

THE RELATIONSHIP OF RACE AND SOCIAL INTEGRATION  
ON THE HEALTH STATUS OF OLDER ADULTS  
IN AN URBAN CITY

by

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A dissertation submitted to the Graduate Faculty in  
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This manuscript has been read and accepted for the  
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## Abstract

THE RELATIONSHIP OF RACE AND SOCIAL INTEGRATION  
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by

Thomas T. Jordan

Advisor: Professor Juan Battle

Durkheim argues that an individual is more vulnerable to self-destruction the more s/he is detached from the collective. This dissertation will explore the relative impact of social integration on older adults who have transitioned into their new roles in the social structure in relationship to their physical (obesity) and psychological (stress) health status. Additionally, the dissertation examines how social integration varies in its impact from one racial group to another, and how such variations influence the health status of the older adults who are members of these groups.

This dissertation employs data from the Brookdale Center for Healthy Aging and Longevity's Health Indicators Project (HIP). It assesses the level of healthcare services obtained by older adults. Participants were interviewed at senior citizen centers throughout the five boroughs of New York City. A total of 1,870 seniors attending a representative sample of 56 senior citizen centers were surveyed. The data was stratified based on borough, race and center size, and used to compare the various responses of those individuals who self-identified as either Black or Hispanic to the responses of those who self-identified as White. It was anticipated that the greater the level of social integration, the greater one's health status. However, the research found that social

integration was not a valid predictor of health outcomes for aging adults. Rather, it was proven that healthcare experience and self-efficacy were instrumental in predicting the levels of obesity and stress in aging adults.

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Love,

A Child of God!

## Special Dedication

This special dedication is made to my father, James W. Jordan, Sr. Daddy, you have no idea how much your death has impacted my life. A part of me died on May 9, 1980! I have endured many years of suffering and pain in silence. However, I was determined to continue living to show you that your son was going to become a doctor! I am proud to say that all of your kids-Earl, James, and Sina-made it through the fire. While mom did a great job raising us, you laid a great foundation! I am so fortunate to have you as a father for the years that God granted! I grew from a little boy that loved you to a man that wanted to be like you! You were the most loving male I've ever encountered! I am now following in your footsteps and being a loving son, brother, father, God father, uncle, and friend.

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Love always,

Your son,

Dr. Thomas Jordan

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## Chapter One: Introduction

### Statement of the Problem

What is the nature of the relationship between anomie and health deprivation in older adults? What is the relative impact of social integration on the health status amongst Blacks\*, Hispanics, and Whites? Specifically, how instrumental is social integration in attenuating the disparity of obesity and stress within the elderly minority population? Furthermore, is social integration the same for Blacks and Hispanics as it is for Whites, as it relates to their health status? Lastly, to what extent do the varying levels of social integration serve as either a barrier or conduit to the life satisfaction and well-being of elderly people of color in urban neighborhoods?

### Rationale

The purpose of this study is to explore the unique effects of social integration on the health status of elderly Blacks and Hispanics in an urban setting in comparison to their White counterparts. This stems from the ideology associated with Durkheim's notion of anomie. Durkheim (1951) states that "[anomie]...springs from the lack of collective forces at certain points in society. [Anomie also] results from the same state of disaggregation..." (p. 382). As society becomes more industrialized, the social solidarity that keeps individuals physically united, morally cohesive, and relatively healthy begins to dissolve.

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\*Note: Throughout this text, the term Black will be used to refer to people of African Diaspora, and to such populations that reside within the United States. To some, African Americans are a subgroup within the larger Black community. Since this discussion purposely includes those who may be first-generation immigrants or who, for whatever reason, do not identify as African American, the term "Black" will be employed. Furthermore, it will be capitalized to distinguish the racial category and related identity from the other color. Similarly, the word White will be capitalized when referring to race.

While Durkheim focuses primarily on the association between suicide and anomie, this dissertation will explore the association between the disaggregation of aging adults and their declining health status.

Health status is a broad concept, and many issues complicate its definition and measurement. The World Health Organization (WHO) defines health status as “the state of health of a person or population assessed with reference to morbidity, impairments, anthropological measurements, mortality, and indicators of functional status and quality of life” (WHO). While there isn’t a single measurement of health status for individuals or population groups, the health status of individuals may be measured by a physician or healthcare provider, who examines and rates the individual’s health according to such criteria as presence or absence of illness, risk factors for premature death, severity of disease, and overall health. Health status may also be assessed by asking a person to report his/her health, answering questions, for example, about physical functioning, emotional well-being, pain or discomfort, and overall self-perception of health.

Parker et al. (1998) posited that, while a self-administered evaluation on health status is not suitable for older adults who are hospitalized, it is a very relevant means of obtaining the physical and cognitive assessments of aging adults. Therefore, this dissertation will measure health status in terms of the physical (obesity) and psychological (stress) well-being as they are experienced and reported by older adults—Black, Hispanic and White—in an urban community.

Obesity is a physical condition characterized by excess body weight due to an abnormal fat accumulation (CDC, 2002). Obesity in older adults has been associated with higher mortality and chronic disease risks, as well as accelerated functional decline

(Krueger, Rogers, Hummer, & Boardman, 2004; Rogers, Hummer, & Krueger, 2003; Villareal, Apovian, Kushner, & Klein, 2005). Villareal et al. acknowledged that serious health complications were associated with obesity. However, these complications were exacerbated for aging adults. Complicating matters more was the fact that excessive weight loss also presented potential health risks for this population. Villareal et al. concluded that monitored weight-loss therapy minimized these risks, and found that older persons who were obese benefited by improved functional impairments and a decline in medical complications.

When studying the effects of obesity, Rogers et al. (2003) examined the relationship between body mass index and the risk of death. Using the National Health Interview Survey-Multiple Cause of Death data set, they found a relationship between body mass index and mortality. They also established that there is a relationship between obesity and diabetes mortality rates. In particular, those individuals who were obese were 2.8 times more likely to die from diabetes than were their normal-weight counterparts. These findings illuminated the dangers associated with obesity and the importance of decreasing body mass index in the United States.

Krueger et al. (2004) studied the link connecting obesity, smoking, and mortality rates in aging adults in the United States. Employing the National Health Interview Survey and the Multiple Cause of Death link, they found that obese individuals were at greater risk of circulatory disease and diabetes mortality. Factoring smoking into the model, however, suppressed the relationship between obesity and mortality risks. The authors asserted that smoking may be an intricate variable that could serve as a preventable accelerant on the ramifications associated with obesity and aging.

A study conducted by the Center on an Aging Society at Georgetown University (2003) referred to obesity as an epidemic in the United States. The study maintained that older adults who were obese were more likely to suffer from persistent and chronic symptoms of illness, such as fatigue. The study also asserted that symptoms of depression are correlated with obesity.

In looking at what determines well-being in obesity, Dierk et al. (2006) found that subjective well-being was principally associated with social skills and social support. Stress, on the other hand, is a mental health condition. Thoits (1995), for example, defined stress as any environmental, social, or internal demand which required a person to adjust her/his behavioral patterns. McEwen (1998) asserted the following:

stressful experiences include major life events, trauma, and abuse and are sometimes related to the environment in the home, workplace, or neighborhood. Acute stress (... or major life events) and chronic stress (the cumulative load of minor, day-to-day stresses) can both have long-term consequences. The effects of chronic stress may be exacerbated by a rich diet...use of tobacco and alcohol, and reduced by moderate exercise. (p.171)

Kasper et al. (2008) found that long-term poverty and family stress were strongly associated with being low functioning, or the inability to function at what is deemed the norm. These individuals tended to be less responsive, apathetic, and unable to perform basic daily living activities due to physical atrophy. Therefore, since long-term poverty produced low functioning, and many aging adults are on low fixed incomes, aging (long-term living) can be negatively impacted by stress (low-functioning). Furthermore, since family is also a form of social integration, it is important to directly test the relative impact of social integration on the mental health status of aging adults.

Miller and O'Callaghan (2005) explored the effects of stress on aging and also on the hippocampus—that part of the brain that is responsible for long-term memory. They found that stress contributed to hippocampus aging, and might also cause higher levels of dementia in aging adults.

Mroczek and Almeida (2004) analyzed stress in order to determine whether or not it increased or diminished with age. Using the National Study of Daily Events, the authors found an association between daily stress and negative affect for persons suffering from neuroticism. They also established a strong relationship between daily stress and its negative affect for older as compared to younger adults.

### Theoretical Framework

The theoretical premise behind this dissertation replicates the circle of life, focusing as it does on how the individual moves from the collective unit to individual autonomy and back again to the collective. It also shows the significance of maintaining the functional aspect of social structure and the social system. Lastly, this framework shows how aging members of society make concerted efforts to maintain their quality of life and health status by remaining connected to society at large. The dissertation draws on the work of Emile Durkheim (Social Solidarity and Anomie), Talcott Parsons (Social System) Richard Atchley (Continuity Theory) (See Figure 1.1).

### Durkheim, Social Solidarity & Anomie

Durkheim explored the significance of social solidarity and the importance of maintaining social roles, as well as the impact of capitalism and the division of labor

(Durkheim, 1893/1997). There are two types of social solidarity for Durkheim—mechanical and organic. He asserted that simpler/primitive societies were founded on a moral consensus or a collective conscience, and identified this type of society as having mechanical solidarity. Such a society, Durkheim argued, had a relatively undifferentiated social structure, with little to no division of labor; “It [was] a solidarity of resemblance” (Aron, 1970, p. 11).

As society began to develop, Durkheim noted a shift in its moral fiber from mechanic to organic solidarity. Here, society developed out of differences in the economic and social structure. Furthermore, this kind of society was characterized by a more refined division of labor highlighted by specialization. As a result, older adults were allocated a lesser role in that society, and were often forced to retire, as their specializations were deemed greater than their abilities to perform those skills.

Durkheim asserted that “man is himself only in and through society. If man were not a part of society, he would be an animal like [all] the rest” (Aron, 1979, p. 105). In essence, he believed that man’s investment in the creation and maintenance of society was what separated him from the other animals; society was what made a human human (Durkheim, 1893/1997).

As sociology has developed its theories from various disciplines, so too has social gerontological theory. Durkheim’s theory of anomie has been instrumental in the development of social gerontology. Durkheim (1997) asserted that with the rise of the division of labor came the dismantling of the collective consciousness. The rise of the division of labor was synonymous with the rise of industrialization. Industrialization, according to Durkheim, led to an undermining of social ties and constraints that caused

society to fall into a state of “anomie.” The word “anomie” comes from the Greek “anomia,” meaning “without law.” Durkheim defined anomie as “a condition where social and/or moral norms are confused, unclear or simply not present. Feelings of normlessness often lead members to deviant behavior.” Durkheim went on to say that:

The state of *anomie* is impossible whenever interdependent organs are sufficiently in contact and sufficiently extensive. If they are close to each other, they are readily aware, in every situation, of the need which they have of one-another, and consequently they have an active and permanent feeling of mutual dependence." (1997, p. 184 [excerpt from *The Division of Labor in Society*])

Individuals are confronted with anomie when they are not faced with sufficient moral constraint, or do not have a clear concept of what is and what is not acceptable behavior. Durkheim viewed anomie as the major “pathology” of modern society. He also believed that this pathology could be cured. This dissertation will explore the significance of anomie in relationship to the debilitating health status often associated with a lack of connectedness to society. As Durkheim pointed out, anomie is impossible when the members of society are well connected to the whole. For that reason, if older adults cannot find reliable means of social integration, how will this impact their health status?

Many studies have focused on anomie in relationship to some form of deviant or suicidal behavior in aging adults (O’Brien and Stockard, 2005; Tittle and Ward, 1993). Tittle and Ward (1993) conducted a study to determine if a correlation existed between crime and aging. Surveying a population between the ages of 15 and 94, they set out to test the Hirschi/Gottfredson hypothesis that asserted that the correlates and causes of crime did not intersect with age. They concluded that, while some of their results contradicted the Hirschi/Gottfredson interaction hypothesis, their overall findings supported this hypothesis. Meanwhile, O’Brien and Stockard contended that the level of

social integration was negatively associated with the level of suicide and homicide rates during the time span of 1930 to 2000. They discerned a strong correlation between suicide rates and homicide rates, and the level of social integration and social regulation as it related to various aging cohorts.

Williams and Wirths (2007), incorporating the works of Durkheim and Parsons, examined the means by which successful living was accomplished by aging adults throughout the years. They explored anomie in terms of the impact on the individual of a break-down of the social structure. They determined that such a breakdown could cause low level mobilization and disorganization. Next, they developed a new measure of successful aging by incorporating the theory of social action. Their study concluded that certain factors, such as social life space, disengagement, life satisfaction, personality type, and patterns of aging, were instrumental in successful aging for this population.

In order to further explore the relative impact of social integration on the health status of older adults, this dissertation will examine how social support networks, or the lack thereof, enhance or undermine the ability of older adults in the Black and Hispanic communities to engage in successful activities of daily living, in comparison to their White counterparts. In essence, what is the relative impact of social integration among older adults who have transitioned into their new roles in the social structure in relationship to their physical (obesity) and psychological (stress) health status? Additionally, how does social integration vary in its impact from one racial group to another?

### Parsons and Social System

Talcott Parsons (1951) attempted to formulate an ostentatious theory of society to explain all of society's social behavior throughout history with the structural functionalism model. Structural functionalism refers to the interrelated parts of the structural forces that shape human behavior. According to this school of thought, social systems tend to perform certain tasks that are necessary for their survival. Social analysis, therefore, searches for the social structures that perform these tasks or meet the needs of the social system. It is a macro-sociological theory that examines the characteristics of social patterns, structures, systems and institutions.

Parsons asserts that the overall system, and subsystems of which it is composed, work together to form a balanced, stable whole and that the system naturally tends toward stability rather than disorder. This is the main premise of functionalism. It provides an analysis of every interrelated part of the social system and the various functions they perform within a socio-cultural system. Since society is conceived of this system of interrelated parts in which no part can be understood in isolation from the whole, a change in one part of the system will subsequently lead to the change, and often inevitable evolution, of the system in an effort to establish a sense of normality.

In essence, the functionalist perspective views society as a sum total (the whole) of a large number (the parts) of persons, groups, organizations and social institutions. The social structure is a complex system whose parts are said to be well-integrated and in a state of equilibrium when functioning properly. Functionalism, for Durkheim, as well as for Parsons, represents the idea that society is a system, and its parts (institutions) contribute to its stability and continued existence. During times of social change, the social structure can be thrown out of equilibrium. During this time, the various structures

of society can become poorly integrated, and what were formerly useful functions can become “dysfunctional.” There are three key elements to understanding the essence of functionalism:

- 1) The general **interrelatedness** of the system’s parts;
  - 2) The existence of a “normal” state of affairs or state of **equilibrium**, comparable to the normal or healthy state of an organism; and
  - 3) The way that all parts of the system reorganize to bring things back to **normal**.
- Therefore, in order for any society to last a great length of time, there must be some sense of social order and interdependence among the various institutions.

According to Parsons, the social system is an arrangement between parts or elements that exist over time, even while some elements change. For example, while the social system allows for aging adults to retire (dynamic), the institution remains self-sustaining (static). A social system is a mode of organization of action that is congruent with the interactive nature of a plurality of individual actors.

Due to the role of each actor, Parsons created three distinct units within the social system:

- 1) the **act**-because it is part of a process of interaction between its author and other actors;
- 2) the **status roles**-for the purpose of a more macroscopic analysis of social systems; and,
- 3) the **actor** within the social system. It is the actor who holds a status or performs a role and is, therefore, a significant unit.

The actors are a composite bundle of statuses and roles. The structure of the relations between the actors is essentially the structure of the social system.

Therefore, when aging members of society (actors) find themselves within a social system in which they no longer maintain their statuses or roles, how is this loss of association within the system detrimental to their overall health status? In essence, what impact does the level of social integration play on the levels of obesity and stress found among aging adults in society?

### Continuity Theory

Continuity Theory contends that older adults, as well as middle-aged adults, make concerted efforts to preserve and maintain their existing internal and external structures. They achieve this objective by using various techniques from their previous experiences within the social world. It should be noted that this previous experience within the social world does not denote a new social world; rather, it is a transition into a new social system within the social world. Therefore, maintaining continuity is the ability for this population to implement readjustment mechanisms to ameliorate their anxieties of a new social status within their familiar social world. This readjustment is to bring a functional balance into a new phase of life.

Durkheim's notion of social solidarity and anomie has led to the development of the Continuity Theory. As mentioned, this theory focuses on continuity and adaptation. Individuals find ways to maintain a continuous behavioral pattern as they age (Neugarten, Havighurst and Tobin, 1968). This is similar to Durkheim's and Parsons' notion of functionalism which asserts that a change in one part in the system will subsequently lead

to the change, and often inevitable evolution, of the system in an effort to establish a sense of normality. Therefore, older adults often try to find substitute roles for those they have lost through aging. They also seek out ways to adapt to their new position within the social structure (Atchley, 1971; Atchley, 1989; Bengtson, Fulong, & Laufer, 1974; Covey, 1981; Field & Minkler 1988; Gladstone, 1995; Parker, 1995; Troll & Skaff, 1997; Uts et. al., 2002; Wang, 2007).

Atchley (1971), often considered the founder of continuity theory, indicated that continuity theory was more significant for aging adults than was the notion of identity crisis, as it related to their identity in terms of social status. This was especially true when the researchers considered retirement and involvement in leisure activities. However, Atchley asserted that more research was needed to solidify these findings. In particular, issues of geographic location, as well as intrinsic demographic variables needed to be measured. Lastly, he maintained that leisure might be studied in terms of gratification and satisfaction as opposed to trauma, which aging adults tried to avert.

Covey (1981) set out to revamp the conception of continuity theory and placed the focus on the interaction between the social structure and the nature of the individual involved. By doing so, Covey came up with the following three point ideology:

- (1) as the person's resources and abilities increased, the ability to continue in social roles increased
- (2) as the restrictiveness of the social structure declined, the ability of old people to maintain and continue desired social roles increased
- (3) people with the most rewarding and desirable social roles were unlikely to want to surrender these roles

In essence, there were three R's that were pivotal for continuity: *resources*, *rigidity* of the social system, and *rewarding* social roles.

Field and Minkler (1988) conducted a longitudinal study to examine continuity and change of social support with aging adults. The adults were divided into two groups: 74 to 84 was classified as very-old; 84 and over was classified as old-old. Field and Minkler found that the most consistent form of social integration experienced by this population was provided by family relations. When a decline was noted in the participants beyond the family relationships, the researchers determined that such a decline occurred more frequently among men than among women. Also, this decline of the continuity in social networks was more common among the old-old as oppose to those classified as very-old.

Atchley (1989) contended that aging adults made concerted efforts to preserve and maintain their existing internal and external structures. This was accomplished by fusing past experiences and networks to those of the present in order to maintain a continuous social status. Atchley posited that continuity was a method by which aging adults tried to adapt to their changing social status within a somewhat static social structure. This strategy was promoted by both individual preference and social approval. Atchley further argued that continuity theory could be instrumental in understanding how aging adults navigated through this transitional period that was often associated with declining health, and the loss of physical agility and social status.

In order to create a theoretical framework for continuity theory, Parker (1995) conducted a review and assessment of various studies on the subject matter. Using the theoretical perspective of Atchley, he pinpointed three global functions of nostalgia

(reminiscence) that were derived from continuity theory. These included: private, social, and cognitive functions. These functions were used in order to create various propositions to maintain continuity throughout the aging process.

Troll and Skaff (1997) posited that very little was known about the effect of one's identity when transitioning into the later stages of life. When measuring the responses of approximately 150 aging adults regarding how they viewed their social identities, they found that many aging adults believed that they have maintained their identities, even though they had entered into a new phase of their lives. Troll and Skaff also found that perceived continuity was related to positive effect, but apparently not to either recent disruptive events or to mortality.

Utz et al. (2002) refuted continuity theory as a way to measure the transition of the social status of aging adults. They found, for example, that continuity theory fell short in trying to explain how or why older adults altered their social participation in the face of widowhood. Gladstone (1995), on the other hand, found it helpful to analyze continuity theory in terms of the marital perceptions of aging adults living with their spouses in long-term care institutions in Canada. Married aging adults were able to rely on one another during this transition. Therefore, marriage could be viewed as a catalyst for the continuity needed for aging adults.

Wang (2007) hypothesized that aging adults experienced different transitions into retirement, as well as different patterns of adjustment. He argued that complex variables could have an impact on the transitions aging adults experienced. Combining continuity theory, role theory, and life course perspective, Wang conducted a longitudinal study to explore this phenomenon. He found three latent growth curve patterns within the

psychological well-being of the retirees using the growth mixture modeling (GMN) analysis. They are as follows: minimum change sub-group; positive change sub-group; and, U-shape change sub-group. Wang concluded that retirees do not follow a uniform adjustment pattern during the retirement process, and that the transition into retirement and aging was multifaceted.

Although the study by Bengtson, Fulong, and Laufer (1974) did not directly deal with continuity as it related to aging adults, this study provided invaluable information concerning generational analysis, continuity between generations, and social stability during time of change. Bengtson et al. defined three progressive stages of theory and research: (a) a "classic" period; (b) a phase focused on interpretations of the youth protest movement or on processes in old age, which could examine change over time; and (c) a period of consolidation and reformulation. Their analysis pinpointed five issues summing up the perspective on generational analysis: (a) definition and dimensions of "generation" as a construct; (b) assessment of continuity or discontinuity between age groups; (c) exploration of the persistence of generation units over time; (d) analysis of within-generation solidarity; and, (e) articulation between generations and other dimensions of social structure. A feedback model appeared useful in assessing the relationship between generations and social stability or change. In essence, Bengtson, Fulong, and Laufer highlighted the importance of not studying continuity within a vacuum, but rather analyzing it within the context of life as experienced in generational terms.

