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# The Effects of Gender and Social Isolation on Depression among Older Americans

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by

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The Effects of Gender and Social Isolation on Depression among Older Americans

A Thesis

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## Chapter One: Introduction

The aging population in the United States is growing quickly. In 2014, the United States Census Bureau estimated that approximately 14.5% of the population was sixty-five years or older (American Fact Finder, 2015). By 2050, that percentage is expected to soar to over 21% (Vincent & Velkoff, 2010). Older Americans are a vibrant part of society and their mental health status is important. Retirement for some older adults means more time for family and civic engagement (Martinson & Minkler, 2006; Minkler & Fuller-Thomson, 2005). Not only do older adults assist in raising grandchildren, volunteer with the sick and less fortunate in their communities, and provide a living fount of wisdom, but the highest voter turnouts are also frequently from the elderly population (Martinson & Minkler, 2006; Minkler & Fuller-Thomson, 2005; United States Census Bureau, 2012).

American women live longer, on average, than men for many reasons (Calasanti, 2004). Currently, the United States female population over age 65 years is 56% and the population over 85 years is nearly 66% female (United States Census Bureau, 2015). There is a relationship between mental health and the level of social interaction that middle-aged and elderly women experience. Women with high levels of support feel better both physically and mentally. Low social support increases feelings of depression, stress, and physical illness symptoms for women. This would suggest that, at least for women, social support may temper depressive symptoms (Achat et al., 1998).

Women are more likely to report depressive symptoms than men (Centers for Disease Control and Prevention, 2013; Gatz & Fiske, 2003). Although depression is common in all age groups, it is not part of the normal aging process. Depression is an

issue that nearly 8% of adults over the age of 50 admit to having (Centers for Disease Control and Prevention, 2013). Over the age of 65, the number of adults reporting depressive symptoms more than doubles (Cahoon, 2012). While older people report fewer depressive symptoms than younger people, the stigmatization of elderly adults can still lead to depression (Centers for Disease Control and Prevention, 2013; Gatz & Fiske, 2003; Kessler et al., 2010). This thesis seeks to determine the relationship between gender and social isolation and the influence of these variables on clinical depression in older adults using selected data from the 2012 wave of the Health and Retirement Study.

## Chapter Two: Theory

Choosing a theory to explain depressive symptoms in aging is not an easy task. In fact, this thesis uses four separate ideas to attempt to adequately give theoretical background to this research: feminist theories in gerontology to explain the gendered nature of aging, Charles Herbert Cooley's "looking glass self" theory to explain construction of self, Erving Goffman's theory of self-erosion, and Erving Goffman's ideas on the contribution of neighborhood cohesion to self-concept.

### Feminist Theories

Feminist theories in gerontology seek to recognize that women have not always been considered in social research and to remove the effects of patriarchy in gerontological research (Bengtson, Burgess, & Parrott, 1997). Feminist theories suggest that the privilege and oppression that come with gender should be a primary focus for understanding old age (Bengston, et al., 1997). Gender roles tend to go unchallenged in society because they are thought to be innate or biological, but these concepts can be damaging to both women and men, especially as they age (Calasanti, 2010). Feminist theories are micro- and macro-level, which means that they link individual experiences to social structure (Bengtson et al., 1997).

This thesis uses feminist gerontological theory to explain why women might experience more depressive symptoms even though they typically have larger social support networks than men (Blieszner, 1993). In addition to centering women in gerontological research, feminist theory also provides a way to understand the differences between the way men and women experience depressive symptoms. Although patriarchy is usually referred to as something that hurts women, men feel the negative effects of patriarchy, too. The stoicism and strength expected from American

men as part of their performance of masculinity can lead them to deny problems they have, especially mental disturbances, out of a fear that expressing feelings is not masculine. This can produce lower reports of depression among men even when depression exists (Calasanti, 2004).

