THE RELATIONSHIPS AMONG SUBJECTIVE WELL-BEING, ROLE ACTIVITY, SELF-ESTEEM, AND FUNCTIONAL HEALTH IN A SAMPLE OF OLDER ADULTS USING THE CONTINUITY THEORY OF AGING AS A THEORETICAL FRAMEWORK

DISSERTATION

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By

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To Mother and Daddy

who have supported and inspired me through
their ever unconditional patience and love.
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CHAPTER I

INTRODUCTION

Significance of the Study

It is well recognized that the older adult population has changed dramatically, both in number and proportion of the population. By the year 2030, older adults are expected to comprise 17 percent of the U.S. population, from 8 percent in 1950 and 12 percent in 1990 (Meier-Ruge, 1990). Along with this growth, it is also becoming evident to health care providers, researchers, and social policymakers that medical technology related to the treatment and management of chronic disease has increased life expectancies and resulted in institutionalization for a very small percentage of older adults. As Alford (1982) points out, the "majority of older people in our society are functioning independently or optimally with assistive services (p.36)." Regardless of society’s often negative view of older adults and aging, this is a diverse group, displaying a variety of healthy physical, psychological, and social characteristics
(Kimmel, 1990; Santrock, 1985). An understanding of the well-adjusted or satisfied elderly in our society is significant to older adults now, and those who reach old age in the future.

One problem in the gerontological research regarding subjective well-being and psychosocial aging is that it tends to be applied in nature, rather than theoretically based (Larson, 1978; George, 1981; Sauer and Warland, 1982). In addition, the theories that exist tend to be descriptive rather than explanatory and have not been tested sufficiently to be rejected or provide information for accurate prediction of individual behavior (Hooyman and Kiyak, 1988). Not surprisingly, the resulting research provides us with a relatively unclear and often inconsistent picture of successful aging. As Burbank (1986) notes, in looking at normal aging, it is imperative to develop conclusive, empirical evidence to support psychosocial theories toward their use in applied setting, as is attempted in this study.

The literature seems to indicate that a relationship exists between role activity among older adults and their subjective well-being (Rosow, 1967; Larson, 1973). Self-esteem has been implicated as an intervening variable in this relationship (Kimmel, 1990). However, studying this phenomenon has been
termed difficult, with no conclusive results. This may be due to the complexity of all three variables and a lack of consistency in measuring these multidimensional concepts. The proposed study will test the theoretical framework of Atchley’s Continuity Theory of Aging (1989), to determine its effectiveness in explaining the relationships among subjective well-being, role activity, self-esteem and functional health status. These variables will be measured multidimensionally using a diverse sample of older adults who vary with regard to health, socioeconomic status, race and age.

Problem Statement

The purpose of this study is to investigate role activity, self-esteem and functional health status, as they relate to the subjective well-being of the older adult. What are the relationships among subjective well-being, role activity, self-esteem, and functional health status as seen in the older adult population? What proportion of subjective well-being can be explained by self-esteem, role activity and functional health status? Does the Continuity Theory of Aging (Atchley, 1989) explain the subjective well-being of the older adult?
Research Hypotheses

After statistically controlling for the demographic variables of age, marital status, race and socioeconomic status, the following research hypotheses were tested:

1. A positive relationship will exist between the older adult’s level of subjective well-being and role activity.

2. A positive relationship will exist between the older adult’s level of subjective well-being and self-esteem.

3. A positive relationship will exist between the older adult’s level of subjective well-being and their functional health status.

4. A positive relationship will exist between the older adult’s level of role activity and self-esteem.

5. A positive relationship will exist between the older adult’s functional health status and their self-esteem.

6. A significant proportion of the variance in subjective well-being will be explained by a linear combination of the tested independent variables.

Figure 1 depicts the hypothesized conceptual model for older adults, testing the Continuity Theory of Aging. Although Atchley’s (1989) theoretical framework suggests a unidirectional effect of the independent variables on subjective well-being, such antecedence has not been confirmed by empirical evidence. Therefore, this study is investigating the magnitude and direction of relationships.
Hypothesized Conceptual Model for Older Adults:
Testing the Continuity Theory of Aging*

*These relationships will exist given the statistical control of demographic variables, including age, marital status, race and SES.
**Research Question**

In addition to testing the above hypotheses, the researcher will answer the following research question:

1. Are there any relationships between race and the following variables when age and SES are controlled: subjective well-being, self-esteem, functional health status, or role activity?

**Definition of Terms**

For the purposes of this research study, the following terms are conceptually and operationally defined as follows.

*Subjective Well-being* is the individual's perceived state of being and evaluation of one's life situation (George, 1981), including constructs of anxiety, depression, positive mental health, self-control, and vitality, as measured by the 38-item *Current HIS Mental Health Battery: General Well-being* (Ware, et al., 1987).

*Self-Esteem* is the affect associated with an assessment of the fit between self concept (what you are) and the ideal self (what you ought to be) (Atchley, 1982), as measured by Rosenberg's 10-item *Self-Esteem Scale* (Rosenberg, 1965; Breytspraak and George, 1982).

*Role Activity* is that activity associated with an individual's role set, consisting of "the total collection or set of public behaviors that characterize an individual as he goes from context to context"
(Bell, 1976, p. 152), and where public behaviors include those associated with occupation, kin and friendship, voluntary associations and community. This variable will be measured by Havighurst and Albrecht’s 12-item Role Activities in Later Maturity interview scale adapted for use as a questionnaire (Graney, 1982).

Functional Health Status is the health status of older adults related to physical capacity for role fulfillment and social involvement (Linn and Linn, 1984), as measured by the first 17 items of Linn and Linn’s (1984) Self-Evaluation of Life Function Scale (SELF-Scale). These items involve the measurement of activities of daily living, instrumental activities of daily living, and self-health assessment of pain, number of days in bed, current diagnoses and medications, and an item to measure overall perceived health. This construct must be differentiated from the definitions of multidimensional health and physical health. Multidimensional health consists of measuring physical, mental, emotional, social and spiritual dimensions; and focuses on the individual as an integrated whole. Physical health is normally measured by assessing biological indicators related to the presence of pathophysiology within the traditional medical model of health. The measurement of functional
health status in this study allows for assessing the interface of normal age related changes, the presence of chronic disease and the individual's response related to day-to-day functioning.

**Limitations of the Study**

The findings will be limited in generalizability in several respects. First, it is recognized that the sample will be non-random, and one of convenience and volunteers, and thus may not be representative of all older adults. This may affect the meaningfulness of any test of significance, which should be consequently interpreted with caution. Second, subjects will be selected from intact groups within a specific geographical area, further limiting the representativeness to all older adults. Third, subjects will be selected from those elderly who participate in the Franklin County Life Care Alliance, Senior Dining Center program, and may have different characteristics than those elderly who do not seek such support, including those elderly who are homebound or in long term care facilities. Finally, older adult responses will be based upon self-report instruments, rather than on objective measurement.
**Basic Assumptions**

Assumptions in this study will include the following: 1) older adults participating in this study will answer self-report instruments honestly based upon their perception of the truth; and 2) the older adult himself is the most appropriate source of information regarding the appraisal of his own well-being (Diener, 1984); 3) subjective well-being is a multidimensional construct that cannot be assessed comprehensively by measuring unidimensional concepts such as life satisfaction, morale, happiness or psychiatric symptoms (Larson, 1978; George, 1981); 4) self-esteem is consciously available to the individual and can be measured using self-report methods (Brytspraak and George, 1982); and 5) tests of significance may be appropriate regardless of the non-random sample utilized in this study.

**Delimitations**

The boundaries of this study have been set to include only those older adults, age 50 and older, who attend Life Care Alliance, Senior Dining Centers in the Franklin County, Ohio geographical area, and those who have the ability to understand and speak English. This age range for older adults was deemed appropriate as older adult studies in the subjective well-being and
self-esteem literature include samples in which the majority of respondents are age 60 or older, and often include subjects considered to be the young-olds, age 53 to 74 (Larson, 1978; Markides and Martin, 1979; George, 1981; Spier, 1989; Andrews, 1991).
CHAPTER II
REVIEW OF THE LITERATURE

Theoretical Framework

The Continuity Theory of Aging was initially proposed by Havighurst, et al. (1968), when results of gerontological research failed to accurately account for the findings related to life satisfaction across the life span and across individuals, using the more simplistic, linear theories of activity or disengagement. The Continuity Theory suggests that successful aging as evidence by higher levels of life satisfaction is characteristic of those who continue roles and activities over the life span or to find meaningful substitutes (Howe, 1987). "Its basic tenets are that people, whether young or old, have different personalities and lifestyles, and that personality plays a major role in adjusting to aging" (Hooyman and Kiyak, 1988, p.71). Atchley (1989) describes the "central premise" of the Continuity Theory in the following way: "...in making adaptive choices, middle-aged and older adults attempt to preserve and maintain existing internal and external structures and that they
prefer to accomplish this objective by using continuity (i.e., applying familiar strategies in familiar arenas of life)." (p. 183). Adaptive choices are supported by both individual preferences and social sanctions.

This theory attempts to explain the choices made by adults to cope with the changes that accompany the normal aging process. Normal psychosocial aging is defined within this theory as "commonly encountered patterns of human aging...(which) can be expected to differ from culture to culture" (p. 183). Atchley explains that continuity of aging can be either internal or external. Internal continuity is described as the foundation for individual mastery and competence on an everyday basis, where the individual operates "in relation to a remembered inner structure such as ... preferences, skills, [and] affect" (p. 184). Internal continuity is essential for maintaining ego integrity; it meets the need of self-esteem. Atchley further explains that external continuity of relationships is "motivated by desire for predictable social support" (p. 186). External continuity is concerned with the individual's past role performances: how we present ourselves to others, the predictability of feedback that is received from others, and its role in reducing the ambiguity that accompanies life role changes (i.e. retirement, widowhood, etc.).
Continuity for the individual, both internal and external, is seen as a preferred strategy for coping with the changes associated with aging, whereby individuals maintain their strengths and minimize the deficits that accompany aging. Internal continuity includes a subjective perception that sees the individual's past as sustaining, supporting, and justifying the new self; a process requiring memory. Conversely, external continuity ties together past role performances that are self-affirming; seeking the persistence of relationships and social roles (overt behavior patterns). Key concepts of this theory, then, include role activity and self-esteem as an expression of self-concept and one's underlying personality.

**Subjective Well-Being Among Older Adults**

It is well recognized that although subjective well-being is a commonly studied variable in the mental health and gerontological research, it has been vaguely defined conceptually, and theoretically (Larson, 1978; George, 1981; Sauer and Warland, 1982; Carp and Carp, 1983). Definitional problems are seen to stem from unidimensional and inconsistent measurement of the construct subjective well-being (George, 1981). As Lund, et al. (1989) indicate, "subjective well-being is generally regarded as a multidimensional construct that
encompasses both stable and transitory dimensions, as well as global and specific indicators" (p. 4). Regardless, traditional research has tended to use unidimensional concepts as proxy measures, label findings as indicative of subjective well-being, and compare their results with studies that are conceptually and operationally incompatible. George (1981) categorizes proxy measures into four general areas, including life satisfaction, morale, happiness, and psychiatric symptoms. She notes that each differ with regard to meaning, time referent, stability over time, scope, and cognitive versus affective nature. In addition, this global variable can also be identified by its positive versus negative perspectives. Positive concepts would include measures of satisfaction, happiness, adjustment, positive affect, hopefulness, stability, mental health, self-control, and vitality. Negative measures include depression, anxiety, burden, loneliness, negative affect, sadness, despair, and helplessness.

In addition, the vague nature of what we know about subjective well-being has been attributed to a more basic problem in the investigation of the construct (Sauer and Warland, 1982). Historically, the initial research focusing on the subjective well-being among older adults presented this variable from an
applied or problem-solving standpoint, rather than establishing it as a theoretical construct. This focus diverted attention away from studies that would have clearly defined the multidimensional nature of subjective well-being. Hence, what followed in the research was the development of many instruments. Each instrument tends to measure specific aspects of subjective well-being, but often have little in common with each other, and offer narrow, unequal and superficial reflections of the underlying construct they are meant to represent. The following are examples of proxy measures for subjective well-being that have been commonly used and compared in the literature (Sauer and Warland, 1982; Himmelfarb and Murrell, 1983): Attitude Inventory (Cavan, 1949); Kutner Morale Scale (Kutner, et al., 1956); Dean Morale Index (Cumming, et al., 1958); Adjustment Scale (Thompson, et al., 1960); Life satisfaction Index-A (Neugarten, et al., 1961); Morale Scale (Clark and Anderson, 1967; Pierce and Clark, 1973) Affect Balance Scale (Bradburn, 1969); Trait Anxiety Inventory (Spielberger, et al., 1970); Philadelphia Geriatric Center Morale Scale (Lawton, 1972); single item indicators of life satisfaction and happiness (Rose, 1955; Davis, 1974); and the Center for Epidemiological Studies Depression Scale (Husaini, et al., 1980).
In general, the gerontological research concerning the subjective well-being of older adults has been "devoted to describing the subjective well-being of older people and relating perceptions of well-being to older people’s current and past life conditions" (George, 1981, p. 349). The objective of such research has been to describe those life conditions that are enriching or debilitating to the older adult’s sense of well-being. George (1981) explains that the research movement initiated in the 1950’s was fueled by the controversy surrounding the disengagement-activity theory debate. Since then, many variables and relationships have been revealed as important to the subjective well-being of the older adult. Larson’s 30-year literature review (1978) regarding subjective well-being indicates that several life situation variables are related to and predictive of this construct, including: health, socioeconomic status (income, occupational status, education), marital status, and activity. The following will be a discussion of those variables that have known relationships with and/or are predictive of the subjective well-being among older adults, regardless of how subjective well-being is measured.

Of the variables shown to be related to subjective well-being, health is most strongly associated, with
significant positive correlations (r =.2 to .5) (Larson, 1978). There is a tendency for the relationship between subjective well-being and health to differ with socioeconomic status (SES), where the impact of health is greater for those with lower SES. In addition, it has been explained that lowered perceived well-being may result from the pain, confinement and uncertainty that accompanies ill health, rather than the health condition itself (Larson, 1978). The relationship between health and subjective well-being continues to be revealed in the literature since Larson’s review (Markides and Martin, 1979; George, 1981; Zautra and Hempel, 1984; Wolinsky, et al., 1985; Kaplan, et al., 1988; Willits and Crider, 1988).

The relationship between subjective well-being and SES, as shown by the literature, suggests that there is a significant, but weak association (r = .1 to .3). SES is measured in terms of income, occupational status, and/or education. Research indicates that the relationship may be underestimated due to its possible curvilinear nature, where it appears stronger at the low and high SES levels, and less strong for middle SES. Income seems to be the most consistent, salient component of SES in this relationship (r = .1 to .3). Occupational status shows an independent association, while education shows a small association when the
effects of income and occupational status are statistically controlled. Indeed, Costa, et al.'s (1987) longitudinal study further reinforces these findings. Research tends to indicate that individuals with greater incomes, higher occupational status or prestige, and/or more education report higher subjective well-being than lower SES groups (George, 1978; Wolinsky, et al., 1985; Costa, et al., 1987; Andrews, 1991). It has been suggested that higher income levels cushion individuals against the emotional intensity of losses that often accompany age, such as the loss of physical health, employment status, and spouse (Andrews, 1991).

A slight independent relationship ($r = .01$ to $.02$) has been described between marital status and subjective well-being, where married individuals report higher levels of well-being than widowed, divorced or separated individuals (Larson, 1978). Weingarten and Bryant (1987) note that divorced individuals report significantly greater global unhappiness, and "a greater intensity of emotional, social, economic, and physical health problems" (p. 883). Remarriage tends to moderate and even eliminate the unhappiness associated with divorce, thus increasing psychological well-being (Weingarten and Bryant, 1987). Never-married singles tend to report levels of well-being equal to those of
married individuals (Larson, 1978). It would seem that these individuals have not experienced the loss associated with divorce or widowhood, compared to other single status older adults.

Controversy exists in the literature with regard to race and subjective well-being, where interactions seem to occur with the factors of SES and age (Diener, 1984). When SES is statistically controlled, no association is noted in many studies. Any difference by race has been attributed to income, life situation, and health status (Larson, 1978; George, 1981; Costa, et al., 1987; Andrews, 1991). In his sixteen year longitudinal study of older adults, Andrews (1991) indicates that "the difference between blacks and whites...were complex and inconsistent and there is no clear evidence that one group fared markedly better than the other between 1972 and 1988" (p. 22). As a measure of SES, education may affect the relationship. At lower educational levels blacks tend to exhibit higher levels of subjective well-being, and at higher educational levels blacks tended to be less happy than whites (Diener, 1984). When the relationship is considered with regard to age, Diener's (1984) review of the literature reveals that while at younger ages blacks tend to have lower subjective well-being scores than whites, this trend reverses in the later years,
when older black adults show higher subjective well-being than their white counterparts. Diener (1984) suggests further study of race for its effect on subjective well-being, when other demographic variables such as age and SES are controlled.

According to Larson (1978), there tends to be a positive relationship between general indications of activity and subjective well-being ($r=.1$ to $-.3$). Throughout the literature, however, there are problems with consistency in this relationship when it is measured based upon frequency of activity versus quality of activity and intimacy of the interactions. In addition, this area of research tends to lack information regarding the importance of activities to the individual related to social roles. For instance, George (1978) studied the impact of personality and social status on activity level and well-being, defining activity as the time spent (in hours) on a weekly basis in various social activities. For older adults in her sample, only a weak relationship was revealed between this activity measure and psychological well-being as measured by the Affect Balance Scale ($r=.18$). George concludes "that there is not a significant, predictable relationship between activity and psychological well-being in late life" (p. 843). In contrast, Markides and Martin (1979) attempted
to form a causal model of subjective well-being as measured by life satisfaction. In this study of older adults, activity was measured using their Activity Index, giving the older adult a score based on frequency and quality of formal and informal activities. These investigators found activity to be directly and positively related to life satisfaction to a strong degree ($r = .452$ for females, and $.554$ for males), with a positive and indirect relationship via activity for health, income, and level of education on life satisfaction. Activity was a strong, positive predictor of life satisfaction, explaining 32.7 percent of the variance in subjective well-being for females and 38.5 percent for males. These results would seem to indicate that activity is an important variable contributing to the well-being of older people. Due to similar conflicting information in the literature, Larson (1978) indicates, "a causal relation of activity to well-being is suggested, but not conclusively established" (p.116), depending to a great extent on how the variables are operationalized.

The above life-situation variables predict variance in subjective well-being at differing levels (Larson, 1978). Health, with regard to physical disability, tends to be most predictive of subjective well-being, explaining between four and 16 percent of
the variance. SES and social activity were predictive of this variable at levels between one and nine percent. All other variables (including age, race, gender, employment, and marital status) explained between zero and four percent of the variance in subjective well-being.

Three specific demographic variables have shown no consistent association with subjective well-being among older adults, including age, gender and employment (Larson, 1978). Age appears to be inversely related to subjective well-being, where as age increases there is a decline in well-being. However, when the following variables are statistically controlled, this relationship nearly disappears (r=.0 to .1): declining health, poor financial resources, widowhood, lack of friends, and limited activity (Larson, 1978). Therefore, it would seem that the stereotypic image of multiple losses thought to accompany age may in fact have more to do with pathological, chronic illness and life-chance related factors than with chronological age itself. This idea seems to be supported by Costa, et al. (1987), who found no change in subjective well-being with age, birth cohort, or time. However, inconsistencies in the relationship between age and subjective well-being may also be due to unique sample characteristics, particularly with regard to age range.
When gender is studied for its association with subjective well-being, research has overwhelmingly and consistently shown that this variable has no independent effect (Larson, 1978; Wolinsky, et al., 1985; Costa, et al., 1987, McCulloch, 1991).

Employment status seems to be so highly linked with age, health, disability and other variables related to subjective well-being, that it shows only very slight association (r=.08 to .09) (Larson, 1978). Therefore, although retirement status is often thought to be associated with decreases in subjective well-being, Larson (1978) concludes that "it is not possible to conclusively infer that this relationship...is attributable to retirement" (p. 114).

Several investigators have studied the subjective well-being of older adults, finding personality factors to be related to and predictive of subjective well-being (George, 1978; Costa, et al., 1987; Ryff, 1989). As George (1978) indicates, "personality has been suggested as the major explanatory factor accounting for both individual differences in levels of activity and psychological well-being and behavioral continuity over time (p. 840)". Over a ten year period, the longitudinal National Health and Nutrition Evaluation Study (NHANES) by Costa, et al. (1987) investigated subjective well-being in individuals initially 25 to 74
years of age. Measuring psychological well-being cross
and time-sequentially, with a multi-stage stratified,
random sample, these investigators found subjective
well-being to be stable over time and emphasized the
importance of enduring personality constructs. They
suggest that personality dispositions, such as
neuroticism and extraversion, contribute to subjective
well-being by aiding adaptation to life circumstances
and recent life experiences. In open-ended questions,
Ryff (1989) asked middle and older adults to indicate
those traits they felt most contributed to well-being
as one grows older. Older adults most often defined
acceptance of change, sense of humor, positive attitude
toward life, requiring continued growth, and being a
caring and compassionate person as important to well-
being.

Self-esteem is one such factor seen as fundamental
to personality and adjustment in later life. Feelings
of low self-esteem have been suggested to underlie
feelings of inferiority and depression that may come
from the elderly being removed from productive, and
even competitive situations in employment and society
from which they draw their self-concept and self-worth
(Hunter, et al., 1982). It would seem that a positive
sense of self, and perhaps an overall positive persono-
logical tendency, would be a logical precursor to
satisfaction with one’s situation in life and subjective well-being.

Since Larson’s 1978 review of the literature, research efforts have been undertaken to determine how best to measure the multidimensional nature of subjective well-being and define it theoretically (Markides and Martin, 1979; Carp and Carp, 1983; Himmelfarb and Murrell, 1983; Liang, 1985; Wolinsky, et al., 1985; Costa, et al., 1987; Shmotkin, 1990). Results of the different studies confirm the need to measure subjective well-being comprehensively, with valid and reliable instruments.

A major effort was conducted by Ware, et al. (1987) in developing an instrument using items from many general and construct-specific measures of well-being. These authors performed a content analysis of tools measuring the concepts of anxiety, depression, positive well-being, self-control and perceptions of health. This analysis provided information regarding face and content validity, the polarity of certain dimensions, and operational definitions used in earlier overall measures. An instrument was created encompassing the six concepts based on content and statistical analysis, to include all content without overlap. While the Health Insurance Study-General Well Being (HIS-GWB) tool has established acceptable
validity and reliability scores for the general population, it has not been confirmed for the older adult population. Further studies are needed to establish that this instrument will show similar trends in levels of subjective well-being and relationships with other variables in this group as those measures more commonly used with older adults. Brook, et al. (1979) indicate however that the HIS-GWB reflects a state-of-the-art measure of the intended construct, representing improvement in conceptualization and measurement of subjective well-being.

**Self-Esteem in the Later Years**

Subjective well-being among older adults has been related to specific personological variables. Several personality theorists view self-esteem as fundamental to personal satisfaction and effective functioning throughout life, including Rogers, Horney and Adler (Coopersmith, 1981). As an enduring part of personality, self-esteem would seem to continue its important role regarding adjustment in later life and remain important to theory and research on the subjective well-being of older adults (Lee and Shehan, 1989). Although such consensus exists, and the idea seems to be purely common sense among theorists and clinicians, "this widely held belief is suggestive
rather than definitive" (Coopersmith, 1981, p. 3), and
general rather than specific regarding the way in which
it affects satisfaction and functioning.

Definitions are, however, plentiful. Breytspraak
and George (1982) define self-esteem as "the affect
associated with a judgement ... of one's self" (p.242).
This judgement concerns the comparison of what one is,
to what one aspires to be. These authors make a
distinction between self-esteem and self-concept, where
self-concept is the non-evaluative, cognitive
counterpart of the self, consisting of self-perceptions
and descriptions of oneself. Self-concept is considered
as the "person's total appraisal of appearance,
background and origin, ability and resources, and
attitudes and feelings that culminate as a directing
force for behavior" (Smits and Kee, p. 13).

Self-esteem is thus self-concept's evaluative
component based on cognitive comparisons and associated
indicates that self-esteem "expresses an attitude of
approval or disapproval, and indicates the extent to
which the individual believes himself to be capable,
significant, successful, and worthy" (p. 5). This
variable is normally operationalized as involving one
or more of the following dimensions: competence
(general or personal), power (feeling of capability to
master and control oneself and aspects of one's environment), self-approval or acceptance, love-worthiness (ability to be loved or approved of by others; significance), and virtue (adherence to moral and ethical standards). It is often used as an indicator of emotional adjustment, where feelings of worthlessness and low self-esteem in the general population are related to higher levels of mental illness as measured by chronic or trait anxiety, acute levels of depression, neurosis, and interpersonal difficulties. Higher levels of self-esteem have been associated with the possession of social skills and the achievement of leadership status as well.

Because self-esteem involves the evaluation of or feeling one holds about his identity relative to some ideal or standard, this variable becomes important in later life when one must redefine self-concept in response to age-related changes, shifts in some social roles, and the assumption of new roles (Hooyman and Kiyak, 1988). It would seem that the more important social roles are to self-concepts, the greater the adjustment in later life, and the more the effect on self-esteem and subjective well-being. Hunter, et al. (1982) indicate that among older adults, two variables are consistently related to self-esteem, including work roles and institutionalization. They conclude that this
is due to personal control issues of productivity, role status and performance. Feelings of low self-esteem have been suggested to underlie feelings of inferiority and depression that may come from the elderly being removed from productive, and even competitive situations in employment and society from which they draw their self-concept and self-worth (Hunter, et al., 1982). Some older individuals with multiple losses must cope when they have the fewest resources to resolve problems successfully (Hooymann and Kiyak, 1988). It would also seem, however, that a positive sense of self, and perhaps an overall positive personological tendency, would be a logical precursor to satisfaction with one's situation in life and general feeling of well-being.

