research assistant, and members of the dissertation committee had access to the data. All subjects were assigned code numbers for the purposes of identification. No individual scores are reported; all data were reported as grouped data. Notifying the researcher of the desire to participate and subsequent completion of the interview indicated the subjects' consent and willingness to be included in the study.

# CHAPTER IV

## Findings

The purposes of this study were to inititate development and testing of an instrument measuring emotional loneliness in the elderly. This chapter presents the analyses of data collected in interviews conducted with 108 older women. The interview consisted of questions regarding demographic variables, administration of the ELI and several other measures related to emotional loneliness and social loneliness, the GDS, the ABS, and the PGCMS. Presentation of the findings is divided into three sections: (a) description of the sample, (b) the instruments, and (c) the research questions.

### The Sample

The convenience sample for the study consisted of 108 women, the majority of whom resided in senior high rise apartment complexes. Subjects ranged in age from 59 to 94 years, with a mean age of 77.45 years. A breakdown of the sample collapsed using Neugarten's (1974) model for age grouping is shown in Table 1.

The majority of the subjects lived alone and were either widowed, divorced, or never married. Approximately one-third had lived at their current residence for 3 years or less. Information regarding monthly income was sought

Table 1

Description of Sample by Age

| Age | f | % |
|---|---|---|
| Young-old 59-74 | 37 | 34 |
| Old-old 75-94 | 70 | 65 |

f does not total N = 108 because of missing data.

from the subjects; however, less than one-third of the sample responded to this question. All but one subject were Caucasian. Descriptive statistics of the sample for other demographic characteristics are summarized in Table 2.

## The Instruments

In addition to the demographic questions, subjects were administered a total of nine instruments. The first of these was the ELI. Subjects were asked to indicate their degree of agreement or disagreement that each of the 52 items described them. They were also told that they could choose the "Undecided" response. With the 5-point scaling approach described in Chapter III, the total score possible was 5 - 260; the higher the score, the lonelier the respondent.

The remaining eight instruments were administered for the purpose of establishing construct validity of the ELI. These included two measures theoretically related to

Table 2

Demographic Characteristics

| Characteristic | f | % |
|---|---|---|
| Education | | |
| Grade school | 5 | 4.6 |
| Some high school | 17 | 15.7 |
| Completed high school | 37 | 34.3 |
| Some college | 33 | 30.6 |
| Completed college | 10 | 9.3 |
| Postgraduate study | 6 | 5.6 |
| Marital status | | |
| Married | 7 | 6.0 |
| Widowed | 68 | 63.5 |
| Divorced | 14 | 13.0 |
| Single, never married | 15 | 13.9 |
| Health status | | |
| Excellent | 17 | 15.7 |
| Good | 50 | 46.3 |
| Fair | 35 | 32.4 |
| Poor | 6 | 5.6 |
| Employment history | | |
| Full-time work | 69 | 63.9 |
| Part-time work | 18 | 16.7 |
| Did not work | 21 | 19.4 |
| Type employment | | |
| Teacher or nurse | 23 | 26.4 |
| Secretary | 27 | 31.0 |
| Sales | 15 | 17.2 |
| Factory or service worker | 19 | 21.9 |
| Self employed | 5 | 5.7 |

f does not total N = 108 because of missing data.

emotional loneliness, one measure of social loneliness, the Geriatric Depression Scale, selected items from the UCLA Loneliness Scale (UCLASL), the Philadelphia Geriatric Center Morale Scale (including the Lonely Dissatisfaction subscale), and the ABS. A summary of these measures is provided in Table 3.

Table 3

Summary Table of Instruments

| Name | Format | Possible Score | Interpretation |
|---|---|---|---|
| ELI | 52-item<br>5-point Likert | 5-260 | > score = > lonely |
| EL<br>(Russell et al., 1984) | 1-item<br>5-point Likert | 1-5 | > score = > lonely<br>(emotional) |
| SL<br>(Russell et al., 1984) | 1-item<br>5-point Likert | 1-5 | > score = > lonely<br>(social) |
| ATTACH<br>(Social Provisions Scale;<br>Cutrona, 1982; Cutrona &<br>Russell, 1987) | 4-item<br>5-point Likert | 4-20 | > score =<br>< attachment |
| GDS<br>(Geriatric Depression Scale;<br>Yesavage et al., 1983) | 30-item<br>yes/no | 0-30 | > score =<br>> depression |
| UCLASL<br>(Russell et al., 1984) | 3-item<br>5-point Likert | 3-15 | > score = > lonely<br>(social) |
| ABS<br>(Bradburn, 1969) | 10-item<br>yes/no | 1-10 | > score =<br>> psychological<br>well-being |
| PGCMS<br>(Lawton, 1972) | 17-item<br>yes/no | 0-17 | > score = > morale |
| LONSS<br>(lonely dissatisfaction<br>factor of PGCMS) | 6-item<br>yes/no | 0-6 | > score = < lonely |

## Research Questions

The first research question of the study was: What are the psychometric properties of the subscales and instrument? The analyses used to answer this question included (a) computing the item-total correlations and coefficient alphas for each subscale and the ELI; (b) examining the correlation matrix for the subscales and ELI; (c) performing a factor analysis; and (d) examining the correlation matrix for the subscales, ELI, and the related measures of affect. These procedures determined the statistical structure and relationships among the subscales and ELI, in hopes of offering empirical evidence for the dimensions and domain of emotional loneliness as conceptualized.

The ELI consisted of 52 items, each designed to measure one of seven dimensions: sharing--7 items, caring--8 items, compatibility--6 items, confiding--9 items, protection--6 items, continuity--8 items, and perceptions--8 items. The range for each item was 1 to 5; item mean scores ranged from 3.48 for ELI15 ("I feel the need to be close to someone") to 1.58 for ELI09 ("I feel unloved"). Descriptive data for each of the 52 items are presented in Appendix G.

The first strategy undertaken in data analysis was to examine the statistical relationships of the items within each subscale. Specifically, descriptive statistics, item-total correlations, and alpha reliabilities were inspected.

The first dimension, SHARING, consisted of seven items and was purported to measure the presence and nature of reciprocity in the subjects' close relationships. The means, standard deviations and item-total correlations for each item and the SHARING subscale are shown in Table 4.

Table 4

Means, Standard Deviations, and Item-Total Corr for SHARING

| Item | $\bar{X}$ | SD | Item-Total r |
|---|---|---|---|
| ELI02 "don't feel wanted" | 1.95 | 1.05 | .5177 |
| ELI05 "no one to share activity" | 2.65 | 1.24 | .4905 |
| ELI16 "feel a special commitment" | 2.52 | 1.19 | .4239 |
| ELI23 "no one to share feelings" | 2.33 | 1.20 | .5614 |
| ELI30 "feel needed by someone" | 2.66 | 1.28 | .6352 |
| ELI37 "someone I like to help" | 2.44 | 1.10 | .6690 |
| ELI50 "someone on whom I depend" | 2.49 | 1.09 | .5589 |
| SHARING | 17.05 | 5.61 | alpha = .81 |

The corrected item-total correlations were calculated to measure the correlation of each item with the total subscale score if that item was not included in the subscale score. For the SHARING subscale these ranged from .42 for ELI16, "I feel a special commitment to someone," to .66 for ELI37, "I have someone special I like to help." Similarly, coefficient alpha for this subscale when each of the seven items was deleted ranged from .76 (when removing ELI37) to .81 (when removing ELI16). The overall reliability for SHARING was .81.

The CARING subscale contained eight items and was intended to tap deep feelings, support, and concern for a significant other. The means, standard deviations, and corrected item-total correlations for each item and the subscale are shown in Table 5.