Women are expected to do much of the emotional and caring work in all kinds of relationships, which can leave them feeling that they do not have a complete identity outside of their social support networks (Calasanti, 2010). Feminist theory applies here as well, since denying that men are capable of doing more emotional and care work can result in two major effects: first, women feel that they should have more and deeper social interaction than men as they age, which they think should protect against depression (Calasanti, 2010); second, men are left without the extensive social networks they may have had if they were encouraged, instead of discouraged, to do more emotional work (Calasanti, 2004). Feminist theory is the larger framework in this thesis for two more specific theories: construction of self and erosion of self.

**Construction of Self**

Sociologist Charles Horton Cooley developed a theory about how individuals construct a self-concept. He determined that children begin to form a sense of identity based on their perceptions of how significant others see them and thus define themselves in relation to the society in which they live (Cooley, 1896). This concept has been termed the “looking-glass self.” This theory has three elements: “the imagination of our appearance to the other person; the imagination of his judgment of that appearance; and some sort of self-feeling, such as pride or mortification” (Cooley, 1992, p. 184).

The family is the most important factor in determining how an individual comes to view him or herself (Cooley, 1909). It is clear that the family experience is gendered

(Moen, 2011). As people age, the primary others – mirrors – who have provided them with their sense of self-concept change through birth, relocation, and death. The mirrors become more feminized because there is a gender imbalance in old age; women tend to live longer than men (Chumbler et al., 2003). The number of people serving as mirrors decrease and they grow younger as the individual's adult children start their own families and the individual's cohort begins to move into institutions or die (Clare, Rowlands, Bruce, Surr, & Downs, 2008). Finally, the mirrors become less personal as physical and mental health issues make it more difficult to socialize with friends, children move away, spouses die or become incapacitated, and impersonal, professional caregivers begin to spend large segments of time with the individual (Adams, Sanders, & Auth, 2004). The unfamiliar reflections these mirrors provide could be severely disruptive to a person's sense of self, resulting in depressive symptoms.

**Erosion of Self**

Erving Goffman (1961) identifies various processes by which an individual's sense of self is can be eroded, especially in institutions, but does not specifically address gender. By viewing Goffman's (1961) work through a feminist lens, his perspectives are made more relevant to the modern world. Growing older can mean loss of autonomy, expected deference to a variety of people younger than oneself, submission to humiliating intrusions on privacy, and the gradual but steady erosion of how an individual views him or herself. These impositions contrast greatly with the relative freedom and autonomy enjoyed by most of the rest of society (Goffman, 1961).

Old age is still very much stigmatized in youth-centered American culture (Calasanti, 2005). As older adults begin to identify their lowered status in culture, they may react with shame or hostility (Goffman, 1963). It is impossible for many older adults

to comply with societal demands that they look and act young. Again, this is a gendered situation, as men may be allowed to age more gracefully than women, since the beauty standard is not as strict for men (Ferraro, 2008). Older people may realize that the society that would label them as stigmatized can see their situation written in their faces and physiques; this may result in increased depressive symptoms (Goffman, 1963).

Men and women may experience different types of autonomy loss as women often outlive the men in their generation and therefore make up more of the institutionalized population (Adams, et al., 2004). However, loss of physical autonomy may be more poignant for men than other types of autonomy loss, especially if their physical strength has been a cornerstone of their masculinity (Calasanti, 2004). It would follow that an erosion of self could lead to an existential crisis in which a person is unable to recognize him or herself, which may result in depressive symptoms. Therefore, the differing rates in depression for older adults may point to a gendered outcome in the erosion of self.

**Neighborhood Cohesion**

Neighborhood cohesion can be an important component of how people view themselves. Individuals who live in a community develop a kind of biography in the minds of their neighbors, a list of assumptions about their character. Moving to a new community can cause a new biography to form in the minds of their new neighbors. Although both sets of neighbors may think they have a good idea of what a person is like based on their interactions with that person, the two biographies can be entirely different from one another (Goffman, 1963). It would follow that someone who had spent a long time developing a sense of who they are in relation to how their community

views them would have some erosion of self when physical or mental impairment necessitated moving into a different living arrangement, possibly resulting in depressive symptoms.