According to Bengtson, et al. (1985), self-esteem has been measured in the literature as either "based on a sense of personal competence, power, or efficacy," or "based on a sense of personal virtue or moral worth" (p. 573). However, self-esteem is rarely defined distinctly as one or the other, and is most often measured as a single variable, using omnibus measures. In their review of the literature, these authors further point out the conflicting findings of self-esteem in studies of older adults. Many have found higher self-esteem among older adults when compared
with younger cohorts, while only one indicated self-esteem to be lower in later life. The majority have found stability of self-esteem with aging (Bengston, et al., 1985). Breytspraak and George (1982) indicate that there are no theoretical reasons to expect age differences in self-concept or self-esteem, but that differences may be more related to health and role loss related to widowhood or retirement. As Bengston, et al. (1985) indicate, social, situational and personal life changes are at least as important as age itself. Breytspraak further emphasizes that the image in the literature of the older adult who must react, respond and adjust to changes and denigrations in social roles that inevitably accompany aging, with resulting damage to self ignores the possibility of the use of self as a strategy or basis for the active process of ensuring that self-integrity is maintained regardless of age-related losses.

Indeed, continuity theorists would maintain that the relationship between role activity and life satisfaction must be mediated by one’s personality. Role transitions and losses are also mediated by other variables, including personal resources, social status variables, coping skills, and socialization experiences. In fact, there is little evidence that retirement negatively affects self-concept, but depends
upon how people present and renegotiate their self-concepts in institutional settings, even if it means distorting reality to protect or enhance self-esteem. Atchley (1982) suggests that people maintain self-esteem by lowering aspirations of ideal self with age perhaps with a more realistic view of ideal and bring self-concepts more in line with ideal self.

Coopersmith (1981) also suggests that differences in self-esteem may be related to differences in social behaviors, so that one with higher self-esteem may hold favorable attitudes and expectations with regard to their ability to approach tasks, persons and social situations, and thus lead them to "more assertive and vigorous social actions" (p. 71). Higher self-esteem individuals are then "more likely to be participants than listeners in group discussions, they report less difficulty in forming friendships, and they will express opinions even when they know these opinions may meet with hostile reception" (p. 71). Low self-esteem persons in Coopersmith's research, tended to be those who "do not wish to expose themselves, anger others, or perform deeds that would attract attention" (p. 71).

Coopersmith's (1981) summary of the self-esteem research outlines four major factors that seem to contribute to the development of self-esteem, including: 1) the amount of respectful, accepting, and
concerned treatment one receives from significant others in one’s life; 2) one’s history of success, status and position in the world; 3) one’s values and aspirations; and 4) one’s manner of responding to devaluation. Coopersmith further supports the idea of continuity for self-esteem with age, indicating that self-appraisals are relatively resistant to change because of the individual’s need for psychological consistency, stable and coherent identities, and preference for regarding the self positively. Self-esteem however may change depending on orientation with regard to the different areas of experience or role-defining conditions that help define self-appraisals (e.g., sex, age, etc.).

As a self-esteem theorist and researcher, Rosenberg (1979) studied the characteristics of adolescents and their level of self-esteem. His research describes several general findings regarding demographics and level of self-esteem, indicating that there is only a weak relationship between self-esteem and social class, and no relationship to ethnic group affiliation (neither race nor religion). Breytspraak further indicates that females tend to experience lower self-esteem than males regardless of age, perhaps due to their lower status in society. He suggests that older females may experience double jeopardy with
regard to their self-esteem due to ageist attitudes of society and their status as females.

Hunter, et al. (1982) consider self-esteem to be not only important to one’s life experience, but fundamental to personality, interpersonal relationships, everyday mood, and functional ability. In their sample, low self-esteem elderly were differentiated from those with high self-esteem, where the lower group reported poorer health, more pain, and greater levels of disability. In addition, elderly reporting low self-esteem seemed also to exhibit higher scores on measures of depression, anxiety, somatization and external locus of control. These authors suggest that the poorer health status of lower self-esteem individuals may be due to a generalized loss of control in their lives due to poorer health, greater disability, and lower feelings of productivity in society. No differences were detected, however, between high and low self-esteem groups with regard to age, income, education, marital living arrangement or number of medications.

According to Bengtson, et al. (1985), the limited research that has been done suggests more than age differences in self-esteem; relating it to other social, situational, and personal change factors. Furthermore, lower self-esteem among older adults has
been attributed in part to general attitudes of society, "the generalized other" (Kimmel, p. 61). Older adults may tend to internalize societal ageist attitudes into their own belief system (Bengtson, et al., 1985; Kimmel, 1990). Bengtson, et al. (1985) suggest that no research has been done to explore the process by which self-esteem is enhanced or maintained during aging in terms of Rosenberg’s four proposed determinants of self-esteem. This they consider to be an important area of future research. In addition, although many researchers consider self-esteem and self-concept to be linked with levels of activity and life satisfaction, this has been found to be difficult to test. Inconclusive results regarding self-esteem in later life seem to suggest the need for further and improved research.

**Role Activity and Aging Theory**

When one considers the social gerontological research, and particularly that related to subjective well-being, social roles and social participation/activity become evident as important related and explanatory variables (Graney, 1982; Larson, 1978). Most psychosocial theories of aging developed since the 1950’s have included the concept of activity within their theoretical perspectives (Hooyman and Kiyak,
1988). Most theories evolved from Role Theory, which described individuals as social beings who play a variety of roles over their lifetimes. These roles are socially and culturally defined, and serve as the basis of self-identity and self-concept. Such roles are also age or life-stage defined, where age norms alter expectations for individual capacities, limitations and performance within the role itself. At this stage in its development, aging theory centered around the explanation of adapting to loss and declines with age. Consequently, Role Theory purported role dilemmas and losses, where role loss was seen as irreversible, eroding self-esteem, with little consideration for positive adaptation and lifelong development. Thus, according to role theorists, adjustment in old age was dependent upon how well the individual accepted role changes typical to later life (Hooyman and Kiyak, 1988). Thus, Role Theory became the first attempt to understand adjustment in older persons and the guiding force for theories that followed.

Two dominant and opposite perspectives developed from global theory of social roles and successful aging. The Disengagement Theory (Cummings and Henry, 1961) proposed that the mutual withdrawal of society and the older adult was normal, functional, and satisfying in later life. A series of research studies
failed to support this framework (Santrock, 1985; Howe, 1987; Hooyman and Kiyak, 1988). This lack of research support sparked the development of the Activity Theory by Havighurst, et al. (1963, 1968), who suggested that activity involvement was positively related to life satisfaction. Thus, greater role loss would be associated with lower levels of life satisfaction. Successful adjustment in late life would then be the result of staying active, with an emphasis on frequency of activity and the substitution of new roles for those lost with age and related life changes. This theory, however, has also not been supported in the literature. Lemon (1972) criticized the Activity Theory as presenting a simplistic, linear view of life satisfaction, insufficient to capture the complex nature of people and their life situations. Although developed from Role Theory, the Activity Theory and related research operationalizations of activity have focused on frequency and quantity of activity rather than quality and meaning with regard to social roles.

Aging theory further evolved to a more widely accepted explanation for successful aging and life satisfaction. As Howe (1987) indicates, the Continuity Theory explains that "optimal aging is characteristic of those who maintain and continue role, activities, habits and associations" (p. 457), or find meaningful
substitute pursuits. This theory emphasizes the importance of stable role behavior patterns, previously established earlier in life. Bell (1976) notes that this theoretical framework tends to de-emphasize the negative characteristics associated with role loss. It is also more suited for explaining aging in our increasingly diverse older adult population as successful aging is individually based and defined by personality (George, 1978).

Along with the progression of aging theory, gerontological researchers have studied activity level as it relates to life satisfaction and subjective well-being. Neugarten, et al. (1968) found activity and involvement to be associated with life satisfaction, when they investigated engagement and disengagement in later adulthood. According to their findings, older adults who remain involved and active in the world are most likely to show life satisfaction, and to delay the negative characteristics associated with aging. Positive characteristics of active older adults included a positive self-image, happy and optimistic attitudes, perceived success in life goals, the perception of life as meaningful, and taking pleasure in the activities of everyday life.

Lemon, et al. (1972) studied the relationship between activity and life satisfaction in an effort to
test the Activity Theory. Lemon operationalized both the concept of activity and life satisfaction in order to permit the quantification of their meaning to older adults. Activity was considered to be "any regularized or patterned action or pursuit that is regarded as beyond routine physical or personal maintenance" (p. 513). Lemon, et al. (1972) classified activities into three types: 1) informal activities (social interactions with relatives, friends, and neighbors); 2) formal activities (social participation in voluntary organizations); and 3) solitary activities (pursuits such as watching television, reading and hobbies of a solitary nature). These authors wished to explore the meaning that particular activities held for older adults. Briefly, they found that activity was positively associated with life satisfaction, where life satisfaction is the degree to which one is presently content or pleased with his or her general life situation. In their study, these investigators indicated that level of informal activity with friends was correlated with life satisfaction (r = .21, p < .05). Longino and Kart further found that formal activity was inversely associated with life satisfaction (in Breyspraak, 1984).

Bell (1976) studied the Continuity Theory, examining the relationships between change in amount of
time spent in three role areas (family and kin, voluntary associations, and community) and change in life satisfaction. It was hypothesized that stability or continuity in life satisfaction should be associated with adjustment to role transitions and thus stability in role set orientations. In this study, the difference between the proportion of those older adults who experience a change in role orientation and a subsequent change in life satisfaction did not differ significantly from the proportion who had consistent orientations but experienced changes in satisfaction. This was true for family role orientation ($z=-.7793$, $p<.2177$), voluntary associations ($z=-.0270$, $p<.3936$), and community orientation ($z=+.1358$, $p<.4443$). Correlations between the three role set areas and life satisfaction revealed interesting relationships. The more time spent in the family role after retirement, the greater the decline in life satisfaction ($\tau=+.1641$, $p<.001$). The greater the time investment in voluntary associations after retirement, the greater the positive change in life satisfaction ($\tau=+.1184$, $p<.012$). This relationship was strengthened by controlling for age, health, social status and duration of retirement. Finally, when age and health were controlled, the more time spent in community roles after retirement, the more positive was the change in
life satisfaction. Bell (1976) concludes that his findings do not substantiate the Continuity Theory, but the Activity orientation. The results seem to indicate the context-related nature of life satisfaction, where increased involvement in work-like settings (community and voluntary associations) result in relatively stable or increased levels of satisfaction.

George (1978) investigated the relationship between activity levels and psychological well-being and both personality and social status variables among middle and older adults at four test dates over a two year period. She hypothesized that personality and social status were enduring characteristics, "providing a stable context for social interaction and fostering behavioral continuity" (p. 841). Activity level was the time spent on a weekly basis in: church attendance, religious organizations, volunteer work, clubs and voluntary organizations, and informal socializing" (p. 842). Psychological well-being was measured using Bradburn’s Affect Balance Scale (ABS). In this study, both activity level and psychological well-being were stable over the two year period. George (1978) also indicated a weak association between activity level and psychological well-being (r=.18). However, activity level and psychological well-being were predicted by different personality and social status variables. The
variance in activity level was best explained by gender, age, education and occupation, physical health, employment, and the personality traits of intelligence and self-sufficiency (together explaining 18.8% of the variance). According to George (1978), "females, relatively younger subjects, persons of higher educational attainment and occupational prestige, individuals in better physical health, and persons who are not currently employed devote greater time to activities" (p. 844). Persons scoring lower for intelligence and self-sufficiency reported higher activity levels.

Conversely, an entirely different set of variables best explained the variance (21.8%) in psychological well-being as measured by the ABS, with personality predicting well-being better than social status measures. Sixteen of 20 personality factors on the Cattell 16-Personality Factor were significant predictors of the ABS scores, where "persons scoring as more conscientious, tender minded, practical, group dependent, relaxed, and high in arousal" (p. 845) scored higher in psychological well-being. Married individuals who reported higher education levels, good physical health, and being unemployed also scored higher for psychological well-being. George (1978) concludes that the long-held relationship between
activity and psychological well-being is questionable, rejecting the Activity Theory. Her findings seem to support the Continuity Theory where activity and psychological well-being tend to be stable over time and related to characteristics that support continuity (personality and social status).

It seems however that the research directed toward the testing of aging theory remains sparse and inadequate, particularly that involving activity and subjective well-being. Even the research that does involve a specific theoretical framework fails to operationalize variables comprehensively and in the terms provided in theory. For instance, Lemon, et al. (1972) examined the Activity Theory, explaining it in depth with regard to self-concept, social role and role loss. Unfortunately, hypotheses related to the theory were tested inadequately, measuring activity by type and frequency, with superficial regard for the meaning of activities related to social roles and no measure of self-concept independent of that included in the Life Satisfaction Index and role supports.

In her testing of the Activity Theory, and in apparent support of the Continuity Theory, George (1978) again measures activity in terms of time spent. Psychological well-being is measured using a single measure of happiness, inconsistent with the historical
measure of life satisfaction. Although personality is measured using a multidimensional personality scale, there is no measure of self-concept or self-esteem as outlined in both the Activity and Continuity theories of aging. Bell (1976) further excludes self-concept as a component of the theory altogether, in addition to measuring role activity in terms of time spent and ignoring the possibility of the exchange of work-related roles for non-work related roles in adjustment.

This researcher used Havighurst and Albrecht's (1953) Role Activity in Later Maturity scale, adapting it from the original interview format to a questionnaire format. In their Prairie City investigation (1953) of 100 people aged 65 and older, these researchers made a major contribution to the scaling of social adjustment (Graney and Graney, 1973). These investigators developed this scale with criterion based on normative evaluations of older peoples' social activities as an objective measure of social adjustment (Havighurst and Albrecht, 1953; Graney and Graney, 1973; Graney, 1982). The instrument has the purpose of measuring activity level in each of 12 specific social roles (within the categories of family relationships, kinship groups, group and individual activities, and community role activities), providing an overall score for role activity. Havighurst and Albrecht define
social role as "a coherent set of activities that is recognized and judged by others as something apart from the individual who happens to fill it" (in Graney, 1982, p. 17-18), and thus is a socially defined set of behaviors expected as part of a role in society separate from the personality of the individual. For example, activities or behaviors expected of a grandparent may include showing interest in grandchildren, hearing from or about them, actively participating with or showing differing degrees of responsibility for grandchildren. Thus, the scale indicates level of activity with regard to specific roles, rather than just in terms of activity frequency.

**Functional Health Status**

Physical health status is a factor commonly studied in the gerontological and subjective well-being literature. Health status among older adults is measured in a variety of ways, including one or a combination of the following: 1) number of diagnosed morbid conditions and medications; 2) activities of daily living and instrumental activities of daily living; 3) health care utilization rates (hospital stays and physician visits; 4) number of days in bed due to illness; 5) single items describing overall health. In addition health status is measured in both
subjective (self-report) and objective (physician-report) terms. The following will present a discussion of older adult functional health status, including, 1) the importance of measuring health status multidimensionally, including the older adult’s health-related functional status; 2) the accuracy of subjective reports of health compared to objective reports of physician; and 3) the relationship with other variables of interest depicted in the gerontological literature.

As indicated above, the gerontological literature presents a variety of ways that physical health status has been measured. Like other variables in this proposed study, this inconsistency of measurement across studies tends to depict an inconsistent and incomplete picture regarding the health status of the older adult population. The critical literature surrounding the physical health status of older adults strongly suggests that this variable is most appropriately measured multidimensionally, in terms that include physical function related to instrumental activities of daily living (IADL’s), self-care and other activities of daily living (ADL’s) (Ouslander and Beck, 1982). This point becomes clear when one considers the difficulty in drawing a clear line between what is health and what is disease or dysfunction. Clearly, unidimensional measures of health
status and those that exclude function, present an incomplete view of this complex variable among older adults (Linn and Linn, 1980; Ware, et al., 1981; Ouslander and Beck, 1982; Kaplan, et al., 1988; Anderson, et al., 1989).

Ouslander and Beck (1982) note the difference in assessing health status among older adults with and without including function as part of the measure. This difference is due to the prevalence of chronic disease and disability among older adults, and the potential effect on day-to-day function and physical performance. Many researchers have measured health status by enumerating chronic conditions alone. Again, the impact that these conditions have on functional abilities and, in turn on perceived health, vary widely across this population, with an equally varied effect on overall subjective well-being. As Anderson, et al. (1989) state, the functional health status of the elderly has been shown to be such a significant predictor of health status, that it is this measure that has most affected the reports of older adult health.

As part of gaining a more accurate picture of the health of older adults, developmental aging theory and specifically the Continuity Theory of Aging require that we view health and age-related changes from a developmental standpoint rather than from one of
decline. Measuring health with regard to age-related chronic disease can only present us with a picture of negative changes that result from increasing levels of disease and disability over time. The use of developmental theory centers around growth, development, and change, viewing aging as a process with the possibility of successful and positive phases of development. The inclusion of function in measuring physical health status, is a valuable indicator of positive outcomes and adaptation in aging as well as an indicator of disability (Ware, et al., 1981).

While not sufficient alone, the literature supports the inclusion of chronic conditions in the measurement of health due to their effect on function and perceived health. Linn and Linn (1980) further add to our understanding of how health status affects subjective well-being. In their older adult study, both current and past heart, circulatory, arthritic, stroke, nervous, and skin conditions were associated with poorer health perceptions. These authors felt that certainly it was those conditions that were either painful or seriously influenced ability to function that affected self-perception of overall health, more so than the morbid nature of the condition.

This is further supported by the White House Conference on Aging (1981) findings that 80 percent of
persons 65 and older have at least one chronic condition, and that multiple chronic conditions are common in this group. It was those conditions more related to dysfunction (arthritis, visual impairment, and hearing impairment), falls and fractures that most affected overall health and survival. While mental disorders were not listed as the most frequently occurring chronic conditions, disorders such as dementia were noted to have the highest ratings for functional impairment. Ouslander and Beck (1982) further note that dementias and urinary incontinence were the conditions most prevalent among institutionalized elderly, prohibiting independent functioning in the community, and prompting family to institutionalize the older adult.

Several authors have discussed and evaluated objective versus subjective measures of health status among the elderly. This literature seems to support the idea that subjective measures or self-assessments of health are as or more reliable in describing older adult health status as more objective measures by physicians or by measuring chronological age alone (Maddox and Douglass, 1973; Ouslander and Beck, 1982; Mossey and Shapiro, 1982; Okun et al, 1984; Zautra and Hempel, 1984; Rakowski and Cryan, 1990).
In an early study of self-assessed health, Maddox and Douglass (1973) completed a sixth interview of 83 older adult subjects for the Duke Longitudinal Study, 15 years following initial interviews. These authors indicate that the study of self-assessed health is important in the later years as "illness is a social as well as physical phenomenon and the existence of a morbid condition does not predetermine a single pattern of response on the part of an individual" (p. 87). Good health generally implies "the absence of debilitating illness that significantly interferes with personal and social functioning, and not necessarily the absence of morbid conditions" (p. 87). Their findings indicated that: 1) there is a persistent, positive congruence of self and physician's rating of health; 2) whenever, there is incongruity, the tendency is for the individual to overestimate their health; 3) substantial stability for both self- and physician-ratings was observed over time with self-rating slightly more stable; and 4) there was a tendency for self-health rating to be a better predictor of future physician-ratings than the reverse.

Linn and Linn (1980) evaluated the measure of health status using objective and subjective measures. These investigators used eight items measuring objective health status (physician visits, number of
medications, days in bed due to illness, and days in the hospital); 17 items for subjective functional health (related to ADL's and IADL's); and, a single item for overall self-rated health. Their results revealed that: 1) age alone is a poor indicator of health status among the elderly.; 2) the older adult's own view of their overall health was predictive of their health status based on objective measures; and 3) using this multidimensional approach to measuring health increased the heterogeneity and variance of health characteristics in the older adult population, particularly for the very old.

In their Manitoba Longitudinal Study of Aging (MLSA), Mossey and Shapiro (1982) used a self-rated health measure as a predictor for mortality, independent of objective health status. This study involved a random sample of non-institutionalized elderly (n>3000). The analysis of MLSA data revealed empirical support for the long held belief that self-perceived health is more predictive of subsequent health outcomes than objective health measures. The gerontological literature also seems to indicate that part of the influence of health on subjective well-being is not simply the direct effect of how people feel physically, but also in what their health allows them to do. As Ouslander and Beck (1982) suggest, older adults value
their independence, which tends to be threatened by changes in functional health status. Hence, those who use disease checklists finding moderate associations with subjective well-being are probably underestimating the relationship that may be revealed with the use of multidimensional measures including function and number of chronic conditions.

Finally, Kaplan, et al. (1988) evaluated self-perceived health as a measure of health status using one question: "Do you consider yourself a healthy, fairly healthy, sick or very sick person?" (p. S115). When compared to other measures of health, these researchers concluded that there was a substantial correlation between subjective health status and self-report of conditions and symptoms of chronic illness, measures of functional health status, and physicians' rating and exams. Self-rated health also tended to be a better predictor of physicians' ratings than the reverse, even with this unidimensional measure. In addition, self-rated health remained an independent predictor of survival, after controlling for age, gender, continent of origin, number of conditions and medications, presence of heart disease, and functional status (number of ADL's able to perform).

Aside from the issues of measurement, health status and functional health status tend to be related
to many variables in the gerontological literature, including subjective well-being, the performance of social role activity, age, social rank, and education. As has already been discussed, Larson (1978) indicates that self-reported health is the best predictive variable of subjective well-being. This has been confirmed repeatedly since Larson's review, with further suggestion regarding how health status is best measured so as to be more descriptive of health and predictive of subjective well-being.

Okun, et al. (1984) conducted a meta-analysis of the published studies prior to 1980 regarding the relationship between subjective well-being and health. Their analysis indicated that health is a significant predictor of subjective well-being, explaining between 27 and 42 percent of the variance depending on the measure of health used and controls for sociodemographic factors (age, education, marital status, occupation, race, SES composite and activity). As a measure, self-perceived functional health status was most predictive of subjective well-being, explaining 37 percent of the variance; compared to self-rated health (single items) without regard to function, which explained 35 percent of the variance. Ratings by others (such as objective reports by physicians) did not have any predictive value related to subjective well-being,
except for number of health problems which explained 34 percent of the variance. This tends to support that an appropriate measure of health status would include self-perceived health, functional status, and the existence of physical health problems for older adults, as all of these health status measures predicted a significant amount of the variance in subjective well-being across studies.

The gerontological research also indicates relationships between functional health status and variables related to social role performance, socioeconomic variables and age. For instance, Osborn (1973) indicated that individuals who are more likely to be of a "blue collar" orientation would be impacted more by perceptions of functional health status due to the importance of physical health to their roles with regard to occupation, family and society. These individuals may be more vulnerable to loss of employment and association effects (cost of medical care) due to fewer financial and nonfinancial resources to meet the challenges of chronic disease. In this study, lower ranked persons who reported serious chronic health problems evaluated their own health as poorer than similar higher ranked persons. Higher ranked, or more "white collar" individuals tended to have resources that buffer their perception of health
and subjective well-being. With the onset of chronic disease higher ranked persons may find it less difficult to stay in the labor force, meet the costs of medical care, and retire due to chronic disease. It is interesting to note that Osborn reported less difference in perceived health for those with less serious health problems, and no difference in disease distributions between lower and higher social ranks.

Socioeconomic status, as measured in terms of education and income, seems to effect the perception of health and functional impairment. Rakowski and Cryan (1990) report that those with more education tended to rate a more favorable health perception among older adults aged 55 to 64 and 65 to 79 years. Furthermore, Ouslander and Beck indicate that "the proportion of elderly who consider themselves in good health rises with income, and functional impairment declines" (p.72). Again it would seem that social standing tends to affect health status and how older adults perceive their function.

Rakowski and Cryan (1990) used data from the 1984 Supplement on Aging to the NHI Interview Survey to determine the associations among five health perceptions and two indices of functional health status for three age groups among the elderly (55 to 64 years, 65 to 79 years, and 80 plus years). They found that
"greater functional impairment was associated with less favorable health perceptions in all three age groups" (p. 58), when functional impairment was measured using an index of endurance, stamina and coordination (ESC), and an index of difficulty with ADL's and IADL's. Interestingly, they found the strongest negative association between impairment and health among those aged 55 and 64 years. This would seem logical as those in the younger group might not expect to be affected with health-related impairment as suggested by age-related norms, and would view impairment more negatively.

In conclusion, the gerontological literature seems to support not only the multidimensional measurement of health status including function as a dimension, but also the measurement of health from the older adult's view through self-rating. In addition, this literature tends to support the inclusion of functional health status in the proposed model for this study, as it is related to both subjective well-being and level of role activity among older adults.

**Summary and Conclusions**

One problem in the gerontological research regarding subjective well-being is that it tends to be applied in nature, rather than theoretically based. What research has resulted, provides us with a
relatively unclear and often inconsistent picture of successful aging. As is proposed in this study, it is important to gather evidence to strengthen the knowledge base about a specific social theory of aging. As Hooyman and Kiyak (1988) indicate, while theories exist, they tend to be descriptive rather than explanatory and have not been tested sufficiently to be rejected or provide information for accurate prediction of individual behavior.

The literature seems to indicate that a relationship exists between role activity among older adults and their subjective well-being (Rosow, 1967; Larson, 1978). Self-esteem has been implicated as an intervening variable in this relationship (Kimmel, 1990). However, studying this phenomenon has been termed difficult, with no conclusive results. This may be due to the complexity of all three variables and a lack of consistency in measuring these multidimensional concepts. This study tested the theoretical framework of Atchley’s Continuity Theory of Aging (1989), to determine its effectiveness in explaining the relationships among subjective well-being, role activity, self-esteem and functional health status. These variables were measured multidimensionally using a diverse sample of older adults who varied with regard to health, socioeconomic status, race and age.
CHAPTER III

PROCEDURES

Research Design

This study involved an ex post facto research approach, with a static-group-comparison research design. This design examines variables that have occurred in a natural setting and cannot be created in an experiment, and is the design of choice for ex-post facto research (Campbell & Stanley, 1966). Data were collected by self-report instruments, in the form of a questionnaire.

Subject Selection

The target study population included older adults who varied with regard to age, gender, socioeconomic status, race and marital status. The accessible population involved older adults who attend Life Care Alliance, Senior Dining Centers in Franklin County, Ohio. A cluster sampling of the 29 Senior Dining Centers was selected by the director of the meal program, involving a total of 10 centers. This sampling method was chosen due to a lack of access to a mailing
list of older adults who attend the meal program. It was the researcher's intention to study older adults from diverse geographic locations within Franklin County, including a representation of black older adults. It was estimated from daily attendance records that dining center attendance at the 10 sites ranged from 25 to 60 older adults depending upon the site. An alphabetical list of Senior Dining Centers in the sample and map of Dining Center locations in Franklin County, Ohio is provided as Appendix A.