Table 5

Means, Standard Deviations and Item-Total r for CARING

| Item | $\bar{X}$ | SD | Item-Total r |
|---|---|---|---|
| ELI01 "feel accepted by someone" | 2.25 | .98 | .5386 |
| ELI03 "in a caring relationship" | 1.77 | .76 | .5135 |
| ELI09 "feel unloved" | 1.58 | .77 | .6387 |
| ELI10 "feel emotional attachment" | 3.08 | 1.21 | .3141 |
| ELI13 "don't feel cared for" | 1.84 | .83 | .5877 |
| ELI25 "no one respects me" | 1.81 | .78 | .5090 |
| ELI32 "have respect for someone" | 1.78 | .59 | .2843 |
| ELI43 "no one hugs me" | 2.20 | 1.20 | .5427 |
| CARING | 16.31 | 4.54 | a=.78 |

The corrected item-total correlations ranged from .28 for ELI32, "I have respect for someone special," to .63 for ELI09, "I feel unloved." Correspondingly, coefficient alpha for the CARING subscale when each of the eight items was deleted ranged from .72 (when removing ELI09) to .78 (when removing ELI10). The overall reliability for this subscale was .78.

Trust, self-disclosure, and understanding were measured by the CONFIDING subscale, which consisted of nine

items. The means, standard deviations, and corrected item-total correlations for each item for CONFIDING are presented in Table 6.

Table 6

Means, Standard Deviations, and Item-Total r for CONFIDING

| Item | | $\bar{X}$ | SD | Item-Total r |
|---|---|---|---|---|
| ELI04 | "confide in someone" | 2.33 | 1.18 | .5569 |
| ELI07 | "no one knows me well" | 2.47 | 1.44 | .4935 |
| ELI20 | "no one I can trust" | 1.84 | 1.04 | .5988 |
| ELI28 | "someone knows me well" | 2.43 | 1.31 | .6755 |
| ELI33 | "someone in whom I confide" | 2.07 | 1.03 | .7318 |
| ELI36 | "don't have anyone who understands me" | 2.36 | 1.11 | .6396 |
| ELI39 | "cannot confide in anyone" | 2.19 | 1.09 | .7026 |
| ELI41 | "no one I can turn to" | 1.63 | .76 | .4291 |
| ELI49 | "person most important to me understands me" | 2.19 | 1.05 | .6231 |
| | CONFIDING | 19.50 | 7.04 | a = .87 |

As can be seen in this table, the corrected item-total correlations ranged from .42 for ELI41, "There is no one I can turn to," to .73 for ELI33, "There is someone in whom I can confide." Coefficient alphas when each of the nine items were deleted ranged from .84 (when removing ELI33) to .86 (when removing ELI07). The overall reliability for the CONFIDING subscale was .87.

PROTECTION sought to measure the notions of safety and security, and accessibility to a significant other, and included six items. Data for this subscale are presented in Table 7.

Table 7

Means, Standard Deviations, and Item-Total r for PROTECTION

| Item | $\bar{X}$ | SD | Item-Total r |
|---|---|---|---|
| ELI18 "no one on whom I depend" | 1.78 | .91 | .5245 |
| ELI27 "when I need..no one there" | 1.87 | 1.00 | .6728 |
| ELI34 "feel vulnerable and afraid" | 1.93 | 1.05 | .3357 |
| ELI40 "someone will help me out" | 1.64 | .68 | .6110 |
| ELI42 "someone is supportive" | 2.16 | .98 | .5641 |
| ELI47 "feel safe and secure" | 2.79 | 1.03 | .4238 |
| PROTECTION | 12.17 | 3.87 | a = .77 |

The corrected item-total correlations ranged from .33 for ELI34, "Even when other people are around me I feel very vulnerable and afraid," to .67 for ELI27, "When I need someone, no one is there." Coefficient alphas for PROTECTION when each of the six items was deleted ranged from .68 (when removing ELI27) to .78 (when removing ELI34). The overall reliability for this subscale was .77.

CONTINUITY was conceptualized to measure the phenomena of predictability, repetition, and familiarity, and

contained eight items. Data for this subscale are presented in Table 8.

Table 8

Means, Standard Deviations, and Item-Total r for CONTINUITY

| Item | $\bar{X}$ | SD | Item-Total r |
|---|---|---|---|
| ELI08 "someone will keep in touch" | 1.69 | .73 | .3621 |
| ELI24 "someone with whom I have regular contact" | 1.98 | .82 | .4950 |
| ELI26 "have been close for quite awhile" | 2.02 | .95 | .5175 |
| ELI31 "don't expect anyone to to contact me" | 1.97 | .81 | .3801 |
| ELI44 "can't count on anyone to do things with" | 2.60 | 1.17 | .4645 |
| ELI45 "someone has stuck close by me" | 2.04 | .96 | .3411 |
| ELI51 "long to be with someone special" | 3.06 | 1.19 | .3318 |
| ELI52 "look forward to being with someone" | 2.02 | 1.01 | .3528 |
| CONTINUITY | 17.38 | 4.44 | a =.71 |

The corrected item-total correlations ranged from .33 for ELI51, "I long to be with someone special," to .52 for ELI26, "I have someone with whom I have been close for quite awhile." Similarly, coefficient alphas for CONTINUITY when each of the eight items was deleted ranged from .65 (when removing ELI26) to .70 (when removing ELI51). The overall reliability for this subscale was .71.

COMPATIBILITY was designed to measure companionship, validation of worth, and a sense of belonging, and consisted of six items. Data for this subscale are provided in Table 9.

Table 9

Means, Standard Deviations, and Item-Total r for COMPAT

| Item | $\bar{X}$ | SD | Item-Total r |
|---|---|---|---|
| ELI06 "someone who is enjoyable" | 1.86 | .81 | .4342 |
| ELI12 "someone with whom I have common interests" | 2.11 | .91 | .5401 |
| ELI19 "someone who is comfortable to be with" | 2.12 | .92 | .6622 |
| ELI22 "someone with whom I share similar attitudes" | 2.13 | .94 | .5807 |
| ELI38 "wish I had a relationship . . . warm feelings" | 2.65 | 1.23 | .5715 |
| ELI48 "don't have relationship that is satisfying" | 1.85 | .82 | .4444 |
| COMPATIBILITY | 12.72 | 3.94 | a = .78 |

The corrected item-total correlations ranged from .43 for ELI06, "I have someone who is enjoyable to be around," to .66 for ELI19, "I have someone who is comfortable and easy to be with." Correspondingly, coefficient alphas for the COMPATIBILITY subscale when each of the six items was deleted ranged from .72 (when removing ELI19) to .77 (when removing ELI06). The overall reliability for this subscale was .78.

The PERCEPTIONS dimensions represented the conclusions reached in relationship to feelings of closeness as reflected in the previous six dimensions, and included eight items. Data for this subscale are presented in Table 10.

Table 10

Means, Standard Deviations, and Item-Total r for PERC

| Item | $\bar{X}$ | SD | Item-Total r |
|---|---|---|---|
| ELI11 "don't feel like I belong" | 2.70 | 1.35 | .4231 |
| ELI14 "have a relationship" | 1.74 | .88 | .5049 |
| ELI15 "feel need to be close" | 3.49 | 1.29 | .0865 |
| ELI17 "am distant from family and friends" | 2.30 | 1.26 | .5275 |
| ELI21 "feel close to someone" | 2.21 | 1.11 | .4769 |
| ELI29 "miss having someone" | 3.38 | 1.39 | .4598 |
| ELI35 "feel restless" | 2.27 | 1.11 | .4074 |
| ELI46 "no longer feel close to anyone" | 2.20 | 1.07 | .5223 |
| PERCEPTIONS | 20.28 | 5.56 | a =.73 |

The corrected item-total correlations ranged from .08 for ELI15, "I feel the need to be close to someone," to .52 for ELI46, "I no longer feel close to someone." Similarly, coefficient alphas for the PERCEPTIONS subscale when each of the seven items was deleted ranged from .66 (when removing ELI17) to .76 (when removing ELI15). The overall reliability for this subscale was .73.

As can be seen from the preceding data, the only item that showed a markedly weak correlation with a total subscale score (PERCEPTIONS) was ELI15, "I feel the need to be close to someone," which had an item-total correlation of .08. The scoring for this item was rechecked and did not contain errors. It is possible that the item was ambiguous to subjects, who might have further interpreted it to mean, "I feel the need to be close to someone and I do have someone with whom I am close," OR "I feel the need to be close to someone and I don't have anyone." Because of the high internal consistency of this subscale and the ELI, it was thought that this item contributed nothing to the measurement model and the decision was made to drop this item.

Alpha reliabilities for the subscales ranged from .71 to .87. A summary table for the reliability data for the subscales and ELI is provided in Table 11.