# Chapter Three: Literature Review

This chapter will present a review of the literature regarding the two independent variables, gender and social isolation, and the dependent variable, depression.

## Independent Variables Affecting Depression in Older Women

### Gender

The most recent U.S. Census (2015) population estimates state that women currently make up 56% of the population over 65 and almost 66% of the population over 85. Women tend to live longer than men due to a variety of factors (Calasanti, 2004; Chumbler, Grimm, Cody, & Beck, 2003; Papastavrou, Kalokerinou, Papacostas, Tsangri, & Sourtzi, 2007). Women generally have a greater life expectancy than men in America, so it makes sense to study how heterosexual women fare when their support systems are depleted after the death of a spouse (Chumbler et al., 2003; Papastavrou et al., 2007). Homosexual women may face different challenges related to the spousal relationship, including having been unable to legally marry until very recently, but research on homosexual older adults has largely been either incomplete or ungeneralizable due to the use of small, convenience samples.

For some heterosexual women, marriage is a major source of social support in aging (Acitelli & Antonucci, 1994). For other women, the demands of a spouse actually contribute to their distress (Almeida & Kessler, 1998; Kessler, 2003). American women shoulder a disproportionate amount of household work, childrearing tasks, and emotional work in most relationships (Almeida & Kessler, 1998; Calasanti, 2004; Kessler, 2003). This increases men's ability to focus on the workplace before retirement, which means that men are more financially secure than women in old age; however, this also relegates women to relationship development, which means that

women have more complex social networks in old age (Blieszner, 1993). Having more complex social networks can stave off depression (Chumbler et al., 2003; Papastavrou et al., 2007).

Women consistently report higher rates of depression than men (Almeida & Kessler, 1998; Cairney & Krause, 2005; Fiske, Wetherell, & Gatz, 2009; Kessler, 2003). Due in part to the cyclical nature of physical and mental health, aging women are more likely to report physical issues, difficulty with instrumental activities of daily living (IADLs), and need for assistance than men, which decreases quality of life and may increase the possibility of depression (Kessler, 2003; Murtagh & Hubert, 2004).

**Social Isolation**

Social isolation occurs when individuals are incapable of taking part in social relationships (Hodges, Keeley, & Grier, 2001). Social isolation differs from loneliness because social connections are not the only factor in feeling lonely (Cornwell & Waite, 2009; Hawton, et al., 2011; Hodges et al., 2001; Reed, Crespo, Harvey, & Andersen, 2011). Many variables increase the risk of social isolation, such as loss of a spouse, retirement, and disability (Walker & Herbitter, 2005). This thesis will use the term social isolation to describe a lack of contact with others and the term social support to mean the opposite.

Many adults experience varying degrees of loss of freedom old age. Sometimes this reduced freedom comes from a lack of ability to travel as easily as when they were younger (Adams, et al., 2004; Reed, et al., 2011). Mobility difficulties can also contribute to social isolation, especially for those seniors who live in unsafe neighborhoods or rural communities (Reed, et al., 2011). Health concerns such as diminishing eyesight can make it difficult to frequently leave the house (Hawton, et al., 2011). Some older adults

experience less freedom of movement after they transfer from an owned or rented home into a community living facility (Adams, et al., 2004; Clare et al., 2008). While a residential facility provides some measure of social support, many times it cannot effectively replace a network of friends built up over a lifetime in a neighborhood, church, or community (Adams, et al., 2004; Clare et al., 2008). Neighborhood relationships can be particularly important to older adults, especially if they have lived in their neighborhood for a long time (Clare et al., 2008). Women bear much of the burden of these issues (Almeida & Kessler, 1998; Cairney & Krause, 2005; Fiske et al., 2009; Kessler, 2003; Murtagh & Hubert, 2004).