Eligibility was based upon subject age (≥ 50 years), ability to understand and speak English, and attendance on the specific day of data collection for each selected meal site. An initial contact was made with the individual dining center coordinators, to introduce them to the study and its purposes, to become familiar with the circumstances of each site, and to schedule the specific date and time for data collection. On the scheduled day of data collection, the researcher requested voluntary participation of older adults attending the noon meal program.

Therefore, this study involved a convenience, cluster sample of older adults. The necessary total subject response for the purposes of statistical analysis was estimated at n=160, or 20 subjects for each tested variable (independent and control
variables, plus one). A letter of approval of this research by Life Care Alliance is included as Appendix B.

**Measures**

Written permission was sought and received for the use of all measures to be included in this study. Letters of permission have been included as Appendix C. A copy of each of the following measures is included as Appendix D.

**Subjective Well-being**

The dependent variable, subjective well-being, was measured by using the Current HIS Mental Health Battery: General Well-being (Current HIS-GWB; Appendix D). The instrument was originally designed to measure the effects of different health care financing arrangements on the health status of the population (including older adults) in the Rand Health Insurance Study, with health status operationally defined as general well-being. This instrument consists of 38 items, grouped into six summated subscales representing anxiety, depression, positive-well-being, self-control, general health, and vitality (Ware, et al, 1987). These subscales were formed by examining the content of accepted tools for measuring well-being. The intent was to include both positive and negative states or aspects
most often associated with and/or used to determine mental health and general well-being.

The authors of the **HIS-GWB** developed the subscales by examining, comparing and including the content of many accepted tools, retaining items that best measured each subscale without redundancy. The item groupings that were hypothesized to define the summated rating scales measuring the six constructs for general well-being were tested by subjecting them to the criteria of multi-trait scaling. Multi-trait scaling was used to test both the internal consistency of the hypothesized summated rating scales and the discriminant validity of items in those scales. It was determined that the criterion was satisfied for all six subscales, correcting for overlap between items.

The tool that was used in this study is Form E, including 38 of 46 items. Face validity for content of all items was judged to be adequate by the authors of the original instrument. Eight items testing for social desirability of response have been eliminated in this study because 1) they were not part of or important to validity and reliability studies; and 2) it was felt that they were potentially offensive in content and might reduce response.

Two methods were used to estimate the reliability of the **HIS-GWB** scales. First, Ware, et al (1987) report
an ample internal-consistency reliability coefficient for the Current HIS-GWB, with values above .90.
Further, test-retest estimates of reliability tend to range from .70 to .80, depending upon the time between administration. The trend suggests that stability is best during periods of up to one month.

Self-Esteem

The independent variable of older adult self-esteem was measured using Rosenberg’s Self-Esteem Scale. This instrument contains ten items along a likert-type, four-point scale of agreement to disagreement. All original items were included in this investigation. Silber and Tippett reported correlations ranging from .65 to .83, demonstrating acceptable construct validity for this instrument with similar measures and clinical ratings of self-esteem (in Breytspraak and George, 1982). In addition, Rosenberg reported a reproducibility coefficient of .92 and a scaleability coefficient of .72 (in Breytspraak and George, 1982). Silber and Tippett report a test-retest correlation of .85 for this scale. As suggested by Ward (1977), scores to total self-esteem were determined by assigning a score of 1 to 4 points for each item, where 4 represents highest agreement for each item. The mean for all items was the individual’s self-esteem score,
with a possible range of 1 to 4 (Breytspraak and George, 1982).

**Role Activity**

Older adult social role activity was measured using the interview scale devised by Havighurst and Albrecht (1953), *Role Activity in Later Maturity* (Appendix D), adapted for use in this study as a questionnaire. The original interview scale was designed to assess older adults' degree of activity in 12 separate roles, within the categories of family relationships, kinship groups, group and individual activities, and in community role activities, in an effort to test the Activity Theory of Aging. Content validity was established through ratings by a 12-judge panel of experts. Test-retest reliability averaged .90 across eleven of the twelve items. The scales were found to be usable on older populations (Graney, 1982). Respondent's score is calculated by computing the arithmetic mean for the twelve items, with a possible range of 0 to 9. Face validity, readability, and reliability with regard to internal consistency will be determined with the pilot study.

This instrument was revised for use as a questionnaire, by creating 12 items in a horizontal numerical rating scale format, with detailed
instructions for completing the scale. Each item was designed to give the respondent the choice of response from zero to ten, with examples of the level of activity that would be represented by level zero, five and ten below the numerical scale. Items related to being a great-grandparent, grandparent, parent, spouse or significant other, relative, friend, employee, and that related to home responsibility offered a "Does not apply to me" response choice. The score for this scale involved the mean for the 12 items, with a possible range of zero to 10.

Functional Health Status

The Self-Evaluation of Life Function (SELF) Scale, designed by Linn and Linn (1984), was chosen to measure physical, functional health status. In its entirety, the SELF-Scale covers three major areas of functional health, including physical, psychological and social. The psychological and social subscales were been deleted for use in this study due to significant overlap with items in the HIS-GWB, Self-Esteem, and Role Activity measures.

In their Health Assessment of Older American's Study, Hawkins, et al. (1988) used the SELF-Scale in its entirety to study physical as well as other health dimensions (emotional and social). These authors stated
that the "scale is recommended when a comprehensive, relatively short, self-report assessment of health status is needed for screening or research purposes" (p. 346). Specifically, the physical subscale (Appendix D) measures functional abilities related to activities of daily living (ADL's) and instrumental activities of daily living (IADL's), as well as self-health assessment, and objective measures of health (pain, current medical diagnoses and medications, and number of days in bed and hospital/extended care facilities due to illness). This component of the scale seems to include all categories of physical health deemed important in the literature, and specifically cited in the meta-analysis studies of Larson (1978) and Okun, et al. (1984). The subject's score on this measure involves the mean of the 17 items, with a possible range of one to four, where one represents low level of physical disability and thus higher levels of health. These items were recoded to reverse this scale, where four would represent higher levels of functional health.

**Demographic Variables**

Several items were included to gain information regarding the demographic characteristics of the older adult population being studied, including: age, gender,
marital status, race and socioeconomic status (SES) (Appendix D). SES was measured using Hollingshead's Two-factor Index of Social Position, which includes highest educational level attained (six ranked levels) and life-time occupation (seven ranked levels) (Hollingshead and Redlich, 1958). The respondent's score for SES was computed as recommended by Hollingshead, by summing the occupation score multiplied by nine with the education score multiplied by five.

In addition, the Life Care Alliance staff requested the inclusion of three items for their information, including 1) the older adult's main source of transportation; 2) their primary source of help in an emergency; and, 3) their reasons for attending the Senior Dining Center meal program.

Pilot Study of the Instrument

The instrument in its entirety was reviewed with the director and two other staff members of the Senior Dining Center Program prior to the pilot study. The instrument was approved by this panel regarding length, print size and style (Helvetica, bold, 14 pt.), item wording, and paper color (canary yellow).

A pilot study was conducted for the entire questionnaire prior to conducting this research.
Several concerns were addressed in the pilot study, including: 1) face validity, readability and internal consistency of the survey instrument for this population; 2) careful examination of the Role Activity Scale, in its revised format; 3) procedures for collecting data from those older adults who have difficulty reading the questionnaire due to illiteracy or poor eye sight; 4) management of data collection with regard to physical facilities, staff and confines of the time allotted for the noon program and transportation schedule; and 5) decision rules for the elimination of responses that are unusable for meaningful analysis.

The director of the Life Care Alliance, Senior Dining Center Program selected one site to serve as a pilot group, whose usual attendance was at least 15 older adults. The actual pilot study was conducted on March 8, 1994, resulting in 13 usable questionnaires from 15 returned survey instruments. The pilot respondents took between 20 and 30 minutes to complete the survey, even when it was read to them. Two aspects of the questionnaire were altered to ease completing the questionnaire. First, several participants voiced some difficulty with completing the Role Activity Scale, asking clarifying questions and making suggestions for its improvement. From these
discussions, revisions were made to the directions and the format of the tool. No revisions were deemed necessary to actual item content. Second, additional response choices were added to demographic items 7 and 8. The revised survey instrument in its entirety is included as Appendix E.

Pilot study results including statistics for internal consistency, central tendency and variation are listed in Table 1. Cronbach alphas were computed for the four scales in the questionnaire, representing acceptable levels of internal consistency: 1) Subjective well-being, $\alpha = .935$; 2) Self-esteem, $\alpha = .813$; 3) Role activity, $\alpha = .708$; and, 4) Functional health status, $\alpha = .788$.

When considering conditions of testing, the researcher's original intent was to read the questions in group fashion to those with sensory or literacy deficits. However, it was determined to be necessary with regard to obtaining accurate responses to read the questionnaire individually to such respondents. Thus, the conditions of testing as originally proposed were revised to involve more readers, so that all older adults would have the opportunity to participate. A recruitment and training plan was devised in response
Table 1

Pilot Study Results Including Statistics for Internal Consistency, Central Tendency and Variation

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach's alpha</th>
<th>Mean</th>
<th>SD (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Well-Being</td>
<td>.935</td>
<td>4.291</td>
<td>.756 (2.84 - 5.39)</td>
</tr>
<tr>
<td>Role Activity</td>
<td>.708</td>
<td>4.795</td>
<td>.926 (3.17 - 6.33)</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.813</td>
<td>3.077</td>
<td>.531 (2.10 - 4.0)</td>
</tr>
<tr>
<td>Functional Health Status</td>
<td>.788</td>
<td>3.448</td>
<td>.312 (2.82 - 3.82)</td>
</tr>
</tbody>
</table>
to pilot findings.

**Conditions of Testing**

The researcher was present at the selected Life Care Alliance, Senior Dining Centers during a scheduled noon meal for each site. The following procedures and time of data collection were prearranged with the director of this program and the site coordinators. Once those older adults attending the noon meal at selected sites arrived, the site coordinator introduced the researcher. At that time, the researcher explained the following in a verbal address: 1) the intent of the research and the research problem; 2) eligibility for participation; 3) the voluntariness of participation; 4) the lack of any consequence in their meal eligibility based on their decision to participate or not to participate; 5) the assurance of anonymity of response; and 6) the nature and duration of participation. The verbal address is included as Appendix F. This procedure was felt to be necessary to reduce any perception of coercion, and to gain honest self-report responses from this group of older adults. Following this explanation the researcher provided a period for clarification, questions or concerns regarding the research and procedures. Consent to participate in this research was based upon the older adult completing a
questionnaire. As eligible subjects voluntarily agreed to participate in this research, each one received a questionnaire with an enclosed cover letter and pencil.

Those older adults who expressed the need for assistance or were identified as having difficulty in completing the questionnaire, either due to inability to see, read, or write, were assisted by having the questionnaire read to them and/or marking their answers for them. This was done either by one of five research assistants or the researcher. The five research assistants attended a two hour training session prior to the start of the research including 1) an introduction to the study and the questionnaire format; 2) a discussion of older adult characteristics and needs, with an emphasis on the need for confidentiality, and how to interact with those affected by hearing and sight impairment; 3) instruction on how to read and record both open- and closed-ended survey questions, with specific emphasis on reading the questions word-for-word, without elaboration; and 4) supervised role-play experience in reading and recording questionnaire responses.

Completion of the questionnaire occurred prior to the completion of the meal. Respondents were instructed to return their completed questionnaire to a marked box placed near the exit for their convenience. Collection
was handled in this fashion to reduce any perception of coercion, to reinforce the perception of anonymity, and to minimize non-response. The researcher recorded the total number of older adults actually present at the noon meal for each site, the number of questionnaires distributed to older adults, and the number of older adults who agreed to participate by returning a completed questionnaire.

Approval by The Ohio State University, Human Subjects Review was sought and received, given the above measures and conditions of testing. Human Subjects Approval is included as Appendix G.

**Data Analysis**

Data were analyzed using the Statistical Package for the Social Sciences (SPSSx) on The Ohio State University main computer system. The level of significance for this study was established a priori at $\alpha < 0.05$. Individual scores were computed for the following variables: 1) subjective well-being; 2) self-esteem; 3) role activity; and, 4) functional health status.

Frequency distributions and appropriate descriptive statistics were computed for all data. Individual summary scores were determined for each scale used within the questionnaire, including subjective well-being, self-esteem, role activity, and
functional health status. Mean and standard deviation scores were computed for the group using the summary scores on each of the likert and numerical-rating scale tools. Descriptive statistics for the demographic items included frequency scores and modes for the nominal items (gender, marital status, race) and median and ranges for the ordinal scaled items (education and occupation), and mean and standard deviation for interval/ratio scaled items (age and SES). Marital status was recoded, where "0" represented married and never married, and "1" represented divorced and separated older adults. Race was coded, where "0" represented black race, and "1" represented white race.

The following statistical analysis was designed to examine the Continuity Theory of Aging by testing specific statistical hypotheses, in addition to answering the research question posed in this study:

**Statistical Hypotheses**

1. An inverse or no relationship will exist between the older adult’s level of subjective well-being and role activity.

2. An inverse or no relationship will exist between the older adult’s level of subjective well-being and self-esteem.

3. An inverse or no relationship will exist between the older adult’s level of subjective well-being and their functional health status.
4. An inverse or no relationship will exist between the older adult's level of role activity and self-esteem.

5. An inverse or no relationship will exist between the older adult's functional health status and their self-esteem.

6. No significant proportion of the variance in subjective well-being will be explained by a linear combination of the tested independent variables.

Research Question

1. Are there any relationships between race and the following variables when age and SES are controlled: subjective well-being, self-esteem, functional health status, or role activity?

Pearson partial correlation values (pr) were computed to determine the direction and magnitude of relationships between the dependent variable and each of the independent variables, and between the independent variables, while controlling for the above demographic variables. This correlational analysis was performed to determine whether associations exist between subjective well-being and the independent variables, and among the independent variables, in order to evaluate stated hypotheses one through five.

A two-step multiple regression analysis was utilized to test hypothesis six. Step-one involved the simultaneous entry of all independent and control variables. Step-two involved the simultaneous entry of
all control variables, with the subsequent hierarchical entry of independent variables, based upon the examination of Step 1 Betas. In this way, it is felt that the best linear combination of independent variables explaining the greatest proportion of variance in the dependent variable of subjective well-being would be determined, given the variables measured in this study. The researcher examined the data for violation of assumptions related to using multiple regression analysis by testing the following: 1) multicollinearity between the independent variables; and 2) residuals for normality, independence and homoscedasticity.
CHAPTER IV
RESULTS

This ex post facto, static-group-comparison study was designed to investigate role activity, self-esteem and functional health status, as these variables relate to the subjective well-being of older adults. Data were collected from a cluster and convenience sample of older adults who attended Life Care Alliance, Senior Meal Centers from May 10 through June 10, 1994. Presentation of results of the data analysis, and interpretation of the data obtained by the methods described in the previous chapter, are discussed in this chapter. This presentation includes a description of the older adult demographic characteristics, and results of hypothesis testing. The findings are organized in tables.

Description of the Responding Sample

Table 2 organizes the frequencies of sampling and response by Senior Dining Center, numerically coded for location. There was a cluster sample of 284 older adults attending the ten selected Senior Dining Centers
# Table 2

**Frequencies of Sampling and Response by Senior Dining Center Numerically Coded for Location**

<table>
<thead>
<tr>
<th>Dining Center</th>
<th>Cluster Sample n</th>
<th>Eligible n</th>
<th>Accepting Sample n</th>
<th>Data Sample n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27</td>
<td>23</td>
<td>16</td>
<td>16 (100%)</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>24</td>
<td>24</td>
<td>24 (100%)**</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>31</td>
<td>19</td>
<td>18 (94.7%)</td>
</tr>
<tr>
<td>4</td>
<td>41</td>
<td>27</td>
<td>21</td>
<td>19 (90.5%)</td>
</tr>
<tr>
<td>5</td>
<td>24</td>
<td>24</td>
<td>19</td>
<td>19 (100%)</td>
</tr>
<tr>
<td>6</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23 (100%)</td>
</tr>
<tr>
<td>7</td>
<td>24</td>
<td>24</td>
<td>20</td>
<td>20 (100%)</td>
</tr>
<tr>
<td>8</td>
<td>29</td>
<td>29</td>
<td>23</td>
<td>23 (100%)</td>
</tr>
<tr>
<td>9</td>
<td>25</td>
<td>25</td>
<td>15</td>
<td>15 (100%)</td>
</tr>
<tr>
<td>10</td>
<td>35</td>
<td>24</td>
<td>15</td>
<td>15 (100%)**</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
<td><strong>254</strong></td>
<td><strong>195</strong></td>
<td><strong>191 (97.9%)</strong></td>
</tr>
</tbody>
</table>

*Percent response from accepting sample.

**One of those returned was incomplete so as to be unusable.
on the dates of data collection. A total of 254 were eligible for participating in the study based on preestablished eligibility criteria. A total accepting sample of 195 older adults agreed to complete questionnaires, with 189 actually responding by returning the completed questionnaire and making up the data sample. The data sample thus comprised 74.4 percent of the eligible convenience sample, and 96.9 of the accepting sample. A total of 73 older adults or 38.2 percent of the responding sample requested and received assistance in completing the survey instrument.

Of those questionnaires returned, two had been deemed unusable as respondents answered only a few questions. Non-respondent (n=4) characteristics with regard to age, marital status, gender, race and dining center location were examined. All of the non-respondent older adults were white, widowed females in their late 70's to early 80's. These characteristics are similar to the majority of respondents in this study. There did not seem to be any systematic differences among non-respondents with regard to dining center location.

Frequency distributions for responding older adult demographic characteristics are organized in Table 3 including age, gender, race and marital status. The
mean age (Table 3) for this sample of older adults was 76.1 years, with a standard deviation of 8.79 years. The sample varied in age from 53 to 94 years, with the majority of respondents (73.3%) being between 65 and 84 years. Only two percent (n=3) were younger than 60 years. The majority of these older adults were female (n=128; 69.2%), and widowed (n=101; 54.9%). The majority of respondents were also white (n=161; 85.2%), with the remaining respondents reporting black race. No respondents reported being of Hispanic, Asian/Pacific Island, Native or Alaskan American origin.

An analysis of variance procedure was applied to the data to determine whether significant differences existed between group subjective well-being based upon marital status. Findings indicated no difference between married (mean=4.86, n=49), divorced (mean=4.44, n=17), widowed (mean=4.49, n=96), and never-married (mean=4.50, n=15) older adults, with F_{3,173}=2.52 at p=.06. This variable was subsequently recoded with "0" representing divorced and widowed, and "1" representing married and never-married based on Weingarten and Bryants' (1987) suggestion that marrieds and never-marrieds were similar with regard to subjective well-being.
Table 3

Frequency Distributions for Responding Older Adult Demographic Characteristics

<table>
<thead>
<tr>
<th>Age (in years)*</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>53 - 64</td>
<td>15</td>
<td>8.5</td>
</tr>
<tr>
<td>65 - 74</td>
<td>62</td>
<td>35.3</td>
</tr>
<tr>
<td>75 - 84</td>
<td>67</td>
<td>38.0</td>
</tr>
<tr>
<td>≥ 85</td>
<td>32</td>
<td>18.2</td>
</tr>
<tr>
<td>Total</td>
<td>176</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>57</td>
<td>30.8</td>
</tr>
<tr>
<td>Female</td>
<td>128</td>
<td>69.2</td>
</tr>
<tr>
<td>Total</td>
<td>185</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>161</td>
<td>85.2</td>
</tr>
<tr>
<td>Black</td>
<td>28</td>
<td>14.8</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>51</td>
<td>27.7</td>
</tr>
<tr>
<td>Divorced</td>
<td>17</td>
<td>9.2</td>
</tr>
<tr>
<td>Widowed</td>
<td>101</td>
<td>54.9</td>
</tr>
<tr>
<td>Never Married</td>
<td>15</td>
<td>8.2</td>
</tr>
<tr>
<td>Total</td>
<td>184</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*mean=76.1; sd=8.79; range=53-94
Table 4 displays the grouped frequency distribution organizing educational and occupational status of older adults by Hollingshead’s Classification. The data indicate that the majority (75.2%) held at least a high school diploma (classification 3 through 6), with 31 percent reporting at least some college experience (classification 4 through 6). Only 7.8 percent (n=14) held a college, graduate or professional degree (classifications 5 and 6). Data describing occupational characteristics in this sample indicate that the majority of respondents (n=94; 55.6%) reported usual occupations that were classified as skilled (classification 3) or clerical/sales work (classification 4). Nineteen respondents (11.3%) were classified as having participated in either major or lesser professional occupations (classification 7 and 6, respectively). It must be noted that only 169 valid cases were counted for this item. It is presumed that the majority of those who did not respond to this item were those who were completing the questionnaire independently, and either did not respond as they considered themselves retired and unemployed, or were housewives who did not consider this to have been an occupation.

Table 5 lists the frequency distribution for older adults’ class status according to Hollinghead’s Two-
Table 4

Grouped Frequency Distribution Organizing Educational and Occupational Status of Older Adults by Hollingshead's Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Education</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grade School (&lt;7 years)</td>
<td>21</td>
<td>11.6</td>
</tr>
<tr>
<td>2</td>
<td>Jr High School (7-9 years)</td>
<td>24</td>
<td>13.2</td>
</tr>
<tr>
<td>3</td>
<td>High School Graduate</td>
<td>80</td>
<td>44.2</td>
</tr>
<tr>
<td>4</td>
<td>Some College or Vocational Training</td>
<td>42</td>
<td>23.2</td>
</tr>
<tr>
<td>5</td>
<td>4-Year College Degree</td>
<td>5</td>
<td>2.8</td>
</tr>
<tr>
<td>6</td>
<td>Graduate or Professional Degree</td>
<td>9</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>181</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification</th>
<th>Occupation</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unskilled worker</td>
<td>16</td>
<td>9.5</td>
</tr>
<tr>
<td>2</td>
<td>Semiskilled worker</td>
<td>28</td>
<td>16.6</td>
</tr>
<tr>
<td>3</td>
<td>Skilled worker</td>
<td>46</td>
<td>27.2</td>
</tr>
<tr>
<td>4</td>
<td>Owner of little business, Clerical/Sales worker, Technician</td>
<td>48</td>
<td>28.4</td>
</tr>
<tr>
<td>5</td>
<td>Administrative personnel of large concern, Owner of small independent business, semiprofessional</td>
<td>12</td>
<td>7.1</td>
</tr>
<tr>
<td>6</td>
<td>Managers/Proprietors of medium size business, Lesser professional</td>
<td>17</td>
<td>10.0</td>
</tr>
<tr>
<td>7</td>
<td>Executives/Proprietors of large concerns, Major professional</td>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>169</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 5

Frequency Distribution for Older Adults' Class Status According to Hollinghead's Two-Factor Indicator of Social Position

<table>
<thead>
<tr>
<th>Class</th>
<th>Range of Scores</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>14 - 31</td>
<td>30</td>
<td>15.87</td>
</tr>
<tr>
<td>II</td>
<td>32 - 45</td>
<td>71</td>
<td>37.57</td>
</tr>
<tr>
<td>III</td>
<td>46 - 54</td>
<td>40</td>
<td>21.16</td>
</tr>
<tr>
<td>IV</td>
<td>55 - 73</td>
<td>31</td>
<td>16.40</td>
</tr>
<tr>
<td>V</td>
<td>74 - 93</td>
<td>17</td>
<td>8.99</td>
</tr>
</tbody>
</table>

*Hollinghead's Two-Factor Indicator of Social Position: mean=45.72, sd=16.33, range=14-93.*
Factor Indicator of Social Position. When the education and occupation classifications were combined mathematically to form individual scores, the mean for this sample was 45.72, with a standard deviation of 16.33 and scores ranging from 14 to 93. Those who reported themselves to be housewives or homemakers, and those who did not respond were recoded using mean-substitution. Class position was determined as recommended by Hollingshead and Redlich (1958), where the frequency distribution of weighted scores was examined for score clusters. It was assumed that where there was heterogeneity in the scale score frequency distribution, a cut point could be made to separate class score ranges. In doing so, it was determined that 53.44 percent of respondents \((n=101)\) fell into the two lowest class ranges.

Table 6 organizes the frequency distribution of overall health rating reported by older adults, given their responses to the first item of the physical health component of the \textit{SELF-Scale}. Slightly over 80 percent \((n=152;81.3\%)\) reported that they considered their health to be either "good" or "very good" over the past month. Sixteen percent \((n=30)\) of subjects rated their health as "poor", with only five subjects \((2.7\%)\) reporting their health to be "very poor". When
Table 6

Frequency Distribution of Overall Health Rating Reported by Older Adults

<table>
<thead>
<tr>
<th>Rating</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
<td>35</td>
<td>18.7</td>
</tr>
<tr>
<td>Good</td>
<td>117</td>
<td>62.6</td>
</tr>
<tr>
<td>Poor</td>
<td>30</td>
<td>16.0</td>
</tr>
<tr>
<td>Very Poor</td>
<td>5</td>
<td>2.7</td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
<td>100.0</td>
</tr>
</tbody>
</table>

mean=2.973, sd=.049, range=1.0-4.0
descriptive statistics were computed for this single item, the mean response was 2.973, with a standard deviation of .049.