### Summary

This dissertation focuses on the extent to which the health status of aging adults is impacted by their level of social integration. In particular, the dissertation explores the question: is there an intrinsic relationship between race and social integration as they impact the health status of older adults residing in an urban city? The dissertation analyzes this question through the works of Durkheim and Parsons, as well as the ideology of continuity theory.

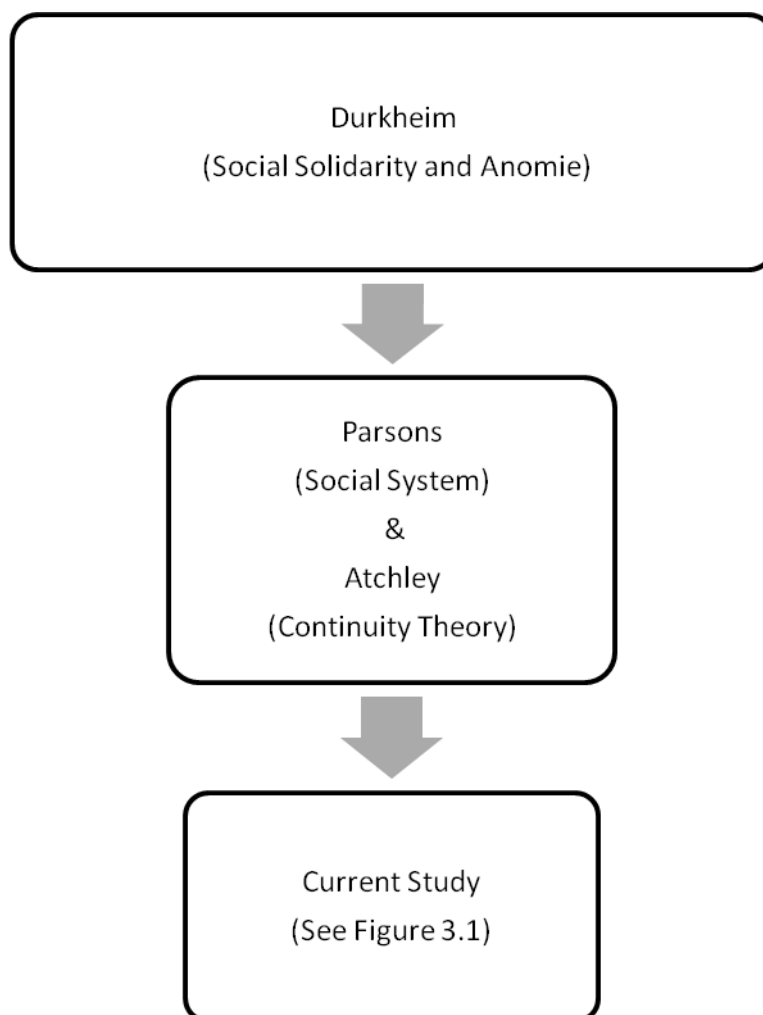
The correlation asserts that aging adults transition in society from a collective—that is, fully immersed and integrated—into a new social status. This status represents a transition from a mechanical solidarity society into an organic solidarity society, resulting in a sense of anomie and a disconnection from mainstream society. The question then is, as this transition progresses, how does it impact the health status of aging adults as it relates to obesity and the presence of stress? Also, is there a disparity in the health status of this population as it relates to race?

Since anomie brings forth the separation of the individual from the collective, this dissertation will explore the usefulness of continuity theory in bringing aging adults “back to the fold” by measuring their level of social integration. Parsons, for example, points out the significance of maintaining the function of the social system. For aging adults, it becomes imperative to find a way to successfully transition from a fully immersed member of society to one of fleeting significance. This dissertation contends that, as the social structure and social system begin to play different roles for aging adults, and, as these adults fail to find productive mechanisms to handle their new social status, they experience a decline in health status as well.

The epic battle between the individual and the social structure as outlined by Durkheim and Parsons can be viewed in terms of structure vs. agency. This is one of the great debates within sociology. Much like the biblical fable of David and Goliath, aging adults are fighting to maintain their social status within a social system they did not create but are desperate to maintain. In essence the individual strives to freely govern the dynamic aspect of aging without the constraints of a fairly static social system. On the one hand, the individual is free to exercise his/her free will. On the other hand, greater importance is often given to the impact that the social structure has on the development of society. For purposes of this dissertation, the social system can be viewed in terms of the ability of aging adults to maintain their social status/identity in a concerted effort to preserve their health status.

This dissertation will explore continuity in terms of the level of social integration maintained by aging adults and how it impacts their health status. As individuals transition from employment into retirement, from full social integration into relative isolation, they often experience the diminishment of the social networks that once sustained them. When aging adults are not part of an assisted living facility, or fully integrated into other facets of society—through religious affiliation, community boards, or service centers, for example—or if they are unmarried and/or lack, or are separated from family, they often experience a sense of disconnection. This dissertation examines how the transition from full immersion into society into relative isolation impacts the overall health status of the aging population. Finally, the dissertation suggests that continuity might be the means by which higher levels of social integration can be maintained by aging adults.

Figure 1.1



## Chapter Two: Literature Review

### Introduction

This chapter will review the plethora of literature surrounding the significance of social integration as it relates to health behaviors and successful aging, focusing in particular on research examining social gerontology and health status. Furthermore, it will consider the research and methodologies analyzing the importance of health status and social integration, aging, gender, and religion, especially as they pertain to social integration. More specifically, this chapter examines the disproportionate number of Blacks and Hispanics dealing with health issues as opposed to their White counterparts. Lastly, the chapter sets the foundation for the comparative analysis with the findings in chapter four.

### Social Gerontology

“Old age is the most unexpected of all things that happen[s] to a man.” This quote by Leo Tolstoy sums up the significance of studying gerontology. Gerontology focuses on the various facets of aging, examining in particular its biological, psychological, social, political, and physical aspects (Hooyman & Kiyak, 2008). This dissertation examines the social aspect of aging. As Hooyman and Kiyak (2008) point out, social aging “refers to an individual’s changing roles and relationships with family and friends”, as well as with other social institutions-religious affiliations, political associations, and healthcare physicians/institutions (p.4). In essence, as adults reach a pivotal point in life, what impact will aging have on their ability to remain socially integrated into society?

More importantly, how instrumental are social networks in maintaining the health status of aging adults and increasing their life expectancy?

Rowe and Kahn (1997) defined successful aging in three parts: 1) low probability of disease and disease-related disability; 2) high cognitive and physical functional capacity; and, 3) active engagement with life. By this definition, successful aging encompasses more than just being well physically. Rather, it entails mental astuteness and a level of participation in one's own life and integration into society as a whole. Rowe and Kahn further pointed out that "substantial increases in the relative and absolute number of older persons in our society pose a challenge for biology, social and behavioral science, and medicine" (p.439). This increase in the population requires an examination of a variety of services and needs, as well as of the difficulties of providing such services to aging adults. Therefore, Rowe and Kahn examined the keys to successful aging, considering risk factors, predictors of cognitive function, social relations, education, and self-efficacy. They concluded that addressing the issue of successful aging from a multidimensional approach sets the stage for intervention and prevention as they pertain to the well-being and longevity of aging adults.

When considering the issue of aging, the U.S. Census Bureau predicted that the life expectancy of the average U.S. citizen will increase from 77.9 years to 82.6 by 2050 (U.S. Census Bureau, 2000). However, the Bureau also pointed out some disparities between and among the life expectancies of different groups of senior citizens. For instance, in 1980, women, on average, could expect to live 7.4 more years than their male counterparts; however, by 2005, that average declined to 5.2 years. Therefore, a woman born in 2005 has a life expectancy of 80.4 years, while a man of the same cohort is

expected to live to the age of 75.2 years. When it comes to African Americans, however, there are stark differences. African American women have a life expectancy of 76.5 years, while the life expectancy for African American men is 69.8 years (NCHS, 2006; U.S. Census Bureau, 2000).

This increase in longevity produces a greater need for a variety of services and social support. Hooyman and Kiyak (2008) asserted that the health disparity between African Americans and their White counterparts was associated with lifelong socioeconomic inequities in access to healthcare and preventive services. However, older adults of all races have often become the forgotten members of society. Since they are deemed weak and fragile, as well as less than mentally astute, they are often discriminated against when it comes to employment, housing and health related benefits and opportunities. Butler (1969) referred to such discrimination as ageism. As with sexism and racism, ageism ascribes certain attributes to older adults that are often less than favorable. As a result, members of the aging community are often segregated from members of main stream society. This segregation has given rise to noticeable health conditions that plague this population, health conditions that could be avoided with greater attention and services.

### Health Status

The term "health outcomes" describes the consequences of an encounter between a patient and the healthcare system and is generally accepted to mean the end result of an episode of illness or injury that has been treated (Encyclopedia of Public Health, 2002). Health status, however, can be measured in terms of perceived health, mortality, chronic

illnesses, etc. In some cases, health status is directly associated with preventive health behavior. Kasl and Cobb (1966) defined a preventive health behavior as “an activity undertaken by an individual who believes himself to be healthy for the purpose of preventing or detecting illness in an asymptomatic state” (p.246). Therefore, the action that one takes becomes instrumental in one’s physical outcome.

Studies focusing on the various complexities associated with aging and health status have been researched extensively and for many years (Bryant, Beck, & Fairclough, 2000; Cockerham, Sharp & Wilcox, 1983; and Muennig & Fahs, 2002). Cockerham et al. (1983) examined the relationship between aging and the perceived health status of approximately 660 adults. They found that the number of symptoms was the strongest predictor of health status. This was followed by age, education, and race. Furthermore, they indicated that participants over the age of 60 were more likely than their younger counterparts to have a positive outlook on their health status. However, this positive outlook was mainly held by those individuals who were more educated and had fewer symptoms, signifying a relationship between the number of symptoms and the level of education reported by aging adults and their perceived health status.

Similarly, Bryant, Beck, and Fairclough (2000) explored the relationship between the predictors commonly associated with the negative outcomes of aging and the perceived positive health status of aging adults. Utilizing both bivariate and multivariate analysis, they found that a majority, but not all, of the variables that were once associated with the negative outcomes of aging also predicted positive perceived health. The most prevalent predictors were fewer chronic conditions, non-worsening of those conditions, mobility, better physical performance, and no signs of depression. Lastly, they indicated

that limitations in daily living activities, dementia, utilization of services, and gender were not statistically significant.

Muennig and Fahs (2002) examined the health status and hospital utilization of recent immigrants to New York City versus U.S.-born and Puerto Rican-born residents. They also considered mortality rates for this study, using data from the Statewide Planning and Research Cooperative System, as well as death certificates from 1990 for mortality rates. They found that foreign-born immigrants were less likely to be hospitalized for major illnesses than were U.S.-born or Puerto Rican born. The authors also discovered that the life expectancy for foreign-born infants at age one was four years longer than for U.S.-born persons and six years longer than for those who were Puerto Rican-born. In essence, foreign-born persons have lower mortality rates. Muennig and Fahs concluded that foreign-born persons in New York City showed signs of being healthier than U.S.-born residents, and also consumed fewer hospital resources.

When making a comparative analysis of health status between men and women, some studies have shown the unique differences between the sexes, based on the measurement of analysis for health (Benyamini, Idler, Leventhal and Leventhal, 2000; Gold et al., 2002; McDonough and Walters, 2001; Wolinsky and Johnson, 1992). Wolinsky and Johnson (1992) explored the relationship between perceived health status and mortality between men and women. Using multivariate analysis, they found that men in poor health were more likely to die than those in excellent health, when controlling for all other variables. However, for women, those in fair or poor health were more likely to die than those in excellent health. Therefore, the overall perception of health tends to be more fatal for women than for men. This notion of perceived health status can be a

complex predictor. In particular, a variety of factors—such as socioeconomic status, living situation, self-efficacy, and socialization—influence the self-perceptions of both men and women.

Benyamini et al. (2000) researched the reason why the self-assessed health (SAH) status is a weaker predictor of mortality for women than for men. They found two feasible explanations for this: 1) Reports of negative affect (NA) for men and women are associated with poorer SAH; however, for men, serious diseases, along with other negative life events, are strongly linked to NA, whereas for women, NA is associated with other factors and not specifically with serious illnesses or diseases; and, 2) Men's SAH is correlated with serious, life-threatening diseases, such as pancreatic cancer or heart disease. SAH for women, however, is linked to both life-threatening and non-life threatening conditions. The researchers concluded that women's SAH and NA are based more on both health and non-health related factors than men's. These differences, they asserted, could be instrumental in determining such findings as those of Wolinsky and Johnson. Such differences could also be attributed to a variety of social phenomena—socialization, level of education, and the degree to which these SAH and NA are reinforced by social networks.

Studying the unique, yet multidimensional, differences between the health statuses of men and women can be complicated. McDonough and Walters (2001), for example, explored the various pathways that linked gender and health. They examined gender differences in terms of distress, self-rated health status, chronic conditions, and preventable health behaviors, such as heavy alcohol consumption. They also measured the role of gender-based differential exposure and vulnerability to chronic stress and life

events in observed differences. They found that women reported more chronic conditions and stressful events than did men. However, the authors noted that the greater exposure of women to such conditions and events accounted for only a small portion of the gender disparity in health. Also, the differences were reversed when measuring for heavy drinking, and negligible for self-rated health status and restricted activity. Lastly, McDonough and Walters (2001) asserted that differential vulnerability to stressors was not instrumental in explaining gender differences in health.

Gold et al. (2002) studied the relationship between gender and health by comparing the health status of fraternal male and female twins in Sweden. Using paired sample *t* tests, they found that the female twins experienced better total health conditions and fewer physical and psychological symptoms. The male twins, however, exhibited more life-threatening health and cardiovascular conditions. No gender differences were found in the categories of somewhat life-threatening health conditions, total cardiovascular conditions, or self-rated health. The authors concluded that, while utilizing unlike-sex twins diminished variability, similar background attributes required greater research to address the complexity of gender differences in health status.

These studies have all demonstrated the importance of studying health status among aging populations. As members of society begin to age, it becomes imperative to assess their overall well-being and determine which factors are the best predictors for either identifying their health status or aiding it. While some studies have focused on health status/outcomes in terms of mortality and/or chronic illnesses, this dissertation measures preventable health outcomes in terms of obesity and stress, especially as these conditions relate to the level of social integration experienced by aging Black, Hispanic

and White communities. Furthermore, this dissertation maintains that, as society becomes more industrialized, there is a greater need to integrate senescent adults back into society and help them to develop stronger social networks as a means of preventing negative health outcomes.

### Social Integration

The term social integration is often used synonymously, or interchangeably, with social support, social networks, social contacts, and social isolation. According to Granovetter (1983), a social network entails the depth of one's affiliation, which is determined by the "combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" between the individual and the network (p.1361). In essence, it is not merely enough that a relationship exists, but it must also consist of a significant amount of reciprocity. Coleman (1988), however, stated that social networks could be thought of as forms of social capital potentially influencing the exchange of support. This exchange governs the impact that social capital has on enhancing human and economic capital (also referred to as financial capital by Coleman). Social capital, like social networks, denotes the structure in which individuals develop relationships between and amongst themselves. These relationships can serve as either barriers or conduits to better health status.

Kim and McKerny (1998) explained social networks in terms of "the existence or 'quantity' of relationships." However, when examining all the various terms—social support, social networks, and social integration—Hooyman and Kiyak (2006) posit that social networks involve the interrelationships affecting the flow of resources and

opportunities to members of those networks, including families, friends, and neighbors. Social support, on the other hand, is what is acquired from formal and informal networks. Many older adults will initially seek assistance from their informal networks as a way to maintain or enhance their level of competency (Moren-Cross and Lin, 2006).

Social integration, however, “encompasses both social networks and support...[The term] refers to the degree to which an individual is involved with others in the larger social structure and community. This concept captures the level of emotional closeness, the availability of support when needed, and the perception of oneself as an individual actively engaged in social exchanges” (Hooyman and Kiyak 2006, p.334). It is for this reason that the term social integration is often interchanged with social networks and social support.

### Health Status and Social Integration

When examining social integration in terms of health, a wealth of literature explores the impact of informal social support on an older person’s physical and mental well-being, morale, disability, mortality, and cognitive functioning (Berkman and Harootyan, 2003; Cohen and Willis, 1985; Lubben and Gironde, 2003a; Lyra and Heikkinen, 2006; Seeman, Seeman, and Sayles, 1985; Seeman, 1996;; Uchino, 2004). Cohen and Willis (1985) explored the connection between the buffering ability of social support and the well-being of individuals. They focused on two buffering models: 1) the existence of relations (support structure), or the extent to which interpersonal relationships provide resources (function); and, 2) the degree of specificity of the scale. They concluded that there is evidence consistent with both models. In essence, the

buffering models are significant when the social support measure assesses the perceived availability of interpersonal resources to meet the needs prompted by stressful events.

Seeman, Seeman, and Sayles (1985) studied the long-term effects of social networks and health status, measuring social networks in relation to the respondents' sense of self control. This longitudinal study looked at 1210 adults in the initial year (1976), and 931 of the same respondents in the second year (1977). Social network indicators were measured in terms of instrumental support and consulting. The former refers to the occurrence of direct support anticipated from friends and relatives. The latter represents the degree to which the respondent seeks counsel from members of these network groups. The researchers concluded that instrumental support was positively associated with self reported health status in the initial observation. However, by the second observation, the association dissipated. They also found that, when measuring health behavior against the social network variables, instrumental support was not statistically significant in either year. The variable consulting, however, was significant in both years, but less significant in the second year. In essence, while some of the findings were interesting, the variable age, for example, was found to be a significant predictor of preventive health status, as were education and sex. Nevertheless, the findings did not greatly support the hypothesis that social integration is a significant predictor of health status.

Seeman (1996) conducted a similar study by examining research that explores the association between social integration and health status. Health status is often measured in terms of mortality, physical health—primarily regarding cardiovascular diseases such as CHD and strokes—and mental health. Seeman concluded that there was no consistent

evidence that social integration affected the incidence of disease. However, social integration had the strongest effect on reducing mortality risks and overall functioning. Social integration also had a positive interaction with mental health. Nevertheless, an association between physical health outcomes and social integration were less conclusive.

Berkman and Harootyan (2003) stated that social integration and social isolation were essential variables to assess when exploring matters concerning geriatrics. They further pointed out that social support could be instrumental in preventing the institutionalization of aging adults, and could also serve as an invaluable link to their physical well-being. Lubben and Gironde (2003a) also affirmed that social ties enhanced physical and mental health among older adults while, conversely, social isolation had a negative impact on their health status. Lastly, they found that strong social networks helped to stimulate one's immune system, as well as worked as a barrier against stress-related illnesses.

Uchino (2004) examined the relationship between social networks and their direct or indirect impact on health status. He found that structural forms of support, like group activities, and functional aspects of support, like emotional support, were both instrumental in predicting lower mortality rates. Lyyra and Heikkinen (2006), on the other hand, explored the relationship between perceived social support and mortality as it relates to aging adults from Finland. Their measurement of social support formed a six dimensional scale consisting of social integration, opportunity for nurturance, reassurance of worth, reliable alliance, guidance, and attachment. After examining 206 participants approximately 80 years old, they found that those individuals in the lower percentile of

the social support scale were 2.5 times more likely to be at risk of death than those in the higher percentile.

Recent research also analyzes the relationship between various levels of social integration, as well as social isolation, and their impact on the health status of aging adults (Cohen & Janicki-Deverts, 2009; Cornwellet al., 2009; Cornwell & Waite, 2009;). Cohen and Janicki-Diverts (2009) directly posed the question, “*Can We Improve Our Physical Health by Altering Our Social Networks?*” Examining the substantial research concerning this matter the authors pointed out that the most prevalent and consistent evidence of a correlation between social relationships and physical health emanates from social integration. They concluded that aging adults with significant social relationships lived longer, had less cognitive decline with aging, greater resistance to infectious diseases, and better diagnoses when it comes to chronic illnesses.

Examining the National Social life, Health, and Aging Project’s (NSHAP) social network module, Cornwell et al. (2009) explored the impact on health status of network size, composition, and the degree of interaction, as well as the extent to which aging adults involved network members in health related matters. Using descriptive statistics and bivariate analysis, the authors determined that older adults, by and large, had kin-centered networks. These networks allowed for adequate bridging potential. Furthermore, the authors pointed out that the characteristics of the networks were related to age, gender, race/ethnicity, education and health. Lastly, they found that older adults were more inclined to involve network members in their respective healthcare decisions.

While the majority of the research examined the impact of social integration and health in a cause and effect analysis, some studies also measured the degree to which

social isolation had an impact on the health status of aging adults. Further exploring the NSHAP data, Cornwell and Waite (2009), measured social disconnectedness and social isolation using Cronbach's alpha and item-total correlations. Social disconnectedness, they discovered, consisted of two factors—a restricted social network dimension and social inactivity. Social isolation was characterized by lack of support and loneliness. The authors also found that social disconnectedness and perceived isolation were greatest amongst those aging adults who had the worst health status.

