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INNER AND OUTER DIMENSIONS OF SELF-ESTEEM:
THE SELECTIVITY PRINCIPLE IN OLDER WIDOWED MEN
IN GOOD AND POOR HEALTH

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the
Graduate School of The Ohio State University

By

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1999

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1999
ABSTRACT

Newly developed "selectivity" frameworks contain propositions stating that the course of aging involves interindividual variability and that the self in old age remains a resilient system of coping and maintaining integrity despite losses and transitions. The presumption of the self in old age as being able to remain a resilient system of coping and maintaining integrity despite losses and transitions is important to the present study in terms of widowerhood and health status.

The saliency of self-reported health to the self-esteem of older widowed men (n=200) was determined through multiple regression analysis, thereby legitimizing the consequent subdivision of the sample into widowers in good health (n=126) and widowers in poor health (n=74). Upon subdividing the group by health status, further multiple regression analyses examined the constructs of mastery, activity, and friendship as they related to self-esteem among older widowers in good health and older widowers in poor health. By subdividing the groups according to health status, the relevancy of the outer (i.e., activity and friendship) and inner (i.e., mastery) dimensions that supported self-esteem were deciphered. For the widowers in good health and the widowers in poor health,
mastery was the only significant contributing variable to self-esteem. Thus, despite health status, older men who have lost their spouses, cope by selecting the inner dimension (i.e., mastery) to support their self-esteem.
To my sister, Carole
ACKNOWLEDGMENTS

I wish to thank my adviser, Cory Bates, for his belief and support in creating an individualized student-based program which allowed me to continue my interest in gerontology. I am also grateful to my committee members, Janet Henderson and Ginny Richardson, for their words of encouragement and assistance in completing the dissertation process. In particular, Ginny has played a key role in engendering enthusiasm for research since the time of my master's program. In addition, I acknowledge the AARP Andrus Foundation for providing the funding for the older widower research project.

I thank my friends, Cheryl McGaha, Lorraine Silver, Betsy Siddle, and Jean Nippa, for their academic discussions and unending support. I also appreciated the encouragement of my friend, Scott P. Solomon, who gave rise to the verb, "dissertating." I wish to thank my co-workers in the Office of Geriatrics and Gerontology: Bonnie Kantor for providing a stimulating job that enabled me to be on campus and for "writing days" away from work; Linda Mauger and her husband, Steve, for welcoming me into their home; Marty Stinehart for the discussions about widowers; Jennifer Browning for always thinking to ask how the dissertation was progressing; Michelle Hardin for listening to my plights of anxiety; and Sandra Buty for providing constant laugh therapy. I thank these
incredible persons for their cheerleading and genuine interest in wanting to see me succeed.

Sincere appreciation is bestowed upon my family, Dad, Mom, Cindi, Carole, and Vic for their life-long encouragement, support, and tolerance. A thank you to Cindi's children, Philip, Mary, and little Chas, for providing playful diversions and pointing out the important things in life. Last, but not least, I am grateful to Grandpa (Cecil) Grover, for providing his family and friends with a true example of successful aging.
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PUBLICATION


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Interdisciplinary Specialization: Aging
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CHAPTER 1
INTRODUCTION

Significance of the Study

Inquiry about older men has seemed unnecessary because fewer older men than women reach old age (Applegate, 1997). In addition, men that do reach old age have been viewed stereotypically as functionally impaired or ill. The medicalization of older men conceals their diversity and deters inquiry into nonmedical aspects of their lives. In actuality, more men are living longer and healthier lives. Demographers predict that large numbers of male baby boomers, benefitting from advances in health care and increased longevity, can expect to "march deep into the Third Age" (Thompson, 1994, p.6).

Admittedly, elderly men do hold a numerical and proportional minority group status in comparison to elderly women (Kosberg & Kaye, 1997). According to 1995 census data, the 65 and older age category consists of 19.8 million women and 13.7 million men (AARP & AoA, 1996). This "feminization" of the elder population has been ongoing since the 1930s. According to projections for the year 2030, however, this gender gap in longevity may peak with differences becoming considerably smaller as revealed by the estimated
ratio of four men per five women. These changes in demographics are "imminent and will amend the past 60 years of the feminization of the elder population, but there is no need to wait until the baby boomers march into old age or until elderly men cast off their demographic invisibility before scholars begin to study older men's lives" (Thompson, 1994, p. 6-7).

Rubinstein (1997) has also commented on the lack of "scholarly efforts" in understanding the lives of older men, an area of study that has been neglected for far too long. He further noted that "older men are often shunned or unnoticed. They are truly hidden and forgotten people" (p. xvii).

Emphasizing older men in social science research has been controversial among academicians. In terms of social circumstances, older men have higher status and better benefits than older women. In general, older men have more assets, less debt, and are more likely than older women to live with a spouse. The idealized view of privileged older men, however, must be abandoned when researching beyond the context of the white, middle-class, traditionally structured nuclear family. For instance, Thompson (1994) and Applegate (1997) pointed out that older widowed men have been largely overlooked in inquiry about older men's lives.

As one of the fundamental social institutions, marriage has a major impact on society (Mangum, 1997). Marital status is considered one of the most important determinants of life satisfaction and long-term quality of life. Married individuals have a richer and more fulfilling social life, greater income, and better
health than single persons (Mangum, 1997). The marital dyad allows for and promotes "enhanced morale and social support" (Applegate, 1997, p. 3).

Older men may not cope with the loss of a spouse as well as older women, because widowed women are better able to develop and sustain intimate relationships than widowed men (Antonucci & Akiyama, 1994). Widowed women "tend to form confidant relationships with other widowed women, whereas widowed men, who had relied on their wives for their emotional needs, are left with no one" (Barer, 1994, p. 30). There is a potential void in the life of the older widowed man who loses his wife, the "kin-keeper" and "social calendar planner."

The transition to widowhood is likely the most severe form of stress as death of a spouse is ranked highest on the widely used Social Readjustment Rating Scale by Holmes and Rahe (1967). According to Bowling and Windsor (1995) most bereavement studies report excess mortality after widowhood related to poorer mental and physical health among the bereaved. Further, risk of mortality has been associated with older age, male sex, and poorer functional ability. Most investigators, however, have focused on widowhood as it pertains to women. Yet, older men may experience the death of a spouse and ensuing adjustment in a completely different fashion than women.

Because of the potential problems that widowers encounter, it was relevant to investigate their adjustment. As a personal coping resource, self-esteem has been found to be associated with adjustment to bereavement (Lund,
Role losses and transitions (from husband to widower) have been assumed to have significant negative effect on one's self and adjustment (Breytspraak, 1984). Although the negative effects of loss should not be approached lightly, many individuals do not experience the assumed negative change in self. In fact, some studies have suggested that self-esteem is actually resilient and enduring. Individuals may rely on different dimensions of their life to maintain or enhance their self-esteem. For instance, men that have friendship contacts and a socially active life may rely on supportive relationships to assist them in adjusting to widowerhood and maintain self-esteem. Other widowers may rely on their feelings of previous mastery and competence achieved in life to help them adapt to their present widower status.

Oftentimes, compelling psychological theories have been reduced to corollaries of health. Thus, incorporating health into the investigation was necessary. One would suspect that a widower in poor health may be in double jeopardy regarding his self-esteem. Various studies have suggested, however, that there is not always a clear relationship between the extent of health problems and assessment of self. For instance, there are examples of individuals with significant health problems who maintained a positive image of self (Breytspraak, 1984). This finding again suggests that individuals, or more specifically widowers in poor health, can regulate their self-esteem by focusing on different dimensions of their life.
To investigate the potential role that health may play in widowers' self-esteem, it was worthwhile to examine the saliency of health as a predictor of self-esteem. Upon recognizing the saliency of health to self-esteem, a closer look into the possible contributors to self-esteem was examined by subdividing the widowers into a good health group and a poor health group. After constructing the two health-based groups, the dimensions that differentially contributed to self-esteem were explored.

Another area of significance for the proposed study was that it approached the subject of older widowers and self-esteem in the context of theory. In the 1996 issue of The Gerontologist, a symposium was presented on the history and status of aging theory. Concern for the state of theory development in aging has been expressed and verified by the fact that less than 20% of empirical articles published in The Gerontologist or the Journal of Gerontology: Social Sciences between 1990 and 1994 included any reference to theory or theoretical developments in their discussion of results. As a consequence, gerontological research may be subject to the accumulation of "a vast collection of unintegrated pieces of information" (Birren, 1995, p. 1). The outlook, however, appears to be changing towards a renewed interest in gerontological theory which indicates scholarly progress for the field (Bengtson, Parrott, & Burgess, 1996). Therefore, it was suggested that self-esteem be investigated in the context of theory to further the development of the study of aging.
A more favorable view of the self can be constructed through such strategies as selectivity. Carstensen (1991) formalized a selectivity theory which suggests that older adults avoid social contact that can pose a threat to self-definition. Further, persons strategically select social partners and adopt interaction strategies that lead to confirmatory responses. In the later years, physical aging can project a very different identity than intended by the older adult. It was therefore presumed that fewer persons can help preserve the self-concept, thus careful discriminations among potential social partners are necessary to minimize interactions that erode the self-concept. Baltes (1993) also emphasized the selectivity principle in his selective optimization with compensation model. He recognized the flexibility for reorganization of the self to preserve self-esteem. Despite losses in functioning, a power of the self exists to reorganize and readjust in response to or in anticipation of various life circumstances.

In general, newly developed "selectivity" frameworks contain propositions stating that the course of aging involves interindividual variability and that the self in old age remains a resilient system of coping and maintaining integrity despite losses and transitions. The presumption of the self in old age as being able to remain a resilient system of coping and maintaining integrity despite losses and transitions is especially important in terms of health status.

The uniqueness of the present study was that it incorporated health status by investigating the relevant dimensions that supported self-esteem for widowers.
in good health and widowers in poor health. For example, it was presumed that older adults in good health, as opposed to poor health, were more capable of participating in frequent social contact and activities and thus more likely to support their self-esteem through an outer dimension. The outer dimension of self-esteem emphasized positive appraisals from others, specifically friends. Older adults in poor health, however, were presumed physically less capable of maintaining contact with friends, thereby selecting fewer friendship contacts. They may have been more likely to rely on an inner dimension of self-esteem which implicated the importance of previously developed feelings of competency or mastery to maintain self-esteem. Thus, despite poor health, self-esteem could have been maintained through selecting the inner dimension source.

**Statement of the Problem**

The purpose of the study was to investigate the saliency of self-reported health to the self-esteem of older widowed men, thereby legitimizing the consequent subdivision of the sample into widowers in good health and widowers in poor health. Upon subdividing the group by health status, the constructs of mastery, activity, and friendship were examined as they related to self-esteem among older widowers in good health and older widowers in poor health. By subdividing the groups according to health status, the relevancy of the outer (i.e., activity and friendship) and inner (i.e., mastery) dimensions that supported self-esteem were deciphered. Lastly, the investigation was grounded in current theory in self-esteem and successful adaptation to aging with the
intention of synthesizing existing gerontological suppositions. Findings were able to delve into questions such as these: For older widowers, what was the saliency of health to self-esteem? For the subdivided sample of widowers into good and poor health groups, what proportion of self-esteem could be explained by mastery, activity, and friendship? For the subdivided sample of widowers into good and poor health groups, were different factors (mastery, activity, and friendship) variously related to self-esteem? Was current theory regarding self-esteem and successful adaptation to aging supported?

**Research Hypotheses**

The theoretical literature appeared to support the notion that self-esteem is resilient and that persons are motivated to maintain or regain self-esteem. Therefore, the following research hypotheses were proposed:

1. For the unified sample of widowers, a statistically significant proportion of the variance in self-esteem will be explained by health when the other independent variables are controlled.

2. For the subdivided sample of widowers in good health, a statistically significant positive relationship will exist between self-esteem and activity when controlling for age, education, and income.

3. For the subdivided sample of widowers in good health, a statistically significant positive relationship will exist between self-esteem and friendship when controlling for age, education, and income.
4. For the subdivided sample of widowers in poor health, a statistically significant positive relationship will exist between self-esteem and mastery when controlling for age, education, and income.

5. For the subdivided sample of widowers in good health, a statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables.

6. For the subdivided sample of widowers in poor health, a statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables.

**Research Question**

In addition to testing the hypotheses, the following research question was posed:

1. How does the multiple regression variate for widowers in good health compare to the multiple regression variate for widowers in poor health?

**Data Analysis**

For the present analysis, participants were investigated as a unified group to determine the saliency of health to self-esteem. The unified group was then subdivided into two separate groups based on their ratings of current health status. Respondents designated their present health status in a fixed-response question as either excellent, good, poor, or fair. Respondents answering with "Good" or "Excellent" were collapsed to represent the good health group. Likewise, respondents answering with "Poor" or "Fair" were collapsed to
comprise the poor health group. By subdividing the widowers into good and poor health groups, the dimensions that supported the self-esteem of each group were investigated. Descriptive data such as percentages, means, standard deviations, and ranges were calculated and presented for the variables in the unified group and each of the two subdivided groups.

Three multiple regression analyses were used to assess the extent to which different constructs explained the variance in self-esteem. The first multiple regression model (Figure 1) was constructed to establish the saliency of health to the self-esteem of widowers and to legitimize the further subdivision of the group by health status. The first model included the following independent variables: health, age, education, income, mastery, activity, and friendship with the dependent variable as self-esteem.

The second multiple regression model (Figure 2) was constructed to determine the significance of the outer dimensions of activity and friendship to the self-esteem of widowers in good health. Recall that widowers in this group responded that their present health status was either good or excellent. The second model included the following independent variables: age, education, income, activity, friendship, and mastery with the dependent variable as self-esteem.

The third multiple regression model (Figure 3) was constructed to determine the significance of the inner dimension of mastery to the self-esteem of widowers in poor health. Recall that widowers in this group responded that
Figure 1
Variables Related to Self-esteem of Older Widowers

Figure 2
Variables Related to Self-esteem of Older Widowers in Good Health

Figure 3
Variables Related to Self-esteem of Older Widowers in Poor Health
their present health status was either poor or fair. The third model included the following independent variables: age, education, income, mastery, activity, and friendship with the dependent variable as self-esteem. Multiple regression is the appropriate method of analysis when a single metric dependent variable is presumed to be related to two or more metric independent variables (Hair, Anderson, Tatham, & Black, 1995).

**Definition of Terms**

1. Level of Self-Esteem:

   **Constitutive Definition:** Self-esteem was defined as "the extent to which one prizes, values, approves, or likes oneself" (Blascovich & Tomaka, 1991).

   **Operational Definition:** Self-esteem was operationally defined as a summated score of the 10 items of the Rosenberg Self-Esteem Scale (1965). Scoring was based on a four-point response format (4=strongly agree, 3=somewhat agree, 2=somewhat disagree, 1=strongly disagree) resulting in a range of 10 to 40 with higher scores representing higher self-esteem.

2. Perceived Level of Health:

   **Constitutive Definition:** Health was defined as "the condition of being sound in body, mind, or spirit" (Webster's Ninth New Collegiate Dictionary, 1988).
Operational Definition: Health was operationally defined as the self-rating of present health as either "excellent"=4, "good"=3, "fair"=2, or "poor"=1 in a fixed-response question. Respondents answering with "good" or "excellent" were collapsed to represent the good health group. Likewise, respondents answering with "poor" or "fair" were collapsed to comprise the poor health group.

3. Level of Mastery:

Constitutive Definition: Mastery was defined as an individual's feelings of competence in everyday life, the "extent to which one regards one's life-chances as being under one's own control" (Pearlin & Schooler, 1978, p.2).

Operational Definition: Mastery was operationally defined as a summated score of the seven items on the Mastery Scale by Pearlin and Schooler (1978). Scoring was based on a four-point response format (4=strongly agree, 3=somewhat agree, 2=somewhat disagree, 1=strongly disagree) resulting in a range from 7 (low mastery) to 28 (high mastery).

4. Level of Activity:

Constitutive Definition: Activity was defined as "a form of organized, supervised, often extracurricular recreation" (Webster's Ninth New Collegiate Dictionary, 1988).
Operational Definition: Activity was operationally defined as a combined score of the monthly attendance of the following: church, social events, and club/organization functions.

5. Friendship:

Constitutive Definition: Friendship was defined as "the state of being attached to another by affection, a favored companion" (Webster’s Ninth New Collegiate Dictionary, 1988).

Operational Definition: Friendship was operationally defined using two measures. The first measure was the number of individual friends time was spent with in the past week. The second measure was the number of hours spent with these friends.

6. Interviewer:

Constitutive Definition: Interviewer was defined as the person who conducts "a formal meeting to question, consult, or evaluate another person" (Webster’s Ninth New Collegiate Dictionary, 1988).

Operational Definition: Interviewer was operationally defined as a widowed woman between the ages of 45 and 65 who administered the study questions in a face-to-face meeting with the respondent.