Table 7 lists frequency distributions of older adults who function independently for ADL's and IADL's, given responses to the physical health component of the SELF-Scale. Older adults in this sample were most often able to perform daily self-care tasks related to appearance and dressing independently (94 and 96 percent, respectively). They less frequently reported being able to walk without help and get to the bathroom on time, although still accounting for the majority of respondents (76 and 64 percent, respectively). When considering their ability to perform IADL's independently, older adults were most frequently able to use the telephone (including looking up numbers) independently (n=173; 91.5%). The majority were also able to get to places not within walking distances (n=141; 75%), shop for groceries and clothing (n=132; 70.2%), and handle their own money (n=156; 83.4%). Only about half of respondents (n=102; 54.3%) reported the ability to do most chores (ex., housecleaning, gardening and cooking) independently.
<table>
<thead>
<tr>
<th>Activity</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADL’s</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressing Self</td>
<td>182</td>
<td>96.3</td>
</tr>
<tr>
<td>Caring for Appearance</td>
<td>178</td>
<td>94.2</td>
</tr>
<tr>
<td>Bathing</td>
<td>167</td>
<td>88.4</td>
</tr>
<tr>
<td>Walking</td>
<td>143</td>
<td>76.1</td>
</tr>
<tr>
<td>Getting to the Bathroom on Time</td>
<td>120</td>
<td>63.8</td>
</tr>
<tr>
<td><strong>IADL’s</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of the Telephone</td>
<td>173</td>
<td>91.5</td>
</tr>
<tr>
<td>(including looking up numbers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handling Own Money</td>
<td>156</td>
<td>83.4</td>
</tr>
<tr>
<td>Getting to Places Not Within Walking Distance</td>
<td>141</td>
<td>75.0</td>
</tr>
<tr>
<td>Shopping for Groceries and Clothes</td>
<td>132</td>
<td>70.2</td>
</tr>
<tr>
<td>Doing Most Chores</td>
<td>102</td>
<td>54.3</td>
</tr>
</tbody>
</table>
Table 8 displays frequency distributions for older adult responses related to physical pain, physical handicap limitations, number of days sick in bed, and number of days in the hospital or nursing home. The majority of respondents (n=136; 72.4%) indicated that they experienced either no or mild physical pain over the past month. Only fourteen older adults (7.4%) reported having considerable physical pain over the past month. When asked if they had any physical handicap that limits their daily activities, half of respondents (n=94; 50%) indicated "no, none", and slightly more than 40 percent (n=78; 41.5%) reported some limitation with daily activity. Only four respondents (2%) reported severe limitation of daily activities.

Older adults were also asked to indicate how many days during the past month they had spent sick in bed, and in the hospital or nursing home (Table 8). The vast majority of respondents (n=173; 91.5%) indicated having spent no days in sick in bed during the past month. Only three older adults (1.6%) reported spending eight or more days sick in bed over the past month. When asked how many days were spent in the hospital or nursing home, an even greater proportion (n=181; 95.8%) reported spending no days in the hospital or nursing
Table 8

Frequency Distributions for Older Adult Responses Related to Physical Pain, Physical Handicap Limitations, Number of Days Sick in Bed, and Number of Days in the Hospital of Nursing Home (n=188)

<table>
<thead>
<tr>
<th>How much physical pain have you had over the past month?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>59</td>
<td>31.4</td>
</tr>
<tr>
<td>Mild</td>
<td>77</td>
<td>41.0</td>
</tr>
<tr>
<td>Moderate</td>
<td>38</td>
<td>20.2</td>
</tr>
<tr>
<td>Considerable</td>
<td>14</td>
<td>7.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you have any physical handicap that limits your daily activities?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, none</td>
<td>94</td>
<td>50.0</td>
</tr>
<tr>
<td>Some</td>
<td>78</td>
<td>41.5</td>
</tr>
<tr>
<td>Much</td>
<td>12</td>
<td>6.4</td>
</tr>
<tr>
<td>Severe</td>
<td>4</td>
<td>2.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During the past month, how many days have you been sick in bed?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>173</td>
<td>91.5</td>
</tr>
<tr>
<td>1 to 7 days</td>
<td>13</td>
<td>6.9</td>
</tr>
<tr>
<td>8 to 14 days</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>15 days or more</td>
<td>2</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During the past month, how many days have you been in the hospital or nursing home?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>181</td>
<td>95.8</td>
</tr>
<tr>
<td>1 to 7 days</td>
<td>5</td>
<td>2.6</td>
</tr>
<tr>
<td>8 to 14 days</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>15 days or more</td>
<td>1</td>
<td>.5</td>
</tr>
</tbody>
</table>
home over the past month. Only two older adults (1%) indicated having spent eight or more days in the hospital over the past month.

Table 9 organizes frequency distributions of current medical conditions reported by older adults. The respondents were asked to indicate, from a list of 20 possible responses, which medical conditions currently affected them as identified by their doctor. Respondents were able to circle as many conditions as applied to them. The most frequently reported conditions affecting respondents were high blood pressure (n=85; 46.2%) and arthritis (n=74; 40.2%). Conditions indicated other than those originally listed include glaucoma (n=6), pneumonia (n=1), HIV-positive status (n=1), esophageal ulcers (n=1), fibrositis (n=1), prostate trouble (n=1), blindness (n=3), back pain (n=2), black lung disease (n=2), inflammatory bowel disease (n=1), injuries from a fall (n=1), general pain (n=1), hypercholesterolemia (n=2), gout (n=1) sleep apnea (n=1), and eye problems (n=2).

Table 10 displays frequency distributions of current medications reportedly consumed by older adults. The most frequently taken medications among this sample include those for high blood pressure (n=81; 44.0%) and arthritis (n=60; 32.6%). Older adults
Table 9

Frequency Distribution of Current Medical Conditions Reported by Older Adults (n=184)

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High blood pressure</td>
<td>85</td>
<td>46.2</td>
</tr>
<tr>
<td>Arthritis</td>
<td>74</td>
<td>40.2</td>
</tr>
<tr>
<td>Heart condition</td>
<td>61</td>
<td>33.2</td>
</tr>
<tr>
<td>Circulation problems</td>
<td>41</td>
<td>22.3</td>
</tr>
<tr>
<td>Cataracts</td>
<td>36</td>
<td>19.6</td>
</tr>
<tr>
<td>Diabetes</td>
<td>32</td>
<td>17.4</td>
</tr>
<tr>
<td>Urinary problems</td>
<td>28</td>
<td>15.2</td>
</tr>
<tr>
<td>Emotional problems</td>
<td>26</td>
<td>14.1</td>
</tr>
<tr>
<td>Skin problems</td>
<td>24</td>
<td>13.0</td>
</tr>
<tr>
<td>Emphysema or Bronchitis</td>
<td>22</td>
<td>11.9</td>
</tr>
<tr>
<td>Anemia</td>
<td>15</td>
<td>8.2</td>
</tr>
<tr>
<td>Hernia</td>
<td>13</td>
<td>7.1</td>
</tr>
<tr>
<td>Cancer</td>
<td>11</td>
<td>6.0</td>
</tr>
<tr>
<td>Stomach ulcers</td>
<td>11</td>
<td>6.0</td>
</tr>
<tr>
<td>Stroke</td>
<td>10</td>
<td>5.4</td>
</tr>
<tr>
<td>Gall bladder problems</td>
<td>8</td>
<td>4.3</td>
</tr>
<tr>
<td>Kidney disease</td>
<td>7</td>
<td>3.8</td>
</tr>
<tr>
<td>Broken bones</td>
<td>4</td>
<td>2.2</td>
</tr>
<tr>
<td>Parkinson's disease</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>Liver disease</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td>Other</td>
<td>29</td>
<td>15.7</td>
</tr>
<tr>
<td>None</td>
<td>14</td>
<td>7.6</td>
</tr>
</tbody>
</table>
Table 10
Frequency Distribution of Current Medications
Reportedly Consumed by Older Adults
(n=184)

<table>
<thead>
<tr>
<th>Medication</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>High blood pressure pills</td>
<td>81</td>
<td>44.0</td>
</tr>
<tr>
<td>Arthritis medication</td>
<td>60</td>
<td>32.6</td>
</tr>
<tr>
<td>Heart pills</td>
<td>56</td>
<td>30.4</td>
</tr>
<tr>
<td>Water pills</td>
<td>46</td>
<td>25.0</td>
</tr>
<tr>
<td>Pain killers</td>
<td>34</td>
<td>18.5</td>
</tr>
<tr>
<td>Pills or shots for diabetes</td>
<td>29</td>
<td>15.8</td>
</tr>
<tr>
<td>Laxatives</td>
<td>26</td>
<td>14.1</td>
</tr>
<tr>
<td>Tranquilizers</td>
<td>26</td>
<td>14.1</td>
</tr>
<tr>
<td>Stomach medication</td>
<td>23</td>
<td>12.5</td>
</tr>
<tr>
<td>Thyroid pills</td>
<td>23</td>
<td>12.5</td>
</tr>
<tr>
<td>Anticoagulant</td>
<td>18</td>
<td>9.8</td>
</tr>
<tr>
<td>Circulation pills</td>
<td>17</td>
<td>9.2</td>
</tr>
<tr>
<td>Pills or inhaler for breathing</td>
<td>15</td>
<td>8.1</td>
</tr>
<tr>
<td>Chest pain pills</td>
<td>11</td>
<td>6.0</td>
</tr>
<tr>
<td>Sleeping pills</td>
<td>11</td>
<td>6.0</td>
</tr>
<tr>
<td>Allergy pills</td>
<td>10</td>
<td>5.4</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>8</td>
<td>4.4</td>
</tr>
<tr>
<td>Pills for seizures</td>
<td>7</td>
<td>3.8</td>
</tr>
<tr>
<td>Cortisone</td>
<td>4</td>
<td>2.2</td>
</tr>
<tr>
<td>Other</td>
<td>29</td>
<td>15.8</td>
</tr>
<tr>
<td>None</td>
<td>20</td>
<td>10.9</td>
</tr>
</tbody>
</table>
also indicated medications other than those originally listed, including estrogen (n=5), eyedrops (n=3), kidney medication (n=3), that for lowering cholesterol (n=3), antivert (n=1), that for cancer treatment (n=5), gout medication (n=1), oxygen (n=1), prostate medication (n=1), and mineral supplements including iron (n=5), calcium (n=3), and potassium (n=2).

Table 11 further provides information regarding medical related characteristics in this sample by displaying grouped frequency distributions and descriptive statistics for number of current medical conditions and medications reported by older adults. Older adults in this sample reported being affected by a mean of 2.95 conditions, with a standard deviation of 2.14, and a range of zero to nine medical conditions. The majority (n=107; 58.1%) reported having between one and three medical conditions, with 14 older adults (7.6%) reporting having no current medical conditions. Respondents reported taking a mean of 2.92 medications, with a standard deviation of 2.24 and a range of zero to 12 medications. The majority (n=97; 52.7%) reported currently taking one to three medications, with twenty older adults (10.9%) reporting no current medications.

Three items were added to the survey instrument to gain information regarding 1) the older adult's main source of transportation; 2) their primary source of
Table 11

Grouped Frequency Distributions and Descriptive Statistics for Number of Current Medical Conditions and Medications Reported by Older Adults

<table>
<thead>
<tr>
<th>Number of Conditions</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>14</td>
<td>7.6</td>
</tr>
<tr>
<td>1 - 3</td>
<td>107</td>
<td>58.1</td>
</tr>
<tr>
<td>4 - 5</td>
<td>42</td>
<td>22.8</td>
</tr>
<tr>
<td>6+</td>
<td>21</td>
<td>11.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>184</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*mean=2.95, sd=2.14, range= 0 - 9*

<table>
<thead>
<tr>
<th>Number of Medications</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20</td>
<td>10.9</td>
</tr>
<tr>
<td>1 - 3</td>
<td>97</td>
<td>52.7</td>
</tr>
<tr>
<td>4 - 5</td>
<td>49</td>
<td>26.6</td>
</tr>
<tr>
<td>6+</td>
<td>18</td>
<td>9.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>184</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*mean=2.92, sd=2.24, range= 0 - 12*
help in an emergency; and, 3) their reasons for attending the Senior Dining Center meal program. Table 12 displays frequency distributions for older adults' main source of transportation. Nearly half of respondents (n=91; 49%) reported driving themselves. The next most frequent response was family (n=35; 18.8%), meaning being driven by relatives. Other sources of transportation (n=14; 7.5%) include the older adult’s spouse, an agency van, a housekeeper or walking. Table 13 displays frequency distributions for older adults' source of emergency assistance. Nearly half of responding older adults (n=87; 47.8%) reported depending upon their adult children when they need help or in an emergency. Another 22.5 percent (n=41) reported depending upon their spouse in such a situation. Finally, Table 14 displays frequency distributions for older adults' reasons for attending the Senior Dining Center program. Older adults were able to list as many reasons as they wished to this open-ended question. The majority of older adults (n=132; 74.2%) indicated that they attend the program for the opportunity to socialize and/or be around others. Eighty respondents (44.9%) reported attending to receive a meal and/or quality food.
Table 12

Frequency Distributions for Older Adults' Main Source of Transportation
(n=186)

<table>
<thead>
<tr>
<th>Mode of Transportation</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self</td>
<td>91</td>
<td>49.0</td>
</tr>
<tr>
<td>Family</td>
<td>35</td>
<td>18.8</td>
</tr>
<tr>
<td>Bus</td>
<td>30</td>
<td>16.1</td>
</tr>
<tr>
<td>Friends</td>
<td>13</td>
<td>7.0</td>
</tr>
<tr>
<td>Taxi</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>7.5</td>
</tr>
<tr>
<td>Total</td>
<td>186</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 13
Frequency Distributions for Older Adults' Source of Emergency Assistance
(n=182)

<table>
<thead>
<tr>
<th>Source of Assistance</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Child or Children</td>
<td>87</td>
<td>47.8</td>
</tr>
<tr>
<td>Spouse</td>
<td>41</td>
<td>22.5</td>
</tr>
<tr>
<td>Neighbor</td>
<td>20</td>
<td>11.0</td>
</tr>
<tr>
<td>Sibling</td>
<td>12</td>
<td>6.6</td>
</tr>
<tr>
<td>Other Relative</td>
<td>12</td>
<td>6.6</td>
</tr>
<tr>
<td>Friend</td>
<td>7</td>
<td>3.9</td>
</tr>
<tr>
<td>Fellow Church Member</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td>Grandchildren</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Total</td>
<td>182</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 14
Frequency Distributions for Older Adults' Reasons for Attending the Senior Dining Center Program* (n=178)

<table>
<thead>
<tr>
<th>Reason for Attending</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be around others/socialize</td>
<td>132</td>
<td>74.2</td>
</tr>
<tr>
<td>Serves a meal/quality food</td>
<td>80</td>
<td>44.9</td>
</tr>
<tr>
<td>To get out of the house/something different to do</td>
<td>21</td>
<td>11.8</td>
</tr>
<tr>
<td>To volunteer/help others</td>
<td>13</td>
<td>7.3</td>
</tr>
<tr>
<td>I like to come here</td>
<td>12</td>
<td>6.7</td>
</tr>
<tr>
<td>Unable to cook</td>
<td>10</td>
<td>5.6</td>
</tr>
<tr>
<td>Economical source of food</td>
<td>2</td>
<td>1.1</td>
</tr>
</tbody>
</table>

*Frequencies will not equal 100 percent as 92 respondents listed more than one reason for this open-ended question.
Descriptive Statistics for Measured Variables

Table 15 displays descriptive statistics and internal consistency for measured dependent and independent variables. Cronbach alphas were computed separately for the four measurement tools used in the questionnaire, representing acceptable internal consistency, with the following results: 1) subjective well-being, alpha = .9615; 2) role activity, alpha = .8166; 3) self-esteem, alpha = .8580; and, 4) functional health status, alpha = .7979.

Hypothesis Testing

The six hypotheses were tested using partial correlation and a two-step multiple regression analysis. All were tested at the $\alpha \leq .05$ level of significance, controlling for age, marital status (recoded as married/never married and divorce/widowed), race and SES. The research hypotheses are being restated in their null form as follows:

1. An inverse or no relationship will exist between the older adult’s level of subjective well-being and role activity.

2. An inverse or no relationship will exist between the older adult’s level of subjective well-being and self-esteem.

3. An inverse or no relationship will exist between the older adult’s level of subjective well-being and their functional health status.
Table 15

Descriptive Statistics and Internal Consistency for Measured Dependent and Independent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>sd</th>
<th>Cronbach's alpha</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective Well-Being</td>
<td>4.581</td>
<td>.824</td>
<td>1.7-6.0</td>
<td>.9615</td>
</tr>
<tr>
<td>Role Activity</td>
<td>5.494</td>
<td>1.338</td>
<td>1.6-9.7</td>
<td>.8166</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>3.237</td>
<td>.438</td>
<td>2.1-4.0</td>
<td>.8580</td>
</tr>
<tr>
<td>Functional Health Status</td>
<td>3.524</td>
<td>.326</td>
<td>2.3-4.0</td>
<td>.7979</td>
</tr>
</tbody>
</table>
4. An inverse or no relationship will exist between the older adult’s level of role activity and self-esteem.

5. An inverse or no relationship will exist between the older adult’s functional health status and their self-esteem.

6. No significant proportion of the variance in subjective well-being will be explained by a linear combination of the tested independent variables.

The results of the data analysis are described below, following the restatement of each hypothesis in its null form. Results of partial correlation analysis for hypothesized relationships are organized in Table 16. Missing data for this analysis were handled by listwise deletion. Results of the multiple regression analyses are organized in Tables 18 and 19. Missing data for these analyses were handled by mean-substitution.

**Null Hypothesis 1: An inverse or no relationship will exist between the older adult’s level of subjective well-being and role activity.**

Partial correlation values support rejecting the null \( (H_0: \rho_{r<0}) \), where \( \rho_r = .3042 \), at \( p = .000 \) (Table 16). Thus, the data indicate a significant moderate and positive relationship between older adult subjective well-being and their reported level of role activity, as measured by the Role Activity Scale, controlling for age, marital status, race and SES. Therefore, the
Table 16

Results of Partial Correlation Analysis for Hypothesized Relationships*

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Variables</th>
<th>n</th>
<th>pr</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subjective Well-Being/Role Activity</td>
<td>164</td>
<td>.3042</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>Subjective Well-Being/Self-Esteem</td>
<td>164</td>
<td>.5361</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>Subjective Well-Being/Functional Health Status</td>
<td>164</td>
<td>.3480</td>
<td>.000</td>
</tr>
<tr>
<td>4</td>
<td>Role Activity/Self-Esteem</td>
<td>169</td>
<td>.3076</td>
<td>.000</td>
</tr>
<tr>
<td>5</td>
<td>Functional Health Status/Self-Esteem</td>
<td>169</td>
<td>.3268</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Controlling for age, marital status, race and SES at α=.05
research hypothesis is accepted. It can be stated that as the older adult’s level of role activity increases, their subjective well-being also increases.

Null Hypothesis 2: An inverse or no relationship will exist between the older adult’s level of subjective well-being and self-esteem.

Partial correlation values support rejecting the null ($H_0: \rho = 0$), where $\rho = .5361$, at $p = .000$ (Table 16). Thus, the data indicate a significant substantial and positive relationship between older adult subjective well-being and their level of self-esteem, as measured by the Self-Esteem Scale, controlling for age, marital status, race and SES. Therefore, the research hypothesis is accepted. It can be stated that as the older adult’s level of self-esteem increases, their subjective well-being increases as well.

Null Hypothesis 3: An inverse or no relationship will exist between the older adult’s level of subjective well-being and their functional health status.

Partial correlation values support rejecting the null ($H_0: \rho = 0$), where $\rho = .3480$, at $p = .000$ (Table 16). Thus, the data indicate a significant moderate and positive relationship between older adult subjective well-being and their functional health status, as measured by the physical health component of the SELF-Scale, controlling for age, marital status, race, and
SES. Therefore, the research hypothesis is accepted. It can be stated that the greater the level of older adult functional health, the higher their subjective well-being.

**Null Hypothesis 4:** An inverse or no relationship will exist between the older adult’s level of role activity and self-esteem.

Partial correlation values for the hypothesized relationship support rejecting the null ($H_0: \rho r = 0$), where $\rho_r = .3076$, at $p = .000$ (Table 16). Thus, the data indicate a significant moderate and positive relationship between older adult level of social role activity and self-esteem, controlling for age, marital status, race and SES. Therefore the research hypothesis is accepted. It can be stated that the greater the level of older adult self-esteem, the higher their level of role activity.

**Null Hypothesis 5:** An inverse or no relationship will exist between the older adult’s functional health status and their self-esteem.

Partial correlation for hypothesized relationships support rejecting the null ($H_0: \rho r = 0$), where $\rho_r = .3268$, at $p = .000$ (Table 16). Thus, the data indicate a significant moderate and positive relationship between older adult level of functional health and self-esteem, controlling for age, marital status, race and SES.
Therefore, the research hypothesis is accepted. It can be stated that the greater the level of older adult self-esteem, the higher the level of functional health.

**Null Hypothesis 6:** No significant proportion of the variance in subjective well-being will be explained by a linear combination of the tested independent variables.

Table 17 displays the correlation matrix for all dependent, independent and control variables. A two-step multiple regression analysis was used to test Null Hypothesis 6. The first step involved the simultaneous entry of independent and control variables into a linear combination, predicting variance in the dependent variable, in order to determine the order of entry for Step 2. From these results it was determined which variables would be entered hierarchically in Step 2, after the simultaneous entry of the control variables. In this way it was felt that the best linear combination of independent variables explaining the greatest proportion of variance in the dependent variable of subjective well-being could be determined, given the variables measured in this study.

Findings from the Step 1 simultaneous multiple regression analysis explaining variance in subjective well-being are organized in Table 18. The three main independent variables and four control variables were
Table 17

Correlation Matrix for All Dependent, Independent and Control Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SWB</td>
<td>-</td>
<td>.508</td>
<td>.329</td>
<td>.293</td>
<td>.022</td>
<td>.164</td>
<td>-.085</td>
<td>.080</td>
</tr>
<tr>
<td>2 Self-Esteem</td>
<td>-</td>
<td>-</td>
<td>.332</td>
<td>.354</td>
<td>-.202</td>
<td>.079</td>
<td>-.007</td>
<td>.195</td>
</tr>
<tr>
<td>3 Functional Health</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.138</td>
<td>-.088</td>
<td>.012</td>
<td>-.019</td>
<td>.024</td>
</tr>
<tr>
<td>4 Role Activity</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-.142</td>
<td>.068</td>
<td>.026</td>
<td>.203</td>
</tr>
<tr>
<td>5 Age</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-.272</td>
<td>.019</td>
<td>-.001</td>
</tr>
<tr>
<td>6 Marital Status</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.116</td>
<td>.063</td>
</tr>
<tr>
<td>7 Race</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.322</td>
</tr>
<tr>
<td>8 SES</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### Table 18

**STEP 1 Simultaneous Multiple Regression Analysis**

*Explaining Variance in Subjective Well-Being*

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>Beta</th>
<th>SE Beta</th>
<th>Part Corr</th>
<th>T</th>
<th>Sig T</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Esteem</td>
<td>.4255</td>
<td>.0635</td>
<td>.3697</td>
<td>6.212</td>
<td>.000</td>
<td>.7552</td>
</tr>
<tr>
<td>Functional Health</td>
<td>.1823</td>
<td>.0632</td>
<td>.1717</td>
<td>2.885</td>
<td>.004</td>
<td>.8868</td>
</tr>
<tr>
<td>Role Activity</td>
<td>.1382</td>
<td>.0646</td>
<td>.1273</td>
<td>2.139</td>
<td>.033</td>
<td>.8487</td>
</tr>
<tr>
<td>Age</td>
<td>.1951</td>
<td>.0633</td>
<td>.1835</td>
<td>3.062</td>
<td>.002</td>
<td>.8839</td>
</tr>
<tr>
<td>Marital Status</td>
<td>.1842</td>
<td>.0624</td>
<td>.2142</td>
<td>2.951</td>
<td>.003</td>
<td>.9096</td>
</tr>
<tr>
<td>Race</td>
<td>-.1023</td>
<td>.0635</td>
<td>-.0960</td>
<td>-1.612</td>
<td>.108</td>
<td>.8795</td>
</tr>
<tr>
<td>SES</td>
<td>-.0140</td>
<td>.0651</td>
<td>-.0128</td>
<td>-2.16</td>
<td>.033</td>
<td>.8356</td>
</tr>
</tbody>
</table>

**Multiple R**  
.5989  
**R Square**  
.3587  
**Standard error of estimate**  
.6619

### Analysis of Variance

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio (F Sig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>44.358</td>
<td>7</td>
<td>6.337</td>
<td>14.463 (.0000)</td>
</tr>
<tr>
<td>Residual</td>
<td>79.305</td>
<td>181</td>
<td>.438</td>
<td></td>
</tr>
</tbody>
</table>

α ≤ .05

*Analysis of Residuals*

- **Normality:** Histogram of standardized residuals and Normal Probability Plot indicate normality
- **Independence:** Durbin-Watson Test = 2.140, with no linear trends on Casewise plots
- **Homoscedasticity:** Standardized scatterplots for all variables indicate no trends and thus constant variance
entered into the regression simultaneously. This step revealed that these variables together explained a significant proportion of the variance ($R^2=.3587$; $F_{7,181}=14.463$ at $p=.0000$) in subjective well-being. Examination of individual variables in the model, revealed that self-esteem, functional health status and role activity accounted for significant contributions to this regression model, when other variables were controlled ($Beta=.4255$, $t=6.212$, at $p=.0000$; $Beta=.1823$, $t=2.885$, at $p=.0044$; and $Beta=.1382$, $t=2.139$, at $p=.0337$, respectively). This information was used to perform Step 2, involving the hierarchical entry of the three main independent variables, in the above order. For this step, the remaining control variables were entered first and simultaneously.