Cornwell and Waite (2009) furthered their initial investigation by pointing out that most research on social connectedness and health focused on only a few measures of social isolation, primarily due to data limitations. After conducting both bivariate and multivariate (logistic regression) analysis, they found that a lack of social connectedness was not always accompanied by feelings of loneliness and isolation. However, both forms of perceived social isolation—perceived lack of social support and loneliness—were strongly associated with declining physical and mental health among aging adults.

While these studies have been instrumental in examining the relationship between social integration and the health status of aging adults, it is necessary to explore this relationship in connection to the impact social integration has on the health status of the various racial groups. This dissertation examines the research relating to Blacks and Hispanics and compares it to the research focused on Whites.

### Race and Social Integration

This section of the dissertation focuses on social support and the role it plays in the Black, Hispanic, and White communities (Ajrouch, Antonucci and Janevic, 2001;

Dilworth-Anderson and Williams, 2002; House, Umberson and Landis, 1988; Lincoln, Taylor and Chatters, 2003). House et al. (1988) explored the structures and processes of social support, defining social integration as either the presence or number of significant social relationships. Social network structure, however, refers to structural properties that make up a relationship. When comparing their analysis to Black and minority populations, they asserted that, on average, these populations belong, more often than not, to a lower socioeconomic bracket than do their majority (White) peers. Therefore, Blacks, in particular, were more likely to be at a disadvantage when it came to establishing meaningful social relationships and social support networks.

Ajrouch, Antonucci and Janevic (2001) examined the effects of age and race on the various dimensions of establishing social networks. Respondents for their study were from the metropolitan Detroit area and ranged in age from 20-93. The researchers concluded that aging was associated with smaller, less seen and more spatially separated social supports that were disproportionately kin affiliated. While Blacks and Whites were similar in their proximity to social networks, Whites were more often found to be married and more educated than their Black counterparts; also, Blacks had smaller social networks. However, Blacks had more interactions with the members of their networks. Furthermore, the members of the Black social networks consisted of a higher ratio of women and kin.

This notion of providing social support was further explored by Dilworth-Anderson and Williams (2002) in the form of caregiving. They examined the complexities associated with caregiving amongst diverse racial and ethnic populations, and concluded that caregiving experiences varied across racial and ethnic groups.

Furthermore, they pointed out that minority caregivers included a more diverse group of extended helpers than did White caregivers. However, they posited that minority caregivers received less formal social support than did White caregivers. Informal support was found to be more diverse among African American than among White caregivers.

When determining the relationship between stress and social support (both positive and negative interactions) among African Americans, Lincoln, Taylor and Chatters (2003) found that, while social support decreased depressive symptoms related to financial strain, it did not diminish the effects of stress, and consequently, was determined to be an inadequate mediator. Furthermore, they asserted that financial strain and traumatic events (stress) were associated with an increase in depressive symptoms and negative social networks of relatives. These types of social interactions contributed to poor mental health.

When measuring the relationship between social support and the Latino community, Solberg and Villarreal (1997) studied Hispanic college students and the impact of social support on psychological and physical distress. They asserted that family and peer support systems, due to their significance in the Hispanic culture, had a positive impact on college adjustment. Also, greater levels of social support altered the respondents' perceived level of stress. In essence, students who reported high levels of stress reported having lower levels of social support than their peers.

When measuring the impact of social integration and health status, Finch and Vega (2003) found that among Hispanics in California, primarily Mexicans between the ages 18 and 59, physical health was negatively associated with acculturation stressors

(discrimination, legal status and language barriers), and positively associated with social support. Furthermore, they found that acts of being discriminated against were correlated with poorer physical health among respondents who did not have any form of social support.

Mulvaney-Day, Algeria, and Sribney (2007) examined the significance of family support, friend support, family cultural conflict, and neighborhood cohesion to self-rated physical and mental health among Latinos in the United States. Using data from the National Latino and Asian American study, and employing logistical regressions to examine these relationships, they found that social support, in the form of family, friends, and neighbors, had a positive influence on self-reported physical and mental health, when controlling for gender and age. Conversely, family cultural conflict, considered a form of social disconnectedness, was negatively related to self-reported physical and mental health status.

Also, language played a significant role in the establishment of social relationships in the Latino community. In particular, family support was found to have a weak association with self-rated health variables, when controlling for education, income and demographic variables. Family support, however, was mitigated by language, while neighborhood social cohesion was not significantly related to either self-reported physical or mental health status. Although these studies are relevant, they did not address the issue of social support among older adults, especially within the Black and Hispanic communities.

### Aging and Social Integration

This brings the focus to the significance of social integration for aging Black adults. In the Black community, the majority of elderly people are involved in strong and viable social support networks (Lincoln, Taylor, & Chatters, 2003). This network consists of family, friends, neighbors and church members.

Lincoln et al. (2003) found that Blacks were more likely to report emotionally supportive interaction with family and friends, as opposed to negative social interaction. They also stated that elderly Blacks might experience both supportive and conflicting relationships simultaneously. However, with respect to positive social integration, the authors posited that women received more emotional support than did their male counterparts, which is consistent with other research asserting that Black women have more family and friends who provide emotional assistance more frequently than men do, and that family and friends are readily available when health issues arise.

When examining social integration and Hispanics, research found that family played a central role in keeping Hispanics amalgamated in society (Atkinson, 2004; Beyene, Becker, & Mayen, 2002; Choi, 1991; Dunn & O'Brien, 2009; Maglivi, Congdon, & Martinez, 2000; Torres-Gil & Kuo, 1998). Torres-Gil and Kuo (1998) pointed out that social integration was integral to Hispanic cultural identity, and constituted a powerful basis for community mobilization as well. This sense of community was explored by Choi (1991), who examined the living arrangements and household compositions of elderly couples. Choi made a comparative analysis between Hispanics and African Americans and their informal social networks. She found that Hispanic elderly couples were more likely to head households comprised of relatives. However, elderly Black couples were more likely to function as guardians of, or

providers for, their grandchildren. Choi also indicated that the effects of affordability and health status on living arrangements varied among groups.

Beyene et al. (2002) examined the perception of aging and the sense of well-being among aging Hispanics. A qualitative study of 83 aging adults found that their perception of aging was impacted by the level and quality of their social support. The authors concluded that despite cultural, economic, and lifestyle changes, the extended family, an informal means of social support, was the most instrumental institution for effective aging in the Hispanic community. The institution of family was so vital a social institution in keeping aging Hispanics integrated that Magliviye et al. (2000) asserted that even when Hispanics do not reside in the same domicile, aging adults still performed extended family roles. They provided childcare, financial assistance, emotional support, and mentorship. Therefore, social integration did not have to be in the direct form of contact or within close proximity.

Atkinson (2004) indicated that the term “familismo” referred to the significance of family in providing the strongest network of social support in the Hispanic community. He found that the strength and connectedness of family often constituted the primary barrier protecting immigrants of this community from stressful and health threatening situations.

Dunn and O’Brien (2009) examined the relative significance of gender, perceived stress, social support (informal) and the positive and negative aspects of religious coping on the psychological health of Hispanics. While the focus of this study was on Central American immigrants in Washington, D.C., Dunn and O’Brien found that perceived stress was important in predicting psychological health among Hispanic immigrants.

Also, while the effect was small, the relationship between controlling stress and social support from a significant other was statistically significant. However, social support by family was not related to positive psychological outcomes.

### Gender and Social Integration

Much of the literature surrounding gender, health status and social support are highlighted above. This section is designed to draw attention to the unique degrees to which men and women are involved in social networks. When Barker, Morrow and Mitteness (1998) explored the significance of gender and informal social support networks for aging African American adults in urban communities, they found that women had larger, more extended informal social support networks than did their male counterparts. They noted that “informal social support networks are not just a function of physical need or functional impairment, but a manifestation of a long history of reciprocity, mutuality and caring” (p.220). In essence, when looking at the significance of social support to Blacks, it remains imperative that its impact be examined in conjunction with a variety of other social phenomena affecting the Black community.

Umberson (1992) researched the differences in mortality rates between married couples and unmarried individuals, exploring in particular the gender differences of each group. She hypothesized that marriage, a form of social integration, was more beneficial to couples than to single individuals. Furthermore, marriage was more beneficial to women than to men. Umberson also found, however, that marriage was associated with greater health benefits for men than for women; that married couples tended to have

greater health outcomes than did their single counterparts; and, ironically, that the transition from single status to married status had little effect on health behavior.

Zunzunegui et al. (2003) studied the impact of social networks and gender differences as they related to cognitive decline among aging Spanish adults. Using longitudinal, multiple linear, and logistic regression methods to study community-dwelling adults over the age of sixty-five, they found that lower levels of social integration—measured in terms of poor social connections, infrequent social activities, and social disengagement—were positive predictors of cognitive decline in elderly individuals. Furthermore, they discovered that, while the probability for cognitive decline was lowered for both men and women with high frequencies of visual contact, interaction with friends tended to work as a barrier protecting against cognitive decline in women but not in men.

### Religion and Social Integration

This section focuses on the relationship between religious affiliation and attendance with social integration and health outcomes. Many studies have explored the effects of religion on health status (Atchley, 1997; Ferraro & Koch, 1994; Krause, 2006; Levin & Vanderpool, 1987; and Lincoln, Taylor, & Chatters, 1988). Levin and Vanderpool (1987) examined the relationship between religious attendance and better health. This theoretical study found insufficient evidence to support the premise that a greater level of attendance at a religious institution was a predictor of greater health outcomes.

Lincoln, Taylor and Chatters (1988) examined the significance of church members as a form of informal social support, and concluded that church affiliation was an important source of assistance to Blacks. They found that church attendance, church membership, subjective religiosity, and religious affiliation were all statistically significant to informal social support. Furthermore, their findings indicated that Catholics were less likely to receive support than those affiliated with the Baptist faith. Finally, they indicated that older congregates, including men, were more likely to receive support from church members than were women and younger congregates.

Ferraro and Koch (1994) examine the relationship between religion and health as it related to White and Black adults, and the possibility that social support in the form of religious association was more beneficial to the health status of either racial group. Using a national sample of approximately thirty-five hundred adults, Ferrari and Koch found three elements of religiosity strongest among Blacks and women. These were religious practice, religious identity, and religious consolation. Furthermore, they provided evidence that social support was beneficial to the health status of religious congregates. However, this relationship seemed to be the same for Blacks as it was for Whites. In the end, they noted that religious consolation was supported only among Black respondents. Also, there was a positive association between religious practices and health among African Americans.

Atchley (1997) conducted a longitudinal research on the importance of religion to the health and morale of individuals fourteen years after initial contact. Using regression analysis, he found that religious affiliation and frequency of attendance were not

predictors of health outcomes or psychological well-being. His findings were consistent with the findings from the initial study conducted in 1977.

Krause (2006) explored the impact that providing or receiving social support from religious affiliates might have on financial strain and mortality rates. He interviewed 1,500 aging adults within a three year period. The initial contact was made to determine their level of financial strain, religious practices, and degree of social support given or received. Krause later measured mortality status in a 2004 follow-up interview. He determined that providing social support to fellow congregates reduced the support providers' financial problems as they affected mortality; however, the same was not true for the recipients of social support.

This dissertation analyzes social integration not only in terms of the existence, quantity, and reciprocal nature of relationships, but also in terms of the relationship between and among various social, cultural, and economic variables to which elderly racial minorities are exposed. More succinctly, what impact does the degree of social integration have on the health status of Blacks, Hispanics, and Whites? Also, how do the varying degrees of social integration influence the level of obesity and stress in older adults? Finally, how does social integration differ from one racial group to another?

## Chapter Three: Methodology

### Introduction

Building on the literature review in Chapter Two, this chapter outlines the intricate methodology utilized to explore the relative impact of social integration on the health status of aging Blacks and Latinos in relationship to their White counterparts in an urban environment.

The five boroughs of New York City are ideal for studying this social phenomenon. Studying the life space and social support system of the elderly living in Manhattan, Cantor (1975) asserted that the city was a viable place to conduct this type of study, due to the life space of the inner city elderly, the function of the social support system, and the strengths and weaknesses of city living. In a follow-up study of aging adults in New York City, Cantor, Brennan and Sainz (1994) found that older White adults had the most inclusive networks, while the most widely dispersed. Hispanic older adults, on the other hand, had narrow, family-centered networks in close proximity. The networks of older Blacks were intermediate to those of Hispanics and Whites, being less inclusive but with many kin living nearby.

However, whereas these studies focused solely on the island of Manhattan, this dissertation examines the other four boroughs that make up New York City-Brooklyn, Queens, Staten Island, and The Bronx. Furthermore, it investigates the extent to which social networks have an impact on the health status of older adults within these eclectic communities.

### Sample

Data for this dissertation employs the Healthy Indicators Project (HIP) conducted by the Brookdale Center for Health Aging and Longevity at Hunter College, CUNY. The objective of that study was to examine the health status of an ever growing population. The dataset was chosen because of its unique focus on the five boroughs of New York, multifaceted health indicators, and the diversity of its population. Furthermore, this dataset explores the significance of social support (both formal and informal), depression, stress/anxiety, obesity, blood pressure, as well as other variables that either contribute to, or distract, from the self-perceived health status of each participant.

The Brookdale Center partnered with the New York City Department for The Aging (NYC DFTA) in 2006 to assess the level of healthcare services provided at various senior citizen centers throughout the five boroughs of New York City. The project was designed to assess the effectiveness of New York's aging services network and the ways in which it promotes healthy urban aging. The data was compiled from 1,870 older adults attending a representative sample of 56 senior citizen centers throughout the five boroughs of New York City. Sampling strata for the data was formulated based on three criteria: 1) borough; 2) center size; and, 3) race/ethnicity. The data will be used to compare the various responses of those individuals who self-identified as Black or Hispanic to the responses of their White counterparts. The primary hypothesis of this dissertation is that the greater the level of social integration, the greater one's health status.

## Procedure

The participants in the HIP study include individuals who self-identified as Black/African American, Hispanic, and White. Blacks make up 18.6 percent of all respondents in the dataset, Hispanics 22.6 percent, and Whites 38.8 percent. Male respondents consist of 35 percent of the population in the HIP study, while females make up 65 percent. According to the New York Department for the Aging (2003), Hispanics represent 18 percent of older adults in New York City, Blacks 21.6 percent, and Whites 51.8 percent. The Department for the Aging also indicates that men in New York City over the age of 60 comprise 40.3 percent of the population, while women make up 59.7 percent (2006).

## Measurement of Constructs

### Dependent Variables

#### Obesity

There are two dependent variables for this dissertation. The first is a measure of obesity. Boardman, Onge, Rogers and Denny (2005) studied the significance of race differentials in obesity at the individual and neighborhood level. They found that communities heavily populated with Blacks have a greater prevalence of obesity than those that are mostly White. They also posited that individuals living in disadvantaged neighborhoods inundated with high obesity levels were at greater risk of becoming obese. However, Zhang and Wang (2004) examine the degree to which socioeconomic inequality in obesity varied across gender, age and racial/ethnic groups. They concluded

that socioeconomic inequality played a greater part in explaining the obesity disparity when it came to gender and age, but not so much so when factoring in race. Specifically, they stated that “minority groups do not necessarily have a higher SES inequality in obesity than whites, although minorities are more vulnerable to obesity” (p.1178).

Obesity is analyzed based on each respondent’s identification of his/her health status. In particular, obesity has been established by creating the Body Mass Index (BMI) of each respondent. BMI provides a reliable indicator of body fat for most people and is used to screen for weight categories that may lead to additional health problems. However, the BMI has become controversial because many people, including physicians, have come to rely on its apparent numerical authority for medical diagnosis. It is meant, however, to be used as a simple means of classifying sedentary (physically inactive) individuals with an average body composition (World Health Organization, 1998).

For this dissertation, the BMI has been constructed to estimate the health status of the respondents in relation to their height, body weight, and physical inactivity. The classification of obesity, as indicated by the World Health Organization (1998), is noted as follows: individuals with a  $BMI \geq 25$  are diagnosed as overweight; and, individuals with a  $BMI \geq 30$  are diagnosed as obese. BMI is calculated as weight (in kilograms) divided by height (in meters) squared. Consequently, the variable BMI has been constructed by HIP and is indicated in their codebook.

### Stress

The second dependent variable measures the level of stress experienced by older adults. The majority of studies examining the occurrence of potentially stressful events

use some version of a life events checklist (Cohen & Wills, 1985; Cutrona, Russell, & Rose, 1986; Russell & Cutrona, 1991). The stress score equals the total number of items checked as having occurred in the recent past. Some studies employ methodologies that sum the normative stress weights, while some utilize a method of counting the responses according to the checklist. However, Cohen and Wills (1985) find “little difference between the predictive validities of scores based on simple event counts, normative weights and[/or] respondent assigned weights” (p.314).

When measuring the effects of stress and social support on the physical and mental health of adults from 60-88, Cutrona et al. (1986) determined that social support was a significant predictor of physical health status. They also asserted that mental health was related to stress according to the level of social interaction experienced by the respondent. They concluded that higher levels of social integration reduced the negative impact of stress on mental health. In this instance, stress served as an indirect pathway to positive or negative mental health.

Russell and Cutrona (1991), in their study of the effects of social support, negative life events, and daily challenges on the depressive symptoms of aging adults found that within a twelve month period, initial level of social support predicted the impact of depressive symptoms. Furthermore, social support and initial levels of depressive symptoms impacted the number of daily stress events experienced by respondents. However, they discovered no difference between male and female aging adults. In essence, greater levels of social integration experienced by senescent adults served as a barrier protecting against depressive symptoms and daily challenges (stress).

This dissertation explores each respondent's answer to the question concerning diagnosis of a stress/anxiety disorder by a doctor/healthcare practitioner [See Measurement for Quantitative Analysis]. A positive response to each question denotes the presence of stress. Conversely, a negative response indicates the absence of stress. A dummy variable has been created whereas the presence of stress is coded as "1" and the absence of stress as "0."

### Independent Variables

#### Social Integration

The dataset also allows for the creation and exploration of social integration. House et al. (1988) examine studies that show the structure and processes of social support. One such study outlined three types of social relationships/social support: 1) the roles individuals play and the type of attachments available; 2) frequency of interactions with family and friends; and, 3) perception of social support. This dissertation examines social integration in relationship to the level of self-identified social support of each respondent.

Unger et al. (1999) examined the moderating effects of social support and social networks on the health status and functioning of aging adults. By using longitudinal data from the MacArthur Study of Successful Aging, the authors concluded that respondents with greater levels of social integration showed less functional decline. Furthermore, strong social networks proved to be more beneficial to male than to female respondents, or to those with lower levels of baseline physical performance.

In Section VII of its survey, the Brookdale Center on Aging asks respondents questions about their social networks and social support, especially concerning their relationships with others. These questions were designed to determine how often respondents are in contact with informal social networks. For instance, respondents are asked, “How often are you in contact with members of your family who do not live with you—including visits, phone calls, letters, or e-mail?” Social integration is further explored in Section IX of the survey—Neighborhood and Community Services. Here, respondents are asked about the quality of services they receive in their neighborhoods (NCS1), the level of interaction with their neighbors (NCS2), and the quality of life in their communities (NCS3).

In order to measure social integration, a recode of a social support scale was made into a categorical variable (mosscore) by HIP. A scale was created based on the sum of all indicated responses. It ranges from “0” to “3,” with “0” denoting a low level of social support and “3” indicating a very high level of social support. The scale was constructed based on the Medical Outcomes Study. This dissertation utilizes this variable to explore the various relationships that can have either a positive or negative impact on the obesity and stress status of Black and Hispanic aging adults in comparison to their White counterparts.

### Self-efficacy

The next independent variable for this dissertation is based on the respondent’s perception of his/her life; this will be referred to as self-efficacy. Self-efficacy is defined as a person’s belief in his or her ability to accomplish a goal or to deal with a task at

hand. Research shows that weight control can be governed by self-efficacy beliefs (Grembowski, Patrick, & Diehr, 1993; Hofstetter, Sallis & Hovell, 1990; Shannon, Bagby, Wang, & Trenkner, 1990). Hofstetter et al. (1990) examined various health dimensions of self-efficacy. They asserted that self-efficacy was more domain specific than was outcome efficacy and that outcome efficacy was different from self-efficacy, when it came to health outcomes. Therefore, self-efficacy was not as beneficial to determining health outcomes as was outcome efficacy, which is based on a variety of demographic criteria.

Shannon et al. (1990) explored the plausibility of self-efficacy as a conduit to various eating behaviors. The researchers found that self-efficacy was in fact a mediating factor between environmental social factors, also known as informal social support, and eating behaviors. They concluded that self-efficacy contributed to explaining eating behavior at various intervals of time. Shannon et al. also refuted the findings of Hofstetter et al. (1990) when measuring the impact of outcome efficacy, indicating that the significance of outcome efficacy was both weak and inconsistent. Therefore, self-efficacy would be instrumental in addressing nutritional concerns in aging adults.

When measuring the impact of self-efficacy on aging adults, Grembowski et al. (1993) focused on the health-related quality of life associated with the preventive services Medicare beneficiaries received. They found that older adults with higher self-efficacy had lower health risk behaviors and overall better health than those with lower levels of self-efficacy. They also found a strong relationship between socioeconomic status and health-related quality of life. They concluded that interventions designed to improve the level of self-efficacy in aging adults might be beneficial to their overall health status.