7. Interview Schedule:

Constitutive Definition: Interview was defined as "a formal meeting to question, consult, or evaluate another person" (Webster’s Ninth New Collegiate Dictionary, 1988). Schedule was defined as “a plan of
procedure usually written for a proposed objective especially with reference to the sequence of events and the time allotted for each" (Webster's Ninth New Collegiate Dictionary, 1988). Thus, interview schedule was defined as a plan of procedure written for a proposed objective to be used in a formal meeting to question, consult, or evaluate another person.

Operational Definition: Interview schedule was operationally defined as the questionnaire used during the face-to-face meeting with the respondent in the larger study of widowerhood.

Limitations of the Study

The results of the proposed investigation must be interpreted with caution because of the following limitations. Of the 357 widowers contacted for the original data collection, 200 were interviewed as eligible participants. Widowers that refused to be interviewed consisted of a relatively low percentage (14%) for social science research. Other categories of exclusion were: too ill to interview; deceased soon after wife; under age 60; relocated out of county; and unable to locate. Therefore, the findings of the study were affected by the self-selection of participants. Further, participants in the study may have been tempted to respond "positively" to reflect well on themselves.

The 200 participants in the data collection were widowers 60 years of age or older who resided in a major Midwestern metropolitan city in the United States, not a cross-section of the aging population.
Therefore, the findings are only generalizable to similar populations. Finally, the study examined associations and relationships, but did not determine causation.

**Basic Assumptions**

It was assumed that participants truthfully answered the interview schedule questions in a manner that best represented their knowledge, attitudes, and feelings at the time of administration. As noted earlier, a tendency in social science research exists, however, for participants to answer in a "socially desirable" manner. In terms of assessing the dependent variable, it was assumed that self-esteem is consciously available to the individual and can be surmised through self-report (Breytspraak & George, 1982).

**Delimitations**

The "older widowed male" was identified using a 12-month period of newspaper obituaries and death records from summer 1992 to spring 1993. All surviving husbands who were 60 years of age or older and were either Caucasian or African-American, as determined from obituaries and death records, were eligible for the study. Other racial groups were omitted because the small number of possible respondents would not allow for meaningful statistical analysis in the larger study. At the time of the interview, each respondent had been widowed within the range of 374 to 683 days, with a mean of 520.7 days. It is estimated that the grieving process requires about a year and that the time frame included in the present study would allow for adjustment to widowhood to begin (O'Bryant & Hansson, 1994).
CHAPTER 2
REVIEW OF THE LITERATURE

Classical Theories of Aging

Schroots (1996) traced the most distinctive psychological theories of aging. The period of the 1940s to 1970s is chronologically defined as the Classical period and includes disengagement and activity theories. Disengagement theory is based on the assumption that middle-aged persons gradually become more reflective with age. The reflective process results in a natural and normal withdrawal from social roles and activities which is accompanied by an increasing interest with self and decreasing emotional involvement with others (Cumming & Henry, 1961). Disengagement theory is faulted for providing a skewed perspective of the aging process as it does not address the significant proportion of older adults who do not lose interest in life and do not withdraw from society.

In opposition to disengagement theory, activity theory assumes a positive relationship between activity and life satisfaction. Despite the changes in physiology, anatomy, and health status, the older person’s psychological and social needs are theorized to essentially remain the same. Further, the
individual who ages optimally is the one who remains active and involved with societal concerns. According to activity theory, the well adjusted and satisfied older adult is the person who is able to maintain activities of the middle years for as long as possible. This person will find an avocation to substitute for work and will replace deceased friends and loved ones with new significant others (Havighurst, 1968). Schroots (1996) notes that activity theory presents a more realistic view of older adults than disengagement theory.

Activity theory originally developed from the empirical finding that older adults who were more active tended to be happier and better adjusted than older adults who were less active (Havighurst & Albrecht, 1953; Tobin & Neugarten, 1961). In addition, activity theory was offered in opposition to disengagement theory (Cumming & Henry, 1961) and its claim that withdrawing from others and decreasing social interaction results in well-being and satisfaction in later life. Activity theory, in contrast, argues that older adults find social approval and ego involvement through their participation and involvement in social activities (Havighurst & Neugarten, 1969; Havighurst, Neugarten, & Tobin, 1968; Neugarten & Havighurst, 1969).

**Activity Theory and Life Satisfaction**

Lemon, Bengtson, and Peterson (1972) were the first to formally present activity theory as a set of intertwined postulates and theorems stating a positive relationship between activity and life satisfaction. The greater the frequency of activity, the greater the opportunity and likelihood that role supports will result
from interaction. Role support is support given by others toward an individual for his/her claims regarding his/her role-identity or imagined social position. Activity, and interpersonal activity in particular, was assumed to offer opportunities for acquiring role supports or reinforcements which reaffirm a person's self-concept. Self-concept is the organization of qualities (role identities) that an individual attributes to himself/herself. Lemon et al. acknowledged that individuals form their self-concepts through interpreting the reactions of others toward them. Informal activity was stated as being typically on a personal or intimate level and therefore the most important type of activity for reinforcing the self-concept. In terms of formal activities, participation in itself does not increase life satisfaction, rather, formal activities are social settings in which supportive relationships develop. Throughout life, interaction with others sustains the individual's self-concept. A positive self-concept is associated with high life satisfaction. Life satisfaction is the degree to which the individual is presently pleased with his/her general life situation.

In formalizing activity theory, certain social conditions were recognized as being relevant in increasing or decreasing the general relationship between activity and life satisfaction. The conditions are usually referred to as role losses or role changes and include widowhood, retirement, and failing health. Role loss is a change in the set of behavior patterns expected of an individual because of the loss of a status position. The change in roles may involve a disturbance of interaction patterns and social rewards. It is suggested that role
losses and changes separate persons from their customary supports which lead to alterations in the self-concept and consequently results in decreased life satisfaction. Lemon et al. (1972) logically deduced that the frequency and intimacy of an older adult's activity is directly associated with how the person adapts to major role changes. The presence of a role loss should diminish the magnitude of the relationship; however, the direction of the relationship should remain positive.

Following the delineation of activity theory, Lemon et al. (1972) tested a subset of hypotheses derived from the theory. They concentrated on investigating the theorem that states that the greater the frequency of activity, the greater one's life satisfaction is likely to be. Findings were based on secondary data from a sample of 411 subjects (182 males and 229 females) who were moving into a California retirement community. Activity was defined as any regular or patterned action or pursuit beyond routine physical or personal maintenance. The authors chose to operationalize three types of activity: informal activity including social interaction with relatives, friends, and neighbors; formal activity including social participation in formal voluntary organizations; and solitary activity including pursuits such as watching television, reading, and hobbies. The authors posited that informal activities are more intimate, and thus provide more meaningful and valuable role support than formal activities. Further, formal activities are more supportive than solitary
activities. Gender, age, and perceived health status were employed as control variables.

The results were disappointing; formal and solitary activities were not related to life satisfaction. In terms of informal activities, only "informal activities with friends" was significantly related to life satisfaction. Lemon et al. (1972) concluded that the substantive findings of the study neither wholly supported activity theory nor disengagement theory in explaining optimal aging. The authors further surmised that their formalization of activity theory was limited due to the exclusion of concepts relating to personality attributes of the individual. It was suggested that the theory be modified to include such concepts to better capture the complex relationship between the individual and his/her changing social system. Finally, the authors noted that it would be more logical to focus on the process involved in adaptation to aging as opposed to the static relations among elements.

Longino and Kart (1982) replicated the study by Lemon et al. (1972). They utilized probability samples of three distinct types of retirement communities for a total of 1,209 subjects. Activity was based on counting the number of weekday segments that subjects participated in informal, formal, and solitary activities. Analyses were employed to discern the effects of each activity type from the other types and from the effects of age, gender, and health upon life satisfaction. Findings indicated that informal activities exerted a positive effect on life satisfaction. It was also found that solitary activities were not
related to life satisfaction. Concerning formal activities, results revealed a negative relationship to life satisfaction. Further investigation demonstrated that the negative effect was not widespread due to the fact that more than four-fifths of the residents of each community had not recently participated in any formal activities.

The authors concluded that their replication supported the original formulation of activity theory in that informal activity, the activity type representative of primary relationships, was positively associated with life satisfaction. In the three living environments, the type of activity most effective in promoting positive life satisfaction, informal activity, was the one engaged in most frequently. Longino and Kart (1982) recommended that the activity theory of aging be examined in broader theoretical contexts to extend its relevance.

Activity Theory and Self-concept

At about the same time of Longino and Kart's (1982) recommendation, McClelland (1982) was indeed expanding the traditional activity theory explanation of adjustment to aging by integrating it with the aged subculture theory advanced by Rose (1965). According to McClelland, the major difference between the two approaches is the dependent variable. Activity theory focuses on life satisfaction whereas the aged subculture approach focuses on self-conception. Life satisfaction and self-conception are purported to be linked in that a person with inadequate self-conception may not feel satisfied about his/her life circumstances. The argument was advanced that Rose's approach
provides a more fully adequate model of adjustment to aging by including self-conception among older adults.

Early researchers studying life satisfaction among older adults oftentimes failed to distinguish between self-conception and life satisfaction. McClelland (1982) reported that the researchers who designed the Life Satisfaction Scale B (Neugarten, Havighurst, & Tobin, 1961) theorized that self-conception was a dimension of life satisfaction and therefore included a number of items in the scale involving a supposed measure of self-conception. Factor analyses, however, did not produce a factor that could be labeled self-conception. Despite the doubts surrounding the original assumptions, the concepts have remained analytically distinct in the literature (George, 1980). Simply stated, a person could have positive feelings about himself/herself but negative feelings about his/her life situation, or vice versa. For this reason, McClelland studied the concepts as separate variables. Self-conception was defined as the individual's image of his/her own worth as a person. Life satisfaction was defined as relative happiness with the present circumstances in the context of one's lifetime experiences.

Data for the analysis were from a survey completed for the National Council on Aging by the Louis Harris organization (McClelland, 1982). Respondents were 1,763 persons age 65 and older who were part of a national cross-sectional sample of 4,254 adults. Data collection was focused on gathering information only on informal activities. Self-conception was found to
be very strongly dependent on social activity. Further, self-conception was determined to have a significant effect on life satisfaction. The author stated that self-conception, as originally advanced by Lemon et al. (1972), should be included in an activity theory framework for understanding adjustment to aging. Finally, McClelland recommended that future researchers recognize "that a strong self-concept is only achieved through social interaction, and that self-conception must be reaffirmed and ratified through continued interaction if satisfaction with life and self are to be maintained".

"Self" Terminology

Upon empirical recognition of the importance of self-concept, it is beneficial to gain a clearer understanding of definitional issues surrounding the self. Breytspraak (1984) acknowledged the necessity for identifying terminology regarding the self in her review of the self in later life. She emphasized Rosenberg's (1979) description of the state of definitions applied to the study of the self as a shambles. Oftentimes the same term is used in very different manners which is partly the result of "self" terms being widely used in everyday language.

In general, empirical research has focused on the self as an object, not as a subject. Emphasis has typically been placed on the set of attitudes one holds toward the self. The most general name for these attitudes is self-concept. In a broad sense, Rosenberg (1979) defines the self-concept as "the totality of the individual's thoughts and feelings having reference to himself as an object."
Rosenberg's reference to thoughts and feelings indicates that the self has both cognitive and affective components. The affective component of self-concept is further distinguished as self-esteem. Thus, a person perceives and describes himself/herself in terms of characteristics (religious, outgoing, meticulous) and has feelings and emotions about his/her perceptions of the characteristics (pleased, dissatisfied, successful). The former is considered self-concept, the cognitive description a person iterates of the self, and the latter is considered self-esteem, the feelings or evaluations of the self.

Breytspraak and George (1982) further recognized that the terms, self-concept and self-esteem, are encompassed under the heading of self-perception. They support Rosenberg's (1979) definition of the self-concept as consisting of a person's view of himself/herself as an object which serves as the cognitive component of self-perception. Likewise, they agree that self-esteem refers to judgements that a person makes about the self as an object which serves as the evaluative component of self-perception.

It is not uncommon for references regarding self-concept to be empirically measured in terms of self-esteem. Blascovich and Tomaka (1991) reviewed 306 documents containing self-esteem scales. They identified the lay person's definition of self-esteem as the extent to which one prizes, values, approves, or likes oneself. In addition, they are in congruence with Rosenberg (1979) and Breytspraak and George (1982) in stating that self-esteem is regarded as the overall affective evaluation of one's worth, value, or importance. Further,
Blascovich and Tomaka (1991) acknowledged that the concept of self-esteem is considered to have a variety of names (e.g., self-worth, self-regard, self-respect, self-acceptance). Finally, they view the self-concept as an inclusive construct that contains the affective component of self-esteem as well as cognitive and behavioral components.

Self-esteem is recognized as an important concept in understanding the aging experience. Self-esteem has been investigated in relation to studies of coping with stress such as bereavement, disability, and institutionalization (Essex & Klein, 1989; Krause, 1987; Lieberman & Tobin, 1983; Lund, 1989).

Coleman, Ivani-Chalian, and Robinson (1993) acknowledged that major life changes may pose a threat to the person's sense of identity by affecting the basis on which his/her life is constructed. Evidence, however, has indicated that self-esteem is remarkably resilient in later life (Baltes & Baltes, 1990; Dittmann-Kohli, 1990). Understanding this stability is an important goal because maintaining self-esteem in a changing situation may depend upon one's ability to adapt by finding new coping strategies.

**Predictors of Self-esteem**

The Southampton Ageing Study originally began in October 1977 as a drug efficacy trial (Coleman et al., 1993). The original sample of older adults was selected from the patient registers of two general medical practices in Southampton. The initial assessments were completed by 339 "fit" persons (30% more men than women) aged 65 and older. In 1987-1988, 10 years later,
an attempt was undertaken to contact the original respondents for further investigation. Of the original sample, 123 were still healthy and living in the area. Agreements to be re-interviewed were obtained from 101 (82%) of the respondents. In 1990-1991, 13 years from the original start date, a third investigation occurred to focus on responses to health problems. Of the 79 survivors, 70 respondents were living in the vicinity of Southampton and were available for a third interview. The third interview included similar questions from the prior interviews as well as a semi-structured interview on responses to illness over the previous two to three years and reflections on the meaning of growing older.

Despite the fact that the study originated as a drug efficacy trial, several other questions were included in the study regarding subjective well-being including: self-esteem; activities and social contacts; present activity levels; loneliness and worries; attitudes toward health; past life history; recent life changes; and experiences of aging. A measure of self-esteem had been developed specifically to gather information on perceived sources of self-esteem as well as self-esteem ascriptions. Positive self-esteem ascriptions were coded using a system of seven categories: family roles and relationships; other personal contacts; health and independence in activities of daily living (ADL); interests and hobby activities; work or other organizational role; inner self characteristics and values; and environmental and societal circumstances.
The original sample interviewed in 1977-1978 reported relatively high levels of self-esteem which was subsequently repeated in the other two observations. From the period of 1977-1978 to 1988 there was evidence of a small but significant decline in self-esteem, however, no overall decline was apparent between 1988 and 1990-1991. Considerable consistency was found in most of the respondents' answers over the 10 and 13 year periods. Coleman et al. (1993) noted that the lack of change in the mean level of self-esteem was particularly relevant in the latter period, because the time frame reflected a significant decline in functional ability and a significant increase in reported medical problems. In addition, concerns about health and worries about needing more help had increased noticeably. The levels of self-esteem and attitudes toward aging, however, remained relatively stable.

There was evidence that a link between higher self-esteem and survival existed. The self-esteem of respondents in 1977-1978 and 1988 was significantly higher than the self-esteem of those who died or dropped out of the study. A highly significant gender difference evident in 1977-1978 remained, fewer women continued to display the highest level of self-esteem.

Coleman et al. (1993) acknowledged that stability of self-esteem does not imply stability of the sources of self-esteem. The study presented an opportunity to investigate the changes over time in self-esteem ascriptions. The most frequently mentioned sources of self-esteem in 1977-1978 in order of descending frequency included: health, family, others, interests, inner self, work,
and environment. The response pattern in 1990-1991 was identical with the exception of a large increase in the relative frequency of "interests" from fourth to first place. With the exception of "inner self", all other sources declined in the frequency of mentions over the 13 year period which matched the decline in self-esteem. The major changes that occurred in this period were loss of roles in family and at work. Positive self-esteem ascriptions that correlated over time reflected a measure of stability in the way older people referred to valued features of their lives. In terms of gender differences, men typically referred to "interests" more than women and women tended to mention "others" more than men. No other gender differences were evident.

In deciphering the initial interview variables that later discriminated between persons who lost or maintained self-esteem, it is important to recognize the time interval of 10 years and the resulting small proportion of survivors in relation to the original sample. The authors noted that it was not surprising that assessments of medical conditions and disability were not predictive over this length of time, because most of the severely affected died in the intervening period. Further, for the purposes of the drug efficacy trial a "fit" sample of older adults was chosen from the outset of the study.