Findings from the Step 2 multiple regression analysis: simultaneous entry of control variables with subsequent hierarchical entry of significant independent variables to explain the variance in subjective well-being are organized in Table 19. These results reveal that all three independent variables explain a significant proportion of the variance in the dependent variable of subjective well-being at $p<.05$, after the statistical control of age, marital status, race and SES. Self-esteem explained the greatest proportion of variance with $R^2$-change$=.2567$ ($F$-change$=68.254$; $p=.0000$).
Table 19

STEP 2 Multiple Regression Analysis: Simultaneous Entry of Control Variables with Subsequent Hierarchical Entry of Independent Variables to Explain the Variance in Subjective Well-Being

**Simultaneous Entry of Control Variables:**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta</th>
<th>SE Beta</th>
<th>Part Corr</th>
<th>T</th>
<th>Sig T</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.0774</td>
<td>.0746</td>
<td>.0744</td>
<td>1.038</td>
<td>.3004</td>
<td>.9233</td>
</tr>
<tr>
<td>Marital</td>
<td>.1943</td>
<td>.0751</td>
<td>.1854</td>
<td>2.587</td>
<td>.0104</td>
<td>.9106</td>
</tr>
<tr>
<td>Status</td>
<td>.1457</td>
<td>.0762</td>
<td>-.1370</td>
<td>-1.912</td>
<td>.0575</td>
<td>.8848</td>
</tr>
<tr>
<td>Race</td>
<td>.1147</td>
<td>.0753</td>
<td>.1085</td>
<td>1.515</td>
<td>.1316</td>
<td>.8956</td>
</tr>
</tbody>
</table>

Multiple R  .2345  
R Square*    .0550  
Standard error of estimate  .7970  

**Analysis of Variance**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio (F Sig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>6.799</td>
<td>4</td>
<td>1.700</td>
<td>2.676 (.0333)</td>
</tr>
<tr>
<td>Residual</td>
<td>116.86</td>
<td>184</td>
<td>.635</td>
<td></td>
</tr>
</tbody>
</table>
Table 19 (continued)

Hierarchical Entry of Independent Variables:

Variables in the Equation:

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$ change</th>
<th>$F$ change (signif)</th>
<th>Beta (signif)</th>
<th>$T$ (signif)</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Esteem</td>
<td>.3117 .2567</td>
<td>68.254 (.0000)</td>
<td>.5294</td>
<td>8.262 (.0000)</td>
<td>.9161</td>
</tr>
<tr>
<td>Functional Health</td>
<td>.3425 .0308</td>
<td>8.522 (.004)</td>
<td>.1862</td>
<td>2.915 (.004)</td>
<td>.8875</td>
</tr>
<tr>
<td>Role Activity</td>
<td>.3587 .0162</td>
<td>4.577 (.0337)</td>
<td>.1382</td>
<td>2.139 (.0337)</td>
<td>.8487</td>
</tr>
</tbody>
</table>

Multiple R  
R Square*  
Standard Error of Estimate  

.5989  
.3587  
.6619

Analysis of Variance

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>$F$ Ratio (F Sig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>44.358</td>
<td>7</td>
<td>6.337</td>
<td>14.463 (.0000)</td>
</tr>
<tr>
<td>Residual</td>
<td>79.305</td>
<td>181</td>
<td>.438</td>
<td></td>
</tr>
</tbody>
</table>

α<.05

*Analysis of Residuals:

Normality: Histogram of standardized residuals and Normal Probability Plot indicate normality.
Independence: Durbin-Watson Test = 2.140, with no linear trends on Casewise plots.
Homoscedasticity: Standardized scatterplots for all variables indicate no trends and thus constant variance.
Although significant, functional health and role activity explained considerably less variance with $R^2$-change = .0308 (F-change = 8.522; $p = .004$) and $R^2$-change = .0162 (F-change = 4.577; $p = .0337$), respectively.

Information regarding the analysis of residuals is listed for both multiple regression steps in footnotes to Tables 18 and 19. Examination of this information indicates no violation of assumptions regarding residuals, including independence, normality, and homoscedasticity.

Data were also examined for the violation of multicollinearity. Initially, the correlation matrix (Table 17) was examined for intercorrelation among independent and control variables. No zero-order correlations above $r = .508$ (for subjective well-being and self-esteem) were detected when considering independent and control variables. Tolerance values for Step 1 independent variables ranged from .7552 to .9096, considered acceptable for ruling out multicollinearity. For Step 2, the tolerance values for the main independent variables ranged from .8487 to .9161, again considered acceptable for ruling out multicollinearity.

Conclusions drawn from these multiple regression analyses regarding Null Hypothesis 6 are as follows. Coefficient of determination ($R^2$) values support
rejecting Null Hypothesis 6 ($H_0: R^2=0$), where the total $R^2$-change=.3037, with F-change values ranging from 4.577 to 68.254, and p-values ranging from .0000 to .034, after the control of age, marital status, race, SES and any previously entered independent variable. Therefore, the research hypothesis, that a significant proportion of the variance in subjective well-being would be explained by a linear combination of the tested independent variables, is accepted.

**Examination of the Research Question**

The following research question was examined, given the statistical results listed above:

Are there any relationships between race and the following variables when age and SES are controlled: subjective well-being, role activity, self-esteem and functional health status?

Examination of the correlation matrix (Table 17) indicates negligible relationships (ranging from $r= -.007$ to $.085$) between race and the three main independent variables of role activity, self-esteem and functional health status, where race was coded with "0" representing black, and "1" representing white race. In addition, race did not contribute significantly to the variance explained in subjective well-being in either Step 1 or Step 2 multiple regression analyses, at $\alpha=.05$ (Tables 18 and 19).
Summary of Findings

The typical older adult in this sample is a 76 year old white, widowed female. These older adults most often have a high school education, and worked in an occupation classified as skilled work or clerical/sales work. The typical respondent has approximately three medical conditions, for which they are receiving approximately three medications. Older adults most often rated their health as "good".

Findings presented in this chapter address each of the research hypotheses. Statistically significant and positive partial correlations were revealed between subjective well-being and the variables role activity (pr=.3042), self-esteem (pr=.5361), and functional health status (pr=.3480) at p=.000. In addition, statistically significant and positive partial correlations were detected between self-esteem and the variables role activity (pr=.3076) and functional health status (pr=.3268) at p=.000. Therefore, research hypotheses one through five were supported. It may be said that older adults who display higher levels of role activity, self-esteem and functional health, tend to demonstrate higher subjective well-being. In addition, those with higher role activity and functional health also tend to demonstrate higher levels of self-esteem.
When the three independent (role activity, self-esteem and functional health status) and control variables were entered simultaneously during Step 1 multiple regression analysis, 35.9 percent of the variance in subjective well-being was accounted for among these older adults. In the Step 2 multiple regression analysis the three independent variables explained 31 percent of the variance, with self-esteem contributing 25.67 percent, functional health status contributing 3.1 percent, and role activity contributing 1.6 percent of the variance explained in subjective well-being, given this particular hierarchical entry of the variables and beyond the 5.5 percent explained by the combination of the control variables. Therefore, research hypothesis 6 was supported, given the results of the two-step multiple regression analysis performed on the data in this study.
CHAPTER V
DISCUSSION

Introduction

This study was undertaken to describe and analyze the relationships between subjective well-being and role activity, functional health, and self-esteem, and self-esteem with both functional health status and role activity for older adults. Specific demographic characteristics of older adults were also described. The following will involve a discussion of these findings as they relate to the characteristics of the population as determined by Franklin County and U.S. census statistics using the Chi-square technique to identify significant differences. Results of hypothesis testing are discussed as they relate and compare to the gerontological and subjective well-being literature.

Demographic Characteristics

The typical older adult in this sample is a 76 year old white, widowed female. These older adults most often have a high school education, and worked in an occupation classified as skilled work or clerical/sales
work. The typical respondent reported approximately three medical conditions, for which they receive approximately three medications. Older adults most often rated their health as "good".

When compared to the Franklin County, Ohio 55 and older age group, this sample tends to be older, where 73 percent of the sample reported their age to be between 65 and 84 years, with only 50 percent of older adults in the county falling in this age category (U.S. Department of Commerce, 1993) \( (X^2_{1df} = 10.58, p < .000) \). Further while only 5.5 percent of Franklin County older adults are age 85 and older, 18 percent of this sample reported ages over 85 years \( (X^2_{1df} = 8.68, p = .003) \). This might be explained by considering that this sample of elderly are those who come to the Senior Dining Center program for specific services related to socialization and nutrition. These older adults may be unable to meet these needs without the meal program due to age and isolation within the community.

The age of this sample may also explain differences between this group of older adults and National Census Bureau statistics for marital status (in Ebersole and Hess, 1990). The proportion of widowed older adults in this sample is more than double that of the U.S. older adult population (54.9% compared to 24.2% among those 55 and older; \( X^2_{1df} = 38.95, p = .000 \)). In
addition, this sample tends to have similar proportions of never-marrieds (8.2% vs. 5.0%) and divorced persons (9.2% vs. 5.9%). When combined with widowed statistics, non-marrieds comprise 72.3 percent of this sample, compared to half that proportion (35.1%; $X^2_{1df}=39.43$, p<.000) in the national statistics (Ebersole and Hess, 1990). Thus this seems to indicate a reverse picture of married to widowed ratio than is present in the general population.

When gender ratios are examined, this sample of older adults seems to be reflective of National Census Bureau statistics and those listed in several older adult studies (Markides and Martin, 1979; Haug, et al., 1984; Hawkins, et al., 1988), where this study included 69.2 percent females (Table 3). National statistics based on U.S. Census records indicate 67.9 percent females (in Ebersole and Hess, 1990). Other subjective well-being studies in the gerontological literature tend to range between 60 and 76 percent females (Markides and Martin, 1979; Haug, et al., 1984; Hawkins, et al., 1988; Ryff, 1989).

In examining the race distribution of this sample, it appears to be more similar to the population than other older adult studies cited in this paper. The general population in Franklin County is comprised of 80.9 percent white and 16 percent black persons (U.S.
Department of Commerce, 1993), with 9.2 percent blacks in the U.S. population of older adults 55 and older (in Ebersole and Hess, 1990). This sample appears to be reflective of these statistics (with 85.2 percent white and 14.8 percent black persons, in Table 3), with the exception of a lack of representation among the non-white/non-black population groups which comprise 2.5 percent of the Franklin County general population. Other older adult studies related to subjective well-being tend to involve either higher proportions of minorities (Haug, et al., 1984; Kaplan et al., 1988) or an all white sample (Martin and Markides, 1979).

Education characteristics of this sample tend to indicate a higher education level than other subjective well-being studies of older adults, where the proportion of older adults with a high school and greater education was 75 percent compared to 32 percent and less (75% vs. 32%; $X^2_{df=57.8; p<.000}$) (Haug, et al., 1984; Hawkins, et al., 1988; Kaplan, et al., 1988). When compared to the Franklin County population statistics, older adults in this sample with at least a high school education approximated the general population (75 percent in this sample, compared to 81 percent in the county) (U.S. Department of Commerce, 1993). However, while the percentage of those with partial college or vocational training in the sample
was nearly equal to that in the general county population (23.2% vs. 25.3%), this sample included considerably fewer older adults with college, graduate or professional degrees than indicated by general Franklin County population statistics (7.8% vs. 26.6%; \(X^2_{1df} = 13.29, p = 0.003\)) (U.S. Department of Commerce, 1993).

With regard to overall SES, it is extremely difficult to compare this sample with other older adult studies and the Franklin County general population statistics. First, many studies tend to use income as the primary determinant of SES, with the exception of Wolinsky, et al. (1985) (Larson, 1978; Markides and Martin, 1979; Diener, 1984; Andrews, 1991). Second, the Franklin County general population statistics group occupations according to U.S. Census categories which do not coincide with Hollingshead's Classification system, and cannot be broken down enough for accurate comparison. When compared to Wolinsky, et al.'s study, where only 20 percent of older adults respondents fell into the three highest classes, the present study included a significantly higher proportion of older adults in the upper three classes (46.56% vs. 20%; \(X^2_{1df} = 35.27, p < .000\)). Finally, it must be recognized that the measurement of SES among older adults is problematic, as prior occupation may not totally
capture this variable due to "changes in the occupational structure that have occurred since today's elderly were employed" (Haug, et al., 1984; p. 104). Education alone may be the best indicator of SES, as both occupation and lifestyle are normally functions of schooling (Haug, et al., 1984).

It must be noted that the characteristics of race and SES in the gerontological subjective well-being literature tend to vary the most between studies. One explanation for this characteristic in the literature is the use of homogeneous, convenience samples for these demographics due to the geographical selection of samples. This study purposefully varied the geographic cluster selection of Senior Dining Centers to reduce the possibility of homogeneity on the basis of race and SES. As a result of the sampling procedure in this study, there seems to be a better representation of the lower and middle SES levels, including the black population, but limited representation of the upper SES groups.

Several interesting findings emerged in this data when demographic control variables (age, marital status, race and SES) were intercorrelated with the other variables and entered simultaneously into the Step 1 multiple regression analysis (Table 18). First, age demonstrated a partial correlation value of .1835,
indicating a positive, low relationship with subjective well-being. This is higher than the range of controlled correlation values reported by Larson (1978) (r=.0 to .1), and opposite in direction from the reported uncontrolled inverse relationships with subjective well-being suggested in the literature reviewed by Larson (1978), and the trend suggested by Andrews’ study (1991). It is interesting to note that while the control of other variables in the literature tended to decrease the relationship between age and subjective well-being, it actually increased this relationship in the present study (from r=.022 to pr=.1835). In addition, when Beta’s were examined for the relative importance of these variables, age held the highest values of the four control variables with a significant Beta=.1951 (t=3.082, p=.0024).

Marital status in this study exhibited a low positive relationship with subjective well-being (r=.164 in Table 17; pr=.2142 in Table 18) where those older adults who were married or never married tended to report higher levels of subjective well-being than those who were divorced or widowed. This control variable demonstrated the second highest relative importance in the Step 1 simultaneous entry (Table 18), with a significant Beta=.1842 (t=2.951, p=.0036). This independent, positive relationship is greater than that
reported in Larson’s review (r = .01 to .02). These results tend to agree, however, with Weingarten and Bryant’s findings where first-marrieds, re-marrieds and never marrieds tended to report greater happiness than divorce individuals. This may be due to differences in perceived loss associated with divorce or death of one’s spouse and expectations for the future.

Two control variables in this study demonstrated negligible relationships with subjective well-being, as evidenced by bivariate and partial correlation values (Tables 17 and 18, respectively). First, race showed a negligible, negative association with subjective well-being, where $r = -.085$, and $r_p = -.096$ when the effects of other variables were controlled. This finding agrees with the findings and conclusions of Andrews (1991) where there was no independent association between race and subjective well-being. Similarly, SES demonstrated a negligible relationships with subjective well-being, as evidenced by $r = .080$ and $r_p = -.013$. This finding includes both the effects of education and occupation given Hollingshead’s Two-factor Index of Social Position. While the literature suggests at least a low independent association ($r = .1$ to .3) between SES and subjective well-being (Larson, 1978), the findings of this study which excluded the measurement of income, indicate no such relationship when the effects of other
variables are controlled. In addition, neither race nor SES tended to be significant or important in the regression equation relative to age and marital status, where Beta=-.1023 (t=-1.612, p=.1087) and Beta=-.0140 (t=-.216, p=.8294), respectively (Table 18).

Functional Health Characteristics

Findings regarding overall self-rating of health appear to be similar to findings in the literature and the 1992 National Health Interview Survey (NHIS), where in the present study, 18.7 percent of older adults rated their health as very good, with 62 percent rating their health as good. For instance, in Kaplan, et al.s’ cross-sectional study of subjective state of health and survival, 16 percent older adults rated themselves as very healthy, with 50 percent rating themselves as healthy, as opposed to sick and very sick. Mossey and Shapiro’s findings from a 1982 longitudinal study indicated similar proportions for the two highest of four categories, with 13.8 and 48.4 percent. NHIS statistics were gathered and reported on a five point scale (excellent, very good, good, fair and poor), with 71.3 percent of those 65 and older reporting their health to be good or better (National Center for Health Statistics, 1994). It is important to recognize that while this single self-rated health item was
inconsistently measured between studies, older adults samples appear similar on this characteristic.

When functional health status characteristics of this older adult sample are examined, some interesting comparisons can be made with national and county statistics. Fifty percent of older adults in this sample reported no physical handicap limiting their daily activities. This is similar when compared to national health statistics, where an estimated 60.4 percent reported no limitations of activities related to a chronic condition (in Ebersole and Hess, 1990). However, this sample differs from the population statistics where only 8.5 percent in this study reported major limitations of activities (Table 8), compared to 24.0 percent in the population ($X^2_{1df}=10.01$, $p=.0015$). Further, when daily activities are separated into ADL's and IADL's, comparisons reveal similar trends in the proportion of older adults able to function independently. Figure 2 is a graph displaying sample and 1985 national proportion estimates for older adults able to perform ADL's and IADL's independently. In comparing this study sample to national proportion estimates provided by Ebersole and Hess (1990) for eight specific ADL's and IADL's (including dressing, bathing, walking, toileting, use of the telephone, shopping, handling money, and chores), the proportion
Figure 2

Graph Displaying Sample and 1985 National Proportion Estimates for Older Adults Able to Perform ADL's and IADL's Independently
of older adults able to function independently is very similar for most of the activities. Toileting shows the greatest apparent difference, with 63.8 percent able to do so independently in this sample and 93.5 percent able to function independently in the population ($X^2_{1df}=9.43, p=.002$). This difference is most likely due to a difference in the wording of the items where respondents in this study were asked "Do you have trouble getting to the bathroom on time?". The national statistic focused on overall function related to being able to physically get to the bathroom in any case (on time or otherwise). The former item would seem to be more restrictive in its focus, and thus resulted in a lower proportion of older adults with no limitations.

Sample data describing current medical conditions and medications were compared to national health statistics and the subjective well-being literature. Table 20 lists frequency distributions for four medical conditions, comparing sample proportions to proportions indicated by 1985 and 1992 national health statistics (NHS) (Ebersole and Hess, 1990; National Center for Health Statistics, 1994). Of the four, diabetes seems to occur more frequently in this study's sample compared to the 1985 estimate ($X^2_{1df}=5.08, p=.024$), with anemia also occurring more frequently than the 1992 estimate ($X^2_{1df}=22.75, p<.000$). Proportion estimates for
Table 20
Frequency Distributions for Four Medical Conditions, Comparing Sample Proportions to Proportions Indicated By 1985 and 1992 National Health Statistics (NHS)

<table>
<thead>
<tr>
<th>Medical Conditions</th>
<th>Sample (%)</th>
<th>NHS 1985 (%)</th>
<th>NHS 1992 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>46.2</td>
<td>41.1</td>
<td>35.8</td>
</tr>
<tr>
<td>Arthritis</td>
<td>40.2</td>
<td>47.7</td>
<td>48.4</td>
</tr>
<tr>
<td>Heart Conditions</td>
<td>33.2</td>
<td>31.3</td>
<td>32.4</td>
</tr>
<tr>
<td>Diabetes</td>
<td>17.4</td>
<td>10.2</td>
<td>11.0</td>
</tr>
<tr>
<td>Anemia</td>
<td>8.2</td>
<td>*</td>
<td>1.8</td>
</tr>
</tbody>
</table>

*Proportion estimate not available
the sample and population do not differ significantly arthritis, heart conditions, or hypertension. One might explain the greater proportion of older adults in this sample identifying specifically diabetes, anemia and possibly hypertension as chronic conditions, in that their treatment is primarily through dietary modification. The Senior Dining Center Program offers diet meals restricted in sugar, sodium and fat content, lending itself to the dietary restrictions of a diabetic and/or hypertensive older adult. Such individuals may gravitate toward such a program that would support their health care regime nutritionally, while decreasing their personal efforts in managing food procurement and preparation at home.

It is interesting to note that the most frequently cited conditions and prescribed medications in this study coincide with the drugs most frequently prescribed when categorized by condition, including heart conditions, hypertension and arthritis (in Ebersole and Hess, 1990). The number of current medical conditions and medications overall may be easily compared to one specific gerontological study by Kaplan, et al. (1988). In the present sample of older adults, there were more who reported six and greater conditions than in Kaplan, et al.'s (1988) research (11.4% vs. 4.6%; $X^2_{1 df} = 10.05, p = .001$). In addition, this
study revealed fewer individuals reporting no current medications than in Kaplan, et al.'s (1988) research (10.9% vs. 23.8%; $X^2_{1df}=6.99, p=.008$) and more taking four or more medications (36.4% vs. 25.8%; $X^2_{1df}=4.36, p=.037$). These differences may be attributed in part to different gender composition for the two samples, where the present sample tends to have a greater percentage of females (69.2% vs. 54.4%; $X^2_{1df}=4.03, p=.045$). Elderly women tend to report more physician visits than elderly men, thus their symptoms may be more frequently identified with diagnosed conditions and more frequently treated (Kaplan, et al., 1988; Kart, 1990).

**Hypothesized Relationships**

The findings of this study pertinent to the six research hypotheses indicated the following. There was a significant positive relationship between subjective well-being and the independent variables of role activity, self-esteem and functional health status. In addition, findings indicated significant positive relationships between self-esteem and the independent variables of role activity and functional health status. Multiple regression analyses revealed that self-esteem explained 25.7 percent, functional health status explained 3.1 percent, and role activity explained 1.6 percent of the variance in the dependent variable subjective well-
being. The research hypotheses together with the findings are as follows:

H1  A positive relationship will exist between the older adult’s level of subjective well-being and role activity. The partial correlation coefficient (pr=.30) was significant at the p=.000 probability level. The hypothesis was therefore accepted.

H2  A positive relationship will exist between the older adult’s level of subjective well-being and self-esteem. The partial correlation coefficient (pr=.54) was significant at the p=.000 probability level. The hypothesis was therefore accepted.

H3  A positive relationship will exist between the older adult’s level of subjective well-being and their functional health status. The partial correlation coefficient (pr=.35) was significant at the p=.000 probability level. The hypothesis was therefore accepted.

H4  A positive relationship will exist between the older adult’s level of self-esteem and role activity. The partial correlation coefficient (pr=.31) was significant at the p=.000 probability level. The hypothesis was therefore accepted.

H5  A positive relationship will exist between the older adult’s self-esteem and their functional health status. The partial correlation coefficient
(pr=.33) was significant at the p=.000 probability level. The hypothesis was therefore accepted.

H6 A significant proportion of the variance in older adults' subjective well-being will be explained by a linear combination of the independent variables. Coefficient of determination ($R^2$) values support accepting the hypothesis, where the total $R^2$-change=.3037, with F-change values ranging from 4.577 to 68.254, and p-values ranging from .0000 to .034, after the control of age, marital status, race and SES.

**Subjective Well-Being and Role Activity**

The data indicate a significant moderate and direct relationship (pr=.3042; p=.000) between older adult subjective well-being and their level of role activity, as measured by the Role Activity Scale, controlling for age, marital status, race and SES. It can be stated that as the older adult's level of role activity increases, their subjective well-being will increase. The literature regarding the descriptive relationship between subjective well-being and activity level seems to indicate that activity is an important variable contributing to the well-being of older people. Significant positive correlation values in the literature range from .1 to .55 (Neugarten, 1968;
Lemon, et al., 1972; Larson, 1978; George, 1978). These relationships vary to a great extent with how role activity and subjective well-being are operationalized. The relationship in this study parallels the trend established in previous studies, although activity was operationalized as the older adult’s score for a collection of 12 social roles.

When this finding is examined in light of the Continuity Theory of Aging, it would seem that the linear relationship described by the partial correlation value in this study supports the theory as outlined by Atchley (1982, 1989), where activity is defined by the importance of social roles. In addition, subjective well-being is defined beyond unidimensional positive or negative affective concepts, by measuring this construct multidimensionally.

**Subjective Well-being and Self-Esteem**

The data indicate a significant substantial and positive relationship ($r = .5361; p = .000$) between older adult subjective well-being and their level of self-esteem as measured by the *Self-Esteem Scale*, controlling for age, marital status, race and SES. It can be stated that as the older adults’ level of self-esteem increases, their subjective well-being will increase as well. This is congruent with the subjective
well-being literature which seems to indicate that self-esteem, as an indicator of underlying personality, is an important factor associated with the well-being of older adults. The findings of this study regarding self-esteem support the Continuity Theory as described by Atchley (1982, 1989), where self-esteem is a stable indicator of personality and is positively related to subjective well-being. While there are studies that have investigated the Continuity Theory, none have specifically included self-esteem or self-concept as independent variables. Thus, no comparisons can be made with other Continuity Theory studies in the subjective well-being literature. However, the finding does seem to be congruent with the literature that discusses self-esteem and its ramifications for normal or successful aging, where higher self-esteem is associated with proxy measures of subjective well-being, such as higher life satisfaction, lower depression and lower anxiety (George, 1978; Hunter, et al., 1982; Diener, 1984; Costa, et al., 1987).

Subjective Well-Being and Functional Health Status

The data indicate a significant moderate and positive relationship (r = .3480, p = .000) between older adult subjective well-being and their level of functional health, as measured by the physical health
component of the **SELF-Scale**, controlling for age, marital status, race and SES. It can be stated that the greater the level of older adult functional health, the higher their subjective well-being. The literature describing the relationship between health and subjective well-being suggests that this variable is the most strongly associated, with significant positive correlations ($r=0.2$ to $0.5$). The relationship revealed in this study is similar to findings in the subjective well-being literature. It must be recognized that this study differs to some extent from many older adult studies, in that it includes function as a part of the measure of self-rated physical health. The relationship between functional health and subjective well-being in this study tends to support Ouslander and Beck's (1982) suggestion that the relationship is due to the extent to which older adults value their independence, which tends to be threatened by changes in functional health status.

**Self-Esteem and Functional Health Status**

The data indicate a significant moderate and positive relationship ($r=0.3076$, $p=0.000$) between older adult level of self-esteem and functional health, as measured by the physical health component of the **SELF-Scale** controlling for age, marital status, race and
SES. It can be stated that the greater the level of older adult functional health, the higher their level of self-esteem. These results are similar to findings by Ward (1977) who reported a significant correlation value of r=.37 between self-esteem and health as measured by Rosenberg's Self-Esteem Scale; and Smits and Kee (1992), who reported a significant correlation for these two variables at r=.33 (p<.05). In addition, this finding tends to agree with Hunter, et al.'s findings (1982) where older adults with lower self-esteem reported poorer health, more pain, and greater levels of disability than elderly with high self-esteem. These results seem to support Atchley's (1982) contention that "gradual loss of physical capacity can be incorporated little by little into the self-concept, and the ideal self can be modified bit by bit to take gradual declines into account...physical change that disrupt continuity of preferred activities have a much greater potential for affecting self-concept and self-esteem compared to physical changes that allow continuity at a reduced activity level" (p. 394).

**Self-Esteem and Role Activity**

The data indicate a significant moderate and positive relationship (pr=.3268, p=.000) between older adult level of self-esteem and role activity as
measured by the **Role Activity Scale**, controlling for age, marital status, race and SES. It can be stated that the greater the level of older adult role activity, the higher their level of self-esteem. While several investigators and theorists suggest the importance of this relationship for successful aging, none test it specifically for its extent or direction. Therefore, no specific research findings are available for comparison. However, these findings seem to agree with Atchley’s (1982) theory that internal continuity (personality) and external continuity (social role activity) support one another, where "aging for most people means the continuation of familiar roles and activities in familiar environments" (p. 392).