To explore the relationships among the subscales and the ELI further, a correlation matrix was created. This is presented in Table 12. As expected, the coefficients between the subscales and the ELI were strong and significant at the .01 level.

Next, a principle components factor analysis was run. The purpose of this was to see to what degree the underlying statistical structure of the ELI corresponded to the construct of emotional loneliness as conceptualized. Factor analysis can demonstrate that variables that are highly correlated, thus sharing a high proportion of their

Table 11

Summary Table for Subscales and Total ELI

| Subscale | No. of items | $\bar{X}$ | SD | Alpha |
|---|---|---|---|---|
| Sharing | 7 | 17.05 | 5.61 | .81 |
| Caring | 8 | 16.31 | 4.54 | .78 |
| Confiding | 9 | 19.49 | 7.04 | .87 |
| Protection | 6 | 12.17 | 3.87 | .77 |
| Continuity | 8 | 17.38 | 4.44 | .71 |
| Compatibility | 6 | 12.72 | 3.94 | .78 |
| Perceptions | 8 | 20.28 | 5.56 | .76 |
| ELI | 52 | 115.40 | 29.95 | .95 |

variances, are at least to some degree measuring the same construct (Kerlinger, 1986).

Initially, an unforced factor analysis with orthogonal rotation and an eigenvalue of 1.0 was run. A factor loading of .30 was set. Principal components analysis pulls out all of the general variance and often results in many items loading on the first factor. With the internal consistency for ELI of .95 already demonstrated, it was not surprising, then, to find that 13 factors were extracted, with 50 of 52 items loading on one general factor. This factor accounted for 32.6% of the variance. When varimax rotation was attempted, there was failure to converge (.00325). This can likely be attributed to the high number of factors extracted and/or the instability of the estimate

Table 12

Correlation Coefficients for Subscales and Total ELI

| | SHAR | CAR | CONF | PROT | CONT | COMP | PERC | Total ELI |
|---|---|---|---|---|---|---|---|---|
| SHAR | 1.00 | | | | | | | |
| CAR | .69** | 1.00 | | | | | | |
| CONF | .67** | .60** | 1.00 | | | | | |
| PROT | .70** | .71** | .67** | 1.00 | | | | |
| CONT | .71** | .67** | .66** | .71** | 1.00 | | | |
| COMP | .76** | .63** | .67** | .63** | .71** | 1.00 | | |
| PERC | .69** | .71** | .65** | .73** | .76** | .71** | 1.00 | |
| TOTAL ELI | .87** | .83** | .84** | .85** | .87** | .85** | .88** | 1.00 |

**$p < .01$

due to the small sample size. The percentage of variance accounted for by each of the orthoganally rotated factors is shown in Table 13.

Table 13

Percentage of Variance Accounted for by Each Rotated Factor

| Factor | No. of items* | Eigenvalue | % | Cummulative % |
|---|---|---|---|---|
| I | 50 | 16.95 | 32.6 | 32.6 |
| II | 11 | 2.73 | 5.2 | 37.8 |
| III | 11 | 2.48 | 4.8 | 42.6 |
| IV | 10 | 2.26 | 4.4 | 47.0 |
| V | 6 | 2.01 | 3.9 | 50.8 |
| VI | 2 | 1.72 | 3.3 | 54.2 |
| VII | 3 | 1.60 | 3.1 | 57.2 |
| VIII | 2 | 1.46 | 2.8 | 60.0 |
| IX | 2 | 1.32 | 2.5 | 62.6 |
| X | 4 | 1.27 | 2.4 | 65.0 |
| XI | 2 | 1.11 | 2.1 | 67.2 |
| XII | 1 | 1.04 | 2.0 | 69.2 |
| XIII | 1 | 1.01 | 1.9 | 71.1 |

*no. of items exceeds total (52) because some items load on more than one factor.

As can be seen in this table, despite the magnitude of the general factor, substantial correlations of several of the items with some other factors did result. For example Factors II, III, and IV contained 11, 11, and 10 items, respectively. When all of the factors were examined, there

was no readily apparent relationship of these with any of the dimensions as originally conceptualized.

The factor analysis was rerun specifying seven, the number of dimensions for ELI as conceptualized, as the number of factors to be extracted. Again, a high general factor resulted, without an apparent relationship to the conceptual model. However, varimax rotation converged in 18 iterations.

A second group of analyses sought to examine the subscales and ELI in relation to additional measures of affect. The purpose of this was to determine if separate subscales might behave differently in relation to these other measures, thus demonstrating multidimensionality of the ELI. Descriptive data for each of these measures is provided in Table 14.

As can be seen in Table 14, ATTACH, GDS, PGCMS, and LONSS all demonstrated acceptable levels of reliability. Alpha and standardized alpha were .42 and .62, respectively, for the three-item UCLASL measure. In examining data for this measure, it was clear that one item, "I feel in touch with the people around me" detracted from the total score. Alpha, if this item was deleted, rose to .75; therefore, it was decided to utilize the remaining two-item measure in subsequent analyses.

The ABS, which structurally reduces to two, diametrically opposed factors, obviously will not result in a measure which appears to be internally consistent. (A factor analysis of the ABS run on this study data set

Table 14

Descriptive Data for Related Measures

| Instrument | Range | $\overline{X}$ | SD | Alpha |
|---|---|---|---|---|
| EL | 1-5 | 2.86 | 1.21 | N/A |
| SL | 1-5 | 2.32 | 1.23 | N/A |
| ATTACH | 4-20 | 10.23 | 3.73 | .79 |
| UCLASL | 3-15 | 6.94 | 2.90 | .42 |
| GDS | 0-30 | 9.06 | 10.24 | .78 |
| ABS | 0-10 | 7.15 | 9.28 | .36 |
| +ABS | 0-5 | 2.55 | 1.56 | .66 |
| -ABS | 0-5 | 1.28 | 1.41 | .66 |
| PGCMS | 0-17 | 11.65 | 9.26 | .74 |
| LONSS | 0-6 | 4.36 | 1.70 | .67 |

confirmed the two-factor structure.) Thus, reliabilities were run separately for positive affect and for negative affect. These alphas were .66 and .66, respectively, and are consistent with the findings of Sauer and Warland (1982) who reported coefficient alphas of .66 for positive affect and .70 for negative affect.

The literature strongly supported the hypothesized relationships among these measures of affect and the dimensions and overall construct of emotional loneliness. The reliabilities obtained were thought to be acceptable for use in the psychometric comparisons planned for this study; therefore, the decision was made to retain all of the measures in the subsequent analyses.

A correlation matrix of these measures revealed stronger coefficients for the total ELI and EL ($r$ = .69), SL ($r$ = .60), ATTACH ($r$ = .87), UCLASL ($r$ = .67), and LONSS ($r$ = -.67), than for any of the subscales and these measures. SHARING was more highly correlated with the GDS ($r$ = .43) than was the total ELI or any other subscale, CARING was more highly correlated with the total ABS ($r$ = -.22) than was the total ELI or any other subscale, and COMPATIBILITY was more highly correlated with the PGCMS ($r$ = -.27) than was the total ELI or any other subscale. All of these coefficients were significant at the .01 level, except for the correlation of CARING and ABS, which was significant at the .05 level.

While the GDS and PGCMS did correlate more highly with a particular subscale than did the total ELI, all other subscales had significant ($p < .05$) correlations with these measures as well. Thus, it does not seem likely that the measures tap exclusively into one subscale.

The data are insufficient to draw definitive conclusions regarding the subscale structure. Based on the preliminary factor analyses and the correlations with the other measures, it appears that the ELI likely measures a unidimensional, albeit complex, phenomenon.

The second research question was: What are the essential items necessary for measuring emotional loneliness in the elderly? The process of identifying those items thought to be essential for measuring emotional loneliness in the elderly began with the procedures

described in Chapter III. Next, in order to achieve the most parsimonious model, exploratory analyses were conducted to determine to what degree the ELI could be shortened without significantly compromising the scale's reliability (.95). Concurrently, the degree of representation of each subscale by the remaining items was noted as well.