Of the variables measured in 1977-1978, those found to predict maintenance of a high total self-esteem score in 1988 included: the number of hobbies and interests; the number of different types of journeys and visits away from home; perceiving oneself to be an active person; and living in an
accommodation which one owns. In terms of expressed sources, it was discovered that "others" and "inner self" were related to a maintained high level of self-esteem over the 10 year period. The category of "others" represented persons other than family members and "inner self" represented life themes.

The relationship of expressed sources of self-esteem with continued high self-esteem was investigated in greater detail by comparing initial scores on indices in 1977-1978 with self-esteem categories in 1988. Of the expressed self-esteem sources, only "others" and "inner self" revealed an association with continued high self-esteem. "Others" as a source of self-esteem in 1977-1978 was the strongest predictor of high self-esteem in 1988, even a stronger predictor than the initial measure of self-esteem. Wenger (1992) refers to a number of studies that indicate that self-esteem is higher among those with a circle of friends than those who rely on one significant other. It was suggested that persons whose self-esteem is based strongly on "others" (plural) would be in less danger of losing self-esteem as a result of the absence one particular friend.

Those scoring high on "inner self" referred to the presence of themes or philosophies of life which explained what people's lives were about. It appeared that as long as the person felt that he/she was true to an established theme, regardless of change and loss, self-esteem was preserved. The authors posed the question as to how people develop new interests and activities when disability removes the possibility of continuing previous patterns?
Further analysis was performed to ascertain gender differences in the results. Findings regarding the associations between maintained high self-esteem and noting others as a source of self-esteem as well as perceived high activity were consistent for both men and women. For women the association with number of hobbies and interests, types of outing, and living in owned accommodation were evident. For men an association existed between help received with household tasks and subsequent loss of self-esteem.

For the 13 year period, the small sample required a greater degree of association to reach statistical significance. At the 13 year assessment, positive attitude toward aging emerged as the best predictor of maintained self-esteem. In addition to quantitative analysis, qualitative interviews were conducted in 1990-1991. Case study examples were presented which demonstrated the resiliency of self-esteem. In particular, a woman in poor health was described as maintaining her self-esteem through new interests and hobbies that were less physically demanding. This case study and others lent support to the idea of inner self and maintenance of themes.

Coleman et al. (1993) suggested that the overriding implication from their longitudinal investigation of self-esteem and its sources was the stability of self-esteem over periods as long as 10 and 13 years. Some changes, however, were apparent such as the lack of tendency to make only positive ascriptions as reflected in the decreased numbers in the highest self-esteem category. There was also a shift in the sources of self-esteem away from the arenas of family and
work and towards leisure pursuits and activities. At this later stage of life it was noted that losses of formal roles in organizations, contacts with family and friends, and health were common. The number of respondents with low self-esteem remained very small throughout the study. Yet, the loss of respondents during the study must be remembered in the context of interpreting results. Further, the approach of not interviewing older adults if advised not to by their general practitioners may have excluded persons with the most severe and distressing problems.

Analyses revealed that variables related to initial activity levels were best at identifying persons with the most resilient self-esteem 10 years later. Initial activity levels included number of hobbies and interests, number of different types of journeys outside the home, and perception of oneself as an active person. Coleman et al. (1993) suggested that the increasing importance of activity interests as an identified source of self-esteem and the predictive value of involvement in various types of activities provide empirical support for greater promotion of leisure activities for older people.

An often cited study of the predictors of self-esteem was completed by Lee and Shehan (1989). They acknowledged the importance of a secure and stable self-concept as a buffer against the impact of stressful events in later life. Lee and Shehan (1989) discussed the lack of explicit study of the self-esteem construct, despite the fact that it is frequently employed as an assumed construct in theoretical interpretations of general well-being.
The objective of the study was to conduct a preliminary analysis of the predictors of self-esteem among a sample of persons 55 years of age and older, with a focus on social factors. Activity theory as formulated by Lemon et al. (1972) suggested that informal, intimate social relations have positive effects on self-esteem. Further, a study performed by Lee and Ishii-Kuntz (1987) indicated that different types of social relations are more effective than others in boosting self-esteem. In general, relations of a voluntary nature, such as friendship, are more likely to be supportive of self-esteem whereas relations of an obligatory nature, such as kinship, are less likely to support self-esteem. Likewise, interactions with neighbors and participation in voluntary associations were expected to be positively related to self-esteem.

Data for the analyses were collected from residents of Washington state in the spring of 1980 via mailed questionnaire. Potential respondents were identified through a telephone survey using random-digit dialing. Of 4,922 potential respondents who agreed to receive the mailed questionnaire, 4,122 (83.8%) completed the instrument. Accounting for the refusal to participate at the telephone contact stage, it was estimated that an overall response rate of 68.2% was achieved. Based on respondents who answered all pertinent items, the sample included 1,395 men and 1,609 women. Information was collected on the following variables: self-esteem; marital status; marital satisfaction; number of children; frequency of interaction with adult children and grandchildren; number of voluntary association memberships; interaction with neighbors;
number and frequency of visits with friends; age; education; family income; health; and employment status. Analyses were conducted separately for men and women.

As expected, education, income (for males), health, and frequency of interaction with friends positively affected the self-esteem of older persons. Health had the strongest effect on self-esteem for both men and women. For both sexes, the effects of marital satisfaction were positive and nearly equal. The effect of marital satisfaction, however, was stronger for retired than for employed men. The nonfamily social participation variables were each positively correlated with self-esteem, but only interaction with friends had a significant effect which was found for both sexes. Voluntary association participation had a significant effect for women, but not for men. Finally, the variables of parental status, frequency of interaction with adult children and grandchildren, and frequency of interaction with neighbors had no effects for either sex.

In conclusion, Lee and Shehan (1989) acknowledged that activity theory states that informal, intimate social relations positively affect subjective well-being among the elderly (Lemon et al., 1972; Longino & Kart, 1982). The authors argued that kinship relations are bound by norms of obligation and virtually cannot be terminated. Friendship relations, however, are based on mutual choice and may be terminated if deemed costly or unrewarding. It follows that interaction with friends would be more likely to produce positively
reflected appraisals, because simply being chosen as a friend implies that one is perceived in a positive light. Self-esteem is thus enhanced by interaction with friends. In turn, self-esteem may positively affect other dimensions of subjective well-being as posited by Lemon et al. (1972). The authors concluded that self-esteem among older persons is responsive to some social factors and therefore should not be overlooked in research or theory on the psychological well-being of the elderly.

**Inner and Outer Dimensions of Self-esteem**

Despite the importance of social factors to self-esteem, Gecas and Schwalbe (1983) suggest that an overemphasis upon the looking-glass self has limited the view of the development of self-evaluations. The looking-glass metaphor connotes the idea of people seeing themselves as they imagine others view them. The emphasis on reflected appraisals as the major process in the development of self-conceptions (including self-esteem) is reported to be an overly passive and oversocialized view of self-concept formation.

It has been suggested that senses of esteem are derived from an inner source and an outer source (Franks & Marolla, 1976; Gecas & Schwalbe, 1983). Inner self-esteem is derived from the experience of self as an active agent or being able to "make things happen." Thus, persons partly develop a sense of self from the consequences and products of behavior that are attributed to the self as a causal agent. The sense of being an active agent stems from feelings of one's own competency or mastery. Inner self-esteem is earned through one's
own competent actions rather than from particular persons. Outer self-esteem, in contrast, is received from particular others who relay approval or acceptance. In many instances, these sources of self-esteem overlap whereby others praise a person on the basis of his/her accomplishments and the appraisals become evidence of the person's competence. The authors refer to this source of self-esteem as efficacy-based self-esteem. By considering the specific features of the contexts in which self-esteem is derived, it is possible to analytically specify which source of self-esteem is predominating. Thus, the looking-glass self, implicating the appraisals of others, is no longer regarded as the sole mechanism in development of self-esteem.

Along this same perspective, Coopersmith (1981) identified competence as a source of self-esteem. Competence was defined as successful performance in meeting one's achievement demands. Experiences following independent achievement may be highly reinforcing in their own right and do not depend upon external sources. This idea does not deny the general importance of social approval or disapproval, rather it suggests that there are innate sources of satisfaction that accompany mastery of the environment and that are independent of extrinsic social rewards and punishments. Mastery is defined as the extent to which one regards one's life chances as being under one's own control (Pearlin, Lieberman, Menaghan, & Mullan, 1981). Mastery is suggested as buffering the emotional impact of persistent problems.
Dietz (1996) conducted research to examine the relationship of age and the two dimensions of self-esteem, inner and outer, using a national sample of adults in the United States. Of importance to the present review are her conclusions regarding the self-esteem dimensions. The author noted that until recently, there had been little research examining self-efficacy, the inner dimension of self-esteem. Self-efficacy is defined as evaluation based on a sense of competence and power. The maintenance of self-esteem in the later years was identified as theoretically interesting because of the many changes that occur in the lives of older adults. It is not uncommon to experience physical, income, and role changes, and even increased dependency on others. Self-esteem may be difficult to maintain during such changes. Recognition of this challenge has no doubt lead to the biased "deficit model" of aging that some theorists claim pervades gerontological literature.

The emphasis of Dietz’s (1996) research was to examine maturational and role perspectives within the context of self-esteem dimensions. Dietz refers to Franks and Marolla (1976) who originally stated that self-worth (outer self-esteem) and self-efficacy (inner self-esteem) are developed and changed through different processes. Self-worth is considered an outer dimension which is heavily influenced by reflected appraisals from significant others. Consequently, they acknowledged that the self and self-esteem partly rely on social participation. Self-worth is considered to be a highly subjective assessment. Self-efficacy is an inner dimension that is more heavily influenced
by self-attributions and social comparisons. More objective information is available to people regarding their efficacy or ability to influence outcomes and achieve goals. People observe their own behavior and outcomes and compare their qualities and position with that of others. Psychological processes are implicated in the inner dimension as an accommodation of goals is made to fit current possibilities of achievement or a change occurs in reference groups for positive comparison purposes.

In the discussion of older adult self-esteem, Dietz (1996) argued that inner self themes were more resilient than themes based on significant others which required others to play their part in the "script." Turning inward as a source of self-esteem involves a decrease in reliance on the responses of others (reflected appraisals) in defining and evaluating the self. Relying on inner self-esteem is especially important to those older adults lacking in the physical stamina required to engage in various activities outside the home. Self-efficacy is based on a sense that individuals have been able to have some control in planning their life and have been able to satisfy ambitions in life. The findings of the study indicate that self-esteem can be maintained and even enhanced despite role loss and transition. The findings also support previous work that finds a tendency for inner self-esteem (self-efficacy) to be more resilient as people age than is self-esteem based on outer sources (self-worth). It was suggested that the finding was based on self-efficacy being less dependent on the presence and responses of significant others.
Dietz (1996) stressed the importance of examining the processes by which self-esteem is maintained or increased in the later years. The redefinition or reorganization of the meaning of self is a response to perceived environmental and biological changes (Dittmann-Kohli, 1990). Rather than maintaining high expectations for self-development, older adults change their standards to become more self-accepting and valuing more highly what is still available. Self-efficacy may appear heightened because older persons are likely to look inward for a sense of meaning and accept their accomplishments in life as adequate. They may be likely to evaluate themselves as one who has been able to make things happen the way they wanted to in life. In addition, fewer long-range goals are established indicating that older adults are less likely to experience difficulties in achieving their goals.

**Self-esteem Motive**

A related idea is the self-esteem motive which refers to the motivation to view oneself favorably. A more favorable view of the self can be constructed through such strategies as selective perception and cognition, self-presentation, and reconstructing the environment and/or redefining the situation (Rosenberg, 1979). According to Kaplan (1982), the self-esteem motive is defined as one's need to achieve positive self-attitudes and to avoid negative self-attitudes as based on self-evaluation. The self-esteem motive has been established based on the following four lines of empirical observation. Researchers have found a tendency for individuals to describe themselves in positive terms and to avoid
negative self-descriptions. In addition, there is a tendency for persons with low self-esteem and those in self-threatening situations to respond with behaviors that are self-defensive or self-enhancing. Further, persons with low self-esteem typically manifest distress such as depression or anxiety. Finally, it has been discovered that persons with positive self-attitudes tend to maintain positive self-attitudes whereas persons with negative self-attitudes tend to change their attitudes toward themselves in a more positive direction. These observations indicate the existence of a self-esteem motive.

"Activity and disengagement theories have drawn early attention to specific activities as adaptive mechanisms to aging. A self-concept approach clarifies the role of behaviors and activities in adaptation and specifies the choice of activities and the conditions under which they are chosen. According to a self-concept perspective, specific activities are often chosen to enhance or defend a current self or to promote a desired possible self, and thus there is bound to be substantial individual variation in activity choice rather than a uniform pattern" (Markus & Herzog, 1991, p. 129). A focus on the self-concept can assist in answering two crucial questions in aging: how stability can be achieved in an ever changing environment and how so many older adults appear to age successfully despite the inevitable losses of the later years.

**Selectivity Principle: New Models of Aging**

Rosenberg (1982) has asserted that selectivity operates in interpersonal relationships. He recognized that a fundamental principle operating in the realm
of social existence is that persons who are presented with a choice will tend to associate with those who think well of them and avoid those who dislike them. Thus personal communications are biased in that individuals receive favorable feedback. Friendship was offered as the purest illustration of choosing one's "propaganda." A major characteristic of friendship is that a mutual liking exists between two people. The outcome of friendship selection is thus to expose people to implicit and explicit interpersonal communications that reflect well on the self. Each friendship partner helps to sustain the desired self-image of the other. The principle of selectivity acknowledges that self-evaluations are largely dependent upon evaluations that others offer and the dynamics of friendship help to explain why people are more likely to hold favorable than unfavorable attitudes toward themselves.

Carstensen (1991) formalized a selectivity theory which suggests that older adults may avoid those types of social contact that can pose a threat to self-definition. Selectivity theory as advanced by Carstensen (1991) focuses on functional aspects of interaction and is considered a socioemotional model of successful adaptation in aging. At a psychological level, social interactions are utilized to acquire and maintain self-concept. Despite age, social contacts influence how the self is perceived. Swann (1987) posited that persons invest social energy in maintaining a stable self-concept by negotiating identities with others and seeking confirmatory evidence for self-conceptions. Persons strategically select social partners and adopt interaction strategies that lead to
confirmatory responses. In the later years, physical aging can project a very different identity than intended by the older adult. It was therefore presumed that fewer persons can help preserve the self-concept, thus careful discriminations among potential social partners is necessary to minimize interactions that erode the self-concept (Carstensen, 1991).

Carstensen (1991) suggested that interaction frequency with long-term friends does not change much over the life cycle because the contacts serve to generate positive emotional experience and increase subjective feelings of security and self-worth. Interaction with acquaintances and novel social partners would not be expected in the later years, because they are less likely to generate positive emotional outcomes. Limiting social interactions in the later years to predictable, supportive, social partners represents a strategy for maximizing the probability of positive outcomes of social contact (e.g., maintenance of self-concept) and minimizing negative outcomes (e.g., depletion of physical energy).

Selectivity theory is compatible with the selective optimization with compensation model (Baltes, 1987). Schroots (1996) places the model in the Modern period of the 1970s to 1990s. The selective optimization with compensation model conceptualizes successful aging as a process of constructing the environment to exploit strengths and minimize potential problems. This model states that successful aging can be accomplished when persons focus their efforts in the areas that are of greatest value and allow less
important goals to be unfulfilled. Compensation refers to the reliance on experienced behavioral repertoires that compensate for other functions that have been affected negatively by the aging process. Selective optimization has typically been applied in adaptation to cognitive changes in late life (Baltes, 1993).

The central focus of the model is on the management of the dynamics between gains and losses. The lifelong process of selective optimization with compensation allows persons to age successfully by engaging in life tasks that are important despite a reduction in energy or a decline in health. It is a life-span model of psychological management that describes how persons negotiate the age-related shift toward an increase in biological and health-related losses. When age-related losses compromise maintenance of adequate performance in a specific domain, there is a challenge to compensate for the loss (Baltes, 1993).

Baltes (1993) associates the selective optimization with compensation model to the aging mind and self-esteem by recognizing the flexibility for reorganization of the self which has been well illustrated by research on indicators of selfhood. Older adults do not reveal a major reduction in self-related indicators. Despite losses in functioning, a power of the self exists to reorganize and readjust in response to or in anticipation of various life circumstances. Thus processes of selection, optimization, and compensation operate in the transformation and management of the self. Baltes and Baltes
(1990) have also acknowledged that several processes dealing with self-management have been identified as serving a protective function. They include: activating and changing different possible selves; changing aspiration and expectation levels; changing goals and goal structures; and changing processes of social comparisons and use of social norms.