In addition to mental health, physical health can also be affected by social isolation. In a study by Hawton, et. al. (2011), older adults who were “severely socially isolated” had higher incidences of physical and mental health issues than those who were merely at risk of social isolation or “socially isolated” (p. 60). Social isolation is associated with health even when other factors that influence health, such as age and physical wellness, are used as controls (Hawton, et al., 2011; Hodges et al., 2001). Older adults feel more socially isolated than younger adults, with men perceiving more social isolation than women (Cornwell & Waite, 2009).

When older adults begin to withdraw from their social networks due to depression, physical disability, or distance, among other factors, this withdrawal often becomes reciprocal (Hodges et al., 2001). Living alone also increases social isolation. Roughly 28% of people aged 65 and older live alone and as people age, their likelihood of living alone increases (West, Cole, Goodkind, & He, 2014). Childless older adults frequently live alone and have little social contact with others (Bachrach, 1980). Bachrach (1980) found that older adults who never had children have a higher

probability of being socially isolated in old age than those older adults who have children, although the existence of children makes more difference than the number of children.

Aging adults have social networks that are constantly undergoing shifts as they retire, move, gain new hobbies or discontinue old ones, lose friends and family members through death, and add new family members through birth or marriage (Cornwell, Schumm, Laumann, Kim, J., & Kim, Y., 2014). Living in an institution can mean a chance for extended social networks, but institutional living does not necessarily mean avoiding social isolation; negative emotions such as anxiety, insecurity, anger, and sadness frequently accompany being uprooted from home and placed into a new situation in old age (Clare et al., 2008).

While having fulfilling relationships may cause older women to be less depressed, an insufficient support network can negatively affect many aspects of an elderly woman's life, from feelings of loneliness and depression to morbidity and suicidal tendencies (Achat et al., 1998; Adams et al., 2004; Hawkley, Masi, Berry, & Cacioppo, 2006; Rowe, Valderrama, Hasher, & Lenartowicz, 2006). A support system is typically comprised of a spouse, children, siblings, other family members, friends and neighborhood or religious acquaintances, including clergy (Allen & Wiles, 2013). The way in which a support network is defined must be carefully considered, however; some people appear not to have a well-defined support system in the traditional sense, but have cultivated their own systems that work for them and help improve their mental health (Allen & Wiles, 2013).

## Dependent Variable: Depressive Symptoms

Roughly 20% of adults over the age of 55 experience some type of mental health issues; depression is the most common of these mental health problems (Centers for Disease Control and Prevention, 2013). Unlike temporary sadness, which is a normal part of everyday life, depression is a disorder that can affect every part of life – in some cases, for months or even decades (National Institute of Mental Health, 2016). Depression and its accompanying symptoms can take a number of forms, from seasonal depression that lasts only during the winter to persistent depressive disorder, which lasts for two years or longer (National Institute of Mental Health, 2016).

Depressive disorders have a wide range of causes; a person can be depressed due to anything from stressful life events to genetics (National Institute of Mental Health, 2016). Genetic depression usually displays earlier in life onset than other types (Fiske, Wetherell, & Gatz, 2009). Older adults are at particular risk of developing ischemia, which is a stiffening of the blood vessels in the body (National Institute of Mental Health, 2016). This condition constricts blood flow, including to the brain, which can produce depressive symptoms – called vascular depression – even in adults with no history of depression (National Institute of Mental Health, 2016). A relatively small portion of older adults become depressed in later life, however, so blaming depression simply on stress or physical changes, which a large percentage of older adults experience, falls short of explaining the problem (Fiske, Wetherell, & Gatz, 2009).