The method used for eliminating items was to retain only those items in which the corrected item-total correlations were greater than a predetermined value. Three iterations were conducted using $\underline{r}$ = .5, $\underline{r}$ = .55, and $\underline{r}$ = .6. As can be seen in Table 15 the coefficient alpha did not begin to decrease until the third revision. Representation of all seven of the subscales was retained with a quite similar distribution of items to that of the original ELI.

Descriptive data for the original ELI and three revisions are presented in Table 16. The 19 items retained in the third revision are presented in Appendix H. The third revision with 19 items is tentatively accepted as including the essential items and will be used in the analyses conducted to answer subsequent research questions.

The third research question was: What is the preliminary support for content validity of the instrument? The support for establishing content validity for the ELI began with the work of the panel of experts described in Chapter III. All of the 19 items retained in the ELI-19 had been determined to accurately address the domain of

Table 15

Revision of ELI Using Item-Total Correlation Scores

| | N of Items | | | |
|---|---|---|---|---|
| | ELI | $r > .5$ ELI-36 | $r > .55$ ELI-31 | $r > .6$ ELI-19 |
| Sharing | 7 | 6 | 5 | 2 |
| Caring | 8 | 5 | 5 | 3 |
| Compatibility | 6 | 5 | 5 | 2 |
| Protection | 6 | 4 | 3 | 2 |
| Continuity | 8 | 4 | 3 | 2 |
| Confiding | 9 | 7 | 6 | 5 |
| Perceptions | 8 | 5 | 4 | 3 |
| TOTAL | 52 | 36 | 31 | 19 |
| Alpha | 95 | .95 | .95 | .93 |

Table 16

Descriptive Data for ELI and Revisions

| | No. of items | Item-total $r$ | $\bar{X}$ | SD | Alpha |
|---|---|---|---|---|---|
| ELI | 52 | | 115.4 | 29.95 | .95 |
| ELI-36 | 36 | > .5 | 77.54 | 23.14 | .95 |
| ELI-31 | 31 | > .55 | 67.31 | 20.55 | .95 |
| ELI-19 | 19 | > .6 | 40.60 | 15.51 | .93 |

emotional loneliness. It is clear that all seven dimensions are represented in the ELI-19.

Correlation coefficients between the ELI-19 and the two measures thought to assess emotional loneliness (EL) and its counterpart attachment (ATTACH) were computed. As can be seen in Table 17, which shows correlation coefficients for ELI-19 and all other measures of loneliness, these correlations were strong and significant, indicating good preliminary evidence for content validity of ELI-19.

Table 17

Correlation Coefficients for ELI-19 and Related Measures of Loneliness

| | EL | SL | ATTACH | UCLASL | ELI-19 |
|---|---|---|---|---|---|
| EL | 1.00 | | | | |
| SL | .54** | 1.00 | | | |
| ATTACH | .70** | .55** | 1.00 | | |
| UCLASL | .49** | .78** | .61** | 1.00 | . |
| ELI-19 | .68** | .58** | .84** | .67** | 1.00 |

**$p$ < .01.

The fourth research question was: What is the preliminary evidence for construct validity of the instrument? Convergent validation was assessed by computing correlation coefficients between each item and the total score of ELI-19 and the 1-item EL measure. These ranged from a low of $r$ = .40 for ELI45 ("I have someone who has stuck close by me") to a high of $r$ = .59 for ELI38 ("I wish I had a relationship that provided me with warm and

contented feelings") for the individual items, and $\underline{r}$ = .68 for the total ELI-19. All coefficients for the 19 items and EL, and the coefficient for the total ELI-19 and EL were significant at the .01 level.

Correlation coefficients for ELI-19 and the related measures of affect (except for the total ABS) ranged from .25 to .66, all in the hypothesized direction and all significant at the .01 level. These are presented in Table 18. Thus, good evidence for convergent validation was demonstrated.

Table 18

Correlation Coefficients for ELI-19 and Measures of Affect

| | GDS | ABS | +affect | -affect | PGCMS | LONSS |
|---|---|---|---|---|---|---|
| ELI-19 | .38** | -.14 | -.57** | .49** | -.25** | -.66** |

$\underline{p}$ < .01

Results examining divergent validation were less clear. Divergent validation was anticipated to be shown by the lack of correlation between the ELI-19 and the two measures thought to represent a different phenomenon, social loneliness, SL, and UCLASL. Instead, as can be seen in Table 17, respective correlations of .58 and .67 ($\underline{p}$ < .01) resulted.

Similarly, a correlation coefficient between the 1-item EL measure and the 1-item SL measure was computed, in hopes of demonstrating that these are distinct phenomena

and largely independent of one another. A coefficient of $r$ = .54, $p$ < .01 was obtained. The correlation coefficients between the ELI-19 and these two measures were $r$ = .68 for ELI-19 and EL, and $r$ = .58 for ELI-19 and SL, both significant at the .01 level.

These results provoked the following question: Is the common core (Russell et al., 1984) of loneliness operational in this data set to such an extent that the separate forms of emotional loneliness and social loneliness fail to emerge as distinct? In order to clarify the conceptual complexity of these two contructs and the statistical multicollinearity of the measures used to relate these constructs to the ELI-19, further analyses were conducted. An index of emotional loneliness was computed by summing the standardized scores for the 1-item EL measure and ATTACH. A partial correlation between ELI-19 and SL, controlling for the effect of emotional loneliness, was computed. It was hypothesized that this correlation would not be significant. Instead, the partial correlation was .20, $p$ < .02.

Similarly, an index of social loneliness was computed by summing the standardized scores for the 1-item SL measure and UCLASL. A partial correlation between ELI-19 and EL, controlling for the effect of social loneliness, was computed. It was hypothesized that this correlation, although likely to be low, would be significant. This partial correlation was .26, $p$ < .003.

The fifth research question was: What is the preliminary support for reliability of the instrument? All item-total correlations for the ELI-19 exceeded $\underline{r} = .6$, with a coefficient alpha of .93. Thus, good preliminary evidence existed for reliability of the instrument.

The sixth research question was: What is the extent of emotional loneliness in the study sample? Because of the psychometric properties of the ELI-19 evidenced in answers to the preceding research questions, this form of the instrument was selected for use in describing the extent of emotional loneliness in the study sample. Scores ranged from 19 to 84 on the ELI-19, with a mean score of 40.60 and standard deviation of 13.51 for the total sample of $\underline{n} = 108$. When the sample was divided into the young-old (59 to 74 years) and old-old (75 to 94 years) groups, the mean scores were 43.86 and 38.69, respectively. The differences in the means of these two groups approached significance at a level of $\underline{p} < .06$. In relation to the variable of health status, subjects were divided into two groups: those indicating excellent or good health, and those indicating fair or poor health. As expected, those with poorer health had higher loneliness scores. The means for these groups were 37.27 ($\underline{n} = 67$) and 46.05 ($\underline{n} = 41$), respectively. Results for the ANOVA test examining the differences in means for the two groups and health status are presented in Table 19.

Table 19

ANOVA Summary Table for Health Status and Loneliness Scores

| Source of Variation | Sum of Squares | df | MS | F |
|---|---|---|---|---|
| Between groups | 1960.81 | 1 | 1960.81 | 11.83* |
| Within groups | 17561.06 | 106 | 165.67 | |
| Total | 19521.87 | 107 | | |

*$p < .001$

# CHAPTER V

## Conclusions, Implications, and Recommendations

### Summary

The scope of loneliness in the elderly has been well documented (Creecy et al., 1985). Weiss' (1973) framework for viewing loneliness distinguished social and emotional loneliness, and has been the predominant conception for guiding the inquiry of this phenomenon. Evidence does seem to indicate that emotional loneliness and social loneliness exist as separate forms of loneliness (Russell et al., 1984; Vaux, 1988), but instruments currently available for measuring loneliness do not provide a basis for differentiating them as such. This research aimed to further the study and developing theory of loneliness as a multidimensional construct. Specifically, the purpose was to initiate development and testing of an instrument measuring emotional loneliness in the elderly. Research based on an instrument measuring emotional loneliness should yield an empirically validated knowledge base regarding this dysphoric state. This, in turn, will support nursing interventions which facilitate socially integrative and emotionally meaningful relationships for older patients.