Selectivity theory is considered the application of selective optimization with compensation to the social realm. In social selectivity, persons utilize emotional and physical resources such that the most important and rewarding relationships are maintained while those of lesser value are disregarded. The compensation function is represented by the ability to rely on a select few who provide verification of self-concepts and positive emotional experiences. In sum, selectivity in choosing social partners by investing in the most important relationships and releasing less satisfying relationships may prove successful in optimizing the social world in later life (Carstensen, 1991).

Thus, where activity and disengagement theories fail to represent the heterogeneity of aging, the principle of selectivity as presented in selectivity theory and the selective optimization with compensation model includes heterogeneity. In general, the selectivity frameworks contain propositions stating that the course of aging involves interindividual variability and that the self in old age remains a resilient system of coping and maintaining integrity.
Health Status

Carstensen (1991) emphasizes that it is essential to consider the relationship of health status to any social or psychological dimension of interest because of the relatively high incidence of disease among older adults. A number of compelling psychological theories have been reduced to corollaries of health. Healthy persons at any age tend to be more active than unhealthy persons. Levels of social activity predict psychological well-being when health status is not controlled. When health status is controlled, activity levels do not predict well-being (Lee & Markides, 1990). In terms of perceptions, persons who view themselves to be socially engaged, active, and supported are consistently found in better physical and mental health than persons who are socially isolated.

Okun, Stock, Haring, and Witter (1984) performed a meta-analysis on the relationship between health and subjective well-being based on studies of adults in the United States published prior to 1980. Health and subjective well-being were found to be positively and significantly related. An effort was made to retrieve all accessible sources with health and subjective well-being data. A total of 556 sources formed the complete source list of which 104 were usable. Through meta-analysis, the authors attempted to review the research. Meta-analysis involves transforming the findings of individual studies to a common metric, an effect size, and then incorporating statistical analyses to evaluate the
information. The analysis provided the first comprehensive quantitative examination of the magnitude of the health/subjective well-being relationship.

From the analysis it was clear that health covaried positively with subjective well-being. The authors suggested that health accounts for between 8.4 and 12.3% of accounted variance in subjective well-being scores. Self-ratings of health were more strongly related to subjective well-being indicators than health ratings by others. The self-ratings of health appeared to reflect both an "objective" component related to health and a "subjective" component pertaining to general affect. Health was determined to be a better predictor of subjective well-being for women than for men.

Summary

A renewed interest and concern for the state of theory development in aging has been expressed in the gerontological community. The main concern is that research on aging may become a collection of information rather than integrated ideas to advance theory (Birren, 1995). Schroots (1996) reviewed distinctive theories of aging beginning with the Classical period which includes disengagement and activity theories. Disengagement theory is based on the assumption that persons gradually become more reflective with age. The reflective process results in a natural and normal withdrawal from social roles and activities which is accompanied by an increasing interest with self and decreasing emotional involvement with others (Cumming & Henry, 1961). Activity theory, in contrast, assumes a positive relationship between activity and
life satisfaction. Despite the changes in physiology, anatomy, and health status, the older person's psychological and social needs are theorized to essentially remain the same. Further, the individual who ages optimally is the one who remains active and involved with societal concerns (Havighurst, 1968).

Lemon, Bengtson, and Peterson (1972) tested a subset of hypotheses derived from their formalization of activity theory. They concentrated on investigating the theorem that states that the greater the frequency of activity, the greater one's life satisfaction is likely to be. They found that only informal activities with friends was significantly related to life satisfaction. Longino and Kart (1982) replicated the study and also found informal activity to be positively associated with life satisfaction. They recommended that activity theory be expanded to broader theoretical contexts.

McClelland (1982) expanded activity theory by including the construct of self-concept. It was discovered that self-concept is dependent on social activity and that self-concept has a significant effect on life satisfaction. McClelland (1982) recommended that future researchers recognize that a strong self-concept is achieved through social interaction which is a prerequisite for satisfaction with life and self.

It is not uncommon for references regarding self-concept to be empirically measured in terms of self-esteem. Blascovich and Tomaka (1991) reviewed 306 documents containing self-esteem scales. They identified the lay person's definition of self-esteem as the extent to which one prizes, values, approves, or
likes oneself. In addition, they are in congruence with Rosenberg (1979) and Breytspraak and George (1982) in stating that self-esteem is regarded as the overall affective evaluation of one's worth, value, or importance. Further, Blascovich and Tomaka acknowledged that the concept of self-esteem is considered to have a variety of names (e.g., self-worth, self-regard, self-respect, self-acceptance). They view the self-concept as an inclusive construct that contains the affective component of self-esteem as well as cognitive and behavioral components.

Variables found to predict maintenance of high self-esteem included: number of hobbies and interests; the number of different types of journeys and visits away from home; and perceiving oneself to be an active person. In terms of self expressed sources of self-esteem, persons other than family members and being able to remain true to one's life themes were indicated (Coleman, Ivani-Chalian, & Robinson, 1993). Another study identified the most important variable associated with self-esteem as health. Other variables of significance included: education, income, and frequency of interaction with friends (Lee & Shehan, 1989).

Despite the importance of social factors to self-esteem, Gecas and Schwalbe (1983) suggest that an overemphasis on social factors has limited the view of the development of self-evaluations. It has been suggested that senses of esteem are derived from an inner source and an outer source (Franks & Marolla, 1976; Gecas & Schwalbe, 1983). Inner self-esteem is derived from the
experience of self as an active agent or being able to "make things happen."

Thus, persons partly develop a sense of self from the consequences and products of behavior that are attributed to the self as a causal agent. The sense of being an active agent stems from feelings of one's own competency or mastery. Inner self-esteem is earned through one's own competent actions rather than from particular persons. Outer self-esteem, in contrast, is based on appraisals received from particular others who relay approval or acceptance.

Dietz (1996) conducted research to examine the concept of inner and outer self-esteem. The findings indicated a tendency for inner self-esteem to be more resilient as people age than is self-esteem based on outer sources. Older adults may evaluate themselves as previously being able to make things happen the way they wanted to in life. It was suggested that inner self-esteem was less dependent on the presence and responses of significant others. The findings of the study imply that self-esteem can be maintained and even enhanced despite role loss and transition.

A related idea is the self-esteem motive which refers to the motivation to view oneself favorably. A more favorable view of the self can be constructed through such strategies as selective perception and cognition, self-presentation, and reconstructing the environment and/or redefining the situation (Rosenberg, 1979). Carstensen (1991) formalized a selectivity theory which suggests that older adults avoid social contact that can pose a threat to self-definition.

Further, persons strategically select social partners and adopt interaction
strategies that lead to confirmatory responses. In the later years, physical aging can project a very different identity than intended by the older adult. It was therefore presumed that fewer persons can help preserve the self-concept, thus careful discriminations among potential social partners is necessary to minimize interactions that erode the self-concept. Baltes (1993) also emphasizes the selectivity principle in his selective optimization with compensation model. He recognizes the flexibility for reorganization of the self to preserve self-esteem. Despite losses in functioning, a power of the self exists to reorganize and readjust in response to or in anticipation of various life circumstances.

In terms of theory development, activity and disengagement theories have been faulted for failure to represent the heterogeneity of aging. The principle of selectivity as presented in selectivity theory and the selective optimization with compensation model, in contrast, includes heterogeneity. In general, the selectivity frameworks contain propositions stating that the course of aging involves interindividual variability and that the self in old age remains a resilient system of coping and maintaining integrity despite losses and transitions.

The presumption of the self in old age as being able to remain a resilient system of coping and maintaining integrity despite losses and transitions is especially important in terms of health status. Carstensen (1991) emphasizes that it is essential to consider the relationship of health status to any social or psychological dimension of interest because of the relatively high incidence of disease among older adults. A number of compelling psychological theories
have been reduced to corollaries of health. Healthy persons at any age tend to be more active than unhealthy persons. Levels of social activity predict psychological well-being when health status is not controlled. When health status is controlled, activity levels do not predict well-being (Lee & Markides, 1990).

**Conclusion**

Therefore, it is suggested that activity theory and the selectivity principle be combined to explore self-esteem and to further theory development in the study of aging. Schroots (1996) organized theory development into different chronological periods but did not attempt to develop linkages between the theoretical trends. The literature appears to support the notion that self-esteem is resilient and that persons are motivated to maintain or regain self-esteem. Older adults in good health, as opposed to poor health, are more capable of participating in frequent social contact and activities and thus more likely to support their self-esteem through the outer dimension. The outer dimension of self-esteem emphasizes positive appraisals from others, specifically friends. Older adults in poor health, however, are physically less capable of maintaining contact with friends, thereby selecting fewer friendship contacts. Older adults in poor health may be more likely to rely on the inner dimension of self-esteem which implicates the importance of previously developed feelings of competency or mastery to maintain self-esteem. Thus, despite poor health, self-esteem may be maintained through selecting the inner dimension source.
CHAPTER 3
METHODS

Study Design

The design of the research was correlational with the data being collected through personal interviews with the respondents. The data were obtained for a study of widowhood among older men under the direction of the original principal investigator, Shirley L. O'Bryant. Funding for the research was provided by the AARP Andrus Foundation, whose goal is to promote research in all aspects of human aging. The present writer assisted in the identification of potential respondents by reviewing public records. The interview schedule, so-called because it was designed to be administered through face-to-face contact with the respondents, was developed by the principal investigator and based on her two previous studies of widowhood. The interview schedule utilized various standard scales that have been used in a number of similar research studies.

Sample

The respondents were 200 widowed men age 60 and over who resided in Franklin County in the state of Ohio. This primarily urban county contains the capital city of Columbus, as well as other smaller cities and suburban
communities. Columbus is a part of the "Midwestern U.S." and is considered to be typical of cities in this region of the United States.

By reviewing the Columbus, Ohio daily newspaper, potential respondents were identified through obituaries of women who were approximately 60 years of age or older. The newspaper obituaries utilized a 12-month period from summer, 1992 to spring, 1993 and revealed information regarding husband survivors. If the older woman's name appeared in the listing of county deaths without an accompanying obituary, death records at the county health department were reviewed to obtain marital status information. In addition, the county death records provided addresses for those potential respondents who had unlisted telephone numbers.

All surviving husbands who were 60 years of age or older and were either Caucasian or African-American, as determined from obituaries and death records, were eligible for the study. Other racial groups were omitted because the small number of possible respondents would not allow for meaningful statistical analysis for the larger study. From the attempts to contact the 357 older widowed men identified as potential respondents the following occurred: 200 were interviewed; 18 were ill, demented, or institutionalized and unable to be interviewed; 34 died soon after their wives; 12 were under age 60; 31 had relocated outside Franklin County; 11 could not be located; and 51 refused to participate.
At the time of data collection, each respondent had been widowed within
the range of 374 to 683 days, with a mean of 520.7 days. O'Bryant and Hansson
(1994) estimated that one year was sufficient for adjustment to widowhood to
begin for interview purposes. In general, adjustment to later life spousal
bereavement has been described as a process that is most difficult in the first
several months with gradual improvement over time (Lund, 1989).

**Instrumentation**

Variables for the present study were drawn from the 17-page interview
schedule developed for the larger study of widowerhood. The questionnaire was
called an interview schedule because it was designed to be administered
through face-to-face contact with the respondent. The interview schedule was
composed of fixed-response and open-ended formats as well as standardized
measures to elicit information about the well-being of older widowers. The
relevant portions of the interview schedule as used in the present study are
located in the Appendix.

**Self-esteem**

The dependent variable, self-esteem, was measured using Rosenberg's
Self-Esteem Scale. The scale consists of 10 items that measure one's favorable
or unfavorable attitude towards oneself. Examples include: "I feel that I have a
number of good qualities" and "I wish I could have more respect for myself."
Scoring was based on a four-point response format (4=strongly agree,
3=somewhat agree, 2=somewhat disagree, 1=strongly disagree) resulting in a
range of 10 to 40 with higher scores representing higher self-esteem. 
Rosenberg's Self-Esteem Scale is the most popular measure of global self-esteem and the standard with which developers of other measures usually seek convergence (Blascovich & Tomaka, 1991). Internal consistencies have been reported as high with Cronbach alpha levels of .77 and .88. In addition, high test-retest correlations have been reported at .85 after a two-week interval and at .82 after a one-week interval. Considerable discriminant validity has been demonstrated for the scale with no significant correlations between locus of control (-.04), gender (.10), age (.13), work experience (.07), marital status (.17), and other variables. Past concerns associated with the Self-Esteem Scale relate to socially desirable responding in that score distributions may be negatively skewed.

Health

Health was utilized as an independent variable for the unified group of widowers and as a criterion variable for subdividing the unified group into widowers in good health and widowers in poor health. Health was assessed by the fixed-response question "How would you rate your health at the present time?" In answering the question there were four response categories consisting of 1=Poor, 2=Fair, 3=Good, and 4=Excellent. This self-report approach to health status is widely used in the literature.

For the present study, all four response categories were used to explore the saliency of health to self-esteem, the dependent variable. Following the first
analysis, the respondents were subdivided into two groups based on their health status. Respondents answering with "good" or "excellent" were collapsed to represent the good health group. Likewise, respondents answering with "poor" or "fair" were collapsed to comprise the poor health group.

Level of Mastery

The independent variable, mastery, represented the inner dimension of self-esteem. Mastery was assessed through Pearlin and Schooler's Mastery Scale (Pearlin & Schooler, 1978). The scale consists of seven items that measure internal control, often referred to as competence. Examples include: "I have little control over the things that happen to me" and "I can do just about anything I really set my mind to do." Scoring was based on a four-point response format (4=strongly agree, 3=somewhat agree, 2=somewhat disagree, 1=strongly disagree) resulting in a range from 7 (low mastery) to 28 (high mastery).

Unidimensionality of the scale has been demonstrated through factor analysis which resulted in factor loadings ranging from .47 to .76. In terms of reliability, the test-retest value from a four-year longitudinal study had a correlation coefficient of .33. Convergent validity has been indicated by the scale's consistent relationships in the expected direction with other scales and variables (Seeman, 1991). Despite the fact that mastery has not been utilized in many studies, most researchers have used the instrument developed by Pearlin and Schooler to assess the concept (Bowers, 1995).
Activity and Friendship

The independent variables, activity and friendship, represented the outer dimension of self-esteem. Measures of activity and friendship were based on answers to standard open-ended questions. The activity questions included: "How often do you go to religious services (monthly)?"; "How often do you go to social events at the church (monthly)?"; and "How often do you go to clubs or organizations that you belong to?" The friendship questions included: "How many individual friends did you spend time with in the past week (either by phone or in person)?" and "How many hours in the past week did you spend with these friends (either by phone or in person)"?

Background Variables

The background variables of age, education, and income were included in the present study to gain demographic information on the unified sample and the subdivided samples of widowers in good health and widowers in poor health. Age was calculated from responses to the question “In what year were you born?” It was reasoned that response rate to the item would be higher by inquiring about the year of birth as opposed to actual age. Education was assessed through responses to “How many years of formal schooling did you complete?” Thus years in grade school, high school, college, etc. were added together to reflect total years of schooling. Information about income was ascertained by asking respondents to point to a letter representing a dollar amount that most closely reflected their monthly income. This form of
questioning was considered less invasive than asking for a dollar amount and thus likely to curtail nonresponse.

**Data Collection**

The personnel selected to collect the data were widowed women between the ages of 45 and 65. Widowed persons were chosen because they could establish quicker rapport with prospective respondents. Women were utilized because the pool of widowed females is larger than males and thus, provided for a greater selection of locating trainable interviewers. Further, the respondents were questioned by an interviewer of their own racial group to eliminate the potential influence a different race may have had on their responses. The interviews elicited data on numerous aspects of widowhood among older men. Of specific interest to the present analysis was information regarding self-esteem, health, mastery, activity, and friendship.

The interviewers received training in various aspects of the study including the following: the general purpose of the research (but not the specific hypotheses), contents of the interview schedule (face-to-face questionnaire), guidelines for communicating with the respondents, and the management of unusual situations. The interviewers received direction from the principal investigator in reviewing the contents of the interview schedule to ensure that they had a clear understanding of all questions and response categories. Further, interviewer training utilized role play and instrument practice through pilot administration with friends and relatives. Training was not considered
complete until a high level of inter-rater reliability (70%) was achieved among interviewers (Fraenkel & Wallen, 1996). The extensive training was conducted to reduce potential interviewer influence on responses. The average length of time to administer the 17-page interview schedule was two hours.

Each potential respondent was sent a letter describing the research and further requesting his cooperation and participation. Approximately one week after receipt of the letter, a trained interviewer carrying Ohio State University photo-identification was sent to the respondent's home to either schedule an appointment for a later time or, if possible, to conduct an immediate interview. In cases where the widower was not at home, the interviewer made multiple visits to the widower's home in order to establish personal contact. In addition, small "gifts" consisting of the Franklin County Senior Citizens' Handbook and the Franklin County Housing Directory were offered as door-openers. These procedures contributed to a relatively low refusal rate of 14%.