Davis-Berman (2001) explored the relationship between physical self-efficacy, perceived physical status, and depressive symptoms in aging adults. Examining two-hundred residents via the Depression Adjective Checklist, CES-D Depression Scale, and the residents' self-reported health status, Davis-Berman discerned a strong correlation between self-efficacy and depressive symptomatology. Furthermore, he asserted that the strongest predictor of depressive symptoms in this population was self-efficacy, having a greater impact than that which was expected of the physical status variables.

These studies also found that engaging in certain health behaviors was positively associated with a belief in one's personal efficacy. Furthermore, the greater one's self-efficacy, the greater the propensity of an individual to successfully navigate through stressful events. Therefore, in order to measure self-efficacy, this dissertation examines each respondent's perception of life, using questions derived from Section X–Personal Characteristics. Respondents are asked about their mood swings, how easily they are offended, degree of loneliness, and overall quality of life. They are also asked questions concerning life experiences within the past year—problems at work, loss of spouse, and victimization. A labeling model of self-efficacy similar to the one used by Pálsdóttir (2008) designated respondents as having either a passive (negative) or aggressive (positive) perception of life. For this dissertation, a Cronbach's alpha was run on each facet of PC1 (a-k) and D50. Questions PC1B, PC1D, PC1K, and D50 were utilized to construct the self-efficacy variable.

### Healthcare Experience

The next independent variable for this dissertation is partially derived from a study conducted by Harris (2001), who evaluated healthcare access and utilization, as well as health status and outcomes, for type 2 diabetic patients. Wanting to determine whether health status was influenced by healthcare access and utilization, Harris indicated the significance of incorporating the standard variables for healthcare status—for example, health care experience, physician visits, health insurance, and nutrition—into future research. This dissertation explores the impact of healthcare experience on the health status of aging adults.

Larson et al. (1996) studied the relationship between healthcare experiences with hospital care and general health status, measuring healthcare experiences through an assessment of surveys completed by patients discharged from three community hospitals located in the southeastern United States. Health status was measured by each respondent's physical function, psychosocial function, and overall self-assessment of his or her quality of life. Using multivariate regression analysis, Larson, et al. found that meeting the needs of patients was positively associated with perceived health benefits and general health status.

Harris (2000) evaluated access and utilization of medical care in relation to health status and outcomes of patients with type 2 diabetes. Using a national sample of 733 adults, Harris determined that health status and outcomes were not influenced by healthcare experience. He attributed this finding to the intractable nature of diabetes, to other illnesses, to high levels of self-patient care/practices, and to the various characteristics of the healthcare system in the United States.

When measuring the differences between men and women, Bertakis et al. (1999) explored how utilization of healthcare services impacted the overall health status of each group. They found that women had lower self-reported health status, as well as lower education and income. However, women reported significantly higher numbers of visits to primary physicians or care clinics. In essence, although women reported higher instances of obtaining healthcare services, they also reported a lower health status than did their male counterparts, who were less likely than women to seek medical care.

In order to explore this issue further, this dissertation constructs the healthcare experience variable by utilizing questions found in the HIP questionnaire—Access to Care and Utilization of Services. This variable is a measure of the types of healthcare experiences reported by respondents in Section II of the questionnaire concerning receipt of medical attention (ACU3). The respondents were asked: “Have you been to or used (a/an) [State Place] for medical advice or care?” The four possible responses were: a) use of the emergency room in the past four months; b) use of private clinic or community clinic/center; c) use of a specialist in the past twelve months; and, d) use of mental health professional. A positive response to each of these experiences was coded “1” and a negative response was coded “0”. The responses were then totaled.

### Nutrition

The next independent variable, nutrition, was derived from questions found in Section VIII of the HIP questionnaire (DN2 and DN3). These questions primarily focus on the fruit and vegetable intake of the respondents. Kant (2004) asserted that “...patterns characterized by fruit/vegetable/whole grain/fish/poultry consumption generally have

been reported to relate to micronutrient intake, and... [serve as] biomarkers of dietary exposure and disease risk” (p. 615). In other words, dietary intake, which may include the aforementioned foods, serves as an indicator of health outcomes.

Posner et al. (1993) considered the health risk associated with poor nutritional intake in aging adults. Using a fourteen item check list, based on the Nutrition Screening Initiative, they found that aging adults who were not institutionalized were at greater risk for poor nutrient intake and greater health problems. Among those respondents in the highest at-risk group, 56 percent indicated that their health was fair to poor, and consumed less than the recommended dietary allowances.

Gilbred et al. (1998) studied the impact of nutrition and health status on community residing aging adults in New York City. They found that participants who received congregate-site meals had self-reported lower health status than those aging adults who did not receive congregate-site meals. The most common health issues cited were problems sleeping, loss of appetite, fatigue and pain in the bones. This study showed a relationship between dietary intake and health status among aging adults.

Therefore, the focus of this variable is to measure the access to nutritional foods of each respondent in relation to their self-reported health status. More specifically, it measures the level of accessibility to fruits and vegetables for aging adults. This variable was converted into a composite variable.

### Demographics

Lastly, demographic variables are analyzed to examine the relationship between social integration and the health outcomes of Blacks, Hispanics, and Whites. For

example, variables such as gender (D1), race (D46), marital status (D19), socioeconomic status (a composite of standardized income-D35 and education-D27), living situation (D20), and borough (D3 and D6) are examined in bivariate and multivariate analysis.

Race, gender and marital status have been examined in the previous sections of this dissertation. However, they, along with the other demographic variables, present multifaceted phenomena for further study. For instance, aging adults in urban communities experience different life situations from those in rural areas. As Douglas Massey (1996) asserted, “urbanization”, rising income inequality, and increasing class segregation have produced a geographic concentration of affluence and poverty throughout the world, creating a radical change in the geographic basis of human society” (p. 395). Therefore, socioeconomic status, living situation, borough, and race all play an intricate role in the lives of aging adults within urban cities like New York.

Since the majority of the respondents in the HIP study are female, a dummy variable has been constructed on the variable gender (D1). Females are coded “1” and males are coded “0”. Race (D46) consists of three groups—Blacks, Hispanics and Whites. Marital Status has been constructed into a dummy variable. Those married are coded “1” and those who are not are coded “0”. With respect to religion, the nine possible responses were collapsed into four categories: Jewish, Christian, Other Religion, and No Religion (D48).

The Neighborhood/Community variable is comprised of the five boroughs that make up New York City—Brooklyn, Queens, Manhattan, Staten Island and the Bronx. The dataset consists of a composite variable that identifies each respective borough. Lastly, the living situation of each respondent is examined in terms of with whom they

reside. This variable has been constructed into a dummy variable and is identified as 'living alone'. If respondents indicated that they lived alone, they were coded "1." However, if they indicated that they lived with others, they were coded "0" (D20).

### Analytical Plan

The main objective is to determine how significant race and social integration are in relation to obesity and stress in the multifaceted communities of older adults in New York City. In order to accomplish this, bivariate analyses have been conducted to determine if one independent variable, gender, for example, is related to either of the dependent variables—obesity or stress. This has been conducted for each of the independent variables – social integration, self-efficacy, health experiences, nutrition, and the remainder demographic variables.

Next, a total of forty multiple regression models have been employed. The first ten models examine all three racial groups – Blacks, Hispanics and Whites. Multiple logistic regression models are used to measure the relationship between the independent variables and stress. Therefore, in order to further expound upon Durkheim's (1951) theory of anomie as a result of organic solidarity, the first model explores the relationship between social integration, all three racial groups, and stress (Model 1). This model allows for an in-depth comparative analysis of the study conducted by Williams and Wirths (2007). They examined the impact that anomie has on the disorganization and immobilization of older adults. This was done by incorporating Durkheim's notion of anomie and Parson's theory of social action. Williams and Wirths asserted that successful

aging was feasible when members of the aging community exerted their autonomy and were persistent in remaining integrated into society.

Self-efficacy is then introduced in Model 2 in order to establish the nullifying effect of self-efficacy on stress. Hofstetter et al. (1990) found that, besides having an impact on weight control, self-efficacy could be instrumental in maintaining stress levels. Bernier and Avard (2005) studied the significance between weight loss and self-efficacy. They found that self-efficacy impacted behavioral persistence and the level of behavioral change in overweight women. Therefore, Model 2 will test these findings as they pertain to older adults as well.

The study conducted by Harris (2001) is the rationalization for introducing healthcare experiences (Model 3) into the regression. While Harris focused on racial and ethnic differences in the health status of type two diabetic patients, this model explores the relationship between race and social integration on the mental health status (stress) of older adults.

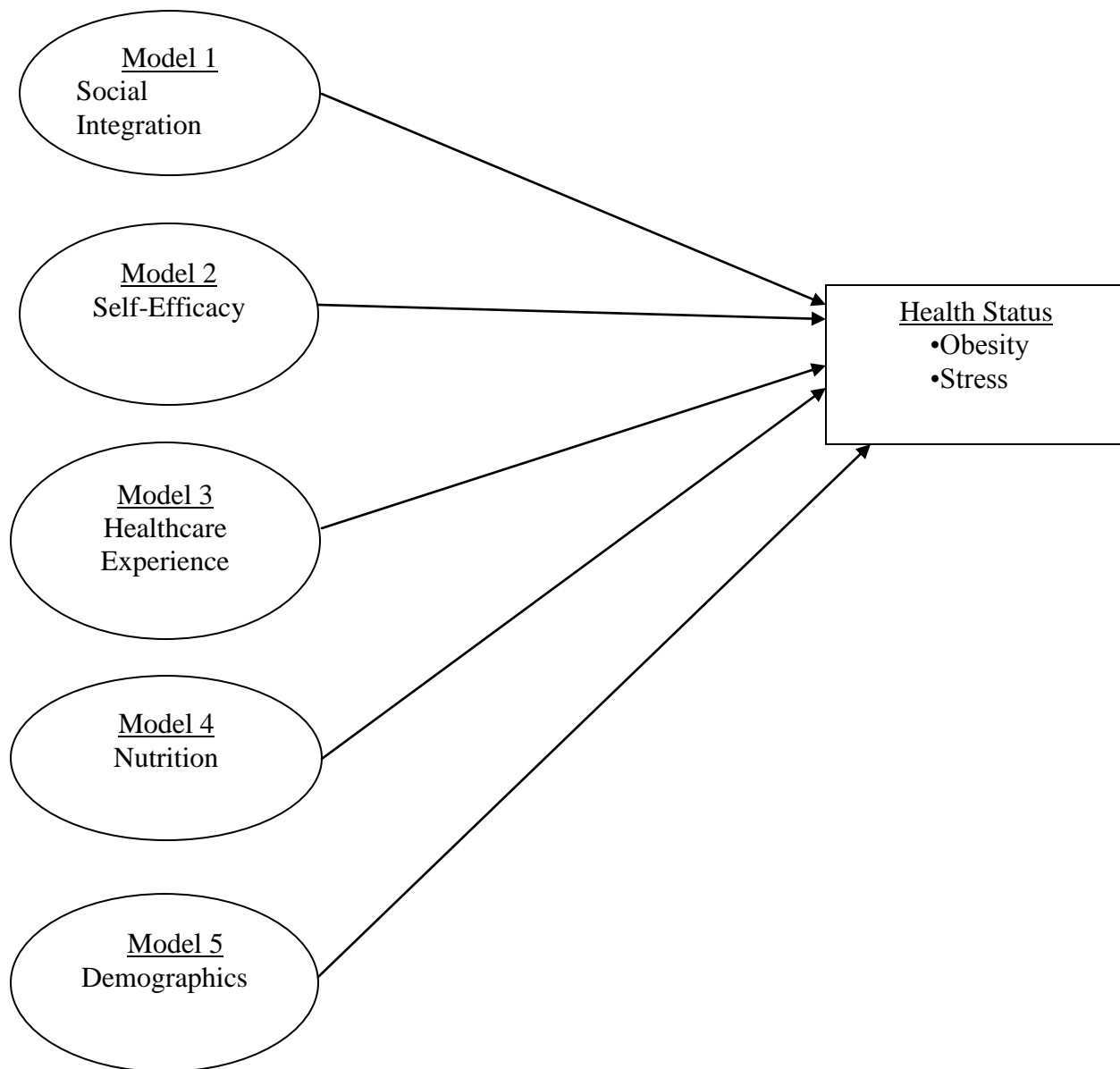
The variable nutrition is introduced in Model 4. Kant (2004) explored how dietary intake served as an indicator of health outcomes. Therefore, it is imperative to analyze the relationship between nutrition and the health status of older adults from different racial groups and their varying levels of social integration.

Lastly, Model 5 introduces the additional demographic variables as statistical controls. This model is also crucial in comparing the findings to studies such as Pierce et al. (2000), which looked at the relationship between depression and social support, as well as to Button's (2008) study on the correlation between stress and the workplace.

Also, Kubzansky et al. (2004) analyzed the role that different neighborhoods and communities played in the depression symptoms of older adults.

The next five models follow the same format but employ OLS regression analysis and explore the relationship of race and social integration on obesity (Models 6-10). Then, in order to better understand racial differences, such analysis has been replicated for each racial group – Whites (Models 11-20), Blacks (Models 21-30), and Hispanics (Models 31-40).

Figure 3.1  
Logic Model



## Measurement for Quantitative Analysis

### Dependent Variables:

#### Obesity:

- Body Mass Index (BMI) from the HIP Codebook

#### Stress/Anxiety:

- CC2 - Has a doctor or other healthcare professional ever told you that you have or had an anxiety disorder, such as stress disorder, panic disorder, social anxiety disorder, or general anxiety?

### Independent Variables:

#### Social Integration:

- Recode of Social Support Scale into Categorical Variable (mosscore) from the HIP Codebook

#### Self-efficacy:

- PC1 - Next I have some questions about how you see yourself. [STATE OPTION]. Would you say not at all, slightly, moderately, very much, or extremely?
  - Does your mood often go up or down?
  - Do you often feel miserable for no reason?
  - Are you an irritable person?
  - Are your feelings easily hurt?
  - Do you often feel “fed up”?
  - Would you call yourself a nervous person?
  - Are you a worrier?
  - Would you call yourself tense or “high strung”?
  - Do you worry too long after an embarrassing moment?
  - Do you suffer from nerves?
  - Do you often feel lonely?
  - Are you often troubled about feelings of guilt?
- D50 Taking all things together, how would you rate the quality of your life?

#### Healthcare experience:

- ACU3 - Have you been to or used (a/an) [State Place] for medical advice or care?
  - Emergency room?

- Primary care (general) doctor or community clinic/center for medical problems, such as a cold or pain?
- Specialist [IF NEEDED: a specific doctor for a particular medical condition, such as a kidney doctor for diabetes]?
- Mental health professional, such as a psychiatrist, psychologist or social worker?

#### Nutrition:

- DN1 - Thinking about nutrition... how many total servings of fruits and/or vegetables did you eat yesterday? A serving would equal one medium apple, a handful of broccoli, or a cup of carrots.
- DN3 - Are the fruits and vegetables you are able to find affordable? Would you say very affordable, somewhat affordable, not affordable, or not at all affordable?

#### Demographics:

##### Gender

- D1 – Record Sex - Male or Female

##### Race

- D46 - What race/ethnicity do you consider yourself?  
Would you say American Indian or Alaskan Native, Asian or Pacific Islander, black or African-American, Hispanic or Latino, white or Caucasian, or something else?

##### Socioeconomic Status

- D27 - What is the highest grade you completed?
- D35 - To get a picture of people's financial situation we need to know the general range of income of all people we interview. Now, thinking about your (and your family's) total income from all sources, how much did you (and all the members of your family living in your household) receive last year before taxes (2007).
  - Less than \$10,000
  - More than \$10,001 but less than \$15,000
  - More than \$15,001 but less than \$20,000
  - More than \$20,001 but less than \$25,000
  - More than \$25,001 but less than \$35,000
  - More than \$35,001 but less than \$50,000
  - More than \$50,001 but less than \$75,000
  - \$75,000 or more

##### Marital Status

- D19 - Are you presently single, married, or living with someone as a couple, divorced, separated, or widowed?

#### Religion

- D48 – What is your religious tradition?
  - Protestant
  - Catholic
  - Jewish
  - Buddhist
  - Hindu
  - Muslim
  - Agnostic
  - Atheist
  - No religious preference

#### Living Situation

- D20 - Do you live alone or live with other(s)?

#### Borough

- This variable is from the HIP Codebook

## Chapter Four: Results

### Introduction

This chapter analyzes the statistical results of the relative impact of social integration on the health status of aging adults. This analysis is the outcome associated with the methodology outlined in Chapter 3. The first step is to inspect the descriptive statistics data for the dependent and independent variables. Next, the chapter will expound upon the bivariate analysis, logistical regression models, and the ordinary least squares (OLS) regression models—the unstandardized regression coefficients. The logistic regression models will focus on the relationship between various independent variables and the dichotomous health status measurement stress. OLS, on the other hand, will examine the same predicting variables on the continuous health status variable obesity.

### Descriptive Analysis

#### Dependent Variables

In Table 4.1, the average body mass index for aging adults in this dataset is 27 ( $SD = 5.42$ ). According to the definition of obesity recommended by the World Health Organization (1998), which states that individuals with a  $BMI \geq 25$  are overweight, and individuals with a  $BMI \geq 30$  denotes obesity, this finding demonstrates that, on average, the participants were overweight but not obese. When analyzing the variable stress, Table

4.1 also indicates that 9.4 percent of the aging adults reported some level of stress disorder, panic disorder, or general anxiety, as diagnosed by a healthcare professional.

### Independent Variables

The independent variable social integration has a mean of 1.99 ( $SD = 1.00$ ). This states that on a scale of 0-3, where 0 represents a low level of social support and 3 represents a very high level of social support, aging adults reported, on average, a high level of social support. The variable measuring self-efficacy shows a median response of 1.95 ( $SD = .712$ ). This indicates that senescent adults, on a scale of 1-5, with 1 being excellent and 5 being poor, had a very good outlook on life and may engage in more health-related activities, whereas a person with low self-efficacy would harbor feelings of hopelessness and become more lethargic. The respondents indicated some level of experience with a healthcare professional ( $M = 1.42$ ,  $SD = .995$ ). Lastly, when measuring access to nutritional fruits and vegetables, a mean of 2.83 ( $SD = .543$ ) illustrates that on a scale of 1-4, respondents found access to health services and affordable fruits and vegetables somewhat difficult.

### Demographic Variables

In the HIP dataset, sixty-five percent of the respondents are women, and thirty-five percent are men. In terms of race, 23 percent of the aging adults are Black, 28 percent Hispanic, and 49 percent White. While the age of the respondents ranges from 60-99, the mean age is 75.6. Furthermore, data show that 27 percent of the aging adults were married at the time. As for their religious affiliation, the majority of the respondents

identified themselves as Christian (54%), as opposed to those who indicated being Jewish (17%), no religious affiliation (9%), or some other religious association (9%).

Socioeconomic status, a standardized predictor, shows a mean of .009. A measurement of the living situation of all respondents reveals that 57 percent of the respondents indicated that they live alone. Lastly, the analysis of the descriptive statistics shows that the majority of the respondents reside in Brooklyn (28%), followed by Queens (24%), Manhattan (23%), the Bronx (20%), and Staten Island (5%).

### Bivariate Analysis

As indicated in the methods chapter, a variety of bivariate analyses were used to measure the impact of social integration and other independent variables on the health status-obesity, measured in terms of body mass index (BMI), and stress of aging adults. Obesity was measured using ANOVA, t-test and correlations; as for the variable stress, t-test and chi-square were employed. The results from the various bivariate analyses for obesity can be found on Table 4.2, which indicates a statistical of mean difference between women and men ( $M = 27.32, 26.45$ , respectively;  $p = .001$ ) on the variable body mass index. Table 4.2 also indicates that means for married respondents of the aging population ( $M = 27.60$ ), as it relates to obesity, are statistically different from those who are not married ( $M = 26.45$ ). However, the mean for aging adults who live alone is not statistically significant from those that do not live alone.

The ANOVA with post hoc analysis in Table 4.2 shows that the mean for Whites ( $M = 26.50$ ), as it relates to obesity, is statistically different than the means for Blacks ( $M = 28.32$ ) and Hispanics ( $M = 27.99$ ). Similarly, this analysis examines the means of the

various boroughs that make up New York City. There is a statistical difference between the Bronx ( $M = 27.61$ ) and Manhattan ( $M = 26.37$ ), when measuring against obesity. Lastly, the other notable bivariate analysis for this dissertation is found with respect to religious affiliation. In particular, when comparing the means for this variable, the dissertation finds a statistical significance between Christians ( $M = 27.33$ ) and those aging adults who have no religious affiliation ( $M = 25.57$ ), as well as a statistical difference between those respondents who are members of other religious affiliations ( $M = 27.25$ ) and those who have no religious affiliation.

In Table 4.3, an independent group t-test was conducted between participants who were diagnosed with a stress disorder and those who were not, with social integration, self-efficacy, healthcare experience, access to nutrition, age, and socioeconomic status as the independent variables. The t-tests analyses were used to calculate the statistical significance of mean differences for the aforementioned independent variable on a respondent's stress disorder. When measured against self-efficacy, there is a statistical mean difference between those respondents who were diagnosed with some form of stress disorder or anxiety ( $M = 2.64$ ), and those not so diagnosed ( $M = 1.88$ ). The same holds true for the following independent variables: health care experience and those not diagnosed ( $M = 1.35$ ) versus those who were ( $M = 2.19$ ); access to nutrition and those without a stress disorder ( $M = 2.82$ ) and those who indicated having a stress disorder ( $M = 2.94$ ); and, lastly, age and those not diagnosed with stress disorder ( $M = 75.93$ ) and those who were so diagnosed ( $M = 73.00$ ).