The symptoms of depression can include listlessness, digestion problems, loss of appetite or increased appetite, irritability, inability to concentrate, increased blood pressure, elevated cortisol levels, and even suicidal ideation (Hawkley et al., 2006; National Institute of Mental Health, 2016; Rowe et al., 2006). Some of these symptoms

are easily recognized as problems stemming from a disturbed mental state; however, others can be misdiagnosed or even ignored completely, making depression somewhat difficult to recognize (National Institute of Mental Health, n.d.). Depression sufferers may become withdrawn, while others readily seek help (Cahoon, 2012). Confounding the issue, comorbidity or drug side effects can both increase depressive symptoms and mask their existence (Fiske, Wetherell, & Gatz, 2009). Recognizing and treating depressive symptoms can increase quality of life (Fiske, Wetherell, & Gatz, 2009).

Although depression is common, it is not part of the normal aging process. Nearly 8% of adults over the age of 50 report current depressive feelings (Centers for Disease Control and Prevention, 2013). This number jumps to 15-19% for adults over the age of 65 (Cahoon, 2012). The latest research shows that depression actually decreases later in life when compared to younger adult levels, but the devaluation of elderly adults can still lead to significant depressive symptoms in some adults (Centers for Disease Control and Prevention, 2013; Gatz & Fiske, 2003; Kessler et al., 2010).

Women are more likely to report both current and lifetime depression than men (Centers for Disease Control and Prevention, 2013; Gatz & Fiske, 2003). While women tend to report early-onset depression, men typically suffer from late-onset depression (Gatz & Fiske, 2003). Active adults tend to have fewer issues with depression than inactive adults, even when taking institutionalized older adults into consideration (Salguero, Martinez-Garcia, Molinero, & Marquez, 2011).

## Chapter Four: Methods

### Data

The data for this thesis come from the Health and Retirement Study (HRS) from 2012. The HRS is a longitudinal panel study, funded by the National Institute on Aging and the University of Michigan with support from the Social Security Administration. The HRS surveys approximately 20,000 Americans over 50 years old and their spouses every two years. This survey collects information about many aspects of health after retirement, including physical health, cognitive functioning, health care, income, wealth and assets. The HRS uses a clustered, multi-stage area probability sample design with the core sample augmented by oversampling African-Americans, Hispanics, and Floridians (Health and Retirement Study, 2016).

This thesis uses two sections of the HRS: the RAND data and the Psychosocial and Lifestyle Questionnaire. RAND takes the most commonly used questions from the HRS and cleans and imputes the data to make it easier to use. The Psychosocial and Lifestyle Questionnaire is a self-administered survey that is given to an alternating random half of HRS participants every two years. This questionnaire deals with subjects that are not covered by the original HRS study, such as wellbeing, social connections, personality, and stress. Each participant in the HRS is given a unique identifier, known as the HHIDPN. This identifier enables researchers to match respondents using different data sets (Health and Retirement Study, 2016).

This thesis uses a sample of 5037 respondents from the 2012 wave of the HRS. The year 2012 was the most recent wave that was available in its entirety when this project was started. Responses by proxy were eliminated. Responses from participants younger than 60 years of age were discarded in order to concentrate

exclusively on older adults. Although some gerontologists begin old age at 65 years, there is no strict definition of when old age begins. Adults as young as 50 years old have been described as elderly by legislatures, advocacy groups, researchers, and gerontologists. The United Nations defines an older or elderly adult as a person who is 60 years or older and that is the definition this thesis uses (World Health Organization, 2016).

## Variables

### Gender

The gender question comes from the RAND data (Appendix A; Gender). There are two options participants can choose when answering this question: male (0) or female (1). Although some participants may identify in a manner outside this binary, two available responses to the question of gender is the current research standard. Of the 5037 participants used in this project, 2971 (59%) identified as female and 2066 (41%) identified as male. There were no missing responses because of RAND imputations.

### Social Isolation

Social Isolation is measured using one question about living with a spouse, one set of questions about the frequency of contact in three types of relationships, and one index on neighborhood cohesion. These questions all come from the Psychosocial Lifestyle Questionnaire.