Data Analysis Overview

For the present analysis, participants were investigated as a unified group to determine the saliency of health to self-esteem. The unified group was then subdivided into two separate groups based on their ratings of current health status. Respondents designated their present health status in a fixed-response question as either excellent, good, poor, or fair. Respondents answering with "Good" or "Excellent" were collapsed to represent the good health group. Likewise, respondents answering with "Poor" or "Fair" were collapsed to
comprise the poor health group. By subdividing the widowers into good and poor health groups, the dimensions that supported the self-esteem of each group were investigated. Descriptive data such as percentages, means, standard deviations, and ranges were calculated and presented for the variables in the unified group and each of the two subdivided groups.

Three multiple regression analyses were used to assess the extent to which different constructs explained the variance in self-esteem. The first multiple regression model was constructed to establish the saliency of health to the self-esteem of widowers and to legitimize the further subdivision of the group by health status. The first model included the following independent variables: health, age, education, income, mastery, activity, and friendship with the dependent variable as self-esteem.

The second multiple regression model was constructed to determine the significance of the outer dimensions of activity and friendship to the self-esteem of widowers in good health. Recall that widowers in this group responded that their present health status was either good or excellent. The second model included the following independent variables: age, education, income, activity, friendship, and mastery with the dependent variable as self-esteem.

The third multiple regression model was constructed to determine the significance of the inner dimension of mastery to the self-esteem of widowers in poor health. Recall that widowers in this group responded that their present health status was either poor or fair. The third model included the following
independent variables: age, education, income, mastery, activity, and friendship with the dependent variable as self-esteem. Multiple regression is the appropriate method of analysis when a single metric dependent variable is presumed to be related to two or more metric independent variables (Hair, Anderson, Tatham, & Black, 1995).

**Appropriateness of Sample Size**

The unified sample of older widowers included 200 respondents which were further subdivided according to health status, as previously noted. In subdividing the unified sample there was concern regarding the appropriateness of the resulting sample sizes for the good (n=126) and poor (n=74) health groups. Thus, the sample sizes were reviewed for the minimum percent variance ($R^2$) that the samples could detect as statistically significant at alpha level .05 with a probability (power) of .80.

The sample sizes were deemed appropriate for detecting variance of the dependent variable according to guidelines offered by Cohen and Cohen (1983). For example, sample sizes of 100 detect fairly small $R^2$ values (10% to 15%) with up to ten independent variables and a significance level of .05 and a power of .80. In samples of 50 observations, $R^2$ values of 19 to 29 percent are detected with up to ten independent variables and a significance level of .05 and a power of .80. The unified group of older widowers consisted of 200 respondents in a regression model with seven independent variables. The subdivided group of older widowers in good health consisted of 126 respondents.
in a regression model with six independent variables. The subdivided group of
older widowers in poor health consisted of 74 respondents in a regression model
with six independent variables.

In addition to the role of sample size in determining statistical power of
significance testing, generalizability of the results are affected by the ratio of
observations to independent variables. As a general rule, there should be a
minimum of five observations for each independent variable in the variate.
Otherwise, there is a risk of "over-fitting" the variate to the sample rendering the
results too specific to the sample and thus hindering generalizability. The
desired level, however, is between 15 to 20 observations for each independent
variable which permits the results to be generalizable with representative
samples (Hair et al., 1995).

According to the ratio of observations to independent variables for the
general rule (5:1) and the desired level (15:1 to 20:1) for sample sizes, the
unified sample and two subdivided samples were examined. For the unified
sample, the two criteria required between 35 and 105 to 140 observations. The
unified sample of 200 observations, easily met and exceeded these
recommendations. For the subdivided samples, the two criteria required
between 30 and 90 to 120 observations. The subdivided sample of 126
observations in the good health group easily met and exceeded these
recommendations. The subdivided sample of 74 observations in the poor health
group easily met the general rule criterion but fell short of the desired level
criterion. Overall, the unified sample and two subdivided samples were judged as adequate sample sizes for generalizability purposes.

Analysis of Assumptions

When conducting multiple regression analysis, violations of assumptions should be monitored. Therefore, potential collinearity between independent variables as well as independence, normality, and homoscedasticity issues were examined.

A concern regarding the independent variables was that correlation existed among them. This potential data problem, collinearity, can have substantial influence on the results of multiple regression procedures. Because the effects of the independent variables are confounded through correlation, the contribution of each independent variable cannot be determined. Further, collinearity limits the size of $R^2$ or the explanatory power of the equation.

As a simple process of identifying collinearity, the correlation matrix for the independent variables was examined. High correlations are generally considered to be $\geq .90$. To assess both pairwise and multiple variable collinearity, tolerance values were calculated. This measure indicates the degree to which each independent variable is explained by the other independent variables. Tolerance is the amount of variability of the selected independent variable not explained by the other independent variables. Very small tolerance values of $< .10$ reflect high collinearity (Hair et al., 1995).
The assumptions of independence, normality, and homoscedasticity were also examined for the appropriateness of the regression models. Independence was assessed through the Durbin-Watson statistic with values close to 2.0 being acceptable. Normality was assessed through visual examination of the normal probability plot of residuals. The normal probability plot should reveal values that fall along a diagonal without substantial or systematic deviation. Homoscedasticity was assessed through visual examination of standardized scatterplots for each variable. The standardized scatterplot should reveal a horizontal band pattern indicating no trend in the data and thus constant variance in the residuals. Residuals reflect the difference between the observed and predicted values for the dependent variable.

Statistical Analyses

Data were analyzed using the Statistical Package for the Social Sciences software for personal computers. The level of significance for the study was established a priori at alpha level <.05.

Descriptive data including percentages, means, standard deviations, and ranges were calculated and presented for the variables in the unified group and each of the two subdivided groups. The unified group consisted of 200 older widowers. The two subdivided groups contained 126 older widowers in good health and 74 older widowers in poor health.

The first multiple regression model was constructed to establish the saliency of health to the self-esteem of older widowers and to legitimize the
further subdivision of the group by health status. Multiple regression for the unified sample of widowers was performed using a simultaneous model. All independent variables were entered into the regression equation on a single step. The model is appropriate when there is no theoretical basis for considering any independent variable before another independent variable. The model included the following independent variables: health, age, education, income, mastery, activity, and friendship with the dependent variable as self-esteem. To determine the saliency of health to the model, the partial regression coefficient associated with health was examined for significance.

Pearson partial correlation (pr) values were calculated to determine the direction and magnitude of relationships between the dependent variable, self-esteem, and the independent variables of mastery, activity and friendship while controlling for the background variables of age, education, and income. These correlational analyses were performed to investigate the existence of associations between the dependent and independent variables. In addition, the analyses were conducted to offer theoretical support for outer and inner dimensions of self-esteem for widowers in the good health group and widowers in the poor health group, respectively.

The second multiple regression model was constructed to determine the significance of the outer dimensions of activity and friendship to the self-esteem of widowers in good health. Recall that widowers in this group responded that their present health status was either good or excellent. The second model
included the following independent variables: age, education, income, activity, friendship, and mastery with the dependent variable as self-esteem. Multiple regression for the subdivided sample of widowers in good health was performed using a hierarchical model. Independent variables were entered cumulatively in individually ordered steps. The model is appropriate when independent variables can be considered according to theoretical priority. The model was reviewed for its explanation of a significant proportion of the variance in self-esteem through the linear combination of the independent variables. The review was conducted through investigation of the significance of $R^2$. In addition, the independent variables in the model were examined for the significance of their contribution to $R^2$ when the other variables were controlled. To determine independent variable contributions, the partial regression coefficients were examined for significance. To explore the relative importance among the significant independent variables, the sample specific Beta values were assessed.

The third multiple regression model was constructed to determine the significance of the inner dimension of mastery to the self-esteem of widowers in poor health. Recall that widowers in this group responded that their present health status was either poor or fair. The third model included the following independent variables: age, education, income, mastery, activity, and friendship with the dependent variable as self-esteem. Multiple regression for the subdivided sample of widowers in poor health was performed using a
hierarchical model. Independent variables were entered cumulatively in individually ordered steps. The model is appropriate when independent variables can be considered according to theoretical priority. The model was reviewed for its explanation of a significant proportion of the variance in self-esteem through the linear combination of the independent variables. The review was conducted through investigation of the significance of $R^2$. In addition, the independent variables in the model were examined for the significance of their contribution to $R^2$ when the other variables were controlled. To determine independent variable contributions, the partial regression coefficients were examined for significance. To explore the relative importance among the significant independent variables, the sample specific Beta values were assessed.

Lastly, to explore the theoretical support for outer and inner dimensions of self-esteem for widowers in good health and widowers in poor health, respectively, the variates for the second and third multiple regression models were compared for percent of accounted variance and the nature of the significant contributing variables.
CHAPTER 4
RESULTS AND DISCUSSION

Introduction

The present correlational study was designed to investigate the factors associated with the self-esteem of older widowed men as a unified group and as two subdivided groups based on self-reported health status. Data were originally collected by the principal investigator for a study of older widowed men in Franklin County. Data analysis results, including descriptive statistics and three multiple regression models, are presented. In addition, the findings are delineated based on the study's hypotheses and research question. Results are expressed in text and table formats. Following the results is the discussion section consisting of sample characteristics, hypothesized relationships, self-esteem and health, self-esteem and activity/friendship, self-esteem and mastery, and self-esteem issues.

Description of the Unified Sample: Widowers

The unified sample of older widowed men consisted of 200 respondents. The widowers ranged in age from 60 to 96 years. The mean age of the sample was 74.7 years with a standard deviation of 7.8 years. Years of education for
the sample ranged from 0 to 23 years with a mean of 12.7 years and a standard
deviceation of 3.5. According to the average, minimal additional education or
training occurred beyond high school. Income ranged from $300 to $2000 per
month with a mean of $1400 per month and a standard deviation of 5.1.

In studying the unified sample of 200 respondents, the variables of
primary interest included: health, mastery, activity, friendship, and self-esteem.
Present level of health was divided by four fixed-response categories. All four
categories were relevant for the unified sample which included a range of 1
(poor) to 4 (excellent) with a mean of 2.7 and a standard deviation of .8. Nearly
half the respondents (n=98; 49%) rated their health as good. The remainder of
the respondents rated their health as poor (n=20; 10%) , fair (n=54; 27%), and
excellent (n=28; 14%). The sample's level of mastery ranged from scores of 7
(low mastery) to 28 (high mastery) as derived from 7 items on a four-point
response format. The mastery level sample mean was 22.9 with a standard
deviceation of 4.1. As a measure of activity level, monthly attendance of church,
social events, and club/organization functions were combined for a total score.
The respondents ranged from 0 to 40 monthly outings with a mean of 5.9 and a
standard deviation of 7.3. The friendship variable consisted of the number of
friends time was spent with in the past week as well as the number of hours
spent with these friends. The variable ranged from scores of 0 to 71 with a
mean of 10.9 and a standard deviation of 11.8. The sample's level of self-
esteeem ranged from scores of 14 to 40 as summated across 10 items on a four-
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<td>100</td>
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<td>4.1</td>
<td>7-28</td>
</tr>
<tr>
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<td>100</td>
<td>5.9</td>
<td>7.3</td>
<td>0-40</td>
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<td>200</td>
<td>100</td>
<td>35.6</td>
<td>4.8</td>
<td>14-40</td>
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</tbody>
</table>

Table 1: Descriptive Data: Widowers (n = 200)
point response format. The sample mean for the self-esteem variable was 35.6 with a standard deviation of 4.8. Table 1, Descriptive Data: Widowers, depicts the descriptive statistics for each of the measured variables for the unified sample of widowers.

**Description of the Subdivided Sample: Widowers in Good Health**

The subdivided sample of older widowed men in the good health group consisted of 126 respondents. The good health group was derived from widowers who self-reported their current health status in the fixed categories of good (n=98; 78%) or excellent (n=28; 22%). The widowers ranged in age from 60 to 95 years. The mean age of the sample was 75.6 years with a standard deviation of 7.7 years. Years of education for the sample ranged from 3 to 23 years with a mean of 13.2 years and a standard deviation of 3.6. According to the average, a little over a year of additional education or training occurred beyond high school. Income ranged from $400 to $2000 per month with a mean of $1470 per month and a standard deviation of 4.8.

In studying the subdivided sample of 126 respondents in the good health group, the variables of primary interest included: activity, friendship, mastery, and self-esteem. As a measure of activity level, monthly attendance of church, social events, and club/organization functions were combined for a total score. The respondents ranged from 0 to 40 monthly outings with a mean of 6.9 and a standard deviation of 8.0. The friendship variable consisted of the number of friends time was spent with in the past week as well as the number of hours
<table>
<thead>
<tr>
<th>Characteristic</th>
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<th>M</th>
<th>SD</th>
<th>Range</th>
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<td>Good</td>
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<tr>
<td>Activity</td>
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<td>6.9</td>
<td>8.0</td>
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<tr>
<td>Self-esteem</td>
<td>126</td>
<td>100</td>
<td>36.8</td>
<td>3.8</td>
<td>22-40</td>
</tr>
</tbody>
</table>

Table 2: Descriptive Data: Widowers in Good Health (n=126)
spent with these friends. The variable ranged from scores of 0 to 54 with a mean of 11.8 and a standard deviation of 11.9. The sample's level of mastery ranged from scores of 7 (low mastery) to 28 (high mastery) as derived from 7 items on a four-point response format. The level of mastery sample mean was 23.6 with a standard deviation of 3.5. The sample's level of self-esteem ranged from scores of 22 to 40 as summated across 10 items on a four-point response format. The sample mean for the self-esteem variable was 36.8 with a standard deviation of 3.8. Table 2, Descriptive Data: Widowers in Good Health, depicts the descriptive statistics for each of the measured variables for the subdivided sample of widowers in good health.

**Description of the Subdivided Sample: Widowers in Poor Health**

The subdivided sample of older widowed men in the poor health group consisted of 74 respondents. The poor health group was derived from widowers who self-reported their current health status in the fixed categories of fair (n=54; 73%) or poor (n=20; 27%). The widowers ranged in age from 60 to 91 years. The mean age of the sample was 73.2 years with a standard deviation of 7.8 years. Years of education for the sample ranged from 0 to 18 years with a mean of 11.8 years and a standard deviation of 3.1. According to the average, respondents were just short of obtaining a high school diploma. Income ranged from $300 to $2000 per month with a mean of $1260 per month and a standard deviation of 5.3.
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<tr>
<th>Characteristic</th>
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<th>M</th>
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<th>Range</th>
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<tr>
<td>Age (in years)</td>
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<td>100</td>
<td>73.2</td>
<td>7.8</td>
<td>60-91</td>
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<tr>
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<td>21.7</td>
<td>4.7</td>
<td>7-28</td>
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<td>100</td>
<td>4.2</td>
<td>5.5</td>
<td>0-30</td>
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<td>Friendship</td>
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<td>9.3</td>
<td>11.4</td>
<td>0-71</td>
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<td>100</td>
<td>33.5</td>
<td>5.7</td>
<td>14-40</td>
</tr>
</tbody>
</table>

Table 3: Descriptive Data: Widowers in Poor Health (n=74)
In studying the subdivided sample of 74 respondents in the poor health group, the variables of primary interest included: mastery, activity, friendship, and self-esteem. The sample's level of mastery ranged from scores of 7 (low mastery) to 28 (high mastery) as derived from 7 items on a four-point response format. The level of mastery sample mean was 21.7 with a standard deviation of 4.7. As a measure of activity level, monthly attendance of church, social events, and club/organization functions were combined for a total score. The respondents ranged from 0 to 30 monthly outings with a mean of 4.2 and a standard deviation of 5.5. The friendship variable consisted of the number of friends time was spent with in the past week as well as the number of hours spent with these friends. The variable ranged from scores of 0 to 71 with a mean of 9.3 and a standard deviation of 11.4. The sample's level of self-esteem ranged from scores of 14 to 40 as summated across 10 items on a four-point response format. The sample mean for the self-esteem variable was 33.5 with a standard deviation of 5.7. Table 3, Descriptive Data: Widowers in Poor Health, depicts the descriptive statistics for each of the measured variables for the subdivided sample of widowers in poor health.
Hypothesis Testing

The six hypotheses were tested using partial correlation and multiple regression analyses at alpha ≤ .05 level of significance. The research hypotheses included the following:

1. For the unified sample of widowers, a statistically significant proportion of the variance in self-esteem will be explained by health when the other independent variables are controlled.

2. For the subdivided sample of widowers in good health, a statistically significant positive relationship will exist between self-esteem and activity when controlling for age, education, and income.

3. For the subdivided sample of widowers in good health, a statistically significant positive relationship will exist between self-esteem and friendship when controlling for age, education, and income.

4. For the subdivided sample of widowers in poor health, a statistically significant positive relationship will exist between self-esteem and mastery when controlling for age, education, and income.

5. For the subdivided sample of widowers in good health, a statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables.