Specific research questions of this investigation were:

1. What are the psychometric properties of the subscales and instrument?

2. What are the essential items necessary for measuring emotional loneliness in the elderly?

3. What is the preliminary support for content validity of the instrument?

4. What is the preliminary evidence for construct validity of the instrument?

5. What is the preliminary support for reliability of the instrument?

6. What is the extent of emotional loneliness in the study sample?

The study was conducted in two phases. In the first phase, seven dimensions of emotional loneliness were identified and theoretically defined. A 52-item summated rating scale with 6 to 9 items per dimension was developed, then tested in Phase Two. After review for content validity by a panel of experts, the instrument (ELI) was tested in a sample of 108 community-dwelling older women. Several other measures of loneliness and affect were administered for the purpose of establishing construct validity of the ELI. Data were gathered using an interview method.

## Findings

Alpha reliabilities for each of the seven subscales ranged from .71 to .81. Alpha was .95 for the total scale.

Correlation coefficients for all subscales and the ELI were moderate to strong (.63 to .76 among the subscales and .82 to .87 for the subscales with the ELI). Principal components factor analysis yielded 13 factors with 50 of 52 items loading on one general factor. The most parsimonious measurement model was achieved with a 19-item unidimensional version of the ELI (ELI-19), with items representing all seven subscales and having an overall alpha of .93.

Correlation coefficients for the ELI-19 and the related measures of affect ranged from .25 to .66, all in the predicted direction, and all significant at the .01 level. Scores for the ELI-19 ranged from 19 to 84, with a mean score of 40.6. Only 1 subject agreed that she was emotionally lonely; however, 13 subjects scored above the theoretical midpoint of 57, and were determined to be at risk for experiencing emotional loneliness.

## Conclusions

From the findings of this study, the following conclusions for the selected population of older women were drawn:

1. While data are insufficient to draw definitive conclusions regarding subscale structure, it does appear that the ELI-19 likely measures a unidimensional, albeit complex phenomenon.

2. The 19-item version of the instrument (ELI-19) contains the essential items thought to be necessary for measuring emotional loneliness in the elderly.

3. There is good preliminary evidence for content validity for the ELI-19.

4. There is good preliminary evidence for convergent validity of the ELI-19. Preliminary evidence for divergent validity is less clear.

5. There is good preliminary evidence for reliability of the ELI-19.

6. Although there are insufficient data to establish norms for the ELI-19, the sample for this investigation was not found to be particularly lonely. Older subjects were generally found to be less lonely than younger ones; those with poorer health had significantly higher loneliness scores.

## Implications

This study provided an excellent basis from which further work regarding the measurement of emotional loneliness could evolve. It is important, however, to continue to pose questions regarding the underlying conceptualization which framed this investigation. Specifically, are the phenomena of emotional loneliness and social loneliness distinct? If so, when are the differences important theoretically, empirically, or clinically (Vaux, 1988)? Is emotional loneliness a unidimensional or multidimensional construct? What does the ELI-19 contribute to the pool of available measures which both researchers and clinicians use in their study of loneliness? The next section seeks to shed light on these conceptual and measurement questions.

The data set for this investigation was insufficient for drawing definitive conclusions regarding the subscale structure of the ELI. This has several implications. The factor analyses which failed to show multidimensionality must be viewed with extreme caution. Psychometric theory generally stipulates that there be at least 10 subjects for every item on a scale to be factor analyzed (Nunnally, 1978). The current sample of 108 subjects fell markedly short of the 520 theoretically needed for such an analysis. Despite the lack of finding a latent multidimensional structure for the 52-item ELI, the revision downward to the 19-item version retained at least two items for each of the seven hypothesized dimensions. Thus, further testing in samples of at least 190 to 200 subjects could conceivably demonstrate that the ELI-19 does, indeed, measure a multidimensional construct.

The lack of heterogeneity in the study sample could also account for the single general factor which resulted. In discussing the structure of the Social Provisions Scale, Cutrona and Russell (1987) noted that support components may differ in function; that is, they may covary as a function of individuals, thus blurring their separateness in a factor analysis. It is possible that a similar phenomenon might be operating in the data set for this study. The hypothesized dimensions may, in fact, be present in the relationships of the older women studied, but differ with respect to their function in the degree of emotional loneliness experienced. In this way they may

have mistakenly been collapsed into a single category in the factor analysis. Future research using a variety of subjects for whom the presence of the dimensions theoretically might vary more is indicated.

It is possible that the items were not discriminating enough to measure the seven dimensions. Further, in that the correlations among the subscales (.63 to .76) were almost as high as the alpha reliabilities (.71 to .81), the subscales may indeed not be measuring different components of emotional loneliness (Cutrona & Russell, 1987). It may well be that emotional loneliness is a unidimensional construct.

Another issue in relation to the nature of the study sample is the finding that subjects were not particularly lonely. This is consistent with the finding of Mullins and Dugan (1990) who found their sample of 208 congregate housing residents to score below the midpoint on both loneliness (a 10-item version of the UCLA Loneliness scale) and depression (GDS) measures.

Several reasons for the lower scores are possible. It is possible that older persons intentionally isolate themselves, limit the development of intense relationships, and avoid intimacy. Berezin (1980) contended that this serves as self-protection because of the fear that death will deprive the person of the loved one. Anecdotal comments gleaned from the field notes of the present research lend support to this notion: "I lost a close neighbor . . . I'll never get close again;" and "My best

friend in the building died . . . I learned my lesson . . . I'll never get that close again."

Rook (1991) suggested that the importance of emotional supportiveness in older persons' relationships may be overemphasized, and that "the plain, unvarnished camaraderie" (p. 105) afforded by casual relationships may be more significant. In distancing themselves from close relationships, persons may minimize the need for closeness. One subject emphatically stated, "I have no need for a confidant."

Noting that older persons often give "rosy reports" of themselves and their living conditions (Carp, 1989), it is quite possible that another hypothesis for the lower scores may be linked to the issue of social desirability. Nunnally (1978) contended that self-report measures are limited by what subjects are willing to relate about themselves and the phenomenon of concern. Fear of revealing the presence of an "undesirable" condition might have led subjects to respond in such a way that their loneliness was obscured. Edwards (1957) contended that much of the variance on self-inventory measures of personality could be explained by the factor that one tends to say "good" or acceptable things rather than "bad" things about oneself. McCrae (1986) disagreed, stating that self-reports could generally be taken as "veridical assessments," and that if the researcher is concerned about veridicality of the self-report, he or she probably should not rely on another self-report to test for the presence of

bias. Rather, McCrae proposed that the employment of an external criterion would be a more useful approach. Finally, Kozma and Stones (1987) suggested that when administered to relatively pathology-free populations, failure to endorse negative items and the tendency to endorse positive ones indicated an absence of psychopathology, rather than an attempt to "fake good."

In light of these findings, along with the recognition that the length of the study interview was considerable, this investigator chose not to administer a social desirability scale. In the interviews, several of the participants seemed to go to great lengths to refute the possibility that they might be lonely; however, without data to systematically check for a response bias it is inappropriate to draw conclusions regarding such a phenomenon. It is also possible that had the study instruments been completed by the subjects anonymously as opposed to their having to provide answers directly to the interviewer, subjects might have felt less of a need to cover the presence of the "undesirable" phenomenon of loneliness. For future studies, this investigator believes that the identification and measurement of an external criterion is preferable to the use of a self-report social desirability scale for determining the presence of bias.

Finally, the older women who participated in this study may, in fact, not be experiencing emotional loneliness as measured by the ELI-19. They may represent, for the most part, a pathology-free population. Or,

perhaps, the presence of loneliness was denied, thus accounting for the lower scores.

In noting the limited endurance of older people, Lawton, Moss, Fulcomer, and Kleban (1982) contended that for some very good standardized instruments, length is a deterrent to their use. The decision to accept the 19-item version of the ELI was based upon the psychometric evidence that neither reliability nor representation of each of the theoretical dimensions was diminished with the downsizing.

The difficulty in recruiting more subjects into the study warrants further discussion. It is well known that the older the group to be recruited, the lower participation rates will be. One report cited a 96% participation rate in children, dropping to 75% in persons 21 to 60 years old, and falling below 60% in persons over the age of 60 years (Kaye, Lawton, & Kaye, 1990). Despite the recruitment strategies described in Chapter III, in 9 months a total of only 108 subjects had been interviewed for the study. Holden, Rosenberge, Barker, Tuhrim, and Brenner (1993) cited a lack of systematic knowledge regarding the effectiveness of recruitment sources and strategies. Despite their contention, a few reports addressing this topic in relation to research with older persons were found.