Therefore, as one ages there are familiar external structures and competencies that one draws upon, resulting in a stable self-concept. In turn, a stable self-concept helps one to adapt to role changes by providing a sense of competence as a basis for reassessing one’s competence in new life circumstances.

**Variance Explained in Subjective Well-Being**

The data indicate that the combination of the independent variables explained a significant proportion of variance (31 percent) in the dependent variable subjective well-being, where self-esteem
contributed 25.7 percent, functional health status contributed 3.1 percent, and role activity contributed 1.6 percent of the variance explained in subjective well-being.

Limited information is available in the literature regarding the explanatory value of self-esteem, using multiple regression analysis. In his review of the subjective well-being literature, Diener (1984) states that "high self-esteem is one of the strongest predictors of subjective well-being" (p. 558). This conclusion, however, is based upon research indicating 1) a few studies of the proportion of variance explained in subjective well-being by personality beyond demographic variables; 2) an indirect inference based upon the relatively low predictive value of demographic variables collectively (less than 10 percent across studies); and 3) evidence of strong associational research relating self-esteem to subjective well-being. Thus, even though the descriptive and predictive relationship between, subjective well-being and self-esteem seems logical, it has not been tested sufficiently, by replicated study across varying samples, to be given credence for its validity, generalizability, or application in practice.

The predictive value of functional health status in this study is lower than the range cited in the
literature review by Larson (1978), where health explained between four and 16 percent of the variance in subjective well-being; and the meta-analysis of Okun, et al. (1984) where health status explained between eight and 14 percent of the variance in subjective well-being. The relatively low proportion of variance explained by functional health status in this study (2.9 percent) may have been due to possible sampling bias, by excluding those in the extreme negative categories with regard to major limitations and health alterations related to chronic conditions. On the other hand, the smaller predictive value of functional health status in this sample of older adults would seem to be supportive of the Continuity Theory (Atchley, 1982). It is only with drastic, rather than gradual, declines in physical capacity that adaptation and adjustment through self-esteem and role activity is disrupted, thus allowing loss of continuity and decreases in subjective well-being.

In addition, the relatively low proportion of variance explained by role activity in this study was unexpected given the findings in the literature. For instance, Larson (1978) reports the proportion of variance explained in subjective well-being as between one and nine percent. Markides and Martin (1979) further determined that activity explained between 33
and 39 percent of the variance in life satisfaction. It is recognized that few subsequent studies go beyond reporting relationships, toward explaining variance, and extant studies use varying measures for role activity that are not necessarily related to social roles. It is important to note, however, that the $R^2$-change value observed for role activity in this study was observed only after the control of self-esteem, functional health status, and the four demographic variables. This may explain in part the value which is lower than that observed in previous studies.

It should be emphasized that the non-random nature of this sample limits the ability to interpret tests of significance meaningfully, and thus to generalize results to the population. Indeed, the size of relationships in this sample may be of more importance than the actual significance test levels. However, the results add to the existing body of literature and our understanding of the relationships suggested by the Continuity Theory of Aging.

**Summary**

This study was undertaken to describe and analyze the relationships between subjective well-being and role activity, functional health and self-esteem, and self-esteem with both functional health status and role
activity for older adults. The Continuity Theory of Aging was used as a theoretical framework in this investigation. Comparison of sample demographic data to population estimates indicates that this sample tends to be older, more likely to be non-married (never-married, divorced or widowed), and more likely to have attained a high school education. The sample tends to be reflective of the population with regard to gender, race and functional health characteristics.

Examination of the results of hypothesis testing indicates support for the relationships suggested by the Continuity Theory of Aging, where 1) self-esteem is a stable indicator of personality and is positively related to subjective well-being; 2) social role activity is an important variable contributing to the well-being of older people; and, 3) internal continuity (personality) and external continuity (social role activity) support one another, where "aging for most people means the continuation of familiar roles and activities in familiar environments" (Atchley, p. 392). Results regarding the relationship of functional health status with subjective well-being and self-esteem, as well as the low predictive value of functional health status to older adult subjective well-being, seem to support Atchley's (1982) contention that "gradual loss of physical capacity can be incorporated little by
little into the self-concept, and the ideal self can be modified bit by bit to take gradual declines into account...physical change that disrupt continuity of preferred activities have a much greater potential for affecting self-concept and self-esteem compared to physical changes that allow continuity at a reduced activity level" (p. 394).
CHAPTER VI

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

Summary

This ex post facto, static-group-comparison study was designed to investigate role activity, self-esteem and functional health status, as these variables relate to the subjective well-being of older adults; and thus testing the relationships proposed by the Continuity Theory of Aging. Data were collected from a cluster and convenience sample of older adults who attended Life Care Alliance, Senior Meal Centers from May 10 through June 10, 1994.

A total of 254 were eligible for participating in the study based on preestablished eligibility criteria. A total accepting sample of 195 older adults agreed to complete questionnaires, with 189 actually responding by returning the completed questionnaire and making up the data sample. The data sample thus comprised 74.4 percent of the eligible convenience sample, and 96.9 of the accepting sample. A total of 73 older adults or 38.2 percent of the responding sample requested and received assistance in completing the survey.
instrument.

The typical older adult in this sample is a 76 year old white, widowed female. These older adults most often have a high school education, and worked in an occupation classified as skilled work or clerical/sales work.

The majority of older adults in this sample reported the ability to perform ADL's and IADL's independently. However, of IADL's, respondents were the least likely to perform household chores independently. For the most part, this sample was reportedly healthy, with the majority indicating no or mild physical pain, and no or some limitation of activity due to physical handicap. A very small percentage indicated having spent eight or more days in bed, in the hospital or a nursing home. The most frequently reported medical conditions affecting this sample are arthritis and high blood pressure, with older adults most frequently medicated for these conditions as well. The typical respondent has approximately three medical conditions, for which they are receiving approximately three medications. Older adults most often rated their health as "good".

Other older adult characteristics indicate that the typical respondent is either able to drive themselves or be driven by a family member. Older
adults most frequently reported depending upon their adult children or spouse for help or in an emergency. They most often attend the meal program for the opportunity to socialize with others.

When compared to the population, this sample tends to be older, more likely to be non-married (never-married, divorced or widowed), and more likely to have attained a high school education. The sample tends to be reflective of the population with regard to gender, race and functional health characteristics.

The findings of this study pertinent to the six research hypotheses indicated the following. There was a significant positive relationship between subjective well-being and the independent variables of role activity, self-esteem and functional health status. In addition, findings indicated significant positive relationships between self-esteem and the independent variables of role activity and functional health status. It may be said that older adults who display higher levels of role activity, self-esteem and functional health, tend to demonstrate higher subjective well-being. In addition, those with higher role activity and functional health also tend to demonstrate higher levels of self-esteem.

Multiple regression analyses revealed that the three independent variables together explained a
significant proportion of the variance in subjective well-being (30.4%). Of that proportion, self-esteem explained 25.7 percent, functional health status explained 3.1 percent, and role activity explained 1.6 percent of the variance in the dependent variable subjective well-being.

**Implications**

The following will involve a discussion of implications for theory and practice, given the results of this investigation and the existing literature.

**Implications for Theory**

First, those concerned with gerontological theory building must recognize the potentially important role of self-esteem as a component of the personality and self-concept, particularly its role in adjustment, adaptation, and perceived well-being in the later years. Again, self-esteem in this study demonstrated a substantial positive relationship with subjective well-being, and independently explained 26 percent of the variance in subjective well-being. While certainly not the only personality factor related to subjective well-being in the literature, self-esteem would seem to be more than incidental to the roles that older adults play in their social situations, their adaptation to
age-related changes, and their perception of their lives, health and circumstances.

The result in this study that role activity and functional health status contributed a comparatively small proportion of variance explained in subjective well-being suggests that these variables may not be as important to subjective well-being, independent of the older adult’s evaluative perception of themselves through self-esteem and personality. However, the result that role activity and functional health status were both moderately and positively related to self-esteem and subjective well-being seems to agree with the Continuity Theory, where personality is seen as intervening between role activity and subjective well-being. It may be that the personality is indeed the filter through which the individual perceives and copes with their changing roles, health and functional capabilities.

Second, it may be that a singular, linear model of older adult subjective well-being is insufficient to represent the complex interaction between variables, and thus the heterogeneity of the older adult population with regard to age, SES and physical or functional health (Lemon, et al., 1972; Larson, 1978). For instance, Linn and Linn (1980) criticize treating the elderly as a homogeneous group regarding health
perceptions and functional status, as the young-old have different characteristics from the old-old. Further, there may be curvilinear relationships, especially with regard to socioeconomic factors, that require differences in thinking between groups (Larson, 1978; Andrews, 1991). As Lemon, et al. (1972) indicate, the danger of theory building is the risk of stereotyping and overgeneralization, thus missing differences between subgroups that may be important to how we make decisions about and work on behalf of those groups. It would seem, therefore, that any model or theory utilized to study or intervene must be examined carefully for the inclusion of the very demographic variables that result in the heterogeneity we recognize among older adults.

It must be noted that although the Continuity Theory of Aging suggests antecedence of self-esteem, role activity and functional health status for change in subjective well-being, the results of this study neither confirm nor rule out this possibility. It seems more plausible, however, that the relationships among these variables are interactive in nature, and thus more complex than the model propose in Figure 1, particularly the relationship between self-esteem and subjective well-being.
Implications for Practice

Perhaps the most important implications for practitioners in health education, gerontology and health care involve our perceptions of older adults developmentally and our definitions of health as they apply to older adults. First, the usual emphasis of investigation and intervention is to see aging as a process of deterioration and lowered adaptive capacity. Older adults are often viewed as incapable of self-determination, as they are seen to lack the physical resources to meet the demands of their environment (Breytspraak, 1984). Thus interventions are programmatic attempts to decelerate or halt inevitable decline. When we, however, view aging and older adults developmentally, as capable of adaptation, adjustment and self-determination, it becomes necessary to view the older adult as active rather than reactive. From this view, any adjustment or adaptive effort is preceded by the older adult's perception of the situation and their decision to act or not to act. Self-esteem is therefore part of the older adult's active evaluative mechanism, helping them to defend their ideas about themselves through past experience and roles, as well as familiar environments where they practice established competencies. This becomes an active process of adjusting and adapting to change.
From this viewpoint, older adults actively, and possibly proactively, work to find solutions to issues in their lives, including changes related to role loss, alterations in health status, and functional limitations that accompany chronic disability.

Second, any definition of health as applied to older adults must recognize the possibility of positive health and well-being in the presence of chronic illness and disability. This requires a divergence from defining health as the absence of disease, based on clinical standards of the traditional biomedical model of health. Alternatively, there should be concern for the whole individual (physical, social, emotional, spiritual, mental), their interaction with the environment, and the extent to which the person is capable of realizing his or her potential. It is interesting that despite the prevalence of chronic disease among older adults, most in this study and the literature rate their health as excellent or good, and do not consider themselves to be handicapped with regard to ADL's (Mossey and Shapiro, 1982; Gelein, 1983; Kaplan, et al., 1988; Ebersole and Hess, 1990; National Center for Health Statistics, 1994). This discrepancy between older adult perceptions of health and well-being, and health and vital statistics related to chronic illness, should in part spur us to continue
to develop ideas of health beyond clinical pathogenesis. In this way, we may better understand and promote those resources and characteristics that support health and well-being among older adults. Pender (1987) suggests that we view health as "the actualization of inherent and acquired human potential through goal-oriented behavior, competent self-care, and satisfying relationships with others while adjustments are made as needed to maintain structural integrity and harmony with the environment" (in Stuifbergen, et al., 1990, p. 20). This definition allows for a quest for health, even in the presence of illness and disability.

**Implications for Health Education**

Given the need to change our thinking about older adults and health, Breytspraak (1984) suggests three possible levels of intervention for promoting self-esteem and psychological well-being, including preventive, corrective and enrichment interventions. The following will involve a discussion of possible interventions for older adults, given the results of this study and findings in the literature, toward supporting the well-being of older adults.
Preventive and Corrective Interventions

If one accepts defining older adult health and well-being beyond physical health, preventive and corrective interventions should include those that prevent, correct and manage chronic illness and disability as well as those that promote and maintain the older adult's self-esteem, sense of control, competence and personal responsibility. For instance, since most changes that occur with aging are expectable, the focus of interventions may very well include promoting the preparation for active efforts in: 1) functioning given normal age-related changes; 2) preventing and/or managing pathological changes; 3) developing the philosophy and resources necessary to defend self-concept and self-esteem against age-related change and negative societal stereotypes and attitudes about the elderly (Costa, et al., 1987); and 4) preserving continuity in social role activity (Atchley, 1987). Atchley (1987) describes three possible ways that older adults adapt to age-related loss of roles and activities, including: 1) substitution of new roles or activities for those that have been lost; 2) consolidation of remaining roles and activities with a redistribution of available energy; and, 3) differential disengagement from social roles and activities. He suggests that those interested in older
adult coping and adaptation should intervene by helping
the individual to achieve their own unique balance
between the three models, given social conditions,
norms and functional health.

Levy (1990) further suggests that older adult
rehabilitative interventions must involve content to
maintain or raise individual sense of competence and
autonomy, including: 1) "assistance in objectively
assessing their capabilities and limitations in
performing desired activities to become aware of their
functional potentials and determine realistic,
desirable and perhaps new social roles" (p. 5); 2)
development of compensatory cognitive and environmental
strategies for functional limitations related to
chronic illness and disability; and 3) development of
compensatory strategies for the modification of
activities given functional limitations. For example,
environmental compensatory strategies might include
modifications that control illumination, contrast and
glare for visual limitations; the elimination of
background noise for hearing limitations; and
organizing the activity space to minimize lifting,
bending or walking. Cognitive compensatory strategies
may include learning principles of work simplification
and energy conservation to compensate for
cardiovascular and muscle strength limitations;
increased attention to safety hazards to avoid falls, compensating for decreased bone mass and vulnerability to fracture; and modifications of work surface height and supply storage to compensate for decreased flexibility.

Activity modifications include 1) position of the individual performing the activity, compensating for the effects of poor posture (ex. decreased vital capacity, reduced oxygen intake, increased fatigue, etc.); 2) the amount of resistance in the activity, compensating for limitations in coordination, range of motion, strength, and arthritic joints; 3) properties of materials and tools used (ex. size, resistance, texture and pliability) compensating for limitations of muscle strength, range of motion, pinch and grip strength, and coordination; and 4) procedures for performing the activity, compensating for decreased range of motion and strength, joint deterioration, and energy availability.

Other possible preventive and corrective interventions might include the following:

1. Design and implementation of programs that decrease noxious elements in the older adult’s environment, thus affecting health and well-being through improved housing, decreased poverty and increased range of services (Breytspraak, 1984);

2. Design and implementation of programs that identify diagnoses at high risk for poor health perceptions, declining function and lowered sense of well-being, to be targeted for helping the
older adult to cope in an adaptive manner (Linn and Linn, 1980);

3. Design and implementation of programs that assist older adults in making more functional attributions about the causes behind their situations and behaviors, rather than attributions to aging alone;

4. Design and implementation of programs that identify low self-esteem elderly toward the prevention of depression, anxiety and body symptomatology (Hunter, et al., 1982);

5. Design and implementation of community programs to shift socio-cultural attitudes toward older adults, thus counteracting ageism and society's emphasis on physical vitality and economic productivity as the means for societal worth, all which threaten self-concept, self-esteem, and perceived competence (Hunter, et al., 1982; Breytspraak, 1984; Ruffing-Rahal, 1984);

6. Design and implementation of community programs that support access to social activities for older adults, alterations to the environment to increase perception of competence and acceptability; and,

7. Incorporate geriatric training into medical and other health professional schools to increase awareness and competence in providing care and services to older adults given their psychosocial and health characteristics.

Enrichment Interventions

Enrichment interventions are those that promote the optimization of human development and optimal functioning (Breytspraak, 1984). Such interventions should be directed toward supporting health and positive well-being in the presence of chronic illness and disability. The results of this study suggest the promotion of self-esteem, and thus internal continuity,
as a resource for protecting sense of self, integration and wholeness.

A specific enrichment intervention suggested by Breytspraak (1984) and Sherman (1984) involves the development of a philosophical perspective on life. Based on the work of Erikson, such a philosophy is thought to be important to "maintaining some order and meaning in the face of age-related change" (p. 176), and hold the "power to change a person's psychology, or way of feeling about himself" (p. 177) (in Sherman, 1984). This is suggested to be necessary in the later years as persons over 50 years of age are developmentally theorized to be in search of personal meaning as a central, integrating theme in their lives.

Closely associated with developing a philosophy would be those interventions that assist the older adult in a self-reflective examination of their past, toward putting their life and experiences into an overall framework or perspective. Such an intervention would recognize the importance of the past to self, and the self as a pivotal element in the relationship between the older adult and their social world. Life review and reminiscence would be useful toward the older adult's understanding of himself, and his past conflicts and successes, as unique. This sense of self and uniqueness is one mechanism that protects the older
adult against often negative societal attitudes, regarding personal competence and self-determination.

**Recommendations for Future Research**

The following involves suggestions regarding future research efforts, including suggestions for research procedures and further study of subjective well-being and related variables.

First, in order to capture the nature and change of adult subjective well-being over the life span, future gerontological investigations must include longitudinally designed studies for examining subjective well-being and its relationships with self-esteem, role activity and functional health status over time. This is the only way to determine the stability and structure of these variables and their relationships across adulthood. In addition, such longitudinal designs will be necessary to examine the potentially active aspects of self for their effects on subjective well-being, including other personality components (ex. self-concept, locus of control, etc.).

Second, it will be important for investigators to involve populations that are geographically and socioeconomic diversity in order to explain differences among adults and older adults, not only overtime, but also with regard to race, culture,
education and other sociodemographic variables affecting the aging process and health. Specifically, gerontological research designs need to involve: 1) improved sampling techniques to allow for the inclusion of non-white/non-black minority groups; 2) utilization of random sampling methods to improve generalizability and ability to interpret significance testing results; and, 3) sampling techniques which continue to include measures of SES to determine the differential effects of independent variables on subjective well-being.

Third, any future investigative efforts must be based on specific theoretical frameworks that guide choice of variables, instrument selection, hypothesis testing, and discussion of findings. This method will promote the productive comparison between studies and populations, and a more systematic approach to theory building. Further, future research may best directed toward refining existing measures of subjective well-being, role activity, self-esteem and functional health for improved conceptualization, validity and reliability. This refinement may require the use of qualitative methods which capture the true quality of subjective well-being from the older adult’s perspective. Additional efforts should be directed toward replicating the use of multidimensional measures of older adult subjective well-being and functional
health within specific theoretical frameworks. Path analysis investigations would aid in determining the configuration of variables within selected models.

Finally, health educators interested in the promotion of older adult health should direct their efforts toward designing, implementing and evaluating older adult health education programs that are theory-based, focusing on the promotion of psychosocial well-being as well as physical health. Other attempts to affect this population may include designing studies that examine the unique structure of health in the later years, those resources that protect health with aging, and identifying high risk diagnoses for negative effects on self-esteem and subjective well-being, so that future interventions may reflect these findings.

Conclusions from Recommendations

Improved understanding of the particular characteristics and behaviors that are associated with higher levels of subjective well-being are important to current and future older adults, as our population continues to age. The findings of this study suggest that self-esteem, as a source of internal continuity, is substantially related to and explains a significant proportion of variance in subjective well-being. It may
be said that older adults who display higher levels of role activity, self-esteem and functional health, tend to demonstrate higher subjective well-being. In addition, those with higher role activity and functional health also tend to demonstrate higher levels of self-esteem. These results support what is theorized in the gerontology research, which suggests that internal continuity (personality) and external continuity (social role activity) support one another. As one ages, there are familiar external structures and competencies that one draws upon given the demands of age-related physical, functional and social changes, resulting in a stable self-concept. In turn, a stable self-concept helps one to adapt to role changes by providing a sense of competence as a basis for reassessing one’s competence in new life circumstances.

The results of this and past studies indicate the need for future longitudinal investigation into the interrelationships between subjective well-being, self-esteem, role activity and functional health, their value in explaining subjective well-being among older adults, and the stability and structure of these associations over time. This study suggests that role activity is not an independent predictor of subjective well-being controlling for the effects of the personality through self-esteem. Future research
procedures must include not only longitudinal methods, but also improved sampling methods, conceptualization and measurement of variables, and the use of specific theoretical frameworks in designing studies, defining and measuring constructs, and planning interventions.

Again, it must be recognized that the associational nature of this study and its non-random sample limit the ability to interpret tests of significance meaningfully, and thus to generalize results to the population. The reader is further cautioned against making cause-effect assumptions from study findings. However, the demonstration of positive relationships self-esteem, role activity and functional health with subjective well-being, and those of role activity and functional health with self-esteem, add to the existing body of literature and our understanding of the relationships suggested by the Continuity Theory of Aging. These results seem to reinforce the important role of psychosocial characteristics, beyond physical health, in promoting subjective well-being among older adults.
APPENDICES

A. Alphabetical listing of Senior Dining Centers in Sample and Map of Their Location in Franklin County, Ohio

B. Letter of Approval by Life Care Alliance

C. Letters of permission to use measures

D. Measures

E. Survey Instrument

F. Verbal Address

G. Human Subjects Review approval
APPENDIX A

Alphabetical listing of Senior Dining Centers in Sample and Map of Their Location in Franklin County, Ohio
Senior Dining Centers in Sample:

1. Bollinger Dining Center  
   Bollinger Tower  
   750 North High Street

2. Jewish Center Dining Center  
   Leo Yassenoff Jewish Center  
   1125 College Avenue

3. Linden Dining Center  
   Oakland Park Methodist  
   994 Oakland Park Avenue

4. North Community Dining Center  
   Evangelical Lutheran Church  
   114 Morse Road

5. Reynoldsburg Dining Center  
   Parkview Presbyterian Church  
   6969 East Livingston Avenue

6. Southwest Dining Center  
   Evans Senior Center  
   4330 Dudley Avenue

7. St. Stephens Dining Center  
   St. Stephens Community House  
   1500 East 17th Avenue

8. Westerville Dining Center  
   First Presbyterian Church  
   41 West College Avenue

9. Westgate Dining Center  
   Westgate Recreational Center  
   455 South Westgate Avenue

10. Whitehall Dining Center  
    Maplewood Heights Senior Center  
    91 Maplewood Avenue
Figure 3

Map of Dining Center Locations in Franklin County, Ohio
APPENDIX B

Letter of Approval by Life Care Alliance
February 18, 1994

Human Subject Review Committee
300 Research Foundation
1960 Kenny Road
Columbus, OH 43210

Dear Sir:

We at LifeCare Alliance are pleased to collaborate with Kristen Langhaut's research at the congregate dining centers. The information from her survey will benefit us in planning for expanded dining center services for the older persons in our community.

Kristen’s professional attitude and client sensitivity have impressed the LifeCare staff.

Yours truly,

Marleen McCage
Meal Program Director

MM/bs

cc: Kristen Langhaut
APPENDIX C

Letters of Permission to Use Measures
February 23, 1994

Kristen J. Langhout, RDH, MS  
Doctoral Candidate  
The Ohio State University  
School of Health, Physical Education and Recreation  
1750 Neil Avenue  
Columbus, OH 43210-1221  
Fax: 614-292-7619

Dear Ms. Langhout:

Permission is hereby granted to the request detailed in your letter of August 26, 1993 regarding use of material from:


It is understood that Appendix E, the Current HIS Mental Health Battery, will be used in your dissertation and reprinted therein.

Please cite the material in your bibliography as it appears above. Also, if you will be reproducing the entire battery in an appendix to your dissertation, please include at the bottom of the page, "Reprinted by permission of RAND."

Sincerely,

[Signature]

Denise Woerner  
Rights and Permissions
Princeton University Press
Copyright Permissions
41 Williams Street
Princeton, New Jersey 08510
Re: Rosenberg Self-Esteem Scale

Copyright Permissions Department:

I am a doctoral candidate at The Ohio State University, School of Health,
Physical Education and Recreation. I am working on my dissertation proposal,
etitled "The Relationship between Subjective Well-Being, Role Activity and
Self Esteem in a Sample of Older Adults." I am writing to you to seek permission
to use the Self Esteem Scale designed by M. Rosenberg (1965) in Society and
the Adolescent Self-Image.

I wish to use the measurement scale for testing the independent variable of self
esteem as part of my dissertation research. I intend to use the tool as it is
described by the author and to reproduce the instrument only for the expressed
purpose of testing my research hypotheses. The study population will involve
older adults, aged 65 and older.

With your response I would also ask that you include instructions regarding how
I should document the copyrighted materials throughout my dissertation
document.

Thank you in advance for your efforts on my behalf. Please correspond with me
at the following address: Box 179 Post Office, 305 West 12th Avenue,
Columbus, Ohio, 43210; or FAX #614-292-7619.

Sincerely,

Kristen J. Langholtz, RDH, MS
Doctoral Candidate
The Ohio State University
School of HPER

7/23/93

For administration of Scale, contact Dr. Rosenberg,
College Park, MD 20742
Sociology Dept. Univ. of Maryland
Program Areas

Adapted Physical Activity
341 Larkins Hall
292-2322
Exercise Science
129 Larkins Hall
292-4687
Health Education
213 Pomerene Hall
292-5110
Sport, Leisure & Exercise Studies
246 Larkins Hall
292-5338
Teacher Education
305A Pomerene Hall
292-5479

College of Education
Dr. Phyllis Kahnt  
Director of Copyright Permissions  
The Gerontological Society of America  
1275 K Street N.W., Suite 350  
Washington, D.C. 20005  
FAX: 202-842-1150

Dear Dr. Kahnt,

I am a doctoral candidate at The Ohio State University, School of Health, Physical Education and Recreation. I am working on my dissertation proposal, entitled "The Relationship between Subjective Well-Being, Role Activity and Self Esteem in a Sample of Older Adults." I am writing to you to seek permission to use the Self-Evaluation of Life Function (SELF) Scale designed by Linn and Linn, published in the Journal of Gerontology (1984, Volume 39, Issue 5, pages 603-612).