Next, in order to determine the linear relationship between the variables, correlations amongst selected independent variables and body mass index were examined

and are presented in Table 4.4. The selected independent variables are social integration, self-efficacy, healthcare experience, access to nutrition, age, and socioeconomic status.

There is a positive correlation between body mass index and social integration  $r(1783) = .053, p < .05$ ; self-efficacy  $r(1783) = .057, p < .05$ ; and, healthcare experience  $r(1783) = .138, p = .000$ . The relationship between body mass index and nutrition was positive but not significant  $r(1754) = .033, p > .05$ . This table also shows a negative, yet significant, correlation between the independent variable and age  $r(1773) = -.183, p = .000$ .

However, the same is not so with socioeconomic status; it is not significant  $r(1771) = -.017, p > .05$ .

Table 4.5 shows the results of crosstabulation of select independent variables on stress. The variables selected are gender, race, married, religious affiliation, living alone, and borough. This analysis indicates that there is a statistical significance among the variables; it is found between the independent variable race and the dependent variable stress:  $X^2(2, N = 1490) = 26.91, p = .000$ . However, it should be noted that this outcome is more likely attributed to the disproportionate number of White respondents (653 or 49%) who were not diagnosed with a form of stress disorder versus those who indicated some form of stress disorder (69 or 45%). Conversely, three hundred-thirty Black respondents (25%) reported no presence of a stress disorder, while seventeen Black respondents (11%) indicated that they were diagnosed with a stress disorder. This imbalance in the presence or absence of a diagnosed stress disorder may be influential in the statistical significance found in the chi-square.

### Multivariate Analysis

### Logistic Regression

Logistic regression was employed to measure the predicting power of various independent variables on the health status of aging adults as it relates to stress. This analysis will utilize estimate odds ratios ( $\exp(b)$ ) for each of the independent variables in the model. Therefore, in Table 4.6, where the chi-square is  $X^2(13, N = 1,327) = 36.0$ , we find that of the various independent variables in the model, self-efficacy, healthcare experience, Black, age, and other religion were statistically significant. For example, the analysis shows that a one unit increase in self-efficacy increases the odds that aging adults will be diagnosed with a stress disorder by a factor of 3.28.

As for healthcare experience, the analysis reveals that a one unit increase in healthcare experience enhances the odds that stress will increase by a factor of 2.10. Table 4.6 also points out that aging Black adults are 24 percent less likely to be diagnosed with a stress disorder than their White counterparts. In essence, every unit of increase in the variable race (White to Black), the odds of being diagnosed with a stress disorder decrease by a factor of .240. The same holds true for the variables aging and other religion. The output on Table 4.6 shows that a one unit change in the respondent's age decreases the odds of being diagnosed with a stress disorder by a factor of .971. Also, the regression shows that members from other religious affiliations are 2.43 times more likely to be diagnosed with some form of stress disorder than those aging adults who identified themselves as Christians.

In order to examine the predicting relationship between the independent variables and stress, as it relates to the various racial groups in the dissertation—Whites, Blacks, and Hispanics—each group was analyzed in separate regression models. These findings are

presented on Tables 4.7-4.9. Table 4.7, with a chi-square of  $X^2 (9, N = 307) = 18.0$ , explores the impact of the independent variables on the health status of aging Black adults as it relates to stress. Self-efficacy and healthcare experience were the only independent variables that were statistically significant. The findings show that for a one unit increase in self-efficacy, the odds of being diagnosed with a stress disorder (vs. not being diagnosed) increased by a factor of 5.01. As it relates to healthcare experience, a one unit increase in a respondent's healthcare experience positively increases the odds of the presence of a stress diagnosis by a factor of 1.85. Lastly, it should be noted that the religious affiliation Jewish was omitted from the table, since there were no respondents who self-identified as being both Black and Jewish.

In Table 4.8, where the chi-square is  $X^2 (11, N = 381) = 17.0$ , and the focus is on aging Hispanics, self-efficacy, healthcare experience, and other religious affiliation were statistically significant. The findings show that with one unit increase in self-efficacy, the odds of being diagnosed with a stress disorder increases by a factor of 4.06. Also, as healthcare experience increases by one unit, the odds of stress increase by a factor of 2.89. Lastly, this analysis shows that the predicted odds of those members of the Hispanic aging population who are affiliated with some religious denominations other than those indicated are 3.85 times more likely to be diagnosed with a stress disorder than those of another religious affiliation. However, this is statistically significant at the .50 level, while the aforementioned independent variables were all statistically significant at the .000 level.

When analyzing the effect on White respondents, Table 4.9, with a chi-square of  $X^2 (1, N = 639) = 20.1$ , shows that self-efficacy, healthcare experience, and other religion

were all statistically significant as well. Here the analysis indicates that a one unit increase in self-efficacy increases the odds that the respondent will be diagnosed with a stress disorder by a factor of 3.02. As for healthcare experience, the predicted odds are 81 percent times greater for White respondents than for non-white, when measuring the presence of stress. Next, a unit increase in other religion increases the odds of being stressed by a factor of 2.95. Lastly, this analysis demonstrates the statistical significance of living in one of the boroughs of New York City. Manhattan residents, who are White, are 2.83 times more likely to be diagnosed with a stress disorder than those who reside in different boroughs and of different racial groups.

#### Ordinary Least Squares (OLS) Regression

OLS examines how changes in one set of variables are related to changes in another set. For this dissertation, the analysis was designed to explain or estimate the value of obesity, measured by the body mass index of each respondent, as a measure of health status for aging adults, on the basis of several predicting independent variables. A total of fifteen models were executed. The first five models, Table 4.10, explore the impact of various factors—social integration, self-efficacy, borough, etc. (identified as the independent variables)—on the health status of aging adults, being measured in terms of obesity (the dependent variable) across all racial groups—Blacks, Hispanics, and Whites. Model 1 presents a simple regression between social integration and body mass index. The  $R^2$  (.001) indicates that a very small portion of the variance is explained between these two variables ( $\beta = .045, p = .105$ ). Therefore, in this model, social integration is not statistically significant predictor for obesity.

In the four following models (2 to 5), other independent variables are regressed into the model. Model 2, which introduces self-efficacy as a predictor of body mass index, shows the following: ( $\beta = .386, p = .079$ ), with a  $R^2$  of (.003). Therefore, self-efficacy is not significant; however, social integration becomes significant with the introduction of self-efficacy ( $\beta = .058, p = .045$ ). Model 3 regresses healthcare experience and is statistically significant ( $\beta = .141, p = .000$ ) and accounts for 2 percent of the variance in the model. Model 4 introduces access to nutrition into the regression ( $R^2 = .021$ ). Nutrition is not statistically significant ( $\beta = .047, p = .093$ ). However, health care experience ( $\beta = .138, p = .000$ ) remains statistically significant. Lastly, demographic variables—gender, race, age, religious affiliation, socioeconomic status, living situation, and borough—were all regressed into Model 5. The explanatory power of this model was increased with the regression of these variables. These predictors accounted for 7% of the variance in obesity ( $R^2 = .069$ ). The following predictors were statistically significant: healthcare experience ( $\beta = .143, p = .000$ ); female ( $\beta = .056, p = .044$ ); Black ( $\beta = -.080, p = .025$ ); and, age ( $\beta = -.170, p = .000$ ).

Overall, an examination of Table 4.10 highlights that social integration was only statistically significant in Model 2, when self-efficacy was regressed into the model. The beta for social integration eventually declined by Model 5 ( $\beta = .038$ ), when other variables were introduced into the model. Therefore, social integration is not statically significant for predicting the health status of aging adults as it relates to body mass index.

The next five models (6 to 10) found in Table 4.11 explore the same predictors of obesity as it relates to Blacks. The  $R^2$  for Model 6 demonstrates that a negative .1 percent of the variance in obesity is explained by social integration. In Model 7, the adjusted  $R^2$

risks slightly (-.004) when self-efficacy is introduced into the model. However, neither predictor is found to be statistically significant. When healthcare experience is regressed into Model 8, the linear regression analysis reveals that healthcare experience is a statistically significant predictor of body mass index ( $\beta = .141, p = .004$ ) and accounts for 2 percent of the variance. Healthcare remains statistically significant ( $\beta = .170, p = .004$ ) in Model 9, when access to nutrition ( $\beta = .024, p = .690$ ) is introduced into the model. Lastly, Model 10 produces the highest  $R^2$  of the five models, explaining eight percent of the variance of Blacks and body mass index.

Models 11 to 15 examine the impact of the predictors on body mass index as it relates to aging Hispanic adults. Model 11 reveals that social integration, once again, is not a significant predictor of obesity; it accounts for .4 percent of the variance in the model. When self-efficacy is introduced, the variance increases slightly to .5 percent. Furthermore, neither of the predictors is found to be statistically significant. However, in Model 13, healthcare experience is once again statistically significant ( $\beta = .152, p = .004$ ), while the adjusted  $R^2$  for the predictors account for three percent of the variance in the model. Healthcare experience ( $\beta = .147, p = .006$ ) remains statistically significant in Model 14; however, the beta and statistical significance drops ( $\beta = .127, p = .016$ ) when the demographic variables are introduced into the regression. An analysis of these variables reveals that female ( $\beta = .112, p = .034$ ), and age ( $\beta = -.233, p = .000$ ) are statistically significant. The  $R^2$  for Model 15 is .068.

The last five models (16-20) in Table 4.13 examine the impact of the independent variables on body mass index as it relates to aging White respondents. Model 16 ( $R^2 = .001$ ) and Model 17 ( $R^2 = .000$ ) do not account for any of the variance in the model and

the predictors social integration and self-efficacy, respectively, were not found to be statistically significant. Healthcare experience in Model 18 ( $B = .150, p = .000$ ) and Model 19 ( $B = .148, p = .000$ ) remained statistically significant. The  $R^2$  accounted for two percent of the variance in both models. In Model 20, once all predictors were entered into the regression, healthcare experience ( $\beta = .142, p = .001$ ), age ( $\beta = -.138, p = .001$ ), religious affiliation, Jewish ( $\beta = -.099, p = .027$ ), and the borough of Manhattan ( $\beta = -.145, p = .005$ ) were all statistically significant. The predictors in the model accounted for four percent of the variance in body mass index.

An assessment of regression models 1-20 for predicting body mass index reveals some interesting data. For example, social integration is only statistically significant in Model 2 on Table 4.10, when self-efficacy is introduced into the model. Also, Model 10 on Table 4.11 shows that those respondents who were had no religious affiliation and were Black were the only group to be statistically significant. Next, Hispanic aging adults [Table 4.12, Model 15] were the only racial group to be statistically significant at the highest level ( $p = .000$ ). Furthermore, they only had two other predictors that were significant, healthcare experience (which was the lowest of all three OLS regression models) and gender. In contrast, Blacks [Table 4.11] and Whites [Table 4.13] each had four predictors that were statistically significant at the .05 level.

The final noticeable factors can be found on Table 4.13, Model 20. First, an examination of the impact of various predictors on obesity among aging White respondents shows that those who indicated they were affiliated with the Jewish faith proved to be statistically significant compared to Blacks and Hispanics. Secondly, Model 20 is the only analysis in which the borough of Manhattan, or any borough for that

matter, is shown to be statistically significant for Whites compared to Black and Hispanic respondents.

**Table 4.1**  
**Weighted Means, Standard Deviations, Ranges and Description of Variables for**  
**The Health Status of Aging Adults**

Variable	N	Mean	S.D.	Range	Variable Name, Description, and Label
<i>Dependent Variables</i>					
Body Mass Index	1783	27.0	5.42	12.6 – 68.9	BMI, Composite of height and weight, ‘Body Mass Index’
Stress	1863	.094		0 – 1	CC2, Count on Positive (1) Responses, ‘Has a doctor or other healthcare professional ever told you that you have or had an anxiety disorder, such as stress disorder, panic disorder, or general anxiety?’
<i>Independent Variables</i>					
Social Integration	1856	1.99	1.00	0-3	Mosscore, this is a recode of social support scale into a categorical variable.
Self-efficacy	1870	1.95	.712	1-5	Mean of 4 Items: from PC1B ‘Do you feel miserable for no reason’ thru D50 ‘How would you rate your quality of life?’
Health Experience	1870	1.42	.995	0-4	Sum of 4 Items: from ACU3A ‘Have you used the ER in the past 12 months?’, thru ACU3D ‘Have you used a mental health professional in the last 12 months?’
Access to Nutrition	1840	2.83	.543	1-4	Mean of 2 items: D2 ‘How difficult is it for you to find fresh fruits/vegetables in your neighborhood? And D3 ‘Are the fruits/vegetables you are able to find affordable?’
<i>Demographic Variables</i>					
Gender Female	1869	.645		0-1	Female is a recode of D1 ‘Gender’
Race Black	1496	.233		0-1	Black is a composite of item D46 Race/Ethnicity of each respondent identifying as Black/African American.
Hispanic	1496	.283		0-1	Hispanic is a composite of item D46 Race/Ethnicity of each respondent identifying as Hispanic/Latino.
White	1496	.490		0-1	White is the constant of item D46 Race/Ethnicity for each respondent that identified as White/Caucasian.
Age	1860	75.6		60-99	D2, Age of each respondent.

**Table 4.1**  
**Weighted Means, Standard Deviations, Ranges and Description of Variables for**  
**The Health Status of Aging Adults**  
**(Continued)**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Range</b>	<b>Variable Name, Description, and Label</b>
Married	1769	.273	0-1	Married is a recode of D19 'Current Marital Status'
Religious Affiliation Jewish	1838	.174	0-1	D48, Jewish is a composite of item D48 'What is your religious tradition?'
Other Religion	1838	.198	0-1	D48, Orelig (Other Religion) is a composite of item D48 'What is your religious tradition?'
No Religion	1838	.089	0-1	D48, Norelig (No Religious Preference) is a composite of item D48 'What is your religious tradition?'
Christian	1838	.54	1-1	D48, Christian is the control item of D48 'What is your religious tradition?'
Socioeconomic Status	1855	.009	-2.71-5.84	Mean of standardized scores for 2 items: D35 Range of Income and D27 a measure of level of education, with a SD of .870
Living Alone	1860	.565	0-1	Alone is a Recode of D20 'Do you live alone or live with other(s)?'
Borough Bronx	1870	.201	0-1	Respondents who lived in the Bronx were coded one
Manhattan	1870	.226	0-1	Respondents who lived in Manhattan were coded one
Queens	1870	.241	0-1	Respondents who lived in Queens were coded one
Staten	1870	.047	0-1	Respondents who lived in Staten Island were coded one
Brooklyn	1870	.284	1-1	Respondents who lived in Brooklyn were coded one

**Table 4.2**  
**Comparison of Means on Body Mass Index (BMI)**

Independent Variable	BMI
Gender <sup>2</sup>	
Male	26.45 <sup>a</sup>
Female	27.32
Race <sup>3</sup>	
Black	28.32
Hispanic	27.99
White	26.50 <sup>a</sup>
Religious Affiliation <sup>3</sup>	
Christian	27.33 <sup>a</sup>
Jewish	26.43
Other Religion	27.25 <sup>b</sup>
No Religion	25.57 <sup>ab</sup>
Married <sup>2</sup>	
Yes	27.6 <sup>a</sup>
No	26.45
Living Alone <sup>2</sup>	
Yes	26.79
No	27.17
Borough <sup>3</sup>	
Bronx	27.61 <sup>a</sup>
Brooklyn	27.32
Manhattan	26.37 <sup>a</sup>
Queens	26.72
Staten Island	27.11

1. Within each variable category and dependent variable, only those mean scores that do not share a common superscript differ from one another at the .05 level. Those mean scores without a superscript, or those that share a common superscript, do not differ at the .05 level.
2. T-tests were used to calculate the statistical significance of mean difference.
3. ANOVA with post hoc (Bonferroni) were used to calculate the statistical significance of mean differences.

**Table 4.3**  
**Comparison of Means on Stress**

Independent Variable	Stress	Mean
Social Integration	No	1.99
	Yes	1.91
Self-Efficacy	No	1.88 <sup>a</sup>
	Yes	2.64
Healthcare Experience	No	1.35 <sup>a</sup>
	Yes	2.19
Access to Nutrition	No	2.82 <sup>a</sup>
	Yes	2.94
Age	No	75.93 <sup>a</sup>
	Yes	73.00
Socioeconomic Status	No	.019
	Yes	-.083

1. Within each variable category and dependent variable, only those mean scores that do not share a common superscript differ from one another at the .05 level. Those mean scores without a superscript, or those that share a common superscript, do not differ at the .05 level.
2. T-tests were used to calculate the statistical significance of mean difference.

**Table 4.4**  
**Pearson's Correlations**

<b>Variables</b>	<b>Body Mass Index</b>
Body Mass Index	--
Social Integration	.053*
Self-Efficacy	.057*
Healthcare Experience	.138***
Access to Nutrition	.033
Age	-.183***
Socioeconomic Status	-.017

\* p = .05                      \*\* p = .01                      \*\*\* p = .001

**Table 4.5**  
**Crosstabulations of Stress and Select Independent Variables**

Independent	Stress		$\chi^2$
	Yes	No	
Gender			
Female	123	1077	2.51
Male	53	609	
Race			
Black	17 11% <sup>a</sup>	330 25%	26.91 <sup>***</sup>
Hispanic	68 44%	353 26%	
White	69 45%	653 49%	
Married			
Yes	39	443	2.10
No	133	1147	
Religious Affiliation			
Christian	104	886	5.52
Jewish	29	289	
Other Religion	31	330	
No Religion	8	154	
Living Alone			
Yes	104	944	.807
No	70	735	
Borough			
Bronx	35	340	4.85
Brooklyn	52	479	
Manhattan	49	373	
Queens	33	414	
Staten Island	7	81	

\* p = .05

\*\* p = .01

\*\*\* p = .001

a. Subscript a denotes the unique cause of the statistical significance found in the variable race. Forty-five percent of the White respondents reported being stressed, while forty-nine percent indicated they were not stressed. Also, only seventeen Black respondents reported being stressed as opposed to those who were not stressed (330).

**Table 4.6**  
 Summary of Logistic Regression Analysis for Variables  
 Predicting the Health Status of Aging Adults on Stress  
 (N=1327)

<i>Variable</i>	<i>b</i>	<i>s.e</i>	<i>Wald</i>	<i>exp (b)</i>
Constant	-4.83	1.34	12.923	.008
Social Integration	.184	.112	2.677	1.20
Self-Efficacy	.119 <sup>***</sup>	.141	71.232	3.28
Healthcare Experience	.740 <sup>***</sup>	.106	49.008	2.10
Access to Nutrition	.193	.175	1.214	1.21
Female	.216	.222	.946	1.24
Race (ref: White)				
Black	-1.43 <sup>***</sup>	.380	14.149	.240
Hispanics	-.343	.293	1.371	.709
Age	-.030 <sup>***</sup>	.014	4.6791	.971
Married	.375	.306	1.501	1.46
Religion (ref: Christian)				
Jewish	-.535	.345	2.412	.586
Other Religion	.889 <sup>*</sup>	.309	8.280	2.43
No Religion	-.154	.486	.101	.857
Socioeconomic Status	.021	.144	.021	1.02
Living Alone	.017	.260	.004	1.02
Borough (ref: Brooklyn)				
Bronx	.104	.301	.119	1.11
Manhattan	.509	.291	3.052	1.66
Queens	-.289	.309	.872	.749
Staten Island	-.098	.531	.034	.907
Chi-square= 35.832	* <i>p</i> < .05. ** <i>p</i> < .01. *** <i>p</i> < .001.			

**Table 4.7**  
 Summary of Logistic Regression Analysis for Variables  
 Predicting the Health Status of Black Aging Adults on Stress  
 (N=307)

<i>Variable</i>	<i>b</i>	<i>s.e</i>	<i>Wald</i>	<i>exp (b)</i>
Constant	-4.24	3.62	1.375	.014
Social Integration	.008	.375	.000	1.01
Self-Efficacy	1.61 <sup>***</sup>	.434	13.755	5.01
Healthcare Experience	.614 <sup>*</sup>	.296	4.306	1.85
Access to Nutrition	-.408	.592	.476	1.21
Female	-.090	.687	.017	.914
Age	-.023	.039	.350	.977
Married	-.151	1.21	.015	.860
Religion (ref: Christian)				
Other Religion	.375	.665	.318	2.43
No Religion	-19.095	10607.03	.000	.000
Socioeconomic Status	.640	.376	2.893	1.90
Living Alone	.221	.751	.086	1.25
Borough (ref: Brooklyn)				
Bronx	-2.23	1.31	2.908	.107
Manhattan	.353	.753	.220	1.42
Queens	-2.23	1.27	3.097	.108

Chi-square= 17.684 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Note:** Jewish variable was omitted, since there were no Black Jews in the dataset. Staten Island was also omitted, since no Blacks were found in this borough in the dataset.