Leader and Neuwirth (1978) proposed that the elderly are more likely to seek consensual validation from their peers when making decisions such as whether to participate in a research project. While opportunities to recruit

subjects into the present study included attendance at several different group activities, and it was observed that once one subject agreed to participate, two or three others might follow, the reverse also seemed to be true. That is, when one person refused to participate this seemed to discourage others from doing so as well. For that reason, Young and Dombroski (1989) concluded that although recruitment on a 1:1 basis may be an inefficient use of time and resources, it may be the most successful strategy in the long run.

A related issue involves the potential subjects' attitudes toward the disease or condition under study (Young & Dombroski, 1989). The present study was described as "focusing on loneliness and social relationships of older women." The information concerning the study emphasized that the women did not have to be experiencing loneliness or engaged in a particular relationship to provide valuable information. It is quite possible that nonresponders may have felt uncomfortable answering questions about a potentially painful condition such as loneliness, did not see any direct personal benefit resulting from participating (Holden et al., 1993), did not attribute significance to the problem of loneliness (Kaye et al., 1990). Conversely, it was anticipated that some women might enjoy the attention provided by the interviewer and the way in which the time together would help to "pass time," that, in fact, some might readily agree to participate because of their own loneliness. It is not

known, however, to what extent these reasons may have been operational in the women's final decision to participate or not. Framing the study as one that focuses more generally on family and friends might result in a higher participation rate.

Carp (1989) suggested that administrators of agencies and institutions from which subjects are obtained may be reluctant to "open the door" or actively support the recruitment process. As gatekeepers, these persons can play a pivotal role. This researcher believes that positive working relationships were formed with the complex managers, activities directors, and chaplains of the agencies involved. They were puzzled by the lack of response of residents in their agencies and unable to come up with any additional ideas regarding recruitment strategies.

Several strategies have been suggested to improve participation when recruitment goes slowly. These include increasing the length of the study time, finding additional sources of subjects, relaxing inclusion criteria, providing incentives, and increasing the number of data collection sites (Holden et al., 1993). Except for relaxing the inclusion criteria, these strategies were all utilized. In retrospect, utilization of a population, such as older men attending a high-volume out-patient Veterans Hospital clinic, might have not only resulted in a much larger sample, but also have introduced the likelihood of more variance with respect to the study instruments.

In their study to determine factors influencing participation of elderly persons in research, Kaye et al. (1990) noted a "striking negativity" of those who refused to participate. They speculated that there may be true differences in personality and mood characteristics of nonparticipators. This investigator wonders if these characteristics might also be part of a "misanthropic personality" (House, Landis, & Umberson, 1988) which predisposes one to loneliness. If so, those persons who might have scored higher on the ELI-19 elected not to participate in the study.

Concurrent with this investigation was an effort by Vincenzi and Grabosky (1989) to develop an instrument to measure emotional and social loneliness as distinct phenomena. Their approach utilized a paired format in which subjects indicated what they perceived to be true in their life (thought to get at the notion of isolation) and what they felt in relation to these perceptions (thought to get at the notion of loneliness). The Emotional/Social Loneliness Inventory (ESLI) contained 15 Likert-type items scored on a 0 to 3 scale, ranging from rarely true to usually true. This scale offers an advantage of testing both the predisposing states of isolation in Weiss' (1973) model as well as the resulting feelings of loneliness.

Vincenzi and Grabosky (1989) concluded that it remains difficult to completely separate emotional loneliness and social loneliness, but that different forms of relational deficits do exist. Thus, the notion of a common core of

loneliness continues to draw support; however, distinctions between emotional and social loneliness remain possible.

The content of some of the items on the ESLI intended to capture emotional loneliness are very similar to some of those on the ELI-19. For example, the ESLI item "I don't feel like I have a close friend" and the ELI-19 item "I feel close to someone in particular" both appear to tap into the notion of the feeling of closeness. Similarly, the ESLI item "I don't feel understood" and the ELI-19 item "I feel like the person most important to me understands me" both examine understanding. The ESLI item "I don't have any relationships that involve sharing personal thoughts" and the ELI-19 item "I have no one to share my feelings with" provide information regarding the availability of a confidant. Thus, there appears to be a good conceptual fit between the two measures. In that Vincenzi and Graboski (1989) used a sample comprised primarily of high school and college students, it is important to test the ESLI in elderly subjects. Were this measure found to be a valid and reliable scale for elderly persons, future studies testing for evidence of concurrent validity of the ELI-19 could include the administration of the ESLI.

The difficulty in measuring the noncore aspects of emotional loneliness and social loneliness is a significant challenge facing scientists and clinicians in the field. Though not available to this investigator until after data collection of the present work was completed, Vaux's (1988)

results are quite similar to those found in this study where the ELI-19 was significantly correlated with measures of both emotional and social loneliness. Even after controlling for multicollinearity of the measures, significant partial correlations for both ELI-19 and social loneliness and ELI-19 and emotional loneliness resulted. Vaux speculated, and this investigator agrees, that it is still premature to reject Weiss' (1973) model. It is possible that refinement of measures such as the ELI-19, or study of samples experiencing greater degrees of loneliness might capture the differences in the two phenomena. For example, Adams, Kaufman, and Dressler (1989) found that older blacks who are without a spouse, in poorer health, and less able to engage independently in their ADLs are at greater risk for experiencing emotional loneliness. This might well be a population for whom further testing of the ELI-19 is indicated. In addition, efforts at phenomenological explication of the critical differences between emotional loneliness and social loneliness, particularly from the perspective of the elderly, should continue.

Finally, two new areas of interest in relation to loneliness have emerged and must be considered in any further efforts at measuring this complex phenomenon. These are: (a) Weiss' (1989) development of the concept of close attachment, and (b) the role of neurochemistry in the cause and expression of loneliness.

In his original work, Weiss (1973) did not operationalize the concepts in the model of loneliness he proposed. However, while the current investigation was in progress, Weiss explicated the notion of close attachments. Rather than seeing the attachment figure as someone close, as a confidant, or an intimate other, Weiss proposed that the figure provides security because of a perceptual and emotional sense of being linked to that figure. Further, it is the presence of the figure that is important as opposed to what the figure provides. Weiss suggested that it would be useful to gather additional information from lonely persons regarding the thoughts and feelings that are associated with their loneliness, the sorts of relationships and people about whom they fantasize as allaying their loneliness, and the sources from which fantasies and images of relief originate. It is important that elderly persons be included in such efforts.

The second point made by Weiss (1989) concerned the neurochemistry of emotions. Weiss proposed that it would be useful to locate a triggering mechanism which would explain the perception of emotional isolation and arouses a psychophysiological response, often including heaviness or aching in the chest, tears or the sense of wanting to cry, restlessness, and a felt need to search for relief. Weiss hypothesized that the explanation for such a trajectory likely is neurochemical in nature. Several of the subjects in this investigation made reference to such a psychophysiological response: "Loneliness is a physical

thing . . . you can feel your heart get heavy," "Loneliness is a vacant void . . . inside part of my body is gone," and in response to the 1-item EL measure, ". . . the only time I felt like that was when I was very ill, alone, and afraid."

It is quite possible that other behavioral indicators might also signify the presence of loneliness. Nine of the 108 subjects in this investigation cried during the interview. While there are insufficient data to draw any conclusions, it is interesting to note the mean ELI-19 score for this group was 47.4, compared to the mean ELI-19 for the noncriers of 39.9. However, this was not significantly different.

Hojat and Vogel (1989) advanced Weiss' (1989) notion that there may be neurochemical processes involved in what they called "socioemotional bonding." Hojat and Vogel proposed that mother-infant bonding has a thermoregulatory effect on the body temperature of the baby. Noting that the heart rates of babies tend to be synchronized while interacting with their mothers, Hojat and Vogel suggested that early bonding has been shown "to influence the physiological rhythmicity which in turn affects the neurophysiological development of the infants" (pp. 136-137).