To measure amount of contact with a spouse or partner (Appendix A; Q04), the HRS asks “Do you have a husband, wife, or partner with whom you live?” with answers coded unpartnered (0) and partnered (1).

The amount of contact with children, family, and friends are measured by a set of questions (Appendix A; Q09a-c, Q13a-c, Q17a-c). The questions for each group of

people (children, family, and friends) are, “How often do you do each of the following? A) Meet up (including both arranged and chance meetings), B) speak on the phone, C) write or email.” Responses are “three or more times a week” (1), “once or twice a week” (2), “once or twice a month” (3), “every few months” (4), “once or twice a year” (5), and “less than once a year or never” (6). These questions are reverse coded, then averaged across items for a measure of how much overall contact respondents have with their social networks, with higher numbers equaling more contact.

Neighborhood cohesion (Appendix A; Q21a, Q21c, Q21e, Q21g) is assessed with four statements measured on a seven point scale (1-7). Statements include, “I really feel part of this area” (1) to “I feel that I don’t belong in this area” (7); “Most people in this area can be trusted” (1) to “Most people in this area can’t be trusted” (7); “Most people in this area are friendly” (1) to “Most people in this area are unfriendly” (7); and “If you were in trouble, there are lots of people in this area who would help you” (1) to “If you were in trouble, there is nobody in this area who would help you” (7). These items were then reverse coded and averaged across all four statements to achieve one score of neighborhood social cohesion, with higher scores equaling more cohesion.

**Depression**

Clinical depression is measured in the HRS by short form of the Center for Epidemiologic Studies Depression Scale (CES-D (8)) which is a screening test for depressive disorder using questions that measure symptoms of depression as laid out by the fifth version of the American Psychiatric Association’s Diagnostic and Statistical Manual (DSM-V). This index, which is a composite score, comes from the RAND data. This score is taken from eight categories in which respondents are asked to rate whether each of the statements was true in the past week: feeling depressed (Appendix

A; Q110); feeling activities were efforts (Appendix A; Q111); restless sleep (Appendix A; Q112); happiness (reverse-coded) (Appendix A; Q113); loneliness (Appendix A; Q114); life enjoyment (reverse-coded) (Appendix A; Q115); sadness (Appendix A; Q116); and lack of motivation (Appendix A; Q117). Higher numbers on this composite score indicate more depressive symptoms. The threshold for clinical depression is four out of eight symptoms.

## Control Variables

Demographic controls can help clarify the relationship between other variables by ruling out spurious relationships. The controls in this thesis have been chosen in order to account for any variance caused by demographics. Race, age, and education will be used as sociodemographic control variables. Each of these variables comes from the RAND data.

### Race

Race information is gathered by the HRS with two questions, one on race and one on ethnicity. African Americans and Hispanic people are purposefully oversampled in the HRS in order to attain sufficient numbers of participants to meaningfully compare data gathered on other variables. Although oversampling of minorities enables the HRS to support subgroup comparisons, this technique does not allow every race to be adequately represented. For this thesis, a series of dummy variables were created to measure race and ethnicity. The ethnicity question antecedes the race question, so any participant who self-identifies as Hispanic is designated as Hispanic over self-identified race. The available categories for this variable are non-Hispanic white, non-Hispanic black, and Hispanic.

### Age

The HRS surveys older Americans over the age of 50 and their spouses, which means that sometimes younger adults who have spouses over the age of 50 are included in the respondents. This thesis concentrates exclusively on older Americans, so surveys completed by participants who are younger than age 60 were discarded.

### Education

Education will be used here as an indicator of socioeconomic status (SES), since income is generally no longer an adequate measure of SES after retirement. Although the HRS has many questions that measure wealth, income, assets, and financial stability, the information they provide is better suited to research that concentrates on wealth and income as a dependent variable, primarily due the extensive number of questions needed to accurately reflect the finances of older Americans. Educational attainment has historically had a strong correlation with SES (American Psychological Association, 2016). In the HRS, education is separated into years of schooling attained, beginning with none (0) and ending with seventeen or more (17).