6. For the subdivided sample of widowers in poor health, a statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables.
Each hypothesis is restated in null form and accompanying data analysis results follow. The multiple regression analysis for the unified sample of widowers is presented in Table 5, Simultaneous Regression Analysis of Self-esteem on Independent Variables: Widowers. Partial correlation values are organized in Table 6, Partial Correlation Analysis for Independent and Dependent Relationships: Widowers in Good Health, and Table 7, Partial Correlation Analysis for Independent and Dependent Relationships: Widowers in Poor Health. The multiple regression analysis for the subdivided sample of widowers in good health appears in Table 9, Hierarchical Regression Analysis of Self-esteem on Independent Variables: Widowers in Good Health. Lastly, the multiple regression analysis for the subdivided sample of widowers in poor health appears in Table 11, Hierarchical Regression Analysis of Self-esteem on Independent Variables: Widowers in Poor Health.

Null Hypothesis 1: For the unified sample of widowers, no statistically significant proportion of the variance in self-esteem will be explained by health when the other independent variables are controlled.

For the unified sample of widowers, a simultaneous multiple regression analysis of self-esteem on the independent variables, including health, was performed (Table 5, Simultaneous Regression Analysis of Self-esteem on Independent Variables: Widowers). The correlation matrix (Table 4, Correlation Matrix for Independent and Dependent Variables: Widowers) and tolerance values (Table 5) indicated a lack of collinearity among the independent
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<tr>
<th>Variables</th>
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<th>X₂</th>
<th>X₃</th>
<th>X₄</th>
<th>X₅</th>
<th>X₆</th>
<th>X₇</th>
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Table 4: Correlation Matrix for Independent and Dependent Variables: Widowers (n = 200)
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<td>.927</td>
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<td>-.001</td>
<td>-.024</td>
<td>.981</td>
<td>.959</td>
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<td>Health x Income</td>
<td>-.136</td>
<td>.064</td>
<td>-.548</td>
<td>-2.126</td>
<td>.035</td>
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</table>

Multiple R        | .607   |
R Square           | .369   |
Standard Error of Estimate | 3.91   |

Analysis of Variance

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<tr>
<th>Sum of Squares</th>
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<th>F Ratio</th>
<th>F Sig</th>
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Analysis of Residuals

- Independence: Durbin-Watson test = 2.125 indicating independence.
- Normality: Histogram of standardized residuals and normal probability ploT indicate normality for all variables with the exception of self-esteem. Regression analysis is quite robust for the normality violation especially with a sample size >30.
- Homoscedasticity: Standardized scatterplots indicate no trends for all variables with the exception of self-esteem. Self-esteem appears to be negatively skewed causing predictions to be better at some levels than others.

Table 5: Simultaneous Regression Analysis of Self-esteem on Independent Variables: Widowers (n = 200)
variables. Correlations ranged from -.045 to .464 and tolerance values ranged from .099 to .959. Multiple regression assumptions were tested for possible violation as footnoted (Table 5). The only violation concern was for homoscedasticity in the dependent variable, self-esteem. Because of the heteroscedastic nature of the dependent variable, the normal probability plot was affected. Data transformations were attempted but they did little to adjust the negatively skewed distribution. Hence, the percent of variance accounted for by the model was better at some levels than others.

The data indicated that health alone and in combination with income contributed significantly to the regression model when the other independent variables were controlled. The statement can be made that health explained a significant proportion of the variance in self-esteem for the widowers in the unified sample. Thus, the partial regression coefficient for health supported rejecting the null (H₀: Bₖ=0), where B=3.349, t=3.456 at p=.001. In addition, a significant moderator effect was discovered in the relationship between health and income, where B=-.136, t=-2.126 at p=.035.

Null Hypothesis 2: For the subdivided sample of widowers in good health, an inverse or no statistically significant relationship will exist between self-esteem and activity when controlling for age, education, and income.

The data indicated a nonsignificant relationship between the self-esteem of older widowers in good health and their level of activity when controlling for age, education, and income. Thus, the partial correlation value failed to reject
the null ($H_0$: $p_{r<0}$), where $p_{r}=.050$, at $p=.581$ (Table 6, Partial Correlation Analysis for Independent and Dependent Relationships: Widowers in Good Health).

**Null Hypothesis 3:** For the subdivided sample of widowers in good health, an inverse or no statistically significant relationship will exist between self-esteem and friendship when controlling for age, education, and income.

The data indicated a nonsignificant relationship between the self-esteem of older widowers in good health and their level of friendship when controlling for age, education, and income. Thus, the partial correlation value failed to reject the null ($H_0$: $p_{r<0}$), where $p_{r}=.044$, at $p=.630$ (Table 6, Partial Correlation Analysis for Independent and Dependent Relationships: Widowers in Good Health).

**Null Hypothesis 4:** For the subdivided sample of widowers in poor health, an inverse or no statistically significant relationship will exist between self-esteem and mastery when controlling for age, education, and income.

The data indicated a significant substantial and positive relationship between the self-esteem of older widowers in poor health and their level of mastery when controlling for age, education, and income. The statement can be made that the greater the level of mastery, the higher the self-esteem. Thus, the partial correlation value supported rejecting the null ($H_0$: $p_{r<0}$), where $p_{r}=.490$, at $p=.001$ (Table 7, Partial Correlation Analysis for Independent and Dependent Relationships: Widowers in Poor Health).
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<th>p</th>
</tr>
</thead>
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<td>.050</td>
<td>.581</td>
</tr>
<tr>
<td>Friendship / Self-esteem</td>
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<td>.044</td>
<td>.630</td>
</tr>
<tr>
<td>Mastery / Self-esteem</td>
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<td>.415</td>
<td>.000</td>
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</table>

*a* =*.05
*Controlling for age, years of education, and income.*

Table 6: Partial Correlation Analysis for Independent and Dependent Relationships: Widowers in Good Health
<table>
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<tr>
<th>Variables</th>
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<tr>
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<td>.490</td>
<td>.000</td>
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<tr>
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<tr>
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<td>.632</td>
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*Controlling for age, years of education, and income.

Table 7: Partial Correlation Analysis for Independent and Dependent Relationships: Widowers in Poor Health
Null Hypothesis 5: For the subdivided sample of widowers in good health, no statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables.

For the subdivided sample of widowers in good health, a hierarchical multiple regression analysis of self-esteem on the independent variables was performed (Table 9, Hierarchical Regression Analysis of Self-esteem on Independent Variables: Widowers in Good Health). The correlation matrix (Table 8, Correlation Matrix for Independent and Dependent Variables: Widowers in Good Health) and tolerance values (Table 9) indicated a lack of collinearity among the independent variables. Correlations ranged from -.016 to .524 and tolerance values ranged from .673 to .981. Multiple regression assumptions were tested for possible violation as footnoted (Table 9). The only violation concern was for homoscedasticity in the dependent variable, self-esteem. Because of the heteroscedastic nature of the dependent variable, the normal probability plot was affected. Data transformations were attempted but they did little to adjust the negatively skewed distribution. Hence, the percent of variance accounted for by the model was better at some levels than others.

An investigation of the independent variables in the model revealed that mastery was the only variable making a significant contribution, when other variables were controlled (B=.467, t=4.941 at p<.001). If other independent variables had made significant contributions to explaining the variance in self-esteem, the sample specific Beta values would have been explored to determine
### Intercorrelations

<table>
<thead>
<tr>
<th>Variables</th>
<th>$X_1$</th>
<th>$X_2$</th>
<th>$X_3$</th>
<th>$X_4$</th>
<th>$X_5$</th>
<th>$X_6$</th>
<th>$Y$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ($X_1$)</td>
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<td>-.016</td>
<td>-.052</td>
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<td>.016</td>
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<tr>
<td>Years of Education ($X_2$)</td>
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<td>.524</td>
<td>.231</td>
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</tr>
<tr>
<td>Income ($X_3$)</td>
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<td>.260</td>
<td>.183</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity ($X_4$)</td>
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<td>.076</td>
<td>.057</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Friendship ($X_5$)</td>
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<td>.128</td>
<td>.054</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mastery ($X_6$)</td>
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<td>.420</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem ($Y$)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 8: Correlation Matrix for Independent and Dependent Variables: Widowers in Good Health ($n = 126$)
### Analysis of Variance

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>F Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
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<td>6</td>
<td>60.456</td>
<td>5.062</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>1421.138</td>
<td>119</td>
<td>11.942</td>
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</tr>
</tbody>
</table>

**Table 9:** Hierarchical Regression Analysis of Self-esteem on Independent Variables: Widowers in Good Health (n = 126)
the relative importance among the variables. A significant proportion of the variance in self-esteem, however, was explained by the linear combination of the independent variables ($R^2 = .203; F_{6,114} = 5.062$ at $p<.001$), which supported rejecting the null.

**Null Hypothesis 6: For the subdivided sample of widowers in poor health, no statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables.**

For the subdivided sample of widowers in poor health, a hierarchical multiple regression analysis of self-esteem on the independent variables was performed (Table 11, Hierarchical Regression Analysis of Self-esteem on Independent Variables: Widowers in Poor Health). The correlation matrix (Table 10, Correlation Matrix for Independent and Dependent Variables: Widowers in Poor Health) and tolerance values (Table 11) indicated a lack of collinearity among the independent variables. Correlations ranged from .002 to .301 and tolerance values ranged from .821 to .954. Multiple regression assumptions were tested for possible violation as footnoted (Table 11). The model for widowers in poor health did not present any violation concerns.

An investigation of the independent variables in the model revealed that mastery was the only variable making a significant contribution, when other variables were controlled ($B = .593, t = 4.706$ at $p<.001$). If other independent variables had made significant contributions to explaining the variance in self-esteem, the sample specific Beta values would have been explored to determine
## Intercorrelations

<table>
<thead>
<tr>
<th>Variables</th>
<th>$X_1$</th>
<th>$X_2$</th>
<th>$X_3$</th>
<th>$X_4$</th>
<th>$X_5$</th>
<th>$X_6$</th>
<th>$Y$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ($X_1$)</td>
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<td>.144</td>
<td>-.177</td>
<td>.112</td>
<td>-.078</td>
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<tr>
<td>Years of Education ($X_2$)</td>
<td>1.00</td>
<td>.301</td>
<td>.048</td>
<td>.109</td>
<td>.106</td>
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<td></td>
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<tr>
<td>Income ($X_3$)</td>
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<td>-.030</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mastery ($X_4$)</td>
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<td>-.067</td>
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<td>.513</td>
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<td></td>
<td></td>
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<tr>
<td>Activity ($X_5$)</td>
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<td>.093</td>
<td></td>
<td></td>
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<tr>
<td>Friendship ($X_6$)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Self-esteem ($Y$)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

Table 10: Correlation Matrix for Independent and Dependent Variables: Widowers in Poor Health (n = 74)
### Table 11: Hierarchical Regression Analysis of Self-esteem on Independent Variables: Widowers in Poor Health (n = 74)

<table>
<thead>
<tr>
<th>Variable</th>
<th>R²</th>
<th>R² change</th>
<th>F change (signif)</th>
<th>B</th>
<th>Beta</th>
<th>T (signif)</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.000</td>
<td>.000</td>
<td>.032 (.858)</td>
<td>.004</td>
<td>.005</td>
<td>.049 (.961)</td>
<td>.851</td>
</tr>
<tr>
<td>Years of Education</td>
<td>.041</td>
<td>.040</td>
<td>2.988 (.088)</td>
<td>.171</td>
<td>.092</td>
<td>.831 (.409)</td>
<td>.821</td>
</tr>
<tr>
<td>Income</td>
<td>.099</td>
<td>.059</td>
<td>4.550 (.036)</td>
<td>.188</td>
<td>.175</td>
<td>1.639 (.106)</td>
<td>.878</td>
</tr>
<tr>
<td>Mastery</td>
<td>.316</td>
<td>.216</td>
<td>21.807 (.000)</td>
<td>.593</td>
<td>.489</td>
<td>4.706 (.000)</td>
<td>.929</td>
</tr>
<tr>
<td>Activity</td>
<td>.327</td>
<td>.012</td>
<td>1.190 (.279)</td>
<td>.106</td>
<td>.102</td>
<td>.999 (.322)</td>
<td>.954</td>
</tr>
<tr>
<td>Friendship</td>
<td>.330</td>
<td>.002</td>
<td>.215 (.644)</td>
<td>.024</td>
<td>.048</td>
<td>.464 (.644)</td>
<td>.948</td>
</tr>
</tbody>
</table>

Multiple R                   | .574 |
R Square                     | .330 |
Standard Error of Estimate   | 4.86 |

#### Analysis of Variance

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
<th>F Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>778.572</td>
<td>6</td>
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<tr>
<td>Residual</td>
<td>1583.874</td>
<td>67</td>
<td>23.640</td>
<td></td>
</tr>
</tbody>
</table>

*<.05
Analysis of Residuals
Independence: Durbin-Watson test = 1.785 indicating independence.
Normality: Histogram of standardized residuals and normal probability plot indicate normality for all variables.
Homoscedasticity: Standardized scatterplots indicate no trends for all variables and thus constant variance.*
the relative importance among the variables. A significant proportion of the variance in self-esteem, however, was explained by the linear combination of the independent variables ($R^2=.330; F_{a,.67}=5.489$ at $p<.001$), which supported rejecting the null.

**Examination of the Research Question**

In addition to testing the hypotheses, the following research question was posed and answered through relative comparison of the variates.

1. **How does the multiple regression variate for widowers in good health compare to the multiple regression variate for widowers in poor health?**

   For the widowers in good health, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables ($R^2=.203; F_{a,.19}=5.062$ at $p<.001$). An investigation of the independent variables in the model, however, revealed that mastery was the only variable making a significant contribution, when other variables were controlled ($B=.467, t=4.941$ at $p<.001$).

   For the widowers in poor health, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables ($R^2=.330; F_{a,.67}=5.489$ at $p<.001$). An investigation of the independent variables in the model, however, revealed that mastery was the only variable making a significant contribution, when other variables were controlled ($B=.593, t=4.706$ at $p<.001$).
Both models were significant with 20% of the variance in self-esteem accounted for by the linear combination of variables in the good health group and 33% of the variance in self-esteem accounted for by the linear combination of variables in the poor health group. Likewise, for both models mastery was the only variable making a significant contribution to the variate when other variables were controlled as evidenced by $B=.467, t=4.941$ at $p<.001$ for the good health group and $B=.593, t=4.706$ at $p<.001$ for the poor health group. To determine if mastery was more important to the poor health group than the good health group, a post-hoc test was conducted. The test results, however, failed to reject the null, at $p=.235$, indicating that mastery could not be considered more important to one health group over another.

**Sample Characteristics**

The 200 respondents in the study were widowers 60 years of age or older, residing in a major Midwestern metropolitan city in the United States. The typical older widower in the unified sample was 75 years of age with nearly a year of education beyond high school and a monthly income of $1400. The typical older widower in the subdivided sample of good health was 76 years of age with a little over a year of additional education beyond high school and a monthly income of $1470. The typical older widower in the subdivided sample of poor health was 73 years of age with just less than a high school education and a monthly income of $1260.
The sample was limited by its volunteer nature. Although participation refusals were relatively low at 14%, older widowers who did not participate characteristically may vary from the older widowers in the study. It is virtually impossible in social and behavioral research to capture a random sample (Ary, Jacobs, & Razavieh, 1985). Therefore, the findings of the study were limited by the self-selection of the respondents.

Another issue regarding the sample was the presumption that each respondent honestly answered the interview schedule questions according to his knowledge, attitudes, and feelings. Responding positively to measures associated with well-being so as to appear “socially desirable” is tempting, especially in later-life (Carstensen & Cone, 1983). Equally important, respondents were assumed to have had adequate access to the information in terms of recall abilities. Lastly, even under the best circumstances of sampling and self-reporting, this study investigated associations and relationships, but did not determine causality. Thus, findings must be interpreted while being cognizant of study limitations.

Hypothesized Relationships

The findings of the present study relevant to the six research hypotheses yielded the following information. For the widowers in the unified sample, health explained a significant proportion of the variance in self-esteem, independently and as part of a moderator effect. The moderator effect indicated that widowers with higher health scores tended to have higher self-esteem, and widowers with
higher income scores tended to have higher self-esteem, but the effects were not independent. For a widower with a relatively low income, health was more important in determining self-esteem than for a widower with a relatively high income. The widower with relatively low income may value his health to a greater degree due to lack of other resources, including finances. The possibility also exists that the widower with relatively high income can purchase needed health services thus preventing a health condition from heavily impacting self-esteem.

For the older widowers in good health, there was no significant relationship between their self-esteem and level of activity when controlling for age, education, and income. Also for the good health group, there was no significant relationship between their self-esteem and level of friendship when controlling for age, education, and income. For the older widowers in good health, 20%, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled. As opposed to expectations of finding support for the outer dimension of self-esteem, results appeared to support the inner dimension of self-esteem for widowers in good health.

For the older widowers in poor health, there was a significant positive relationship between self-esteem and level of mastery. Thus, the greater the level of mastery, the higher the self-esteem. For the older widowers in poor
health, 33%, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled. As expected, results appeared to support the inner dimension of self-esteem for widowers in poor health.