**Table 4.8**  
 Summary of Logistic Regression Analysis for Variables  
 Predicting the Health Status of Hispanic Aging Adults on Stress  
 (N=381)

<i>Variable</i>	<i>b</i>	<i>s.e</i>	<i>Wald</i>	<i>exp (b)</i>
Constant	-5.01	2.25		.007
Social Integration	.231	.182	1.609	1.26
Self-Efficacy	1.40 <sup>***</sup>	.245	32.552	4.06
Healthcare Experience	1.062 <sup>***</sup>	.194	29.971	2.89
Access to Nutrition	.206	.287	.515	1.23
Female	.456	.399	1.307	1.58
Age	-.048	.026	3.346	.953
Married	.491	.538	.833	1.64
Religion (ref: Christian)				
Jewish	-18.672	40192.970	.000	.000
Other Religion	1.348 <sup>*</sup>	.590	5.220	3.85
No Religion	.426	.967	.194	1.53
Socioeconomic Status	-.043	.247	.031	.957
Living Alone	-.259	.431	.360	.772
Borough (ref: Brooklyn)				
Bronx	.095	.467	.041	1.10
Manhattan	-.192	.492	.153	.825
Queens	-1.103	.584	3.568	.332
Staten Island	-17.467	28353.88	.000	.000

Chi-square= 16.944 \**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

**Table 4.9**  
 Summary of Logistic Regression Analysis for Variables  
 Predicting the Health Status of Whites Aging Adults on Stress  
 (N=639)

<i>Variable</i>	<i>b</i>	<i>s.e</i>	<i>Wald</i>	<i>exp (b)</i>
Constant	-5.553	1.99	7.817	.004
Social Integration	.201	.168	1.432	1.22
Self-Efficacy	1.11***	.210	27.642	3.02
Healthcare Experience	.593***	.151	15.406	1.81
Access to Nutrition	.179	.271	.439	1.20
Female	.158	.309	.261	1.17
Age	-.021	.019	1.201	.979
Married	.562	.444	1.604	1.75
Religion (ref: Christian)				
Jewish	-.218	.361	.604	.755
Other Religion	1.081*	.461	5.491	2.95
No Religion	.161	.600	.072	1.18
Socioeconomic Status	-.189	.211	.798	.828
Living Alone	.120	.417	.084	1.13
Borough (ref: Brooklyn)				
Bronx	.443	.488	.825	1.56
Manhattan	1.039***	.457	5.171	2.83
Queens	.529	.409	1.673	1.70
Staten Island	.404	.572	.499	1.50
Chi-square= 20.119	* <i>p</i> < .05. ** <i>p</i> < .01. *** <i>p</i> < .001.			

**Table 4.10**  
 Unstandardized Regression Coefficients (Beta in parentheses) for  
 Dependent Variable Body Mass Index  
 (N =1283)

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Social Integration	.254 (.045)	.323* (.058)	.270 (.048)	.276 (.049)	.215 (.038)
Self-Efficacy	--	.386 (.051)	.162 (.021)	.140 (.018)	-.041 (-.005)
Healthcare Experiences	--	--	.766*** (.141)	.751*** (.138)	.779*** (.143)
Nutrition	--	--	--	.458 (.047)	.279 (.028)
<u>Demographic Variables</u>	--	--	--	--	--
Female	--	--	--	--	.641* (.056)
Black	--	--	--	--	1.049* (.080)
Hispanic	--	--	--	--	.411 (.034)
Age	--	--	--	--	-.117*** (-.170)
Married	--	--	--	--	.266 (.020)
Jewish	--	--	--	--	-.389 (-.027)
Other Religion	--	--	--	--	.760 (.051)
No Religion	--	--	--	--	.409 (.015)
Socioeconomic Status	--	--	--	--	-.249 (-.038)
Living Alone	--	--	--	--	.302 (.027)
Bronx	--	--	--	--	-.187 (-.014)
Manhattan	--	--	--	--	-.514 (-.038)
Queens	--	--	--	--	.045 (.003)
Staten	--	--	--	--	-.015 (-.001)
<b>Constant</b>	26.968***	26.076***	25.511***	24.268***	33.131***

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Adjusted R<sup>2</sup></b>	.001	.003	.021	.023	.069

\* p < .05      \*\* p < .01      \*\*\* p < .001

**Table 4.11**  
Unstandardized Regression Coefficients (Beta in parentheses) for  
Blacks and Dependent Variable Body Mass Index  
(N =297)

Independent Variables	Model 6	Model 7	Model 8	Model 9	Model 10
Social Integration	.303 (.047)	.282 (.043)	.221 (.034)	.231 (.036)	.231 (.035)
Self-Efficacy	--	-.124 (-.013)	-.485 (-.049)	-.539 (-.055)	-1.024 (-.104)
Healthcare Experiences	--	--	1.037** (.141)	1.027** (.170)	1.024** (.169)
Nutrition	--	--	--	.276 (.024)	.537 (.047)
<u>Demographic Variables</u>	--	--	--	--	--
Female	--	--	--	--	1.664* (.123)
Age	--	--	--	--	-.118** (-.154)
Married	--	--	--	--	-.478 (-.029)
Jewish	--	--	--	--	-.389 (-.027)
Other Religion	--	--	--	--	1.943* (.155)
No Religion	--	--	--	--	3.486 (.105)
Socioeconomic Status	--	--	--	--	-.444 (-.058)
Living Alone	--	--	--	--	.897 (.071)
Bronx	--	--	--	--	1.361 (.099)
Manhattan	--	--	--	--	.005 (.000)
Queens	--	--	--	--	1.923 (.121)
Staten	--	--	--	--	
<b>Constant</b>	27.869***	28.130***	27.580***	26.901***	32.419***
<b>Adjusted R<sup>2</sup></b>	-.001	-.004	.020	.018	.083

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

**Table 4.12**  
 Unstandardized Regression Coefficients (Beta in parentheses) for  
 Hispanics and Dependent Variable Body Mass Index  
 (N =365)

Independent Variables	Model 11	Model 12	Model 13	Model 14	Model 15
Social Integration	.453 (.079)	.547 (.095)	.517 (.090)	.538 (.094)	.422 (.073)
Self-Efficacy	--	.497 (.068)	.260 (.035)	.268 (.037)	.064 (.009)
Healthcare Experience	--	--	.862** (.152)	.837** (.147)	.722* (.127)
Nutrition	--	--	--	.467 (.049)	.558 (.059)
<u>Demographic Variables</u>	--	--	--	--	--
Female	--	--	--	--	1.374* (.112)
Age	--	--	--	--	-.184*** (-.223)
Married	--	--	--	--	.739 (.051)
Jewish	--	--	--	--	-.607 (-.005)
Other Religion	--	--	--	--	.400 (.018)
No Religion	--	--	--	--	.340 (.011)
Socioeconomic Status	--	--	--	--	-.109 (-.014)
Living Alone	--	--	--	--	.678 (.007)
Bronx	--	--	--	--	.088 (.099)
Manhattan	--	--	--	--	1.549 (.116)
Queens	--	--	--	--	.381 (.027)
Staten	--	--	--	--	4.410 (-.056)
<b>Constant</b>	27.170***	25.874***	25.151***	23.718***	36.676***
<b>Adjusted R<sup>2</sup></b>	.004	.005	.025	.024	.068

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

**Table 4.13**  
 Unstandardized Regression Coefficients (Beta in parentheses) for  
 Whites and Dependent Variable Body Mass Index  
 (N =621)

Independent Variables	Model 16	Model 17	Model 18	Model 19	Model 20
Social Integration	.074 (.015)	.142 (.029)	.069 (.090)	.538 (.014)	.063 (.013)
Self-Efficacy	--	.423 (.059)	.231 (.032)	.251 (.035)	.232 (.032)
Healthcare Experience	--	--	.772*** (.150)	.715*** (.148)	.686** (.142)
Nutrition	--	--	--	.387 (.042)	.291 (.031)
<u>Demographic Variables</u>	--	--	--	--	--
Female	--	--	--	--	-.241 (-.025)
Age	--	--	--	--	-.085** (-.138)
Married	--	--	--	--	.197 (.018)
Jewish	--	--	--	--	-.976* (-.099)
Other Religion	--	--	--	--	-1.067 (-.056)
No Religion	--	--	--	--	-.645 (-.028)
Socioeconomic Status	--	--	--	--	-.076 (-.012)
Living Alone	--	--	--	--	.043 (.004)
Bronx	--	--	--	--	-.864 (-.066)
Manhattan	--	--	--	--	-1.758** (-.135)
Queens	--	--	--	--	-.667 (-.060)
Staten	--	--	--	--	-.501 (-.034)
<b>Constant</b>	27.170***	25.874***	25.151***	23.718***	36.676***
<b>Adjusted R<sup>2</sup></b>	-.001	.000	.020	.021	.041

\* p &lt; .05

\*\* p &lt; .01

\*\*\* p &lt; .001

## Chapter 5: Discussion

### Introduction

This chapter juxtaposes a comprehensive analysis of the results achieved in Chapter IV with the findings of the in-depth literature review in Chapter II. In essence, the findings of this dissertation, as they relate to health status, obesity, and stress, will be either supported or refuted by the previous research on these issues. The various interpretations will also be compared with the research utilized in Chapter Three: Methods. Lastly, this chapter will highlight and interpret various findings from Chapter Four: Results.

### Health Status

What impact does social integration have on the health status of this population? Furthermore, how does this impact vary from one racial group to another? This dissertation examines the relationship between social integration and race on the self indicated health status of aging adults. Health status was measured in terms of obesity and stress. The dissertation proposes that the more integrated aging adults are in society, the better their health status; and, conversely, the more isolated they are, the worse their health status.

This dissertation finds that when measuring health status in terms of obesity, social integration is not a significant predictor of the body mass index of aging adults alone. However, when self-efficacy, which is not statistically significant, was introduced into the OLS regression, social integration, for the first and only time, was statistically significant. Also, while nutrition, religious affiliation, and socioeconomic status were not

good predictors of obesity in this population, healthcare, gender-being female, race-Black respondents, and age were more important in predicting body mass index.

The findings of this dissertation do not fully support the primary findings of Cockerham, Sharp and Wilcox (1983), who asserted that the number of symptoms of the participants in their study served as the strongest predictor of health status. They also found that participants belonging to the over-60 age groups tended to perceive their own health in a significantly more positive fashion than did participants from the under-60 age groups. Nevertheless, this dissertation confirms the findings of Cockerham et al (1983) that age and race are, in general, viable variables in predicting the health status of aging adults.

Bryant, Beck, and Fairclough (2000) claimed that the best predictors of health status were the absence of chronic conditions, the stabilization of these conditions, mobilization and physical activity, and no indication of depression. Conversely, they found that the reverse of these predictors—limited daily living activities, dementia, and gender—along with utilization of services, were not statistically significant. Many of these predictors did not function as direct variables in this dissertation. Nevertheless, the utilization of services, as Bryant et al. (2000) define that term, is equivalent to the healthcare experiences of aging adults as defined in the dissertation. Therefore, this dissertation refutes the conclusion of Bryant et al. (2000) that utilization of services is not statistically significant. The dissertation demonstrates, in fact, that healthcare experiences are statistically significant in predicting the health status of aging adults. This will be explained in greater detail in the healthcare experience section.

Concerning health status in relationship to gender, the general findings were mixed. In essence, while the findings of Wolinsky and Johnson (1992) separated the

health status of men in poor health from those in good health, and did the same for women, they concluded that women were more likely to have lower perceived health status than were men. This finding is supported by the bivariate analysis of this dissertation when measuring for obesity. Furthermore, this dissertation points out that self-reported health status can be affected by self-perceptions. The dissertation also finds that self-efficacy has an impact on the statistical significance of social integration as a predictor of the health status of aging adults.

The results of this dissertation are also supported by the research conducted by Benyamini et al. (2000). The self-assessed health (SAH) status of women is more greatly linked to both health and non-health related factors than is the health status of men. Therefore, men are more susceptible to such chronic health conditions as pancreatic cancer and heart disease, while women are susceptible not only to these same conditions, but also to such health conditions as obesity and stress.

The unique methodology of the study by Gold et al. (2002) is not fully supported by this dissertation. Gold et al. (2002) found that male fraternal twins exhibited greater life-threatening health issues and conditions than did female fraternal twins. Therefore, they determined that women had better total health conditions, as well as non life-threatening health conditions. This is not supported by the finding of this dissertation that indicates a statistical mean difference between men and women and their self reported health status, as it relates to obesity. This research is also refuted by the findings of McDonough and Walters (2001). They determined that women indicated greater self-reported chronic health conditions than did men.

### Health Status and Social Integration

The literature review section of this dissertation examined several studies in relationship to the significance of social integration and health status. While health status is measured in terms of obesity and stress for this dissertation, many of these studies measured health in terms of mortality, mental health, and chronic illnesses. Seeman (1998), for example, examined physical health as a measure of health status, while Berkman and Harootyan (2003), explored the link between physical well-being and health status for aging adults.

Many of these studies did not support the overall findings of the multivariate analysis of this dissertation. However, the bivariate analysis shows a significant correlation between body mass index and social integration. Cohen and Willis (1985), Seeman (1998), Berkman and Harootyan (2003), Lubben and Melanie Gironde (2003a), Unchino (2004), Lyyra and Heikkinen (2006), Cohen and Janicki-Diverts (2009), and Cornwellet al. (2009) all found that some form and/or level of social integration is correlated with, or statistically significant to, the health status of aging adults. These findings are supported by the bivariate analysis. Cohen and Willis (1985), for instance, found that greater levels of social integration provided a buffering effect against stressful events. This is not, however, fully supported by the findings in the dissertation. When measuring predictors of obesity, social integration is not statistically significant. However, in the second regression model, when the variable self-efficacy is introduced, social integration is a significant predictor of obesity in aging adults.

The initial study by Seeman, Seeman, and Saley (1985) supports the findings of this dissertation. Seeman et al. discovered that, over time, the impact of social integration—the variable employed to measure instrumental support from, and

consultation with, family and friends—was not statistically significant. There was, however, an initial significant level that dissipated over time. This dissertation finds similar results when measuring social integration against obesity. Social integration is found to be statistically significant only when the variable self-efficacy is introduced into the model.

When measuring the predictability of background variables for their study, Seeman et al. (1985) found that education and age were statistically significant, while gender was not. However, the bivariate analysis of the dissertation finds a mean statistical significance between men and women. When this variable is regressed into the OLS model, gender is not found to be a predictor of obesity in aging adults. Lastly, although socioeconomic status was initially found to be a significant variable in the Seeman et al. study of 1976, this variable lost significance in their 1977 study. This final assessment is in agreement with the findings of this dissertation. Socioeconomic status is not a reliable predictor of the health status of aging adults.

A later study by Seeman (1998) both refutes and supports the findings of this dissertation. For instance, the dissertation is refuted by Seeman's findings that social integration has an impact on some level of an individual's health status. However, it should be noted that Seeman's measurement for this finding was associated with mortality rates. Seeman also found that social integration had a positive impact on health status associated with mental health. Lastly, his findings indicated that, despite the association between mortality rates, mental health, and social integration, an association could not be determined with respect to physical health outcomes. This dissertation supports the latter findings and holds that social integration is not a predictor of health status when obesity is the measure of this status in aging adults.

Another study that refutes the findings of this dissertation is that of Berkman and Harrotyan (2003), who suggested that the level of the aging population's social networks might serve as a conduit to their physical well-being. This dissertation finds that the level of social integration is not a viable predictor for the level of obesity found in aging adults.

The Berkman and Harrotyan findings are also supported by the findings of Lubben and Girona (2003a). Lubben and Girona asserted that not only do higher degrees of social integration have a positive impact on the health status of aging adults, but also that increased social isolation has a negative impact. The dissertation refutes this finding. Also, Lubben and Girona found that strong social networks functioned as barriers protecting aging adults against stress-related illnesses. However, the logistical regression models run to determine the predictability of various variables on stress for this dissertation indicate that social integration is not statistically significant.

The findings of Uchino (2004) and of Lyyra and Heikkinen (2006) also refute the findings of this dissertation. Uchino's study is a theoretical exploration into the relationship between social support and physical health. He concluded that structural and functional forms of social support were instrumental in lowering mortality rates. Lyyra and Heikkinen also found that aging adults designated as having lower levels of social support were nearly three times more likely to be at risk of death than those with higher levels of social integration. Although this dissertation does not measure physical well-being in terms of mortality, the health status of the aging adults in this research shows that social integration is not a predictor of the degree of obesity or level of stress in this population.

Cohen and Janicki-Diverts (2009) also refute the findings of this dissertation. They are adamant that physical health can be improved by altering one's social network.

In particular, they stated that aging adults who were well integrated into society lived longer and built greater immunity to infectious and chronic illnesses. Cornwell et al. (2009) also rejected the findings of this dissertation. They went further than Cohen and Janicki-Diverts by examining not only the impact of social networks, but also the size, composition, and the degree of interaction to determine the relative impact on the physical well-being of aging adults. They found that age, gender, race/ethnicity, education and health were all vital characteristics of the social networks for this population. This dissertation does not find these variables to be viable predictors of either the body mass index (obesity) or the presence of stress in the aging adults in the research.

Findings in two different studies by Cornwell and Waite (2009) also refute the findings in this dissertation. Cornwell and Waite argued that social disconnectedness was strongly associated with the declining health of aging adults. They also refuted the findings of the multivariate analysis of this dissertation. While they found that both measures of social isolation were strongly associated with the declining physical and mental health among aging adults, the multivariate analysis of this dissertation concludes otherwise. However, the bivariate analysis of this dissertation does show a positive and significant correlation between social integration and body mass index. The variable stress is not found to be statistically significant when measured against the social integration variable.

### Race, Social Integration, and Health Status

The literature review in this section primarily focused on the relationship of race and levels of social integration. However, it also raised questions about the possible effects of race and social integration on the health status of aging adults. The study by

House et al. (1988) suggested that Blacks were more likely to be at a disadvantage when it came to establishing meaningful social networks. The same holds true for the study conducted by Ajrouch, Antonucci, and Janevic (2001). They found that Whites were more likely to be married and more educated than their Black counterparts. However, unlike Umberson and Landis, Ajrouch et al. (2001) determined that Blacks had more interaction with the members of their social networks. These findings, however, are not supported by the dissertation.

The study by Dilworth-Anderson and Williams (2002) also refutes the findings of this dissertation. They concluded, for example, that informal support was more diverse among African Americans than among Whites. They also argued that quality of caregiving was essential to promoting good health in aging adults. Therefore, the better the social networks, the better the caregiving; the better the caregivers, the better the health status. This is an example of the indirect effect of social integration on the overall well-being of aging adults.

Three other studies from the literature review chapter also refuted the findings of this dissertation. The first is the study by Solberg and Villarreal (1997), who concluded that positive social interaction was essential to the academic performance of Hispanic college students. However, they also noted that the strong social ties associated with this racial group also played a role in lowering the levels of the students' stress. Therefore, there is a significant association between the level of social integration among Hispanics and their level of stress. This dissertation finds that self-efficacy, healthcare experience, and other religious affiliation were statistically significant predictors of being diagnosed with a stress disorder for members of the Hispanic community.

The second study reviewed is that of Finch and Vega (2003), who argued that physical health was negatively associated with the level of stress experienced by Hispanics. Stress was measured in terms of acculturated stressors. Finch and Vega also found that low forms of social support were indirectly associated with poor health, primarily in those individuals who were being discriminated against. Here, social support acted as a barrier against greater levels of stress. However, the dissertation's logistical regression models prove this finding false.

The final study on race that does not support the findings in this dissertation is that of Mulvaney-Day, Algeria, and Sribney (2007). Mulvaney-Day et al. (2007) indicated that the cohesive nature of Hispanic communities contributed to greater levels of social integration. Such cohesiveness was found in the association between family and friends. According to this theory, high levels of social integration create a positive relationship between self-reported physical and mental health. However, this dissertation does not find greater social integration to be a viable predictor either of the level of obesity or of the level of stress within Hispanic communities.

Finally, the study by Lincoln, Taylor, and Chatters (2005) supports the findings of this dissertation. Lincoln et al. (2005) concluded that, while social support was instrumental in decreasing depressive symptoms, greater levels of social integration did not diminish the effects of stress. This finding is consistent with the dissertation's conclusion that social integration is not a reliable predictor of stress in aging adults.

#### Aging, Social Integration, and Health Status

Lincoln et al. (2003) indicated that Blacks were more prone than Whites towards negative social support and that women received more social support than men. This

notion was supported by the study conducted by Ajrouch et al. (2001). However, this dissertation finds that social integration is not a viable predictor of either obesity or stress among older adults, but rather that age is a viable predictor of obesity. This dissertation also does not support the findings of the research focused on aging, social integration, and the health of Hispanics. Torres-Gil and Kuo (1998), for example, found that strong social ties were integral to the Hispanic community. Such shared experience, they argued, could serve as a barrier protecting individuals against particular health issues. However, this dissertation refutes this finding. It also refutes the finding by Choi (1991) suggesting that some social support networks may actually have a negative effect on the health status of aging individuals.

While Torres-Gil and Kuo (1998) pointed out that the nucleus of social support for Hispanics was family, Choi (1991) stated that elderly Black couples were more inclined to serve as primary providers for their grandchildren. Their role as caretakers, she argued, required the additional use of limited resources, often resulting in a negative impact on the health status of the elderly Black caretakers. This is an example of how greater social support might actually undermine rather than enhance the health status of aging adults. However, the dissertation does not support this finding.