Hojat and Vogel (1989) concluded that a variety of psychological phenomena, including anxiety and depression, involve brain function and conceivably could be mediated through neurochemical tracks. Similarly, loneliness,

experienced as a stressor resulting from deficits in socioemotional bonding, might cause chemical and physiological responses that could become pathogenic if sufficient coping mechanisms were not available. Further explication of this hypothesis is appropriate for geropsychiatric nurses whose knowledge and major clinical emphases evolve from the mind-body connection.

The identification of a neurochemical basis and associated psychophysiological symptoms of loneliness would not only add to the understanding of this state of distress, but might also provide a much needed means of direct verification that loneliness is being experienced. As was noted by Russell et al. (1978) to be the case over 15 years ago, lack of adequate external criteria continues to hamper validity studies of loneliness instruments and may be the biggest challenge facing scientists and clinicians interested in this phenomenon.

In commenting on the directions for future work regarding loneliness, Hojat and Crandall (1989) stress that several instruments which measure different types of loneliness are needed. The ELI-19 represents one such instrument. Its strengths lie in: (a) its specificity to the concept of emotional loneliness, (b) the thoroughness with which the dimensions were theoretically explored and items developed, (c) the adequacy of preliminary psychometric evaluation, (d) its reflection of the experience of older persons, and (e) its ease in

administration when used with the visual prompt response card.

It is imperative that as the knowledge base regarding emotional loneliness continues to develop, particularly with respect to Weiss' (1989) notion regarding the availability of the close attachment, that the ELI-19 be modified so as to prevent obsolescence (Ventura, Hinshaw & Atwood, 1981). This research is the first step in a planned program to continue psychometric evaluation of the ELI-19. The investigator invites others to test the instrument and to comment upon its limitations and the areas in which it can be improved.

## Recommendations

Based on the findings, conclusions, and implications of this study, the following recommendations are proposed:

1. Large sample validation studies of the ELI-19 with both at-risk and "normal" criterion groups should be conducted.

2. Longitudinal studies which follow a sample of lonely subjects (as indicated by ELI-19 scores) who identify and seek to integrate new attachments should be explored.

3. Efforts to identify neurobiological markers and objective behavioral indicators for emotional loneliness should be attempted.

4. Trials at written self-administration of the ELI-19 should be conducted.

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# APPENDIX A

## Emotional Loneliness Instrument

Emotional Loneliness Instrument

Section II #_____

Interviewer

Here is a card to help you in choosing answers for the next set of questions. (Pass card to subject.) As you can see, the choices are based on whether you agree or disagree with the statements I will be reading to you. If you have a strong conviction about the statement, you can then choose either the Strongly Agree or Strongly Disagree choices. If you are not sure whether you agree or not, you can choose the Undecided choice. There are no right or wrong answers. It is your thoughts and feelings that are important.

Before we get started, let's do an example so you can get familiar with the answer choices. The statement is:

I get plenty of help and support from my friends.

Now, do you agree or disagree with this statement? (If Agree), Do you strongly agree or just agree? (If Disagree), Do you strongly disagree or just disagree? Remember, you can choose the Undecided choice if you are not sure.

Do you have any questions? OK, let's get started. This is the longest section so we will complete it first. The first statement is ...

1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree
5 = Strongly Agree
*reverse score these items

1. I am accepted by someone special. *____
2. I don't feel like I am wanted by the person most important to me. ____
3. I am in a caring relationship. *____
4. I confide in someone special. *____
5. There is no one special to share activities with me. ____
6. I have someone who is enjoyable to be around. *____
7. No one really knows me well. ____
8. I feel satisfied knowing that I have someone who will keep in touch with me. *____

#_____

1 = Strongly Disagree 2 = Disagree 3 = Undecided
4 = Agree 5 = Strongly Agree
*reverse score these items

9. I feel unloved. _____
10. I have a strong emotional attraction for someone. *_____
11. I do not feel like I belong to anyone. _____
12. I have someone with whom I have common interests. *_____
13. I don't feel cared for. _____
14. I have a relationship with someone who means a great deal to me. *_____
15. I feel the need to be close to someone. _____
16. I feel a special commitment to someone. *_____
17. I am distant from my family and friends. _____
18. There is no one in particular on whom I can depend. _____
19. I have someone who is comfortable and easy to be with. *_____
20. There is no one I can really trust. _____
21. I feel close to someone in particular. *_____
22. I have someone special with whom I share similar attitudes, ideas, values, and so forth. *_____
23. I have no one to share my feelings with. _____
24. I have someone special with whom I have regular contact. *_____
25. There is no one who really respects and values me. _____
26. I have someone with whom I have been close for quite awhile. * _____
27. When I need someone, no one is there. _____
28. I have someone who really knows me well. *_____

#_____

**1 = Strongly Disagree 2 = Disagree 3 = Undecided**
**4 = Agree 5 = Strongly Agree**
***reverse score these items**

29. Although I have some good friends and family, I miss not having someone special. ____

30. I feel needed by someone. *____

31. I don't expect anyone in particular to contact me. ____

32. I have respect for someone special. *____

33. There is someone in whom I can confide. *____

34. Even when other people are around me I feel very vulnerable and afraid. ____

35. I feel restless because I have no one close to me. ____

36. I don't have anyone who really understands me. ____

37. I have someone special I like to help. *____

38. I wish I had a relationship that provided me with warm and contented feelings. ____

39. I cannot confide in anyone. ____

40. There is someone who will help me out when I need help. *____

41. There is no one I can turn to. ____

42. I have someone who is supportive of me. *____

43. No one ever hugs me. ____

44. I can't count on anyone special to do things with. ____

45. I have someone who has stuck close by me. *____

46. I no longer feel close to anyone. ____

47. I feel safe and secure with someone. *____

48. I don't have a relationship that is satisfying to me. ____

#_____

**1 = Strongly Disagree 2 = Disagree 3 = Undecided**
**4 = Agree 5 = Strongly Agree**
***reverse score these items**

49. I feel like the person most important to me understands me. *____

50. I have someone on whom I depend and who depends on me. *____

51. I long to be with someone special. ____

52. I look forward to being with someone who is special to me. *____

# APPENDIX B

## Demographic Data

Demographic Data

1. How long have you lived here at _____ ? _____

2. Does anyone live with you? _____
   0 = no  1 = yes

   If yes, who is in your household and what relation are they to you? _____

3. How old are you? _____

4. Were you employed outside of the home during much of your life?
   1 = full-time  2 = part-time  3 = no _____
   If yes, what kind of work did you do? _____

5. How would you rate your overall health at the present time? _____
   1 = excellent  2 = good  3 = fair  4 = poor

6. How far did you go in school? _____
   1 = grade school or less  2 = some high school
   3 = completed high school  4 = some college
   5 = received college degree  6 = post graduate work

7. What is your approximate monthly income? _____

8. Note race. _____
   1 = white  2 = black  3 = other

# APPENDIX C

## Prompt Card

Prompt Card

| |
|---|
| Strongly Agree |
| Agree |
| Undedided |
| Disagree |
| Strongly Disagree |

# APPENDIX D

## Measures of Emotional Loneliness

Measures of Emotional Loneliness

EL:

"A possible kind of loneliness is the lack of a close relationship with another person that is lasting. This can be any type of a close relationship that gives you feelings of affection and security."

Adapted from Russell, D., Cutrona, C. E., Rose, J., & Yurko, K. (1984). Social and emotional loneliness: An examination of Weiss' typology of loneliness. Journal of Personality and Social Psychology, 46, 1313-1321.

ATTACH:

I feel I do not have close personal relationships with other people.

I feel a strong emotional bond with at least one other person.

I lack a feeling of intimacy with another person.

I have close relationships that provide me with a sense of emotional security and well-being.

Adapted from The Social Provisions Scale. Cutrona, C. E. (1982). Transition to college: Loneliness and the process of social adjustment. In L. A. Peplau & D. Perlman (Eds.), Loneliness: A Sourcebook of current theory, research, and therapy, pp. 291-309. New York: John Wiley and Sons.

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# APPENDIX E

## Measure of Social Loneliness

Measure of Social Loneliness

SL:

"A possible kind of loneliness involves not feeling like you belong to a group. This might be a group of friends or neighbors who do things together. Or it could be any other group that gives you a feeling of belonging."