**Self-esteem and Health**

In general, more men are living longer and healthier lives, especially with the influence of the baby boom population. Along with the sheer increase in the number of people, including men, reaching their later years, the baby boom cohort has experienced better health care than previous generations (Thompson, 1994). For this sample of older men, there was particular interest in level of health because of their widower status.

The transition to widowhood is likely the most severe form of stress as death of a spouse is ranked highest on the widely used Social Readjustment Rating Scale by Holmes and Rahe (1967). According to Bowling and Windsor (1995) most bereavement studies report excess mortality after widowhood related to poorer mental and physical health among the bereaved. Further, risk of mortality has been associated with older age, male sex, and poorer functional ability.

To investigate the importance of health to widower adjustment, it was worthwhile to examine the saliency of health as a contributor to self-esteem. Self-esteem is considered a personal coping resource and has been found to be
associated with adjustment to bereavement (Lund, 1989). Researchers have therefore examined the predictors of self-esteem to better understand adjustment to bereavement.

For the widowers in the unified sample, health explained a significant proportion of the variance in self-esteem, independently and as part of a moderator effect. The moderator effect indicated that widowers with higher health scores tended to have higher self-esteem, and widowers with higher income scores tended to have higher self-esteem, but the effects were not independent. For a widower with a relatively low income, health was more important in determining self-esteem than for the widower with a relatively high income.

The present study lends support to previous research. Okun, Stock, Haring, and Witter (1984) performed an intensive meta-analysis on the relationship between health and subjective well-being of adults. Subjective well-being and self-esteem are closely related concepts. Health and subjective well-being were found to be positively and significantly related. After a study of this magnitude produced such convincing evidence, researchers commonly expected health status to appear as a significant contributor to measures of well-being, including self-esteem.

Studies that specifically investigated the self-esteem of older adults also found health to be significant. In their often cited study of the predictors of self-esteem for older adults, Lee and Shehan (1989) found health to have the
strongest effect on self-esteem. In addition, they found the background variable of income to be important to older men's self-esteem. Coleman, Ivani-Chalian, and Robinson (1993) reported that health was the most frequently mentioned source of self-esteem in their well-known Southampton Ageing Study.

In fact, health plays such a role in social science research that oftentimes, compelling psychological theories have been reduced to corollaries of health. Upon verifying the saliency of health to self-esteem, a closer look into the possible contributors to self-esteem was examined by subdividing the widowers by health status. The possible contributing constructs of activity, friendship, and mastery were examined as they related to the self-esteem among older widowers in good health and older widowers in poor health. By subdividing the groups according to health status, the relevancy of the outer (i.e., activity and friendship) and inner (i.e., mastery) dimensions that supported self-esteem were deciphered. The uniqueness of the present study was that it incorporated health status by investigating the relevant dimensions that supported self-esteem for older widowers in good health and older widowers in poor health.

**Self-esteem and Activity / Friendship**

From the outset of the present study it was presumed that the older widowers in good health, as opposed to poor health, were more capable of participating in frequent activities and social contact with friends and thus more likely to support their self-esteem through the outer dimension. The outer dimension of self-esteem emphasizes positive appraisals from others,
specifically friends. The older widowers in poor health were presumed physically less capable of participating in activities and social contact with friends, thereby participating in less activities and selecting fewer friendship contacts. It was suspected that the older widowers in poor health would support their self-esteem through a sense of mastery, the inner dimension.

For the older widowers in good health, there was no significant relationship between their self-esteem and level of activity when controlling for age, education, and income. Additionally, for the good health group there was no significant relationship between their self-esteem and level of friendship when controlling for age, education, and income. As opposed to expectations of finding support for the outer dimension of self-esteem, results appeared not to support the outer dimension of self-esteem for widowers in good health.

For the older widowers in poor health, level of activity did not significantly contribute to self-esteem as evidenced by the variate. Additionally, for the poor health group, level of friendship did not significantly contribute to self-esteem as evidenced by the variate. As expected, results appeared not to support the outer dimension of self-esteem for widowers in poor health.

Thus, for older widowers in the good health group and the poor health group neither activity nor friendship was significant to self-esteem. The findings for the good health group were in contrast with expected results. The findings for the poor health group, however, were congruent with expected results.
Previous research on activity and friendship in the later years has not attempted to discern the relationship of these constructs to self-esteem based on health status. Activity theory has historically been promoted in the literature claiming that a positive relationship between activity and life satisfaction exists (Lemon, Bengtson, & Peterson, 1972). With greater frequency of activity, the more likely role support will develop from the interaction. Role support is support given by others toward an individual for his/her claims regarding his/her role-identity or imagined social position. Role losses or changes are expected to decrease the relationship between activity and life satisfaction. Role losses or changes include widowhood and failing health. Belonging to the group “widowers” may be more of a defining characteristic than belonging to the subdivided groups of “good” and “poor” health. After all, as men age they likely expect to encounter some reduction in health status. Older men are much less likely, however, to anticipate widowerhood. Lemon et al. (1972) continued their theory by stating that the presence of role loss or change should diminish the magnitude of the relationship between activity and life satisfaction, yet the direction of the relationship should remain positive.

Results from the actual Lemon et al. (1972) study found that informal activities with friends was significantly related to life satisfaction. Longino and Kart (1982) also found informal activities exerted a positive influence on life satisfaction. McClelland (1982) concluded that self-conception was very strongly dependent on social activity. Further, self-conception had a significant
effect on life satisfaction, thus bridging the constructs together. Lee and Shehan (1989) found the frequency of interaction with friends to positively affect the self-esteem of older persons. Self-esteem constitutes a portion of the self-concept. Coleman, Ivani-Chalian, and Robinson (1993) noted that “others,” representing persons other than family members, and perceived high activity were frequently mentioned sources of self-esteem by men and women. “Others” were mentioned, however, less by men than women.

Despite the proven importance of social factors to self-esteem, Gecas and Schwalbe (1983) have suggested that this outer dimension, including activities and friends, has been overemphasized. Findings by Dietz (1996) indicated a tendency for outer self-esteem to be less resilient as people age than is self-esteem based on inner sources. Dietz (1996) has argued that outer self-esteem, based on associating with significant others, requires the actual presence and responses of significant others. With the deceased wife no longer able to play the role of “kin-keeper” and “social calendar planner” (Barer, 1994), the widower quite possibly has turned to the inner dimension of self-esteem, regardless of health status being good or poor.

Self-esteem and Mastery

From the outset of the present study the older widowers in good health, as opposed to poor health, were presumed to be more capable of participating in frequent activities and social contact with friends and thus more likely to support their self-esteem through the outer dimension. The older widowers in poor
health were presumed physically less capable of participating in activities and social contact with friends, thereby participating in less activities and selecting fewer friendship contacts. The older widowers in poor health would supposedly support their self-esteem through a sense of mastery, the inner dimension.

For the older widowers in good health, level of mastery significantly contributed to self-esteem as evidenced by the variate. For the older widowers in good health, 20%, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled. As opposed to expectations of not finding support for the inner dimension of self-esteem, results appeared to actually support the inner dimension of self-esteem for widowers in good health.

For the older widowers in poor health, there was a significant positive relationship between self-esteem and level of mastery. Thus, the greater the level of mastery, the higher the self-esteem. For the older widowers in poor health, 33%, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled. As expected, results appeared to support the inner dimension of self-esteem for widowers in poor health.

Thus, for older widowers in the good health group and the poor health group, mastery was significant to self-esteem. The findings for the good health
The findings for the poor health group, however, were congruent with expected results.

Previous research on mastery in the later years has not attempted to discern the relationship of these constructs to self-esteem based on health status. Current findings seemed to resemble disengagement theory, generally considered the opposite of activity theory. Disengagement theory is based on the assumption that middle-aged persons gradually become more reflective with age. The reflective process results in a natural and normal withdrawal from social roles and activities which is accompanied by an increasing interest with self and decreasing emotional involvement with others (Cumming & Henry, 1961). In the case of the older widower, there was no active choice to be made regarding marital or health status, rather these events occurred as part of his life cycle. Disengagement theory has typically been faulted for providing a skewed perspective of the aging process as it does not address the significant proportion of older adults who do not lose interest in life and do not withdraw from society. Disengagement theory presents an unappealing, negative view of aging to researchers, and it has not received much empirical support.

In terms of findings related to the constructs of mastery and self-esteem Coleman, Ivani-Chalian, and Robinson (1993) noted that "inner self," representing life theme, was a frequently mentioned source of self-esteem. Further, with the exception of "inner self," all other sources of self-esteem declined in the frequency of mentions over a 13 year period. The major changes
that occurred in this period were loss of roles. "Inner self" referred to the presence of themes or philosophies which explained what people’s lives were about. As long as the person felt that he/she was true to an established theme, regardless of change and loss, self-esteem was apparently preserved. Being true to an established theme is likely to involve feelings of control and competence, indicative of mastery. For example, a participant in poor health was described as maintaining self-esteem through new interests and hobbies that were less physically demanding, thus asserting mastery over the situation. Although mastery was not specifically measured, "inner self" as reflected by life theme appears to be interrelated.

Franks and Marolla (1976) and Gecas and Schwalbe (1983) have suggested that self-esteem is derived from the previously discussed outer source, including activities and friendship, and an inner source. Inner self-esteem is gained from the experience of self as an active agent or being able to "make things happen." The sense of being an active agent stems from feelings of one’s own competency or mastery.

Along this same perspective, Coopersmith (1981) identified competence as a source of self-esteem. Competence was defined as successful performance in meeting one's achievement demands. This idea does not deny the general importance of social approval or disapproval, rather it suggests that there are innate sources of satisfaction that accompany mastery of the environment. Mastery is defined as the extent to which one regards one's life
chances as being under one’s own control (Pearlin, Lieberman, Menaghan, & Mullan, 1981).

Findings by Dietz (1996) indicated a tendency for inner self-esteem to be more resilient as people age than self-esteem based on outer sources. Psychological processes are implicated in the inner dimension as an accommodation of goals is made to fit current possibilities of achievement or a change occurs in reference groups for positive comparison purposes. Turning inward as a source of self-esteem involves a decrease in reliance on the responses of others in defining and evaluating the self.

Relying on inner self-esteem is especially important to those older widowers in poor health who can no longer engage in various activities outside the home. In addition, current study results indicated that inner self-esteem is also important to the widowers in the good health group. With the deceased wife no longer able to play the role of “kin-keeper” and “social calendar planner” (Barer, 1994), the older widower quite possibly has turned to the inner dimension of self-esteem, regardless of health status.

Self-esteem Issues

A concern in the present study came to light when viewing the scatterplot for self-esteem; a trend of high scores was apparent. The negatively skewed distribution of self-esteem scores caused the dependent variable to be heteroscedastic. Attempts to transform the variable to a homoscedastic distribution were unsuccessful. Homoscedasticity is sought because the
variance of the dependent variable being explained should not be concentrated in a limited range of the independent values (Hair, Anderson, Tatham, & Black, 1995). The purpose of transforming self-esteem was to ensure that the variance used in explanation and prediction was spread across the range of values, allowing for a fair test of the relationship across all values of the independent variables. Because the transformation was unsuccessful, predictions of self-esteem were better at some levels than at others. Violation of homoscedasticity causes hypothesis testing to be either overly conservative or overly sensitive. Fortunately, when the sample was subdivided into good and poor health groups, self-esteem was not heteroscedastic in the poor health group. The results of the good and poor health groups were quite similar. Thus, the homoscedastic nature of self-esteem in the poor health group lent a sense of cautious validity to the results of the good health group.

To further investigate the nature of the self-esteem variable, reasons for the relatively high scores were sought. It is possible that the Rosenberg Self-Esteem Scale (1965) did not adequately capture the construct of self-esteem. This scale, however, is considered the "gold standard" for all other self-esteem instruments. A closer look at the self-esteem literature proved useful.

Self-esteem is recognized as an important concept in understanding the aging experience. Self-esteem has been investigated in relation to studies of coping with stress such as bereavement, disability, and institutionalization (Essex & Klein, 1989; Krause, 1987; Lieberman & Tobin, 1983; Lund, 1989).
Coleman, Ivani-Chalian, and Robinson (1993) acknowledged that major life changes may pose a threat to a person's sense of identity by affecting the basis on which his/her life is constructed. Evidence, however, has indicated that self-esteem is remarkably resilient in later life, despite life changes (Baltes & Baltes, 1990; Coleman et al., 1993; Dittmann-Kohli, 1990).

For example, Coleman et al. (1993) noted a lack of change in self-esteem even when the time period reflected a significant decline in functional ability and a significant increase in reported medical problems. In addition, concerns about health and worries about needing more help had increased noticeably. Levels of self-esteem and attitudes toward aging, however, remained relatively stable. They also found evidence that a link between higher self-esteem and survival existed. The self-esteem of respondents was significantly higher than the self-esteem of those who died or dropped out of the study. A highly significant gender difference remained over time in that fewer women continued to display the highest level of self-esteem.

A related idea is the self-esteem motive which refers to the motivation to view oneself favorably. A more favorable view of the self can be constructed through such strategies as selective perception and cognition, self-presentation, and reconstructing the environment and/or redefining the situation (Rosenberg, 1979). According to Kaplan (1982), the self-esteem motive is defined as one's need to achieve positive self-attitudes and to avoid negative self-attitudes as based on self-evaluation. The self-esteem motive has been established based
on the following four lines of empirical observation. Researchers have found a tendency for individuals to describe themselves in positive terms and to avoid negative self-descriptions. In addition, there is a tendency for persons with low self-esteem and those in self-threatening situations to respond with behaviors that are self-defensive or self-enhancing. Further, persons with low self-esteem typically manifest distress, such as depression or anxiety. Finally, persons with positive self-attitudes tend to maintain positive self-attitudes whereas persons with negative self-attitudes tend to change their attitudes toward themselves in a more positive direction. These observations indicate the existence of a self-esteem motive which could have contributed to the relatively high self-esteem scores found in the present study.

Coleman et al. (1993) acknowledged that stability of self-esteem does not imply stability of the sources of self-esteem. Understanding self-esteem stability is an important goal because maintaining self-esteem in a changing situation may depend upon one's ability to adapt by finding new coping strategies. Because the present study was not longitudinal, the resiliency of self-esteem could not be investigated. Results did indicate, however, that mastery was important to the self-esteem of widowers in both the good and poor health groups.
CHAPTER 5
SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

Summary

The purpose of the study was to investigate the saliency of self-reported health to the self-esteem of older widowed men, thereby legitimizing the consequent subdivision of the sample into widowers in good health and widowers in poor health. Upon subdividing the group by health status, the constructs of mastery, activity, and friendship were examined as they related to self-esteem among older widowers in good health and older widowers in poor health. By subdividing the groups according to health status, the relevancy of the outer (i.e., activity and friendship) and inner (i.e., mastery) dimensions that supported self-esteem were deciphered. Lastly, the investigation was grounded in current theory in self-esteem and successful adaptation to aging with the intention of synthesizing existing gerontological suppositions.

The research hypotheses coupled with respective findings follow.

1. For the unified sample of widowers, a statistically significant proportion of the variance in self-esteem will be explained by health when the other independent variables are controlled. The data indicated that health
alone and in combination with income contributed significantly to the regression model when the other independent variables were controlled. Thus, the partial regression coefficient for health supported accepting the hypothesis, where $B=3.349$, $t=3.456$ at $p=.001$. In addition, a significant moderator effect was discovered in the relationship between health and income, where $B= -.136$, $t=-2.126$ at $p=.035$.

2. For the subdivided sample of widowers in good health, a statistically significant positive relationship will exist between self-esteem and activity when controlling for age, education, and income. The data indicated a nonsignificant relationship between the self-esteem of older widowers in good health and their level of activity when controlling for age, education, and income. Thus, the partial correlation value was nonsignificant, where $pr=.050$, at $p=.581$.

3. For the subdivided sample of widowers in good health, a statistically significant positive relationship will exist between self-esteem and friendship when controlling for age, education, and income. The data indicated a nonsignificant relationship between the self-esteem of older widowers in good health and their level of friendship when controlling for age, education, and income. Thus, the partial correlation value was nonsignificant, where $pr=.044$, at $p=.630$.

4. For the subdivided sample of widowers in poor health, a statistically significant positive relationship will exist between self-esteem and
mastery when controlling for age, education, and income. The data indicated a significant substantial and positive relationship between the self-esteem of older widowers in poor health and their level of mastery when controlling for age, education, and income. Thus, the partial correlation value supported accepting the hypothesis, where \( r = .490 \), at \( p = .001 \).

5. For the subdivided sample of widowers in good health, a statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled \( (B = .467, t = 4.941 \text{ at } p < .001) \). A significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables \( (R^2 = .203; F_{6,119} = 5.062 \text{ at } p < .001) \), which supported accepting the hypothesis.