Another study that refutes the findings of this dissertation is that of Beyene et al. (2002). Studying the Hispanic community, they found that informal social support networks were instrumental in effecting the aging process for this population. However, social integration was not found to be a predictor of either body mass index or level of stress. The same holds true with the study by Maglivy et al. (2000). They concluded that social integration did not require direct forms of contact or close proximity in order to influence health status or quality of life.

Atkinson (2004) and Dunn and O'Brien (2009) also measured the effect of social support and stress among the Hispanic community. Both studies determined that greater levels of social cohesion could buffer individuals against stress. However, while the relationship between social support and stress was statistically significant, the effect of this finding was relatively small. Their findings refute those of this dissertation. However, this dissertation did find statistical significance between the variable stress and Hispanic.

### Gender, Social Integration, and Health Status

When assessing the findings associated with gender, social integration, and health status, Barker, Morrow, and Mitteness (1998) refute the conclusions of this dissertation. Barker et al. (1998) found that not only did Black women have larger and more informal means of social support than did Black men, but that the impact of these social networks seemed to be strongly associated with their physical well-being. While the dissertation finds that social integration is not a viable predictor of obesity or stress, it also determines that being a woman and Black are statistically significant when measured against one's level of obesity.

The same holds true for the findings of Zunzunegui et al. (2003). They found that a lower level of social integration was a positive predictor of declining health in aging Hispanic adults. This is refuted by this dissertation. While Hispanic respondents reported higher cases of being diagnosed with a stress disorder, this dissertation finds that Blacks are less likely to be diagnosed with a stress disorder than Whites.

This dissertation is also refuted by Umberson (1992). Umberson found that marriage is associated with greater health benefits for men rather than for women.

Therefore, marriage, a form of social support, provided a more positive health outcome for married couples than for their single counterparts. The bivariate analysis of this dissertation indicates that there is a mean difference between married and unmarried respondents when measured against the variable obesity.

### Religion, Social Integration, and Health Status

Taylor and Chatters (1988) concluded that religious affiliation is statistically significant to various levels of social support. In particular, Catholics were more likely to have greater levels of support than their religious counterparts. Age also played a factor in the development of social integration. While the overall findings of this dissertation do not support the findings of Taylor and Chatters, the bivariate analysis reveals a statistical difference between Christians and those aging adults with no religious affiliation.

Krause's (2006) study analyzed the interconnectedness of social support, health status, financial stress, and mortality rates. Krause (2006) found that greater levels of social support from religious affiliates reduced the level of stress and mortality rates among parishioners. His conclusions do not confirm those of this dissertation, except for the finding that being Jewish is a predictor of obesity in aging adults. When measuring against stress, other religion is a statistically significant predictor.

Ferraro and Koch (1994) partially support the findings of this dissertation. They asserted that social support is beneficial to the health status of religious congregates. When measuring against stress, they found that non-Christians more than Christians were likely to be diagnosed with stress disorders. The same holds true for White respondents who identified as being Jewish. Obesity is statistically significant for this population in the dissertation.

## Obesity

The variable obesity is one part of the measurement for assessing the health status of aging adults in this dissertation. According to Boardman et al. (2005), obesity is more commonly found in communities heavily populated by Blacks than in those populated by Whites. The dissertation supports this conclusion. The mean for Whites is statistically different than the mean for Blacks when measured against obesity. The same holds true for Whites and Hispanics. There is also a mean statistical difference between the Bronx and Manhattan when measuring for obesity. The Bronx is heavily populated with minorities, mainly Hispanics, while Manhattan is primarily populated by Whites. This further supports the findings of Boardman et al. (2005).

However, the same is not true of the study by Zhang and Wang (2004). They found that socioeconomic inequality plays an instrumental role in the level of obesity when it comes to gender and age, yet not race. This dissertation refutes those findings. Socioeconomic status is not statistically significant as a predictor of obesity, when controlling for all other variables in the regression. The same is true for nutrition, which is often associated with one's economic status.

## Stress

The variable stress in this dissertation is fairly precarious. It is measured in terms of the presence of a diagnosed stress disorder or lack thereof. The methodology for this dissertation on this variable is supported by the methodologies used by both Cohen and Willis (1985) and Russell and Cutrona (1991). The findings of this dissertation shows a mean statistical difference between those diagnosed with a stress disorder and those not diagnosed, when measured against the variable self-efficacy. The same holds true for

healthcare experience, access to nutrition, and age. However, when these variables are placed into a logistic regression to test their predicting power, self-efficacy, healthcare experience, race, and being of a different religious affiliation are all statistically significant.

When measuring the impact of stress, Kasper et al. (2008) determined that long-term living, which is defined as aging in this dissertation, could negatively impact the level of stress in an individual. However, the dissertation's logistical regression model does not find social integration to have any impact on stress in aging adults. Furthermore, while Mroczek and Almeida (2008) stated that stress had a profound impact on aging adults, this dissertation maintains that the reverse is true—that as aging occurs, the likelihood of a stress disorder decreases.

Finally, although Russell and Cutrona (1991) argued that greater levels of social integration might mitigate depressive symptoms and decrease stress in aging adults, this dissertation does not find social integration to be a predictor of diagnosed stress disorder in the elderly population.

### Self-efficacy

The studies by Hofstetter et al. (1990), Shannon et al. (1990), and Grembowski et al. (1993) are supported by the findings in this dissertation. They all asserted that good health behavior, which leads to a positive health status, is strongly associated with one's personal efficacy. Also, a positive self-efficacy allows an individual to successfully navigate through stressful situations.

Self-efficacy is significant when measured against stress on the bivariate analysis, and against those who lack self-efficacy. Furthermore, the analysis shows that there is a

positive correlation between the level of obesity and self-efficacy. While correlation does not denote causation, it is surely worth a mention. More importantly, when self-efficacy is introduced into the logistic regression model for obesity, it has an impact on making social integration a statistically significant predictor. This significant relationship will be further explored in the summary section of this chapter.

Lastly, as mentioned, self-efficacy is one of the variables that maintains a positive association when measured as a predictor of stress. It is also very prevalent when measured for Blacks, Hispanics, and Whites in the study. Hispanics, however, report higher cases of diagnosed stress disorders than any other racial group in this dissertation. The significance of this variable will be discussed further in the summation section of this chapter.

### Healthcare Experience

This dissertation is supported by the research conducted by Harris (2000; 2001). He set out to determine if health status and outcomes, measured as type 2 diabetes, are influenced by healthcare experience. Although this dissertation measures health status in terms of obesity and diagnosed stress disorder, healthcare experience is the one variable that has been the most consistent in establishing an association between the independent and dependent variables. In both the bivariate and multivariate analysis, this variable has proven to be statistically significant when measured against both variables for health status—obesity and stress. Therefore, healthcare is a predictor of the level of obesity and the presence of stress in aging adults. The relationship between the variables will also be discussed in the summary section of this chapter.

Larson et al. (1996) found that meeting the needs of patients is positively associated with perceived health benefits and general health status. This is supported by the findings of this dissertation. As respondents to the Health Indicators Project (HIP) experienced positive healthcare, they also experienced a positive increase in their overall health status.

Bertakis et al. (1999) determined that a relationship existed between healthcare services and self-reported health status, but that women, who were more likely than men to seek out healthcare services, reported a health status lower than the men's. This dissertation finds healthcare experience to be statistically significant for both diagnosed stress disorder and obesity. However, gender becomes statistically significant when measuring against body mass index.

### Nutrition

The dissertation's multivariate analysis did not find nutrition as a predictor for obesity or stress. Kant (2004) found that dietary intake serves as an indicator of health outcomes. Nutrition is measured in terms of access to nutrition and lack thereof. The dissertation's t-test analysis finds a statistical mean difference between those who have access to nutrition and those who do not, when measured against the presence or absence of stress.

When examining the relationship between access to nutritional foods and health status, this dissertation does not find this variable to be a viable predictor of health status. On the other hand, Posner et al. (1993) and Gilbred et al. (1998) both identified a significant association between dietary intake and health status. Posner et al. argued that aging adults who benefited from daily nutritional meals supplied by an institutional

setting were more likely to have a better health status than those adults who did not reside in assisted living communities. Gilbred et al. discovered health complications associated with poor dietary intake in older adults from economically disadvantaged communities.

### Summary

This section highlights some of the dissertation's findings and places those findings within the theoretical framework of Chapter One.

The primary hypothesis of this dissertation is that the level of social integration experienced by aging adults can have an impact on the level of their health status. Health status is measured in terms of obesity and stress. Obesity is derived by calculating the body mass index of each respondent. Stress is measured in terms of whether or not a respondent has been diagnosed by a healthcare professional with a stress disorder or not.

As mentioned earlier, this hypothesis is derived from Durkheim's theory that, as society moves from a mechanical solidarity society to an organic solidarity society, the pendulum shifts from the collective order to the rise of the individual. This individualization sets the stage for what Durkheim termed as anomie. While anomie is often associated with a sense of normlessness and various forms of suicide, this dissertation defines anomie as the individual's disassociation from society. This disassociation from society gives rise to a greater sense of loneliness, empathy and despair. These emotions are often associated with a lack of interest in one's well-being, as well as a stressful state of mind. This dissertation finds that this is not the case.

Parsons pointed out the importance of the individual actor within the social structure. One of the key purposes of the structure is to maintain the social system. Parsons argued that, as things changed, balance needed to be maintained in order to

sustain the system. In this particular case, as aging adults begin to retire from the workforce, they may experience a true sense of nostalgia as their level of integration into society begins to diminish. Parsons asserted that a new social status needed to be created in order to maintain a level of equilibrium. The individual actor, in other words, must find a new role to replace the one he or she previously held. This dissertation hypothesized that when this is not achieved, the result can be declining health status for aging adults.

### Self-Efficacy

This dissertation finds that, in general, the level of social integration is not a valid predictor of the health status of aging adults. The OLS regression fails to strongly identify this variable as a predictor of obesity in aging adults. However, there is one instance in which social integration becomes statistically significant, and that is when self-efficacy is introduced into the regression model. Afterwards, the significance dissipates. This might point to an intrinsic value associated with the way in which aging adults view themselves, one that is strongly connected to their social ties, which, in turn, has an impact on their health status.

Kelly, Zyzanski, and Alemango (1991) studied the predicting power of social support and self-efficacy on motivation and behavioral change in patients participating in health promotion programs initiated by their primary care facilities/providers. They found that dimensions of self-efficacy were statistically significant predictors of one or more health beliefs. However, they also found that social support and self-efficacy were not predictors of changes in behavior. Their study shows a relationship between the variables social support and self-efficacy and their predicting power on certain dependent variables.

In explaining the relationship between social integration and health status from Durkheim's perspective, Berkman et al. (2000) described the connection between the two variables as a macro and micro association. This foregrounds the great debate within sociology—structure vs. agency. In essence, the debate refers to the tension between the individual's ability to exercise free will and the constraints social systems place upon that free will. Social systems consist of social class, religion, ethnicity and/or gender. Therefore, social networks function at the macro level of social integration, representing such social components as family, church, and degree of access to resources. Self-efficacy, on the other hand, represents agency. Berkman et al. refers to self-efficacy as one of the micro-psychosocial and behavioral processes serving as an indirect or direct conduit to health status. Hence, they asserted, "self-efficacy is one of the psychosocial pathways through which social support operates" (p. 850). They further pointed out that the nature of this relationship between self-efficacy and social support may be reciprocal.

Holahan and Holahan (1985) posited that self-efficacy had both a direct and indirect effect on the impact of social support in preventing depression among aging adults. This dissertation concurs with this finding. While social integration is not shown to be statistically significant in the dissertation's various regression models, it is statistically significant, in one instance, when self-efficacy is introduced into the model. This result strongly suggests that self efficacy is a very important interactive, or intervening, variable when evaluating the health status of aging adults, as it relates to their varying levels of social integration.

Another perspective on the nature of this relationship is examined by Perkins et al. (2008). They explored Bandura's self-efficacy theory as it related to older adults in Spain and the United States. In doing so, they measured the level of participation in

physical and social activities of adults ranging from 63-92, and found that self-efficacy predicted both physical and social activity among this population. Cotter and Sherman (2008) also examined the influence of social relations on exercise in older adults, specifically those with osteoarthritis. The authors assert that self-efficacy is an influential predictor of an individual's engagement in physical activity behavior. Furthermore, social relations, a form of social integration, were a significant precursor to exercise self-efficacy. Conversely, social strain, the opposite of positive social networks, predicted lower exercise self-efficacy. Luger, Cotter, and Sherman (2009) determined that those aging adults with lower self-efficacy, measured in terms of greater pessimistic outlook on life, were found to have lower social support and greater social strain. Furthermore, they found that social support mediated pessimism in terms of life satisfaction.

McAuley et al. (2003) examined the effect of minor physical activity (walking and toning) on changes in self-efficacy in aging adults. They also explored the extent to which certain social, affective, and behavioral factors influenced self-efficacy. Using multiple latent growth curve analysis, they found no significant curvilinear growth between the initial measures of self-efficacy and those that appeared towards the end of the study. However, they did find a significant growth pattern between self-efficacy and social integration, measured in terms of continued active social participation. Using structural modeling analysis, they found significant direct effects of physical activity, affect experienced during activity, and exercise social support on all measures of self-efficacy. This study, as well as the previous ones, demonstrates an intrinsic relationship between self-efficacy and social integration. There appears to be not only a minor combative element (structure vs. agency), but also a circular interdependence—like path analysis in structural equation modeling—between self-efficacy and social integration.

The relationship between and among self-efficacy, social integration, and health status can also be briefly explained in terms of the transtheoretical model (TTM). TTM is the willingness to engage in healthier behavior through the implementation of a program of means—that is, stages, strategies, or processes—by which the goal can be achieved and maintained. Prochaska and Velicer (1997), for example, examined health behavior change via six stages of the transtheoretical model. These stages included pre-contemplation, contemplation, preparation, action, maintenance, and termination, and were measured against ten processes of change known to produce progress. One of the processes of change was self-efficacy. Therefore, while social integration did play a role in this analysis, it is clear that the element of agency was instrumental in determining those health behaviors that could produce a positive, overall, health status.

While these studies shed some light on the relationship between self-efficacy and social integration, there are some statistical explanations as well. “Confounding,” for example, occurs when the effect of a variable is distorted by its association with other variables. This distortion leads to what is often referred to as the ‘mixing of effect,’ referring to an overestimate, or underestimate, of the real association between two or more variables. In the case of this dissertation, confounding could explain the relationship between self-efficacy and social integration. One of the main criteria of a confounder is that, if removed, the association between exposure and outcome changes. In this dissertation, if self-efficacy were not introduced into the model, the significance of social integration on the health status of aging adults would not have been produced.

Lastly, another statistical explanation for the association between self-efficacy and social integration could entail the sheer number of cases in the analysis. Achieving statistical significance is primarily contingent upon the sample size of any quantitative

study. Therefore, the magnitude and significance of the relationship between the two variables, in accordance to the sample size, needs to be taken into consideration. The greater the sample size, the greater representation of a normal distribution curve.

### Healthcare Experience

Another salient finding from this dissertation is associated with the variable healthcare experience. This variable is found to be a reliable predictor of both measures of health status. At the bivariate level, there is a statistical mean difference between healthcare experiences and stress. The same is true with the correlation between body mass index and healthcare experiences. When introduced into the logistical and OLS regression models as a predictor of obesity and stress, healthcare experience maintains its level of statistical significance.

It should be noted that healthcare experience, as Kant (2004) points out, refers to not only matters of health insurance and nutritional consumption, but also to the degree to which one has established a relationship with a healthcare professional or healthcare facility. In some terms, this is deemed a means of formal social networks. This could explain the degree to which this variable has shown to be a consistent predictor of body mass index and stress in respondents used for this dissertation. Furthermore, the level of interaction derived from this experience allows aging adults to maintain some level of integration into society, which can also serve as a validation of their lives prior to retirement. These reasons would help to explain the significance of healthcare experience when assessing the level of obesity and stress in aging adults.

The relationship between healthcare experience and health status was examined by Hall et al (1990), as they explored the relationship between older patients' satisfaction

with medical care and their overall health status. Examining 532 patients over the age of 70, all insured by an HMO, they measured health status in terms of self-reporting status, chart data, and physician's ratings. They found that satisfaction with healthcare experiences was significantly linked to better self-reported health status, less emotional distress, and increased social integration. However, they could not conclusively determine that the converse was not valid as well—whether better health leads to greater satisfaction with healthcare experiences or vice versa.

Another study that examined the association between healthcare experience and health status focused on a micro-to-macro perspective. Gee (2008) examined the relationship between institutional and individual racial discrimination and health status. After studying 1,503 adults in the cross-sectional Chinese American Psychiatric Epidemiologic Study from the 1990 census, and the 1995 Home Mortgage Disclosure Act, Gee found that individual and institutional racial discrimination were associated with health status, even when controlling for sex, age, social support, income, education, and health insurance. This supports the findings of this dissertation that healthcare experience can have an adverse effect on the health status of aging adults. More importantly, this impact can be felt whether the nature of the experience derives from a primary physician or from a healthcare facility/institution.

### Race

The notion of race plays a pivotal part in this dissertation. Race is well known as a social construct. Therefore, it is important to review some of the literature on race in order to understand the role that it plays in addressing the issues surrounding its significant relationship with health status and social integration. For example, Omi

(2000) made a valid point concerning studies about race. The notion of race is never truly brought into question. For instance, quoting the work of Petit, Omi wrote, “What is race? Is it a biologically meaningless category?” For the purpose of this dissertation, “race is not a ‘scientific’ concept rooted in discernible biological differences,” but, rather, race is defined in terms of phenotypic attributes—skin color, facial make up (shape of the eyes, nose and lips), and hair texture, which invite a variety of preconceived notions regarding intellectual and sexual prowess, as well as personality traits (p. 243). All respondents for this dissertation self-identified based on race and were analyzed accordingly.

The second point of Omi’s work addressed the relationship between race and racism and their respective meanings, as well as their impact on social relationships. An established “racialized power,” he contended plays a role in shaping the meaning of race, racism, and race relations in our society (244). This notion of racialized power is crucial to an understanding of the degree to which social interaction occurs within and between the races. It also elucidates the nature of disparities found between Blacks, Hispanics, and Whites.

The notion of race has also been studied in a historical and social context (Banton, 1997; Cox, 1970; Gossett, 1997). Banton, for instance, asserted that the term race “developed into popular modes of thought and expression in many European languages in the eighteenth century so that [it] constituted an idiom in which people related themselves to others and developed conceptions of their own attributes” (as quoted in Back and Solmos, 2000, p. 51).

In, “The Conservation of Races,” W.E.B Du Bois wrote that race denoted “a vast family of human beings, generally of common blood and language, always of common history, traditions and impulses, who are both voluntarily and involuntarily striving

together for the accomplishment of certain more or less vividly conceived ideals of life” (as quote in Back and Solmos, p.80). Much like Dubois and Banton, in “Racial Beliefs in America,” Gunnar Myrdal followed the development of race in America along with slavery. He stated that “the division of mankind into whites, blacks and yellows stretches back to ancient civilization” (as quoted in Back and Solmos, 2000, p. 94). Myrdal defined race as “a comparatively simple idea which easily becomes applied to certain outward signs of “social visibility” (p. 95).

This dissertation argues that a relationship exists between race and the health status of aging adults. The dissertation examines the differences between and among Blacks, Hispanics, and Whites within the five boroughs of New York City. Race measured against body mass index in the dissertation reveals a statistical mean difference between Blacks and Hispanics. When measuring race against the independent variable stress, the crosstabulation produces results that show race as statistically significant. However, this finding is somewhat mitigated by the disproportionate representation of White respondents who were not diagnosed with a stress disorder (45%) to those that were not diagnosed with a stress disorder (49%).

Nevertheless, when race is factored into the logistic regression for stress, the dissertation shows that aging Black adults are less likely to be diagnosed with a stress disorder than their White counterparts. Therefore, race is a predictor of the presence of stress. Race is also found to be a reliable predictor of obesity amongst the various groups studied.

In assessing the various findings for each group, the dissertation determines the following:

1. Blacks

- Blacks are less likely to be diagnosed with a stress disorder than their White counterparts
- Analysis of the impact of stress on aging adults reveals that self-efficacy and healthcare experience are statistically significant
- Analysis of the impact of obesity on aging reveals that only healthcare experiences are statistically significant.

## 2. Hispanics

- Among aging adults in this racial group, self-efficacy, healthcare experience, and other religious affiliation were reliable predictors of stress disorder.
- Analysis of the impact of dependent variables on obesity, healthcare experience, gender, and age indicates that they are statistically significant predictors.

## 3. Whites

- Analysis of the effect on White respondents indicates that self-efficacy, healthcare experience, and other religion are all statistically significant when predicting the presence of stress.
- Analysis of the predictable outcome on obesity for White aging adults indicates that healthcare experience, Jewish, and those residing in the borough of Manhattan are all statistically significant.

This notion of race and the above concepts may serve as the platform to understanding the impact of healthcare experiences commonly shared among all three

racial groups. Furthermore, the notion of racialized power might shine some light on the disparities found between these groups as well. Lastly, while many avoid discussion of race, due to the sensitive nature of the subject, race, as defined, should be embraced. By doing so, we learn about inherent illnesses associated with each racial group. For instance, coronary heart disease, hypertension, and type-two diabetes are common in African Americans. Also, by acknowledging the differences and similarities between and among racial groups, we draw closer to learning what predictors have the greatest impact on health outcomes and how to improve the health status of all members of the aging community.