I wish to use the measurement scale as an independent variable of functional health status as part of my dissertation research. I intend to use the tool as it is described by the authors. I intend to reproduce the instrument only for the expressed purpose of testing my research hypotheses. The study population will involve older adults, aged 65 and older.

With your response I would also ask that you include instructions regarding how I should document the copyrighted materials throughout my dissertation document.

Thank you in advance for your efforts on my behalf. Please correspond with me at the following address: Box 179 Postle Hall, 305 West 12th Avenue, Columbus, Ohio 43210; or FAX #614-292-7619.

Sincerely,

Kristen J. Langhout, RDA, MS  
Doctoral Candidate  
The Ohio State University  
School of HPER

Permission granted.

[Signature]

[Date: 7/19/93]

[Signature]

[Date: 7/19/93]
To Whom It May Concern:

I am a doctoral candidate at The Ohio State University, School of Health, Physical Education and Recreation. I am working on my dissertation proposal, entitled "The Relationship between Subjective Well-Being, Role Activity and Self Esteem in a Sample of Older Adults." I am writing to seek permission for using Hollingshead's "Index of Social Position," as described in Social Class and Mental Illness: A Community Study (1958), p 390-391, by Hollingshead and Redlich (photocopy enclosed).

I wish to use the measurement scale for testing a demographic variables part of my dissertation research. I intend to use the tool as it is described by the authors and to reproduce the instrument only for the expressed purpose of testing my research hypotheses. The study population will involve older adults aged 65 and older.

With your response I would also ask that you include instructions regarding how I should document the copyrighted materials throughout my dissertation document.

Thank you in advance for your efforts on my behalf. Please correspond with me at the following address: Box 179 Postle Hall, 305 West 12th Avenue, Columbus, Ohio 43210; or FAX #614-292-7619.

Sincerely,

Kristen J. Langhout, RDH, MS
Doctoral Candidate
The Ohio State University
School of HPER
APPENDIX D

MEASURES

HIS MENTAL HEALTH BATTERY GENERAL WELL-BEING Ware, et al. (1981)

Physical Health Component of the SELF-EVALUATION OF LIFE FUNCTION (SELF) SCALE Linn and Linn (1984)

ROSENBERG’S SELF-ESTEEM SCALE Rosenberg (1965)

ROLE ACTIVITY SCALE

DEMOGRAPHIC ITEMS
HIS MENTAL HEALTH BATTERY
GENERAL WELL-BEING

Ware, et al. (1981)

THESE QUESTIONS ARE ABOUT HOW YOU FEEL, AND HOW THINGS
HAVE BEEN WITH YOU MOSTLY WITHIN THE PAST MONTH. FOR
EACH QUESTION, PLEASE CIRCLE A NUMBER FOR THE ONE
ANSWER THAT COMES CLOSEST TO THE WAY YOU HAVE BEEN
FEELING.

1. How happy, satisfied, or pleased have you been with
your personal life during the past month?
(circle one)

Extremely happy, could not have been more
satisfied.............................................. 1
Very happy most of the time......................... 2
Generally satisfied, pleased........................ 3
Sometimes fairly satisfied, sometimes
fairly unhappy...................................... 4
Generally dissatisfied, unhappy.................. 5
Very dissatisfied, unhappy most of the time... 6

2. How much of the time have you felt lonely during
the past month?
(circle one)

All of the time ..................................... 1
Most of the time.................................... 2
A good bit of the time............................ 3
Some of the time.................................. 4
A little of the time............................... 5
None of the time.................................. 6

3. How often did you become nervous or jumpy when
faced with excitement or unexpected situations during
the past month?
(circle one)

Always............................................... 1
Very often.......................................... 2
Fairly often......................................... 3
Sometimes.......................................... 4
Almost never...................................... 5
Never.................................................. 6
4. During the past month, how much of the time have you felt that the future looks hopeful and promising?

(circle one)

All of the time ........................................ 1
Most of the time ..................................... 2
A good bit of the time .............................. 3
Some of the time ................................. 4
A little of the time ............................... 5
None of the time ................................. 6

5. How much of the time, during the past month, has your daily life been full of things that were interesting to you?

(circle one)

All of the time ........................................ 1
Most of the time ..................................... 2
A good bit of the time .............................. 3
Some of the time ................................. 4
A little of the time ............................... 5
None of the time ................................. 6

6. How much of the time, during the past month, did you feel relaxed and free of tension?

(circle one)

All of the time ........................................ 1
Most of the time ..................................... 2
A good bit of the time .............................. 3
Some of the time ................................. 4
A little of the time ............................... 5
None of the time ................................. 6

7. During the past month, how much of the time have you generally enjoyed the things you do?

(circle one)

All of the time ........................................ 1
Most of the time ..................................... 2
A good bit of the time .............................. 3
Some of the time ................................. 4
A little of the time ............................... 5
None of the time ................................. 6
8. During the past month, have you had any reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel or of your memory?

(circle one)

No, not at all ........................................ 1
Maybe a little ........................................ 2
Yes, but not enough to be concerned or worried about it ........................................ 3
Yes, and I have been a little concerned .......... 4
Yes, and I am quite concerned ..................... 5
Yes, and I am very much concerned about it ... 6

9. Did you feel depressed during the past month?

(circle one)

Yes, to the point that I did not care about anything for days at a time .................. 1
Yes, very depressed almost every day ............. 2
Yes, quite depressed almost every day ............ 3
Yes, quite depressed several times ............... 4
Yes, a little depressed now and then ............. 5
No, never felt depressed at all ...................... 6

10. During the past month, how much of the time have you felt loved and wanted?

(circle one)

All of the time ....................................... 1
Most of the time ..................................... 2
A good bit of the time ................................ 3
Some of the time .................................... 4
A little of the time .................................. 5
None of the time ..................................... 6

11. How much of the time, during the past month, have you been a very nervous person

(circle one)

All of the time ....................................... 1
Most of the time ..................................... 2
A good bit of the time ................................ 3
Some of the time .................................... 4
A little of the time .................................. 5
None of the time ..................................... 6
12. When you got up in the morning, this past month, about how often did you expect to have an interesting day?

<table>
<thead>
<tr>
<th>(circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
</tr>
<tr>
<td>Very often</td>
</tr>
<tr>
<td>Fairly often</td>
</tr>
<tr>
<td>Sometimes</td>
</tr>
<tr>
<td>Almost never</td>
</tr>
<tr>
<td>Never</td>
</tr>
</tbody>
</table>

13. During the past month, how much of the time have you felt tense or "high-strung"?

<table>
<thead>
<tr>
<th>(circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All of the time</td>
</tr>
<tr>
<td>Most of the time</td>
</tr>
<tr>
<td>A good bit of the time</td>
</tr>
<tr>
<td>Some of the time</td>
</tr>
<tr>
<td>A little of the time</td>
</tr>
<tr>
<td>None of the time</td>
</tr>
</tbody>
</table>

14. During the past month, have you been in firm control of your behavior, thoughts, emotions, feelings?

<table>
<thead>
<tr>
<th>(circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, very definitely</td>
</tr>
<tr>
<td>Yes, for the most part</td>
</tr>
<tr>
<td>Yes, I guess so</td>
</tr>
<tr>
<td>No, not too well</td>
</tr>
<tr>
<td>No, and I am somewhat disturbed</td>
</tr>
<tr>
<td>No, and I am very disturbed</td>
</tr>
</tbody>
</table>

15. During the past month, how often did your hands shake when you tried to do something?

<table>
<thead>
<tr>
<th>(circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
</tr>
<tr>
<td>Very often</td>
</tr>
<tr>
<td>Fairly often</td>
</tr>
<tr>
<td>Sometimes</td>
</tr>
<tr>
<td>Almost never</td>
</tr>
<tr>
<td>Never</td>
</tr>
</tbody>
</table>
16. During the past month, how often did you feel that you had nothing to look forward to?

(circle one)

Always .................................................. 1
Very often .............................................. 2
Fairly often ............................................ 3
Sometimes ................................................ 4
Almost never ........................................... 5
Never ....................................................... 6

17. How much of the time, during the past month, have you felt calm and peaceful?

(circle one)

All of the time ........................................... 1
Most of the time ....................................... 2
A good bit of the time ................................. 3
Some of the time ....................................... 4
A little of the time .................................... 5
None of the time ....................................... 6

18. How much of the time, during the past month, have you felt emotionally stable?

(circle one)

All of the time ........................................... 1
Most of the time ....................................... 2
A good bit of the time ................................. 3
Some of the time ....................................... 4
A little of the time .................................... 5
None of the time ....................................... 6

19. How much of the time, during the past month, have you felt downhearted and blue?

(circle one)

All of the time ........................................... 1
Most of the time ....................................... 2
A good bit of the time ................................. 3
Some of the time ....................................... 4
A little of the time .................................... 5
None of the time ....................................... 6
20. How often have you felt like crying, during the past month?

<p>| | |</p>
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<tbody>
<tr>
<td>Always</td>
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<tr>
<td>Very often</td>
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<tr>
<td>Fairly often</td>
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<td>Sometimes</td>
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<td>Almost never</td>
<td>5</td>
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<tr>
<td>Never</td>
<td>6</td>
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</tbody>
</table>

21. During the past month, how often did you feel that others would be better off if you were dead?

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<tbody>
<tr>
<td>Always</td>
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<tr>
<td>Fairly often</td>
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<td>Sometimes</td>
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<td>Almost never</td>
<td>5</td>
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<tr>
<td>Never</td>
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</table>

22. How much of the time, during the past month, were you able to relax without difficulty?

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<tbody>
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<td>All of the time</td>
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<tr>
<td>Most of the time</td>
<td>2</td>
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<tr>
<td>A good bit of the time</td>
<td>3</td>
</tr>
<tr>
<td>Some of the time</td>
<td>4</td>
</tr>
<tr>
<td>A little of the time</td>
<td>5</td>
</tr>
<tr>
<td>None of the time</td>
<td>6</td>
</tr>
</tbody>
</table>

23. During the past month, how much of the time did you feel that your relationships, loving and being loved, were full and complete?

<p>| | |</p>
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<tbody>
<tr>
<td>All of the time</td>
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<tr>
<td>Most of the time</td>
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<tr>
<td>A good bit of the time</td>
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<tr>
<td>Some of the time</td>
<td>4</td>
</tr>
<tr>
<td>A little of the time</td>
<td>5</td>
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<tr>
<td>None of the time</td>
<td>6</td>
</tr>
</tbody>
</table>
24. How often, during the past month, did you feel that nothing turned out for you the way you wanted it to?

(circle one)
Always .................................................... 1
Very often ................................................. 2
Fairly often .............................................. 3
Sometimes ................................................ 4
Almost never ............................................. 5
Never .......................................................... 6

25. How much have you been bothered by nervousness, or your "nerves", during the past month?

(circle one)
Extremely so, to the point where I could not take care of things ....................... 1
Very much bothered ..................................... 2
Bothered quite a bit by nerves ....................... 3
Bothered some, enough to notice .................... 4
Bothered just a little by nerves ..................... 5
Not bothered at all by this ......................... 6

26. During the past month, how much of the time has living been a wonderful adventure for you?

(circle one)
All of the time ............................................. 1
Most of the time ........................................... 2
A good bit of the time .................................... 3
Some of the time .......................................... 4
A little of the time ....................................... 5
None of the time .......................................... 6

27. How often, during the past month, have you felt so down in the dumps that nothing could cheer you up?

(circle one)
Always .................................................... 1
Very often .................................................. 2
Fairly often ............................................... 3
Sometimes .................................................. 4
Almost never ............................................. 5
Never .......................................................... 6
28. During the past month, did you ever think about taking your own life?

(circle one)

Yes, very often ........................................ 1
Yes, fairly often ........................................ 2
Yes, a couple of times ............................... 3
Yes, at one time ....................................... 4
No, never .................................................. 5

29. During the past month, how much of the time have you felt restless, fidgety, or impatient?

(circle one)

All of the time ......................................... 1
Most of the time ....................................... 2
A good bit of the time .............................. 3
Some of the time ..................................... 4
A little of the time ................................... 5
None of the time ...................................... 6

30. During the past month, how much of the time have you been moody or brooded about things?

(circle one)

All of the time ......................................... 1
Most of the time ....................................... 2
A good bit of the time .............................. 3
Some of the time ..................................... 4
A little of the time ................................... 5
None of the time ...................................... 6

31. How much of the time, during the past month, have you felt cheerful, light-hearted?

(circle one)

All of the time ......................................... 1
Most of the time ....................................... 2
A good bit of the time .............................. 3
Some of the time ..................................... 4
A little of the time ................................... 5
None of the time ...................................... 6
32. During the past month, how often did you get rattled, upset, or flustered?

(circle one)

Always ................................................. 1
Very often ............................................. 2
Fairly often ......................................... 3
Sometimes ............................................. 4
Almost never .......................................... 5
Never .................................................... 6

33. During the past month, have you been anxious or worried?

(circle one)

Yes, extremely so, to the point of being sick or almost sick ..................... 1
Yes, very much so ................................. 2
Yes, quite a bit .................................... 3
Yes, some, enough to bother me ............. 4
Yes, a little bit .................................... 5
No, not at all ........................................ 6

34. During the past month, how much of the time were you a happy person?

(circle one)

All of the time ....................................... 1
Most of the time ..................................... 2
A good bit of the time ............................ 3
Some of the time ................................... 4
A little of the time ................................. 5
None of the time .................................... 6

35. How often during the past month did you find yourself having difficulty trying to calm down?

(circle one)

Always ................................................... 1
Very often .............................................. 2
Fairly often .......................................... 3
Sometimes ............................................. 4
Almost never ......................................... 5
Never .................................................... 6
36. During the past month, how much of the time have you been in low or very low spirits?

(circle one)

All of the time ............................................. 1
Most of the time ........................................... 2
A good bit of the time ................................. 3
Some of the time .......................................... 4
A little of the time ....................................... 5
None of the time .......................................... 6

37. How often during the past month, have you been waking up feeling fresh and rested?

(circle one)

Always, every day ........................................ 1
Almost every day ......................................... 2
Most days ................................................... 3
Some days, but usually not ............................ 4
Hardly ever ................................................ 5
Never wake up feeling rested .......................... 6

38. During the past month, have you been under or felt you were under any strain, stress, or pressure?

(circle one)

Yes, almost more than I could stand or bear .. 1
Yes, quite a bit of pressure ........................... 2
Yes, some more than usual ............................ 3
Yes, some, but about normal .......................... 4
Yes, a little bit .......................................... 5
No, not at all ............................................ 6
SELF-EVALUATION OF LIFE FUNCTION (SELF) SCALE
Physical Health Component

Linn and Linn (1984)

PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE APPROPRIATE NUMBER.

1. How has your health been over the past month?
   1. very good
   2. good
   3. poor
   4. very poor

2. How much physical pain have you had over the past month?
   1. none
   2. mild pain
   3. moderate pain
   4. considerable pain

3. Are you able to use the telephone...
   1. without help, including looking up numbers
   2. with a little help
   3. with quite a bit of help
   4. unable to use the phone

4. Are you able to get to places that are not within walking distance...
   1. without help, using bus, taxi, car, etc.
   2. with a little help
   3. with quite a bit of help
   4. cannot travel even with help (need ambulance)

5. Are you able to go shopping for groceries or clothes...
   1. by yourself, without help
   2. with a little help
   3. with quite a bit of help
   4. cannot go shopping at all
6. Are you able to do most of the chores that need doing around the house...

1. without help, for example, cook, houseclean, garden, etc.
2. with a little help
3. with quite a bit of help
4. cannot do chores at all

7. Are you able to handle your own money...

1. without help, for example, write your own check, pay bills, etc.
2. with a little help
3. with quite a bit of help
4. cannot manage money at all

8. Are you able to dress yourself...

1. without help, for example, picking out your own clothes, buttoning and zipping them, etc.
2. with a little help
3. with quite a bit of help
4. cannot manage at all

9. Are you able to take care of your own appearance, such as comb your hair, shave, or cut your nails...

1. without help
2. with some help
3. with quite a bit of help
4. cannot take care of appearance at all

10. Are you able to walk...

1. without help
2. with some help, such as a cane, walker, or crutches
3. with quite a bit of help, such as from another person
4. cannot walk at all

11. Do you have trouble getting to the bathroom on time?

1. never
2. occasionally
3. frequently
4. cannot travel to the bathroom, or have catheter/colostomy
12. Can you shower or bathe...
   1. without help
   2. with special devices to help you
   3. with someone to help you get in and out of the tub/shower
   4. cannot bathe or shower at all (must have bed bathe)

13. Do you have any physical handicap that limits your daily activities?
   1. no, none
   2. some limitation
   3. much limitation
   4. severe limitation

14. During the past month, how many days have you been sick in bed?
   1. none
   2. 1 to 7 days
   3. 8 to 14 days
   4. 15 days or more

15. During the past month, how many days have you been in a hospital or nursing home?
   1. none
   2. 1 to 7 days
   3. 8 to 14 days
   4. 15 days or more

16. Please circle any of the following medications you are currently taking.
   1. Arthritis medication
   2. Pain killers
   3. Sleeping pills
   4. Allergy pills
   5. High blood pressure pills
   6. Pills for diabetes
   7. Heart pills
   8. Insulin
   9. Stomach medication
   10. Tranquilizers
   11. Cortisone
   12. Antibiotics
   13. Thyroid pills
   14. Seizure pills
   15. Chest pain pills
   16. Water pills
   17. Laxatives
   18. Blood thinner
   19. Pills for breathing
   20. Circulation pills
   21. Other (List) _______
17. Please circle any of the following conditions your doctor has told you that you currently have at this time.

1. Heart condition  
2. Circulation problems  
3. High blood pressure  
4. Anemia  
5. Diabetes  
6. Emphysema/bronchitis  
7. Cataracts  
8. Stomach ulcers  
9. Broken bones  
10. Gall bladder problems  
11. Hernia  
12. Liver disease  
13. Kidney disease  
14. Urinary problems  
15. Parkinson’s disease  
16. Stroke  
17. Arthritis  
18. Emotional problems  
19. Skin problems  
20. Cancer  
21. Other (List) _______
ROSENBERG'S SELF-ESTEEM SCALE

M. Rosenberg, 1965

FOR THE FOLLOWING STATEMENTS CIRCLE THE RESPONSE THAT BEST DESCRIBES HOW YOU FEEL, WHERE:

SA = Strongly Agree; 
A = Agree; 
D = Disagree; and 
SD = Strongly Disagree.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>circle response</td>
<td></td>
</tr>
</tbody>
</table>

1. I feel that I'm a person of worth, at least on an equal plane with others.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

2. I feel that I have a number of good qualities.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

3. All in all, I am inclined to feel that I am a failure.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

4. I am able to do things as well as most other people.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

5. I feel I do not have much to be proud of.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

6. I take a positive attitude toward myself.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

7. On the whole, I am satisfied with myself.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

8. I wish I could have more respect for myself.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

9. I certainly feel useless at times.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

10. At times I think I am no good at all.
    - Strongly Agree
    - Agree
    - Disagree
    - Strongly Disagree
ROLE ACTIVITY SCALE

FOR THE FOLLOWING 12 ITEMS, WE ARE ASKING YOU TO DESCRIBE YOUR ACTIVITIES, OR, WHAT YOU DO WITH FAMILY, HOME, FRIENDS, CLUBS, CHURCH, AND OTHER GROUPS. CIRCLE THE NUMBER THAT BEST DESCRIBES YOU AND YOUR ACTIVITIES ON A SCALE FROM 1 TO 10. STATEMENTS DESCRIBING 1, 5 AND 10 ON THE SCALE ARE PROVIDED BELOW THE NUMBERS FOR EACH ITEM TO HELP YOU BEST RATE YOUR LEVEL OF ACTIVITY.

SOME ITEMS MAY NOT SEEM TO APPLY TO YOU. IF NOT, CHECK THE BLANK BESIDE THE "DOES NOT APPLY TO ME" STATEMENT WHEN PROVIDED, AND GO ON TO THE NEXT ITEM.

1. As a great-grandparent, I rate my activity with my great-grandchildren as: (circle the number)

<table>
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<tr>
<th>1</th>
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<th>3</th>
<th>4</th>
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<th>7</th>
<th>8</th>
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<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No interest in them;</td>
<td>See and hear from them</td>
<td>Very active and close with them;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>too sick</td>
<td>sometimes;</td>
<td>Responsible for their care.</td>
<td></td>
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<tr>
<td>or old to care.</td>
<td>Limited time with them (ex. holidays)</td>
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</table>

OR  ____ Does not apply to me (I have no great-grandchildren).

2. As a grandparent, I rate my activity with my grandchildren as: (circle the number)

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</thead>
<tbody>
<tr>
<td>No interest in them;</td>
<td>See and hear from them</td>
<td>Very active and close with them;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>too sick</td>
<td>sometimes;</td>
<td>Responsible for their care.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>or old to care.</td>
<td>Limited time with them (ex. holidays)</td>
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OR  ____ Does not apply to me (I have no grandchildren).
3. As a parent, I rate my activity with my adult children as: (circle the number)

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<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never visit with them;</td>
<td>See and hear from them sometimes;</td>
<td>Very active and close with them;</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>No interest, too sick or old to care.</td>
<td>Limited time with them (ex. holidays)</td>
<td>Continue to have parental responsibility.</td>
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</table>

OR ____ Does not apply to me (I have no adult children).

4. With regard to my home responsibilities, I rate my activity in my home or residence as: (circle the number)

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</thead>
<tbody>
<tr>
<td>Live in institution, or with family; no home responsibility.</td>
<td>Share daily home tasks and decision with others; care for my own possessions.</td>
<td>Independent decision making and shared with spouse/other.</td>
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OR ____ Does not apply to me (I am homeless).

5. As a member of my extended family or kin (with relatives), I rate my activity with them as: (circle the number)

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<tbody>
<tr>
<td>No interest or contact with any relatives</td>
<td>Some contact with relatives; only on special occasions.</td>
<td>Very close with family and kin; depend on each other during bad times.</td>
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OR ____ Does not apply to me (I have no living relatives).
6. As a member of social clubs or organizations, I rate my activity in them as: (circle the number)

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<tbody>
<tr>
<td>No membership; No interest at all.</td>
<td>Member of one or more clubs; attend meetings regularly but not really active (say little at meetings; not a planner of events).</td>
<td>Member of one or more clubs; attend meetings always; hold office or lead events.</td>
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7. As a member of business, professional or union organizations, I rate my activity in them as: (circle the number)

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<tr>
<td>No membership; No interest at all.</td>
<td>Member of one or more groups; attend meetings regularly but not really active say little at meetings; not a planner of events.</td>
<td>Member of one or more groups; always attend meetings; hold an office or lead events.</td>
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8. As a member of a church or religious group, I rate my activity in them as: (circle the number)

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<tbody>
<tr>
<td>No interest in religion or church.</td>
<td>Attending member of a church; or nonmember but religious.</td>
<td>Active in church, and hold office or religious leader in my church.</td>
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9. In my relationship with my spouse (wife or husband) or significant other (best friend or life-partner), I rate my activity with them as: (circle the number)

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<tbody>
<tr>
<td>No interest in activity with them; or one of us is too old or sick.</td>
<td>Have same interests and attend the same social functions as a pair.</td>
<td>Very close; enjoy each other and frequently socialize as a pair.</td>
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<tr>
<td>OR ___ Does not apply to me (I have no spouse or significant other).</td>
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10. As a friend to persons other than my spouse or significant other, I rate my activity with them as: (circle the number)

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<tbody>
<tr>
<td>No interest in others or former</td>
<td>Visit in person or by phone with friends some-times exchange cards or letters for special times.</td>
<td>Very active and close with out of-town and local friends visit in person, by phone or mail.</td>
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<td>OR ___ Does not apply to me (I have no friends).</td>
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11. As a member of my community, I rate my civic activities as: (circle the number)

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<tr>
<td>No or only slight interest in my community or civic activity (do not vote or attend meetings.)</td>
<td>Vote and attend some open meet- ings read about and discuss community issues.</td>
<td>Always vote; hold com- munity office (mayor or council member, chair of committee).</td>
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12. Regarding my employment, business or profession, I rate my current activity as: (circle the number)

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<tr>
<td>Retired, or unable to work.</td>
<td>Retired, but work part-time</td>
<td>Not retired; continue with full-time employment and same responsibility.</td>
<td>Does not apply to me (I never worked outside the home or at a formal job).</td>
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DEMOGRAPHIC ITEMS

PLEASE ANSWER THE FOLLOWING QUESTIONS BY CHECKING OR FILLING IN YOUR RESPONSE.

1. What was your age at your last birthday?
   ____ years

2. What is your sex?
   ____ male
   ____ female

3. What is your marital status?
   ____ married
   ____ divorced
   ____ widowed
   ____ never married
   ____ other, please specify

4. What is the highest level of education that you completed?
   ____ grade school (less than seven years)
   ____ junior high school (7th through 9th grade)
   ____ high school
   ____ some college or vocational training (at least one year)
   ____ 4-year college degree
   ____ graduate professional degree

5. What is or was your usual occupation?

6. What is your race:
   ____ White
   ____ Black
   ____ Hispanic
   ____ Asian/Pacific Islander
   ____ American Indian/Alaskan Native
   ____ Other, please specify:
7. What is your main source of transportation?

[ ] I drive myself
[ ] family
[ ] friend or neighbor
[ ] bus
[ ] taxi
[ ] other ____________________________

8. When you need help or in an emergency, on whom do you depend?

[ ] spouse
[ ] adult child or children
[ ] brother or sister
[ ] grandchildren
[ ] other relative _______________________
[ ] friend or neighbor
[ ] fellow church member

9. Why do you attend the Senior Dining Center Meal Program? (Please list all the reasons for your participation)

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
APPENDIX E

Survey Instrument
OLDER ADULT SURVEY

BY

THE OHIO STATE UNIVERSITY

SCHOOL OF HEALTH, PHYSICAL EDUCATION AND RECREATION

AND

LIFE CARE ALLIANCE
Dear Research Participant:

Thank you for agreeing to complete a survey. This survey is being conducted to determine those factors that contribute to your overall happiness and well-being, and thus provide us with an improved understanding of older adults.