6. For the subdivided sample of widowers in poor health, a statistically significant proportion of the variance in self-esteem will be explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled \( (B = .593, t = 4.706 \text{ at } p < .001) \). A significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables \( (R^2 = .330; F_{6,67} = 5.489 \text{ at } p < .001) \), which supported accepting the hypothesis.
The findings of the present study relevant to the six research hypotheses thus yielded the following information. For the widowers in the unified sample, health explained a significant proportion of the variance in self-esteem, independently and as part of a moderator effect. The moderator effect indicated that widowers with higher health scores tended to have higher self-esteem, and widowers with higher income scores tended to have higher self-esteem, but the effects were not independent. For a widower with a relatively low income, health was more important in determining self-esteem than for a widower with a relatively high income.

For the older widowers in good health, there was no significant relationship between their self-esteem and level of activity when controlling for age, education, and income. Also for the good health group, there was no significant relationship between their self-esteem and level of friendship when controlling for age, education, and income. For the older widowers in good health, 20%, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled. As opposed to expectations of finding support for the outer dimension of self-esteem, results appeared to support the inner dimension of self-esteem for widowers in good health.

For the older widowers in poor health, there was a significant positive relationship between self-esteem and level of mastery. Thus, the greater the
level of mastery, the higher the self-esteem. For the older widowers in poor health, 33%, a significant proportion of the variance in self-esteem was explained by the linear combination of the independent variables. Mastery was the only variable making a significant contribution, when other variables were controlled. As expected, results appeared to support the inner dimension of self-esteem for widowers in poor health.

For the present subdivided sample of older widowed men into good and poor health groups, results supported the importance of mastery to self-esteem. Thus, regardless of health status, the inner dimension of self-esteem was significant to older widowed men.

**Implications for Theory**

A renewed interest and concern for the state of theory development in aging has been expressed in the gerontological community. The main concern is that research on aging may become a collection of information rather than integrated ideas to advance theory (Birren, 1995). Schroots (1996) reviewed distinctive theories of aging beginning with the Classical period which includes disengagement and activity theories. Disengagement theory is based on the assumption that persons gradually become more reflective with age. The reflective process results in a natural and normal withdrawal from social roles and activities which is accompanied by an increasing interest with self and decreasing emotional involvement with others (Cumming & Henry, 1961). Activity theory, in contrast, assumes a positive relationship between activity and
life satisfaction. Despite the changes in physiology, anatomy, and health status, the older person's psychological and social needs are theorized to essentially remain the same. Further, the individual who ages optimally is the one who remains active and involved with societal concerns (Havighurst, 1968).

McClelland (1982) expanded activity theory by including the construct of self-concept. A relationship exists between self-concept and social activity and self-concept has a significant effect on life satisfaction. McClelland (1982) recommended that future researchers recognize that a strong self-concept is achieved through social interaction which is a prerequisite for satisfaction with life and self. Self-concept is an inclusive construct that contains the affective component of self-esteem (Blascovich & Tomaka, 1991).

Despite the importance of social factors to self-esteem, Gecas and Schwalbe (1983) suggest that an overemphasis on social factors has limited the view of the development of self-evaluations. Senses of esteem may be derived from an inner source and an outer source (Franks & Marolla, 1976; Gecas & Schwalbe, 1983). Inner self-esteem is derived from the experience of self as an active agent or being able to "make things happen." Thus, persons partly develop a sense of self from the consequences and products of behavior that are attributed to the self as a causal agent. The sense of being an active agent stems from feelings of one's own competency or mastery. Inner self-esteem is earned through one's own competent actions rather than from particular
persons. Outer self-esteem, in contrast, is based on appraisals received from particular others who relay approval or acceptance.

Dietz (1996) conducted research to examine the concept of inner and outer self-esteem. The findings indicated a tendency for inner self-esteem to be more resilient as people age than is self-esteem based on outer sources. Older adults may evaluate themselves as previously being able to make things happen the way they wanted to in life. Inner self-esteem may be less dependent on the presence and responses of significant others.

In terms of widowerhood, the literature reports that older men may not cope with the loss of a spouse as well as older women, because widowed women are better able to develop and sustain intimate relationships than widowed men. Widowed women "tend to form confidant relationships with other widowed women, whereas widowed men, who had relied on their wives for their emotional needs, are left with no one" (Barer, 1994, p. 30). The older widowed men in the present samples of good and poor health, however, appeared to rely on feelings of mastery for their sense of self-esteem, a coping resource. Thus, in the current study, the inner dimension of self-esteem was supported for both groups.

A related idea is Carstensen's (1991) selectivity theory which suggests that older adults avoid social contact that can pose a threat to self-definition. Further, persons strategically select social partners and adopt interaction strategies that lead to confirmatory responses. In the later years, widower status
and failing health can project a very different identity than desired by the older man. Fewer persons are presumed to be able to help preserve the self-concept, thus careful discriminations among potential social partners is necessary to minimize interactions that erode the self-concept. The older widowed male may feel quite isolated among other married men, especially if he is in poor health. In addition, with his wife the “kin-keeper” and “social calendar planner” no longer present, the older widowed male may not initiate or maintain social contact.

Baltes (1993) also emphasized the selectivity principle in his selective optimization with compensation model. He recognizes the flexibility for reorganization of the self to preserve self-esteem. Despite loss, a power of the self exists to reorganize and readjust in response to or in anticipation of various life circumstances. Thus, apparently the older widowed men in the good and poor health groups have optimized self-esteem by selecting to rely on mastery, the inner dimension. The widowers in good health are likely compensating for the role loss of husband and the widowers in poor health are likely compensating for the role loss of husband and the loss of health status.

In terms of theory development, activity and disengagement theories have been faulted for failure to represent the heterogeneity of aging. The principle of selectivity as presented in selectivity theory and the selective optimization with compensation model, in contrast, includes heterogeneity. In general, the selectivity frameworks contain propositions stating that the course of aging
involves interindividual variability and that the self in old age remains a resilient system of coping and maintaining integrity despite losses and transitions.

**Implications for Practice**

The transition to widowhood is likely the most severe form of stress as death of a spouse is ranked highest on the widely used Social Readjustment Rating Scale by Holmes and Rahe (1967). According to Bowling and Windsor (1995) most bereavement studies report excess mortality after widowhood related to poorer mental and physical health among the bereaved. Further, risk of mortality has been associated with older age, male sex, and poorer functional ability.

Findings from the present study indicated the importance of mastery to self-esteem, regardless of health status. To date, little research has been conducted on the relationship between self-esteem and mastery, or competence as it is commonly referred (Ranzijn, Keeves, Luszcz, & Feather, 1998). Nonetheless, ongoing investigations, as well as the present study, and common sense suggest that interventions directed toward assisting the older widowed person in taking control of his life situation would enhance mastery.

From a counseling standpoint, cognitive restructuring is appropriate for assisting the older widower in achieving a sense of mastery over his situation. Cognitive restructuring redirects the individual from focusing on personal fears to thinking about more secure aspects (Richardson, 1993). Through counseling, individuals become aware of techniques they have used or may already be using...
as coping resources. These coping resources become the foundation on which adaptive processes are strengthened. The individual's task is to discover and develop existing coping resources to regain control and mastery over the current situation (Pollin & Kanaan, 1995).

The counselor's task is to reinforce the individual's confidence in his ability to cope with widowerhood (Pollin & Kanaan, 1995). The counselor should assist the widower in expressing his feelings about loss of control and then normalize these feelings. After realistically reviewing the situation, the counselor and widower can identify areas in which control is possible. The widower thus shifts his focus from overwhelming challenges to achievable tasks. An important route to asserting control and mastery over the transition of widowerhood is to increase knowledge. Knowledge enables the widower to make informed decisions about his situation.

A leader in providing information and resources to widowed persons, family members, friends, businesses, and organizations is the AARP Widowed Persons Service. For 25 years, this service has been widely recognized in the bereavement community as a national expert on grief and death education, especially for older adults (AARP, 1998a). They have published a guide for widowed persons that includes suggestions for coping with loss of a spouse (AARP, 1998b). Through various coping strategies it is likely that mastery levels will be increased.
Recommendations for adjusting to widowhood include taking time to review options and refusing to make rash decisions (AARP, 1998b). Upon becoming widowed, there are temptations that must be faced such as quitting work; selling the house; moving in with family; and/or moving geographic residence. In these instances, taking control of the situation and determining a temporary course of action that can be adjusted at a later time is considered best. Suggestions for a temporary course of action include: taking a leave of absence from work instead of quitting; renting out the house instead of selling; visiting with family for a period of time before deciding to move in with them; and/or taking a long vacation from home before deciding to leave the area.

Another possible route to influencing mastery is through improved health practices (AARP, 1998b). Improved health practices include regular exercise, proper nutrition, and physician visits. Widows and widowers are at a higher risk for failing health than other persons in less stressful situations. In times of grief, alcohol, cigarettes, medications, and tranquilizers are more heavily consumed and abused (AARP, 1998b). In addition, acute grief manifests as stomach pain, loss of appetite, intestinal upset, sleep disturbances, and fatigue (AARP, 1998b). The widowed must be aware that grief is a natural process and that these concerns can be addressed through community resources that can work with the widow/widower to achieve a sense of mastery over their life situation.
**Recommendations for Future Research**

Recommendations for research design and for further study are as follows.

**Research Design**

1. Utilize a longitudinal design to examine resiliency and differences overtime in sources (inner vs. outer) of self-esteem. A longitudinal design would permit time-series measurements to determine changes in level of self-esteem as well as deciphering the contribution of inner and outer sources throughout the course of aging.

2. Design a longitudinal study to follow the influence of health status on the self-esteem of older widowers or older adults in general. A longitudinal design would allow for health status to be measured across time to investigate the transition and coping style that older widowers or older adults incorporate into their self-esteem.

3. Design studies with larger sample sizes to allow for the inclusion of additional variables that reflect inner and outer self-esteem sources. Sample size must be large enough for the multivariate technique to detect significance. In addition, other variables that can be considered as measuring inner and outer sources may differentially impact self-esteem levels.

4. With respect to further studies on widowhood, variables that should be taken into consideration or controlled for include: length of marriage,
number of times married, level of satisfaction with the marriage(s), and caregiver responsibilities. Variables related to the marriage itself may have an intervening effect on self-esteem and adjustment to widowhood.

Comparison Studies

1. Conduct a study to compare the older widowed men in the present sample with a national sample. As previously stated, the sample was confined to Franklin County, Ohio. A widespread study including diverse populations may yield different findings in relation to varying ethnicities and cultures.

2. Conduct a study to compare older widowed men and older married men’s sources of self-esteem. The role of the wife as “kin-keeper” and “social calendar planner” has previously been acknowledged; however, the degree to which the husband relies on her social contacts for his feelings of self-esteem is unknown. The possibility exists that older married men rely on an inner dimension for their self-esteem. The activity and friendship involvements prompted by the wife may exist in his life without being important to self-esteem.

3. Conduct a study to compare older widowed men and older widowed women’s sources of self-esteem. Assuming that social patterns are different between older men and older women, they may incorporate different sources of self-esteem to cope with the death of their spouse.
4. Conduct a study to compare older widowed persons and never-married persons' sources of self-esteem. Sources of self-esteem may be quite different for persons who have lived their lives single. Without the influence of a spouse, singles likely developed patterns of interaction based solely on their own individual personalities and behavior patterns. Activities and friendships likely play a more salient role in the lives of never-married persons.

**Construct Exploration**

1. Investigate Rosenberg’s Self-Esteem Scale for its actual construct measurement with older adult samples (validity and reliability studies). Self-esteem studies on children have been historically very popular. Less studies have focused on self-esteem among older adults. The instrument may not be as appropriate for older adults. Thus, the generally high self-esteem scores that were obtained may be a function of the instrument and measurement error.

2. Decipher the relationship between being true to a life theme and mastery. The concepts of life theme and mastery have been referred to as representing an inner dimension of self-esteem. Life theme represents what the person's existence has been about, their purpose and philosophy. Being true to an established life theme helps preserve self-esteem. Mastery represents a person’s feelings of competence and control in life. Mastery was the only significant contributing factor to self-
esteem in the present study. The two concepts may be the same or they may work together. For example, having the competence and control to direct one's existence (mastery) may allow an individual to carry out a chosen purpose or stay true to a philosophy (life theme).

3. Investigate the sources of mastery to determine avenues for influencing level of mastery and thus presumably self-esteem. To date, mastery and its relationship to self-esteem has not received much attention in the literature. Qualitative investigation would be beneficial for gaining insight into what older adults consider important to their level of mastery. Upon deciphering the sources of mastery, program efforts can be appropriately developed.

4. Construct measures of friendship and activity that include the perceived quality of the relationship and event as opposed to only quantitative measures. The quantitative aspects, such as number of and time spent with friends and number of and time in organizations do not denote feelings of satisfaction with friendship and activity. In a qualitative sense, the perception of having one very close friend may be enough to sustain self-esteem.

5. Different indicators of health may be variously related to self-esteem. For the present study, a global health measure was utilized. Health in reference to specific areas, such as physical or mental health status may
reveal additional information about the health and self-esteem relationship.

**Program Development**

1. Develop programming efforts to influence the level of mastery for older adults coping with loss and transition. Self-esteem is considered a coping resource in times of loss and transition, and mastery was determined to significantly contribute to the self-esteem of older widowers. All older adults must face loss and transition; therefore, seeking to increase levels of mastery should be a priority for programmers wishing to impact successful aging.

**Theory Advancement**

1. Replicate the current study and recommended studies to further advance the role of selectivity principles in gerontological theory and successful aging. Through replication and expansion of the present study, a new body of literature can be developed to either support or refute the current findings. Selectivity principles serve as a framework for advancing gerontological theory, and they are well-received for emphasizing aging as a positive process. Few social science studies, however, have been conducted to provide empirical evidence for selectivity principles at work.
APPENDIX

Selected Items from Widower Interview Schedule
Selected Items from Widower Interview Schedule

**Level of Activity**
1. How often do you go to religious services? _________
   (times a month)

2. How often do you go to social events at the church? _________
   (times a month)

(Note: If respondent belongs to particular church groups or clubs, those can be listed below.)

3. Do you belong to any clubs or organizations? Yes__ No__

   Interviewer: Use yellow card.

   9 Daily
   8 Several times a week
   7 About once a week
   6 Several times a month
   5 About once a month
   4 Several times a year
   3 About once a year
   2 Less than once a year
   1 Never

   Name or type of group?  How often do you go?
   a. ___________________________  ____________
   b. ___________________________  ____________
   c. ___________________________  ____________
   d. ___________________________  ____________

**Friendship**
4. How many individual friends did you spend time with in the past week? _____

5. How many hours in the past week did you spend with these friends? _____
Level of Mastery
6. Below are seven statements. Each one represents feelings or attitudes that people often have. Tell me how much you personally agree or disagree with each of them.

**Interviewer:** Use green card.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

a. There is really no way I can solve some of the problems I have.  

b. Sometimes I feel that I'm being pushed around in life.  

c. I have little control over the things that happen to me.  

d. I can do just about anything I really set my mind to do.  

e. I often feel helpless in dealing with the problems of life.  

f. What happens to me in the future depends mostly on me.  

g. There is little I can do to change many of the important things in my life.

Perceived Level of Health
7. How would you rate your health at the present time?

Poor.....1  Fair.....2  Good.....3  Excellent.....4
**Level of Self-esteem**

8. Below are 10 statements. Each one represents feelings or attitudes that people often have. Please tell me how much you personally agree or disagree with each of them.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Interviewer: Use green card.

a. On the whole, I am satisfied with myself.  

b. At times I think I am no good at all.  

c. I feel that I have a number of good qualities.  

d. I am able to do things as well as most other people.  

e. I feel I do not have much to be proud of.  

f. I certainly feel useless at times.  

g. I feel that I am a person of worth, at least on an equal plane with others.  

h. I wish I could have more respect for myself.  

i. All in all, I'm inclined to feel that I'm a failure.  

j. I take a positive attitude toward myself.
**Background**

9. In what year were you born? __________

10. How many years of formal schooling did you complete? __________
    (add up years in grade school, high school, and college)

11. Which of the letters on this orange card is closest to the monthly income you **now** have? Just tell me the letter. __________

<table>
<thead>
<tr>
<th>Monthly Amount</th>
<th>Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Under $400</td>
<td></td>
</tr>
<tr>
<td>B 400 - 500</td>
<td></td>
</tr>
<tr>
<td>C 500 - 600</td>
<td></td>
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<td>D 600 - 700</td>
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<td>E 700 - 800</td>
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<td>F 800 - 900</td>
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<td>G 900 - 1000</td>
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<td>H 1000 - 1100</td>
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<td>I 1100 - 1200</td>
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<td>M 1500 - 1600</td>
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<td>N 1600 - 1700</td>
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<tr>
<td>Q 1900 - 2000</td>
<td></td>
</tr>
<tr>
<td>R Over 2000</td>
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REFERENCES