## Chapter Six: Conclusion

### Summary of Findings

This chapter summarizes the dissertation's findings in terms of its limitations, critical analysis, its implications for research, and its potential usefulness in policy implementation.

This dissertation examines the relationship between social integration and health status in Black, Hispanic, and White aging adults in the five boroughs of New York City. While a single primary hypothesis establishes the premise of this dissertation, a second is implied. The primary hypothesis itself questions the impact of social integration on the self-reported health status of aging adults. In particular, as this population transitions into a new social status and social system, and its levels of social integration fluctuate, what impact will this have on the health status of its members? Health status is measured in terms of obesity, as determined by body mass index, and stress. Stress is measured by the self-reported diagnosis given to the respondent by a healthcare professional.

The second underlying hypothesis seeks to determine if there is a difference in the relationship between the level of social integration and health status as it relates to the race of the respondent. In essence, is the absence of social support more detrimental to the health status of Blacks and Hispanics?; To Blacks and Whites?; To Hispanics and Whites?

In order to examine this relationship, statistical analyses are employed. The first is the univariate analysis. This represents the weighted means, standard deviations, ranges, and description of variables for the health status of aging adults (See Table 4.1). One of

the most interesting findings of the dissertation resides within one of the two health status measures. While the mean for body mass index is 27, there is a range of 12.6 – 68.9. This indicates that some respondents within this population can be classified as morbidly obese. This finding is even more relevant when it is juxtaposed with the findings of access to nutrition. Many of the respondents in this study indicate that they find it difficult to access food with nutritional value. As for the other measurement of health status, this analysis finds that a very small percentage of the aging adults in the study have been diagnosed with a form of stress disorder. Therefore, social integration should have a greater impact on the variable obesity than stress.

An assessment of the remaining independent variables reveals noticeable results as well. For example, this dissertation sets out to assess how various levels of social integration impact the health status of aging adults. The univariate analysis shows that most of the respondents report moderate forms of social support networks. Self-efficacy has a moderate mean. However, healthcare experience has a lower response rate. This is most interesting due to the findings associated with this variable. In essence, when measuring for healthcare experiences, and controlling for all other variables in the model, healthcare experiences are found to be statistically significant.

Lastly, this analysis produces the following: there are more White respondents (49%) than Black (23%) and Hispanic (28%) respondents; there are more women than men; more are married than not; Christians are the largest religious group; and the majority of respondents live in the borough of Brooklyn. Socioeconomic status is a standardized variable. However, it is not instrumental in any of the findings (a matter that will be discussed later).

The findings of the bivariate analysis, on the other hand, do more to support the primary hypothesis of this dissertation than the multivariate analysis. A variety of tests are employed in this analysis—ANOVA, t-test, and Pearson’s correlations. The purpose of these tests is to assess the mean difference between the independent variable and the dependent variable, while the Pearson’s correlation seeks to establish a correlation, not causation, between two variables. For example, a few notable finds are that women have higher body mass indices than their male counterparts. Also, there is a mean statistical difference between married respondents and obesity and those who are single. Married couples have higher body mass indices than do their single peers.

The bivariate analysis also supports the primary hypothesis of this dissertation in that the Pearson’s correlation shows a positive and significant correlation between social integration and obesity. The same holds true for self-efficacy and healthcare experiences. There is also a strong association between self-efficacy and stress.

The bivariate analysis also confirms the dissertation’s underlying hypothesis concerning the role of race in the relationship between social integration and health status. In particular, the analysis finds that Blacks, on average, have higher body mass indices than Hispanics and Whites. However, no mean statistical significance is found between social integration and stress.

Unfortunately, the multivariate analyses did very little to support the primary hypothesis of this dissertation. It revealed that social integration is not influential either in enhancing or undermining the health status of aging adults. There was one moment when the second logistic regression model was applied that social integration was found to be significant. However, this was not sustained throughout the remaining models.

### Limitations and Critical Analysis

The first notable limitation is that the dissertation relies largely on the self-reported assessment of aging adults. While this standard is fine in most cases, the age of the respondents range from 60 to 99. Older respondents may possess faulty memories, or even be progressing towards dementia, which can potentially distort their reports and the resultant data.

Another limitation lies with the dissertation's utilization of a secondary data source: The Healthy Indicators Project (HIP), conducted by the Brookdale Center for Health Aging and Longevity at Hunter College, CUNY. The Brookdale Center partnered with the New York City Department for The Aging (NYC DFTA) in 2006 to assess the level of healthcare services provided at various senior citizen centers throughout the five boroughs of New York City. The project was designed to assess the effectiveness of New York's aging-services network and the ways in which it promotes healthy urban aging. A total of 1,870 seniors attending a representative sample of 56 senior citizen centers were surveyed. At the time the dataset was employed for this dissertation, the Brookdale Center was still analyzing it for missing data and inconsistencies. This could have contributed to the findings of this dissertation.

Another limitation lies in the dissertation's methodology. While OLS and logistical regressions have been valuable in clarifying data, a multidimensional approach would have been ideal. Unfortunately, time and budget constraints did not allow for this. However, a qualitative method might help address the 'why' question: Why is social integration essential in the lives of aging adults? Also, how is it beneficial to their overall health status? These questions might best be gathered from an ethnographic study. Additionally, structural equation modeling (SEM) might help address the direct and

indirect effect of social integration, as well as the other variables, on obesity and diagnosed stress disorder in aging adults. Such a model might also help account for greater variance and covariance in each of the variables.

While this dissertation brings to light the various health issues plaguing the aging adult community, it focuses mainly on the services provided to aging clients and patients. Therefore, it targets those individuals who attend one of the various senior citizens centers within the five boroughs of New York City. Thus, it cannot be considered the most inclusive assessment of this population. While no study can be all inclusive, one that targets the aging population at various organizations, churches, synagogues, and assisted living communities, would broaden the range of likely respondents. Lastly, since the data for this study was conducted in New York, it cannot be determined that the same results would be yielded from aging adults in rural areas.

#### Limitation of Dependent Variables

The focus shifts here to the limitations of the various variables within this dissertation. First, the dissertation will examine the dependent variables—obesity and stress. Obesity is a composite of height and weight in order to measure the body mass index of the recipients. Body mass index (BMI) is calculated as weight (in kilograms) divided by height (in meters) squared. Based on BMI values, respondents are categorized into three groups: (1) normal (BMI = 18.5 – 24.9), (2) overweight (BMI = 25.0 – 29.9), and (3) obese (BMI  $\geq$  30).

The variable “obesity” was already a part of the dataset. The body mass index (BMI) is a standard mathematical equation formulated to assess obesity. The BMI was initially created as a simple means of classifying sedentary (physically inactive)

individuals with an average body composition (World Health Organization, 1995). However, the BMI has become controversial because many people, including physicians, have come to rely on its apparent numerical authority for medical diagnosis. For instance, a person who is 5'9" and weighs 180 pounds might be classified as overweight according to BMI calculations. However, the "ideal" body type can vary from one racial or ethnic group to another. Thus, what might be classified as overweight for Asian Americans, for example, may well be normal for African Americans.

The next dependent variable is "stress". Stress was determined by asking respondents if they were ever diagnosed by a healthcare professional with a stress or anxiety disorder. One of the main limitations of this variable, as mentioned earlier, is that it relies on self-reporting. There may have been times, for example, when aging respondents may not have recalled being diagnosed with a stress disorder, or may have thought they had been diagnosed with such a disorder but were actually mistaken.

Another limitation with this variable is that stress disorder is not an isolated disorder. Rather, it is combined with such other conditions as panic disorder, social anxiety disorder, and general anxiety. These factors may have contributed to a distortion of the dissertation's findings.

#### Limitation of Independent Variables

The main independent variable is "social integration." The objective for this dissertation is to determine if the level of social support has an impact on the health status of aging adults. The limitation this presented is found in the prescribed variable that delineated a gradation of social integration. This variable is called "mosscore." Based on the study conducted by Sherbourne and Stewart (1991), a scale was created based on

combining all the responses to various questions about the level of interaction with others. The responses were then combined into ranges from 0 to 20, with higher scores indicating higher levels of social support.

While this design may have been appropriate for Sherbourne and Stewart, it may not have been the most suitable for this dissertation. Indeed, a number of variables in the Senior Center Health Status Survey (SCHSSC) may have provided a different outcome. For example, the bivariate analysis of this dissertation resulted in an obvious positive association between social integration and obesity. Further analysis using a different construct for this variable may have yielded results similar to the findings in many of the other studies reviewed in this dissertation.

Lastly, many of the authors mentioned in this dissertation (Berkman & Harootyan, 2003; Cohen & Willis, 1985; Lubben & Girona, 2003a; Lyyra & Heikkinen, 2006; Seeman, Seeman, & Sayles, 1985; Seeman, 1998; Uchino, 2004) have indicated to some extent the arduous task of measuring social integration/support. There is such an arbitrary element associated with this sociological concept, presenting a challenge when it came to accurately gauging the extent to which social integration impacts the health status of aging adults.

The variable self-efficacy presents a similar challenge. Self-efficacy is a person's belief in his or her ability to accomplish a goal or to deal with a task at hand. Self-efficacy is based on the premise that positive thinking brings forth positive results. However, measuring something that is not quite tangible is no easy task. Therefore, this variable was constructed from two questions in the SCHSSC dealing with the respondent's outlook on life. The limitation of such a technique is the impossibility of grasping a concise and accurate measure of self-efficacy. This limitation does not

undermine the findings of the dissertation; rather, it calls for a more intuitive assessment of a fairly elusive term.

Next is the variable “access to nutrition.” The limitation of this variable is that the SCHSSC provides it as a means of measuring nutritional sustenance. While fruits and vegetables are essential food groups for any age cohort, they are not the only nutritional requirements. Proteins from various meat products, as well as calcium, are just as critical for aging adults as fruits and vegetables. This variable, however, is helpful in laying the foundation for further analysis of how critical food consumption is for aging adults.

The next independent variables is healthcare experience, which proves in this dissertation to be strongly associated with the health status of aging adults. This variable’s only limitation may center on the narrow scope of questions asked of the respondents. Broadening the scope of questions may help future research to examine the extent to which healthcare experiences may be instrumental in preventing various health outcomes. Also, healthcare experiences can be viewed in terms of a formal social network. This might serve as the missing link to the unsupported findings of this dissertation.

The remaining variables in this dissertation are fairly straightforward. The most challenging variable in terms of its limitations is socioeconomic status. This variable is often constructed by combining income, education, and occupation. The dataset did not provide information on occupation. Furthermore, since occupation could not be readily ascertained from the responses to the SCHSSC, this variable was standardized by combining income and level of education. The omission of occupation may have impacted the findings in this dissertation. As reported, socioeconomic status has been

found to have a profound effect on health status outcomes. However, this dissertation does not find it to be statistically significant.

### Implication for Research

Beginning with the obvious, social integration does not support the hypothesis of this dissertation. However, future research might take into consideration the constructs designed to measure this variable. Also, further refinement of the theoretical model may be required. In particular, OLS and logistical regression measure direct effect of one variable on another or a set of variables in multiple models. However, the use of structural equation modeling might show signs of indirect path analysis; this would, in essence, show both the variance and covariance. Finally, further bivariate analysis on the correlations between various variables might demonstrate cross-level association.

Three other variables in this dissertation would benefit from future research. The first two are closely related. They are “marital status” and “living alone.” In the bivariate analysis, the mean for married aging adults is statistically more significant than it is for respondents who were not married. However, the same is not true for respondents who lived alone versus those who did not live alone. Married couples, same gender relationships, and those living together either as couples or roommates, benefit from some form of social integration. However, measuring the nature to which this social integration translates into social support is difficult. Nevertheless, assessing why the variable “marital status” is differentiated statistically from the variable “living with someone” may be cause for future research.

The last variable in this grouping is “religious affiliation.” The complexity of this subject matter alone can be most overwhelming. The SCHSS listed approximately nine

different religious affiliations. This dissertation collapsed them into those groups that were most dominant—Jewish, Christians, Other Religion, and No Religious Preference. The theoretical premise of this dissertation is to gauge the impact of one's religious affiliation on one's health status as it relates to obesity and stress. Both the bivariate and multivariate analyses yielded interesting findings in this area. For example, a statistical significance as it relates to obesity exists between Christians and those with no religious preference, as well as between those from other religions and those with no religious preference. Religious affiliation was also instrumental in determining which respondents from other religious denominations were more likely to be diagnosed with some form of stress disorder than their Christian counterparts.

Therefore, future research surrounding religious affiliation might take a greater look at the degree to which religious involvement either undermines or enhances health status. While many religious denominations meet only once a week for worship, others have various social groups that meet several times a week. This level of interaction with a religious network can be critical in assessing the health status of older adults.

Next, future research may examine alternative measures of health status. This dissertation measures health status in terms of obesity and stress. Each of these variables presents their fair share of limitations. However, the industry standard is to measure health in terms of chronic illnesses or mortality. In order to ameliorate this issue, it might be beneficial to analyze health in terms of overall well-being. For example, health status could possibly be measured in terms of successful active daily living. In this situation, researchers would be able to determine if aging adults engage in healthier activities based on their level of integration into society. Physical activity has been linked to longevity (the reverse of mortality) and overall good health (the reverse of chronic illnesses). It

should be noted, however, that there cannot be one clear catch-all measurement for health status. However, this approach can serve as a step in the right direction.

Racial health disparities have been extensively studied (Ajrouch et al., 2001; Dilworth-Anderson and Williams, 2002; House et al., 1988; Lincoln, Taylor and Chatters, 2003) However, future research should examine racial health disparities in terms of spatial dimensions or geographical locations. This dissertation finds a statistical mean difference for those individuals residing in the Bronx versus those in Manhattan. The aging adults in the Bronx are slightly more overweight than their counterparts in Manhattan. The Bronx is heavily populated with minorities. Research by Boardman et al. (2005) found that areas heavily populated with Blacks had higher levels of obesity. The reasons why are the subject of future research.

### Theoretical Premise

The theoretical premise for this dissertation focuses on three elements: individual implications, healthcare provider's provisions, and policy implications. While these elements can be viewed as three separate entities, they share intrinsic characteristics. Therefore, while the theoretical ideology underpinning this dissertation can be compared to the Marxian dialectic conceptualization of agency versus structure, it is also based upon the multifaceted, interdependent ideology of Max Weber. In essence, the ability to conceptualize future healthcare provisions for aging adults is contingent upon acknowledging their unique impact on the patient, the healthcare providers/facilities, and policy makers. However, these three elements do not exist in isolation and separate from one another. Therefore, factors of reciprocity and interdependence must also be taken into

consideration to assure the highest quality of care while ameliorating healthcare disparities and inequalities.

### Individual Implications

This dissertation demonstrates the importance of healthcare experiences and self-efficacy as predictors of the health status of aging adults. The agency part of the aforementioned dichotomy focuses on the empowerment of the individual and is related to the variable self-efficacy. Waller and Bates (1992) focused on the importance of health locus of control, self-efficacy, and lifestyle behaviors. They found positive relationships among these three variables. Furthermore, they asserted that individuals with high generalized self-efficacy were more likely to benefit from a health education program than their peers with low self-efficacy.

This study, as well as this dissertation, demonstrates the significance of empowering aging adults with the intellectual acumen to overcome their healthcare status. While many will need medical attention, the more aging adults are encouraged to maintain a positive outlook on life, the greater their propensity to take better care of their health. This can be understood, or translated, in terms of self-care agency. Self-care agency here refers to the ability of the individual to intercede as her/his own advocate. Furthermore, this sense of agency empowers the individual and allows for the “believing is achieving” mantra to unfold. This can be viewed in the study conducted by Carroll (1995), who examined the impact of self-efficacy in elderly patients recovering from coronary artery bypass surgery. She found that there were significant changes in self-efficacy expectations and the performance progress of aging adults in terms of walking, performance roles, and resuming general activities.

Therefore, if individuals are empowered by family, healthcare providers and policy makers to achieve or maintain a positive health status, mortality rates in the United States may well decline. If self-efficacy, as indicated in the aforementioned research, plays a role in accelerating the recovery rates of aging patients after traumatic or drastic surgery, it can help combat obesity and stress in aging adults as well.

### Healthcare Providers

This section focuses on the significance of the healthcare providers to aging adults. These providers are instrumental in delivering care to patients, as well as in shaping the bureaucratic policy that allocates funds and services (health insurance) to this population.

This dissertation finds that the healthcare experiences of aging adults are a predictor of health status outcomes. Therefore, healthcare providers should remain cognizant that the better the patients' experiences while at the office or facility, the more positive the impact on the patients' health status. However, healthcare experience is not solely measured in terms of professional formalities; rather, quality of care, accessibility of service, affordability, and utilization must also be addressed.

Larson et al. (1995) examined the relationship between meeting the needs of patients and their overall satisfaction with hospital care to their health status outcomes. Using univariate analysis and multivariate regression models, the authors concluded that meeting the informative needs of patients was positively and statistically significantly associated with patient satisfaction and general health status measurement. Consequently, they urged health care providers to remain cognizant of the quality of care they administered to patients, as it is directly associated with their quality of life.

A similar study conducted by Lasser, Himmelstein, and Woolhandler (2006) included a comparative analysis of access to care, health status and health disparities between the United States and Canada. Analyzing the data on over 3,000 Canadians and 5,000 residents of the United States, they found that respondents from the United States were less likely than Canadian respondents to have a regular doctor, and more likely to have unmet health needs and forgo prescribed medications. This disparity demonstrated a greater decline in health outcomes for US residents than Canadians. The authors concluded that the universal healthcare coverage provided in Canada reduced health status disparities, when controlling for gender, age, income, race, and immigrant status. While disparities were noted in Canada, they were less prevalent than in the United States. This finding sets the stage for the third element of the aforementioned theoretical premise–policy implications. Therefore, it becomes imperative that healthcare providers make a concerted effort to reach out to the aging population.

### Policy Implications

This dissertation shows that healthcare experiences and self-efficacy are influential in impacting the health status of aging adults. The United States has a two tier healthcare system. Individuals are able to either purchase healthcare through their employers, or receive healthcare benefits through the government sponsored programs Medicaid or Medicare. Healthcare, however, is primarily financed through private insurance companies, which individuals usually access through their employers.

It is critical that policy makers see the importance of the Obama Administration's Healthcare Initiative. This initiative would create a universal healthcare plan that would ensure that everyone be provided with adequate healthcare. Ensuring all persons,

especially those who are members of the aging community adequate health insurance is instrumental in ameliorating preventable health outcomes. However, when coverage is not affordable, or the benefits not adequately proclaimed, many will suffer, especially aging adults. As shown by Lasser, Himmelstein, and Woolhandler (2006), universal healthcare can be instrumental in attenuating the health disparity experienced by those who are economically disadvantaged.

The Department for the Aging must also play a critical role in getting healthcare services to the elderly. They do an excellent job at providing information to this population. However, greater outreach to the Black and Latino communities is needed. These groups were found to be, on average, at greater risk when measuring for either obesity or stress disorders. We know that knowledge is power. For example, when the world first became aware of HIV and AIDS, the GBLT community had higher rates of infection than any other group, although the disease was primarily found in gay White men. However, after mobilizing their community, gay White men are now exhibiting lower rates than Black and Latino women (Gilbert et al, 2007). Utilizing this same technique with aging adults as it relates to access to healthcare can serve as a means of saving lives as well.

The second policy implication has to be structured to ensure that healthcare is easily accessible. Furthermore, healthcare experiences should be professional at the very least and amiable at best. Many aging adults who are not in assisted living communities have to travel to receive healthcare. However, if this care is not readily accessible, and if the quality of care is less than desirable, the likelihood that the services will not be utilized by a population that needs it most increases. Therefore, in order to address the quality of care issue, healthcare facilities can be rewarded for improving the quality of

services provided to their patients, much like teachers are being rewarded for working in public schools in blighted communities. This type of policy, much like the policies that govern senior citizen/assisted living communities, serve as a deterrent to mistreating, neglecting, or abusing a growing community that, more often than not, has lost the ability to advocate for itself. In order to address accessibility, policy makers need to implement laws assuring all residents within a certain radius of their community will have access to healthcare. This can be in the form of out-patient clinics, nurse practitioner stations, hospital satellites, or encouraging physicians to return to the vintage method of making house calls.

The third policy implication has to deal with the variable self-efficacy. Young people are often encouraged to reach for their dreams and aspirations. However, somewhere along the line, society has diminished this same sense of confidence in our senescent brothers and sisters. Self-efficacy, when measured against stress, has shown to be a powerful barrier against the presence of stress in aging adults. Therefore, an initiative should be implemented that encourages aging adults to be continuously inundated with positive affirmations. We have seen slogans like, "Each one teach one," and, "Leave No Child Behind." We now need initiatives that inspire aging adults after retirement, like "Retire from Work-Not from Life," or "Staying Alive Past 65!" Empowering aging adults will be instrumental in their desire to seek healthcare and remain fully immersed within the social system.

In closing, this dissertation has provided new information about an often forgotten and overlooked population. As society continues to develop, and technology evolves, our aging adults should not be left out of the loop. While it is certain that social integration and socioeconomic status are vital to the overall well-being of the elderly population,

their healthcare experiences, and sense of self worth and ability, are also instrumental in providing them with the necessary tools for successful, active daily living.

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