Adapted from Russell, D. , Cutrona, C. E., Rose, J., & Yurko, K. (1984). Social and emotional loneliness: An examination of Weiss' typology of loneliness. Journal of Personality and Social Psychology. 46, 1313-1321.

# APPENDIX F

## Selected Items From the Revised UCLA Loneliness Scale

Selected Items From the Revised UCLA Loneliness Scale

UCLASL:

1. I feel in touch with the people around me.
2. I feel part of a group of friends.
3. I have a lot in common with the people around me.

From The Revised UCLA Scale. Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. Journal of Personality and Social Psychology, 39, 472-480.

# APPENDIX G

## Means and Standard Deviations for ELI Items

Means and Standard Deviations for ELI Items

| Item Number | $\bar{X}$ | SD | Item |
|---|---|---|---|
| ELI02 | 2.25 | .98 | I am accepted by someone special (CARING) |
| ELI02 | 1.95 | 1.05 | I don't feel like I am wanted by the person most important to me (SHARING) |
| ELI03 | 1.77 | .76 | I am in a caring relationship (CARING) |
| ELI04 | 2.33 | 1.18 | I confide in someone special (CONFIDING) |
| ELI05 | 2.65 | 1.24 | There is no one special to share activities with me (SHARING) |
| ELI06 | 1.86 | .81 | I have someone who is enjoyable to be around (COMPATIBILITY) |
| ELI07 | 2.47 | 1.44 | No one really know me well (CONFIDING) |
| ELI08 | 1.69 | .73 | I feel satisfied knowing that I have someone who will keep in touch with me (CONTINUITY) |
| ELI09 | 1.58 | .77 | I feel unloved (CARING) |
| ELI10 | 3.08 | 1.21 | I have a strong emotional attraction for someone (CARING) |
| ELI11 | 2.70 | 1.35 | I do not feel like I belong to anyone (PERCEPTIONS) |
| ELI12 | 2.11 | .91 | I have someone with whom I have common interests (COMPATIBILITY) |
| ELI13 | 1.84 | .83 | I don't feel cared for (CARING) |
| ELI14 | 1.74 | .88 | I have a relationship with someone who means a great deal to me (PERCEPTIONS) |
| ELI15 | 3.49 | 1.29 | I feel the need to be close to someone (PERCEPTIONS) |
| ELI16 | 2.52 | 1.19 | I feel a special commitment to someone (SHARING) |

| Item Number | $\bar{X}$ | SD | Item |
|---|---|---|---|
| ELI17 | 2.30 | 1.26 | I am distant from my family and friends (PERCEPTIONS) |
| ELI18 | 1.78 | .91 | There is no one in particular on whom I can depend (PROTECTION) |
| ELI19 | 2.12 | .92 | I have someone who is comfortable and easy to be with (COMPATIBILITY) |
| ELI20 | 1.84 | 1.04 | There is no one I can really trust (CONFIDING) |
| ELI21 | 2.21 | 1.11 | I feel close to someone in particular (PERCEPTIONS) |
| ELI22 | 2.13 | .94 | I have someone special with whom I share similar attitudes, ideas, values, and so forth (COMPATIBILITY) |
| ELI23 | 2.33 | 1.20 | I have no one to share my feelings with (SHARING) |
| ELI24 | 1.98 | .82 | I have someone special with whom I have regular contact (CONTINUITY) |
| ELI25 | 1.81 | .78 | There is no one who really respects and values me (CARING) |
| ELI26 | 2.03 | .96 | I have someone with whom I have been close for quite a while (CONTINUITY) |
| ELI27 | 1.87 | 1.00 | When I need someone, no one is there (PROTECTION) |
| ELI28 | 2.43 | 1.31 | I have someone who really knows me well (CONFIDING) |
| ELI29 | 3.38 | 1.39 | Although I have some good friends and family, I miss not having someone special (PERCEPTIONS) |
| ELI30 | 2.66 | 1.28 | I feel needed by someone (SHARING) |
| ELI31 | 1.97 | .81 | I don't expect anyone in particular to contact me (CONTINUITY) |
| ELI32 | 1.78 | .59 | I have respect for someone special (CARING) |

| Item Number | $\bar{X}$ | SD | Item |
|---|---|---|---|
| ELI33 | 2.07 | 1.03 | There is someone in whom I can confide (CONFIDING) |
| ELI34 | 1.93 | 1.05 | Even when other people are around me, I feel very vulnerable and afraid (PROTECTION) |
| ELI35 | 2.29 | 1.11 | I feel restless because I have no one close to me (PERCEPTIONS) |
| ELI36 | 2.36 | 1.11 | I don't have anyone who really understands me (CONFIDING) |
| ELI37 | 2.44 | 1.00 | I have someone special I like to help (SHARING) |
| ELI38 | 2.64 | 1.22 | I wish I had a relationship that provided me with warm and contented feelings (COMPATIBILITY) |
| ELI39 | 2.19 | 1.09 | I cannot confide in anyone (CONFIDING) |
| ELI40 | 1.64 | .68 | There is someone who will help me out when I need held (PROTECTION) |
| ELI41 | 1.63 | .76 | There is no one I can turn to (CONFIDING) |
| ELI42 | 2.16 | .98 | I have someone who is supportive of me (PROTECTION) |
| ELI43 | 2.20 | 1.20 | No one ever hugs me (CARING) |
| ELI44 | 2.60 | 1.17 | I can't count on anyone special to do things with (CONTINUITY) |
| ELI45 | 2.04 | .96 | I have someone who has stuck close by me (CONTINUITY) |
| ELI46 | 2.20 | 1.07 | I no longer feel close to anyone (PERCEPTIONS) |
| ELI47 | 2.79 | 1.03 | I feel safe and secure with someone (PROTECTION) |
| ELI48 | 1.85 | .82 | I don't have a relationship that is satisfying to me (COMPATIBILITY) |

| Item Number | $\bar{X}$ | SD | Item |
|---|---|---|---|
| ELI49 | 2.19 | 1.05 | I feel like the person most important to me understands me (CONFIDING) |
| ELI50 | 2.49 | 1.09 | I have someone on whom I depend and who depends on me (SHARING) |
| ELI51 | 3.06 | 1.19 | I long to be with someone special (CONTINUITY) |
| ELI52 | 2.02 | 1.01 | I look forward to being with someone who is special to me (CONTINUITY) |

# APPENDIX H

## Final Version: ELI-19

Final Version: ELI-19

| Item Number | Dimension | +/- | Item |
|---|---|---|---|
| ELI02 | Sharing | - | I don't feel like I am wanted by the person most important to me |
| ELI09 | Caring | - | I feel unloved |
| ELI13 | Caring | - | I don't feel cared for |
| ELI17 | Perceptions | - | I am distant from my family and friends |
| ELI19 | Compatibility | + | I have someone who is comfortable and easy to be with |
| ELI20 | Confiding | - | There is no one I can really trust |
| ELI21 | Perceptions | + | I feel close to someone in particular |
| ELI23 | Sharing | - | I have no one to share my feelings with |
| ELI27 | Protection | - | When I need someone, no one is there |
| ELI33 | Confiding | + | There is someone in whom I can confide |
| ELI36 | Confiding | - | I don't have anyone who really understands me |
| ELI38 | Compatibility | - | I wish I had a relationship that provided me with warm and contented feelings |
| ELI39 | Confiding | - | I cannot confide in anyone |
| ELI42 | Protection | + | I have someone who is supportive of me |
| ELI43 | Caring | - | No one ever hugs me |
| ELI44 | Continuity | - | I can't count on anyone special to do things with |

| Item Number | Dimension | +/- | Item |
|---|---|---|---|
| ELI45 | Continuity | + | I have someone who has stuck close by me |
| ELI46 | Perceptions | - | I no longer feel close to anyone |
| ELI49 | Confiding | + | I feel like the person most important to me understands me |

GRADUATE SCHOOL
UNIVERSITY OF ALABAMA AT BIRMINGHAM
DISSERTATION APPROVAL FORM

Name of Candidate Mary Fern Richie

Major Subject Community Mental Health Nursing

Title of Dissertation Development and Testing of an Instrument to Measure Emotional Loneliness in the Elderly

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