Please complete the questionnaire before you leave the meal site today, and place in the marked box at any exit. The questionnaire can probably be answered in 20 minutes or less.

Please understand that your participation is voluntary, and the information that you provide will be anonymous. All information will be reported in group form only, with no attempt to identify individuals with their responses. In addition, your decision to participate or not participate will in no way affect your eligibility for participation in this meal program. Thank you again for participating in this research study.

Sincerely,

R. Carson Bates, Ed.D.
Associate Professor

Kristen J. Langhout, M.S.
Doctoral Student

PROGRAM AREAS

Adapted Physical Activity       Exercise Science       Health Education       Sport, Leisure & Tourism Studies       Teacher Education
241 Lurieks Hall                124 Lurieks Hall                215 Pomerene Hall                241 Lurieks Hall                205A Pomerene Hall
242-250                          242-268                       242-558                         242-558                         242-5679
THESE QUESTIONS ARE ABOUT HOW YOU FEEL, AND HOW THINGS HAVE BEEN WITH YOU MOSTLY WITHIN THE PAST MONTH. FOR EACH QUESTION, PLEASE CIRCLE A NUMBER FOR THE ONE ANSWER THAT COMES CLOSEST TO THE WAY YOU HAVE BEEN FEELING.

1. How happy, satisfied, or pleased have you been with your personal life during the past month? (circle one)

   Extremely happy, could not have been more satisfied ....................... 1
   Very happy most of the time ...................... 2
   Generally satisfied, pleased ..................... 3
   Sometimes fairly satisfied, sometimes fairly unhappy .......................... 4
   Generally dissatisfied, unhappy .................... 5
   Very dissatisfied, unhappy most of the time .................................. 6

2. How much of the time have you felt lonely during the past month? (circle one)

   All of the time........................................ 1
   Most of the time...................................... 2
   A good bit of the time............................... 3
   Some of the time..................................... 4
   A little of the time................................. 5
   None of the time...................................... 6

3. How often did you become nervous or jumpy when faced with excitement or unexpected situations during the past month? (circle one)

   Always.................................................. 1
   Very often............................................. 2
   Fairly often.......................................... 3
   Sometimes............................................ 4
   Almost never......................................... 5
   Never.................................................. 6
4. During the past month, how much of the time have you felt that the future looks hopeful and promising? (circle one)

All of the time ........................................ 1
Most of the time ...................................... 2
A good bit of the time ............................... 3
Some of the time .................................... 4
A little of the time .................................. 5
None of the time ..................................... 6

5. How much of the time, during the past month, has your daily life been full of things that were interesting to you? (circle one)

All of the time ........................................ 1
Most of the time ...................................... 2
A good bit of the time ............................... 3
Some of the time .................................... 4
A little of the time .................................. 5
None of the time ..................................... 6

6. How much of the time, during the past month, did you feel relaxed and free of tension? (circle one)

All of the time ........................................ 1
Most of the time ...................................... 2
A good bit of the time ............................... 3
Some of the time .................................... 4
A little of the time .................................. 5
None of the time ..................................... 6

7. During the past month, how much of the time have you generally enjoyed the things you do? (circle one)

All of the time ........................................ 1
Most of the time ...................................... 2
A good bit of the time ............................... 3
Some of the time .................................... 4
A little of the time .................................. 5
None of the time ..................................... 6
8. During the past month, have you had any reason to wonder if you were losing your mind, or losing control over the way you act, talk, think, feel or of your memory? (circle one)

No, not at all ........................................... 1
Maybe a little ............................................ 2
Yes, but not enough to be concerned or worried about it ............................................. 3
Yes, and I have been a little concerned .... 4
Yes, and I am quite concerned ..................... 5
Yes, and I am very much concerned about it. 6

9. Did you feel depressed (sad) during the past month? (circle one)

Yes, to the point that I did not care about anything for days at a time ........ 1
Yes, very depressed almost every day ........ 2
Yes, quite depressed almost every day .......... 3
Yes, quite depressed several times ............. 4
Yes, a little depressed now and then .......... 5
No, never felt depressed at all ................. 6

10. During the past month, how much of the time have you felt loved and wanted? (circle one)

All of the time ............................................. 1
Most of the time ......................................... 2
A good bit of the time ............................... 3
Some of the time ........................................ 4
A little of the time .................................... 5
None of the time ....................................... 6

11. How much of the time, during the past month, have you been a very nervous person? (circle one)

All of the time ............................................. 1
Most of the time ......................................... 2
A good bit of the time ............................... 3
Some of the time ........................................ 4
A little of the time .................................... 5
None of the time ....................................... 6
12. When you got up in the morning, this past month, about how often did you expect to have an interesting day? (circle one)

Always .................................................. 1
Very often ............................................... 2
Fairly often ............................................. 3
Sometimes ............................................... 4
Almost never .......................................... 5
Never .................................................... 6

13. During the past month, how much of the time have you felt tense or "high-strung"? (circle one)

All of the time ........................................ 1
Most of the time ...................................... 2
A good bit of the time ................................ 3
Some of the time ..................................... 4
A little of the time .................................. 5
None of the time ..................................... 6

14. During the past month, have you been in firm control of your behavior, thoughts, emotions, feelings? (circle one)

Yes, very definitely ................................. 1
Yes, for the most part .............................. 2
Yes, I guess so ....................................... 3
No, not too well ..................................... 4
No, and I am somewhat disturbed ............. 5
No, and I am very disturbed .................... 6

15. How often, during the past month, have you felt so down in the dumps that nothing could cheer you up? (circle one)

Always .................................................. 1
Very often ............................................... 2
Fairly often ............................................. 3
Sometimes ............................................... 4
Almost never .......................................... 5
Never .................................................... 6
16. During the past month, how often did you feel that you had nothing to look forward to? (circle one)

Always ........................................... 1
Very often ......................................... 2
Fairly often ....................................... 3
Sometimes ......................................... 4
Almost never ...................................... 5
Never ............................................... 6

17. How much of the time, during the past month, have you felt calm and peaceful? (circle one)

All of the time .................................... 1
Most of the time ................................... 2
A good bit of time ................................. 3
Some of the time .................................. 4
A little of the time ............................... 5
None of the time .................................. 6

18. How much of the time, during the past month, have you felt emotionally stable? (circle one)

All of the time .................................... 1
Most of the time ................................... 2
A good bit of the time ........................... 3
Some of the time .................................. 4
A little of the time ............................... 5
None of the time .................................. 6

19. How much of the time, during the past month, have you felt downhearted and blue? (circle one)

All of the time .................................... 1
Most of the time ................................... 2
A good bit of the time ........................... 3
Some of the time .................................. 4
A little of the time ............................... 5
None of the time .................................. 6
20. How often have you felt like crying, during the past month? (circle one)

Always ......................................................... 1
Very often ..................................................... 2
Fairly often .................................................... 3
Sometimes ...................................................... 4
Almost never ................................................... 5
Never ........................................................... 6

21. During the past month, how often did you feel that others would be better off if you were dead? (circle one)

Always ......................................................... 1
Very often ..................................................... 2
Fairly often .................................................... 3
Sometimes ...................................................... 4
Almost never ................................................... 5
Never ........................................................... 6

22. How much of the time, during the past month, were you able to relax without difficulty or trouble? (circle one)

All of the time ................................................. 1
Most of the time .............................................. 2
A good bit of the time ....................................... 3
Some of the time ............................................. 4
A little of the time .......................................... 5
None of the time ............................................. 6

23. During the past month, how much of the time did you feel that your relationships, loving and being loved, were full and complete? (circle one)

All of the time ................................................. 1
Most of the time .............................................. 2
A good bit of the time ....................................... 3
Some of the time ............................................. 4
A little of the time .......................................... 5
None of the time ............................................. 6
24. How often, during the past month, did you feel that nothing turned out for you the way you wanted it to? (circle one)

Always ........................................ 1
Very often ..................................... 2
Fairly often ................................... 3
Sometimes ...................................... 4
Almost never .................................. 5
Never ........................................... 6

25. How much have you been bothered by nervousness, or "nerves", during the past month? (circle one)

Extremely so, to the point where I could not take care of things ............... 1
Very much bothered ............................ 2
Bothered quite a bit by nerves .............. 3
Bothered some, enough to notice ............ 4
Bothered just a little by nerves ............. 5
Not bothered at all by this ............... 6

26. During the past month, how much of the time has living been a wonderful adventure or experience for you? (circle one)

All of the time .................................. 1
Most of the time ................................ 2
A good bit of the time ......................... 3
Some of the time ................................ 4
A little of the time ............................. 5
None of the time ................................ 6

27. During the past month, how often did your hands shake when you tried to do something? (circle one)

Always ........................................ 1
Very often ..................................... 2
Fairly often .................................. 3
Sometimes ...................................... 4
Almost never .................................. 5
Never ........................................... 6
28. During the past month, did you ever think about taking your own life? (circle one)

Yes, very often .............................................. 1
Yes, fairly often ............................................. 2
Yes, a couple of times ................................. 3
Yes, at one time ........................................... 4
No, never ....................................................... 5

29. During the past month, how much of the time have you felt restless, fidgety, or impatient? (circle one)

All of the time .............................................. 1
Most of the time ............................................ 2
A good bit of the time ................................. 3
Some of the time .......................................... 4
A little of the time ....................................... 5
None of the time .......................................... 6

30. During the past month, how much of the time have you been moody or brooded about things? (circle one)

All of the time .............................................. 1
Most of the time ............................................ 2
A good bit of the time ................................. 3
Some of the time .......................................... 4
A little of the time ....................................... 5
None of the time .......................................... 6

31. How much of the time, during the past month, have you felt cheerful, light-hearted? (circle one)

All of the time .............................................. 1
Most of the time ............................................ 2
A good bit of the time ................................. 3
Some of the time .......................................... 4
A little of the time ....................................... 5
None of the time .......................................... 6
32. During the past month, how often did you get rattled, upset, or flustered? (circle one)

Always .................................................... 1
Very often .................................................. 2
Fairly often ............................................... 3
Sometimes ................................................. 4
Almost never ............................................. 5
Never ....................................................... 6

33. During the past month, have you been anxious or worried? (circle one)

Yes, extremely so, to the point of being sick or almost sick ..................... 1
Yes, very much so ........................................ 2
Yes, quite a bit .......................................... 3
Yes, some, enough to bother me ............................................. 4
Yes, a little bit .......................................... 5
No, not at all ............................................. 6

34. During the past month, how much of the time were you a happy person? (circle one)

All of the time ........................................... 1
Most of the time ......................................... 2
A good bit of the time .................................... 3
Some of the time ....................................... 4
A little of the time ..................................... 5
None of the time ....................................... 6

35. How often during the past month did you find yourself having difficulty trying to calm down? (circle one)

Always ..................................................... 1
Very often ................................................ 2
Fairly often .............................................. 3
Sometimes ............................................... 4
Almost never .......................................... 5
Never ..................................................... 6
36. During the past month, how much of the time have you been in low or very low spirits? (circle one)

All of the time ........................................... 1
Most of the time .......................................... 2
A good bit of the time ................................. 3
Some of the time ......................................... 4
A little of the time ...................................... 5
None of the time ......................................... 6

37. How often during the past month, have you been waking up feeling fresh and rested? (circle one)

Always, every day ........................................ 1
Almost every day ......................................... 2
Most days ................................................... 3
Some days, but usually not ........................... 4
Hardly ever .................................................. 5
Never wake up feeling rested ......................... 6

38. During the past month, have you been under or felt you were under any strain, stress, or pressure? (circle one)

Yes, almost more than I could stand or bear ...................................... 1
Yes, quite a bit of pressure .................................. 2
Yes, some more than usual .................................. 3
Yes, some, but about normal ............................ 4
Yes, a little bit ............................................. 5
No, not at all ............................................... 6
PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER THAT BEST DESCRIBES YOU.

1. How has your health been over the past month?
   1. very good
   2. good
   3. poor
   4. very poor

2. How much physical pain have you had over the past month?
   1. none
   2. mild pain
   3. moderate pain
   4. considerable pain

3. Are you able to use the telephone...
   1. without help, including looking up numbers
   2. with a little help
   3. with quite a bit of help
   4. unable to use the phone

4. Are you able to get to places that are not within walking distance...
   1. without help, using bus, taxi, car, etc.
   2. with a little help
   3. with quite a bit of help
   4. cannot travel even with help (need ambulance)

5. Are you able to go shopping for groceries or clothes...
   1. by yourself, without help
   2. with a little help
   3. with quite a bit of help
   4. cannot go shopping at all
6. Are you able to do most of the chores that need doing around the house...
   1. without help, for example, cook, houseclean, garden, etc.
   2. with a little help
   3. with quite a bit of help
   4. cannot do chores at all

7. Are you able to handle your own money...
   1. without help, for example, write your own check, pay bills, etc.
   2. with a little help
   3. with quite a bit of help
   4. cannot manage money at all

8. Are you able to dress yourself...
   1. without help, for example, picking out your own clothes, buttoning or zipping them, etc.
   2. with a little help
   3. with quite a bit of help
   4. cannot manage at all

9. Are you able to take care of your own appearance, such as comb your hair, shave, or cut your nails...
   1. without help
   2. with some help
   3. with quite a bit of help
   4. cannot take care of appearance at all

10. Are you able to walk...
    1. without help
    2. with some help, such as a cane, walker, or crutches
    3. with quite a bit of help, such as from another person
    4. cannot walk at all
11. Do you have trouble getting to the bathroom on time?

1. never  
2. occasionally  
3. frequently  
4. cannot travel to the bathroom, or have catheter/colostomy (bag)

12. Can you shower or bathe...

1. without help  
2. with special devices to help you  
3. with someone to help you get in and out of the tub/shower  
4. cannot bathe or shower at all (must have bed bath)

13. Do you have any physical handicap that limits your daily activities?

1. no, none  
2. some limitation  
3. much limitation  
4. severe limitation

14. During the past month, how many days have you been sick in bed?

1. none  
2. 1 to 7 days  
3. 8 to 14 days  
4. 15 days or more

15. During the past month, how many days have you been in a hospital or nursing home?

1. none  
2. 1 to 7 days  
3. 8 to 14 days  
4. 15 days or more
16. Please circle any of the following medications you are taking now (circle each number).

1. Arthritis (rheumatism) medication(s)
2. Pain killers
3. Sleeping pills
4. Allergy pills
5. High blood pressure pills
6. Pills or shots for diabetes (Sugar)
7. Heart pills
8. Stomach medication
9. Tranquilizers (nerve pills)
10. Cortisone (steroids)
11. Antibiotics
12. Thyroid pills
13. Pills for seizures or convulsions
14. Chest pain pills
15. Water pills
16. Laxatives (stool softeners)
17. Anticoagulant (blood thinner)
18. Pills or inhaler for breathing
19. Circulation pills
20. Other (List)____________________
17. Please circle any of the following conditions your doctor has told you that you currently have at this time (circle each number).

1. Heart condition
2. Circulation problems
3. High blood pressure
4. Anemia (low or iron-poor blood)
5. Diabetes (Sugar)
6. Emphysema/bronchitis (breathing problems)
7. Cancer
8. Stomach ulcers
9. Broken bones
10. Gall bladder problems
11. Hernia
12. Liver disease
13. Kidney disease
14. Urinary problems
15. Parkinson’s disease
16. Stroke
17. Arthritis (Rheumatism)
18. Emotional problems (nerves)
19. Skin problems
20. Cataracts
21. Other (List) ____________________________
FOR THE FOLLOWING STATEMENTS CIRCLE THE RESPONSE THAT BEST DESCRIBES HOW YOU FEEL, WHERE:

SA = Strongly Agree;
A = Agree;
D = Disagree; and
SD = Strongly Disagree.

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<tr>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
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<td>circle response</td>
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1. I feel that I'm a person of worth, at least equal to or as good as others.................. SA A D SD

2. I feel that I have a number of good qualities or traits........ SA A D SD

3. All in all, I am inclined to feel that I am a failure........ SA A D SD

4. I am able to do things as well as most other people........ SA A D SD

5. I feel I do not have much to be proud of......................... SA A D SD

6. I take a positive attitude toward or like myself................ SA A D SD

7. On the whole, I am satisfied or happy with myself................ SA A D SD

8. I wish I could have more respect for myself....................... SA A D SD

9. I certainly feel useless at times................................. SA A D SD

10. At times I think I am no good at all............................. SA A D SD
FOR THE FOLLOWING 12 ITEMS, WE ARE ASKING YOU TO DESCRIBE YOUR ACTIVITIES, OR, WHAT YOU DO WITH FAMILY, HOME, FRIENDS, CLUBS, CHURCH, AND OTHER GROUPS. CIRCLE THE NUMBER THAT BEST DESCRIBES YOU AND YOUR ACTIVITIES ON A SCALE FROM 1 TO 10. STATEMENTS DESCRIBING 1, 5 AND 10 ON THE SCALE ARE PROVIDED BELOW THE NUMBERS FOR EACH ITEM TO HELP YOU BEST RATE YOUR LEVEL OF ACTIVITY.

SOME ITEMS MAY NOT SEEM TO APPLY TO YOU. IF NOT, CHECK THE BLANK BesIDE THE "DOES NOT APPLY TO ME" STATEMENT WHEN PROVIDED, AND GO ON TO THE NEXT ITEM.

1. As a great-grandparent, I rate my activity with my great-grandchildren as: (circle the number)

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<tr>
<td>No interest in them;</td>
<td>See and hear from them</td>
<td>Very active and close</td>
<td></td>
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<td></td>
<td></td>
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<td>too sick</td>
<td>sometimes;</td>
<td>with them;</td>
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<td>or old to care.</td>
<td>Limited time with them</td>
<td>Responsible for their care.</td>
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<td>(ex. holidays)</td>
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OR ___ Does not apply to me (I have no great-grandchildren).

2. As a grandparent, I rate my activity with my grandchildren as: (circle the number)

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<tbody>
<tr>
<td>No interest in them;</td>
<td>See and hear from them</td>
<td>Very active and close</td>
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<tr>
<td>too sick</td>
<td>sometimes;</td>
<td>with them;</td>
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<td>or old to care.</td>
<td>Limited time with them</td>
<td>Responsible for their care.</td>
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<td>(ex. holidays)</td>
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OR ___ Does not apply to me (I have no grandchildren).
3. As a parent, I rate my activity with my adult children as: (circle the number)

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</thead>
<tbody>
<tr>
<td>Never visit with them;</td>
<td>See and hear from them</td>
<td>Very active and close with them;</td>
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<tr>
<td>No interest, too sick or old to care.</td>
<td>Limited time with them (ex. holidays)</td>
<td>Continue to have parental responsibility.</td>
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OR ___ Does not apply to me (I have no adult children).

4. With regard to my home responsibilities, I rate my activity in my home or residence as: (circle the number)

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</thead>
<tbody>
<tr>
<td>Live in institution, or with family; no home responsibility.</td>
<td>Share daily home tasks and decision making and tasks, or shared with spouse/other.</td>
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<td>decision with others; care for my own possessions.</td>
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OR ___ Does not apply to me (I am homeless).
5. As a member of my extended family or kin (with relatives), I rate my activity with them as: (circle the number)

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<tbody>
<tr>
<td>No interest or contact with any relatives</td>
<td>Some contact with relatives; only on special occasions.</td>
<td>Very close with family and kin; depend on each other during bad times.</td>
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OR ____ Does not apply to me (I have no living relatives).

6. As a member of social clubs or organizations, I rate my activity in them as: (circle the number)

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<tbody>
<tr>
<td>No membership; No interest at all.</td>
<td>Member of one or more clubs; attend meetings regularly but not really active (say little at meetings; not a planner of events).</td>
<td>Member of one or more clubs; attend meetings; hold an office or lead events.</td>
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7. As a member of business, professional or union organizations, I rate my activity in them as:
(circle the number)

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<tbody>
<tr>
<td>No membership; No interest at all.</td>
<td>Member of one or more groups; attend meetings regularly but not really active say little at meetings; not a planner of events.</td>
<td>Member of one or more groups; always attend meetings; hold an office or lead events.</td>
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8. As a member of a church or religious group, I rate my activity in them as: (circle the number)

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</thead>
<tbody>
<tr>
<td>No interest in religion or church.</td>
<td>Attending member of a church; or nonmember but religious.</td>
<td>Active in church, and hold office or religious leader in my church.</td>
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</table>
9. In my relationship with my spouse (wife or husband) or significant other (best friend or life-partner), I rate my activity with them as: (circle the number)

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</thead>
<tbody>
<tr>
<td>No interest in activity with them; or one of us is too old or sick.</td>
<td>Have same interests and attend the same social functions as a pair.</td>
<td>Very close; enjoy each other and frequently socialize as a pair.</td>
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OR ____ Does not apply to me (I have no spouse or significant other).

10. As a friend to persons other than my spouse or significant other, I rate my activity with them as: (circle the number)

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</thead>
<tbody>
<tr>
<td>No interest in others or former</td>
<td>Visit in person or by phone with friends sometimes exchange cards or letters for special times.</td>
<td>Very active and close with out-of-town and local friends visit in person, by phone or mail.</td>
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OR ____ Does not apply to me (I have no friends).
11. As a member of my community, I rate my civic activities as: (circle the number)

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</thead>
<tbody>
<tr>
<td>No or only slight interest in my community or civic activity (do not vote or attend meetings.)</td>
<td>Vote and attend some open meetings read about and discuss community issues.</td>
<td>Always vote; hold community office (mayor or council member, chair of committee).</td>
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12. Regarding my employment, business or profession, I rate my current activity as: (circle the number)

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</thead>
<tbody>
<tr>
<td>Retired, or unable to work.</td>
<td>Retired, but work part-time in different work position or with less responsibility.</td>
<td>Not retired; continue with full-time employment and same responsibility.</td>
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____ Does not apply to me (I never worked outside the home or at a formal job).

PLEASE ANSWER THE FOLLOWING QUESTIONS BY CHECKING OR FILLING IN THE BLANK.

1. What was your age at your last birthday?

____ years
2. What is your sex?
   _____ male
   _____ female

3. What is your marital status?
   _____ married
   _____ divorced/separated
   _____ widowed
   _____ never married
   _____ other, please specify ________________

4. What is the highest level of education that you completed?
   _____ Grade School (less than seven years)
   _____ Jr. High School (7th through 9th grade)
   _____ High School
   _____ Some College or Vocational Training (at least one year)
   _____ 4-Year College Degree
   _____ Graduate or Professional Degree

5. What is or was your usual occupation?
6. What is your race:
   ___ White
   ___ Black
   ___ Hispanic
   ___ Asian/Pacific Islander
   ___ American Indian/Alaska Native
   ___ Other, please specify: ______________________

7. What is your main source of transportation? (check one)
   ___ I drive myself
   ___ family
   ___ friend or neighbor
   ___ bus
   ___ taxi
   ___ other ________________________________

8. When you need help or in an emergency, on whom do you depend? (check one)
   ___ spouse
   ___ adult child or children
   ___ brother or sister
   ___ grandchildren
   ___ other relative __________________________
   ___ friend or neighbor
   ___ fellow church member

9. Why do you attend the Senior Dining Center Meal program? (Please list all the reasons for your participation)
   __________________________________________
   __________________________________________
   __________________________________________
   __________________________________________
APPENDIX F

Verbal Address
I am Kristen Langhout from The Ohio State University School of Health Education. I am conducting a study of older adults who attend the Senior Dining Centers operated by the Life Care Alliance. This study will involve your completion of a 20 minute written survey, for which all responses will be anonymous.

Specifically, we are interested in the characteristics that contribute to your well-being or make you satisfied with life. This survey is meant for those of you who are 50 and older. If you are, and you are willing to participate in this study, please take one of the questionnaire packets and complete the questionnaire today. You may return the packet to a marked box at the exit(s). Your completion of the questionnaire indicates your willingness to participate in this study. Study findings will add to our understanding of older adults and what things we can do in this program and others like it to contribute to your well-being.

I realize that some of you may have difficulty in completing the survey, for any number of reasons. For instance, lighting may aggravate your ability to see, or the letter size may be too small. Your participation is valued, therefore, if you would prefer, either one of my assistants or I will read the survey questions to you and assist you in completing the questionnaire. If you would like to have help in completing the survey, simply raise your hand and someone will be by to assist you.

Your participation in this study is completely voluntary, and your decision to participate or not participate will in no way effect your eligibility for the meal program. Your ultimate participation in this study will remain anonymous as no attempt will be made to identify you with your questionnaire or answers to specific questions. Does anyone have any questions that I may answer at this time?
APPENDIX G

Human Subjects Review Approval
Research Involving Human Subjects

ACTION OF THE REVIEW COMMITTEE

With regard to the employment of human subjects in the proposed research protocol:

93B0333 THE RELATIONSHIPS AMONG SUBJECTIVE WELL-BEING, ROLE ACTIVITY, SELF-ESTEEM AND FUNCTIONAL HEALTH IN A SAMPLE OF OLDER ADULTS, R. Carson Bates, Kristen J. Langhout, Health, Physical Education, and Recreation

THE BEHAVIORAL AND SOCIAL SCIENCES REVIEW COMMITTEE HAS TAKEN THE FOLLOWING ACTION:

_____ APPROVED
_____ DISAPPROVED
X APPROVED WITH CONDITIONS*
X WAIVER OF WRITTEN CONSENT GRANTED

* Conditions stated by the Committee have been met by the Investigator and, therefore, the protocol is APPROVED.

It is the responsibility of the principal investigator to retain a copy of each signed consent form for at least four (4) years beyond the termination of the subject's participation in the proposed activity. Should the principal investigator leave the University, signed consent forms are to be transferred to the Human Subjects Review Committee for the required retention period. This application has been approved for the period of one year. You are reminded that you must promptly report any problems to the Review Committee, and that no procedural changes may be made without prior review and approval. You are also reminded that the identity of the research participants must be kept confidential.

Date: December 17, 1993

Signed: [Signature]

(Chairperson)

HS-025B (Rev. 3/90)
LIST OF REFERENCES


Brook, R.H. and Ware, J.E. (1979). Supplement to *Medical Care*, 17(7), 1-55.


Whitlatch, A.M. and Langhout, K.J. (1990). An evaluation study of the Columbus chapter of the Alzheimer's Association family support groups program. Paper presented at the meeting of The Ohio State University, Geriatric/Gerontology Discussion Group, Columbus, Ohio.