## Analytic Approach

### Main Effect

Ordinary least squares (OLS) regression was performed in SPSS in order to determine the main effects in the relationship between the dependent and independent variables. OLS regression is typical in the field for this type of model because it provides the best linear unbiased estimator (BLUE). OLS regression allows researchers to predict an outcome variable using other variables (McElroy, 1967). For this thesis, the outcome is depression. The primary predictors are gender and social isolation.

Pairwise deletion was used as a technique to handle missing data based on the assumption that the missing data was missing completely at random (MCAR), or that the probability of missing data was unrelated to the independent variables as well as the dependent variable itself. Pairwise deletion maximizes all data available by an analysis-by-analysis basis. This allows more data to be used, even in the case of missing responses, by not including a particular variable when it has a missing value, but using the case when analyzing other variables with non-missing values (Marsh, 1998).

The data was weighted using HRS's created weight to limit bias due to attrition. The analyses were clustered to assume independence across clusters but correlation within clusters. This was done to produce robust standard errors, given the sampling of respondents and their spouses.

**Moderation**

To determine whether social isolation had a moderating effect on the relationship between gender and depressive symptoms, the interactions between each of the social isolation variables and gender were created and then included in an OLS linear regression.

**Mediation**

To determine whether social isolation had a mediating effect on the relationship between gender and depressive symptoms, a three-part process was performed. First, linear regressions were performed using gender as the independent variable and each of the social interaction variables (lives with spouse or partner, amount of contact with children, amount of contact with family, amount of contact with friends, and neighborhood cohesion) as dependent variables. Next, each of the social interaction variables was used as independent variables in a linear regression with depressive

symptoms as the dependent variable. Finally, the regression coefficients and standard errors were processed using the Sobel test, which determines whether mediation has occurred (Preacher & Hayes, 2004).

## Chapter Five: Results

### Main Effects Model

The coefficients for the regression of depressive symptoms upon gender and social isolation are presented below in Table 1. Older women average 0.185 more depressive symptoms than older males ($p<0.01$). Living with a spouse or partner was strongly associated with less depression ($\beta= -.700$, $p<.001$). More contact with children resulted in significantly fewer depressive symptoms ($\beta= -.119$, $p<.001$). More contact with friends resulted in fewer depressive symptoms ($\beta= -.133$, $p<.001$). Living in a neighborhood that felt safe, supportive, and welcoming resulted in fewer depressive symptoms ($\beta= -.139$, $p<.001$). Only contact with family was not significantly associated with depressive symptoms. This linear model explains 14.4% of the variance in depressive symptoms reported.

Table 1

*Regression Coefficients for the Regression of Depressive Symptoms on Gender, Social Isolation, Sociodemographic Controls*

| **Variables** | **β** |
|---|---|
| **Gender** | |
| Female | .185** |
| **Social Isolation** | |
| Lives with Spouse or Partner | -.700*** |
| Contact with Children | -.119*** |
| Contact with Family | -.016 |
| Contact with Friends | -.133*** |
| Neighborhood Cohesion | -.139*** |
| **Sociodemographic Controls** | |
| Ethnicity – African Americans | -.005 |
| Ethnicity – Hispanic/Latino | .363** |
| Age | -.007 |
| Constant | 5.444*** |
| **R-squared** | .144 |

*Note: p<.05 is designated *; p<.01 is designated **; p<.001 is designated ***. The reference group for ethnicity is non-Hispanic white; the reference group for gender is male.*

## Moderation Model

The moderation model explains 15.9% of the variance in depressive symptoms, which is a 1.5% increase from the variance explained by the main effects model. Three of the five interactions were significant; the regression coefficients are each presented below in Table 2.

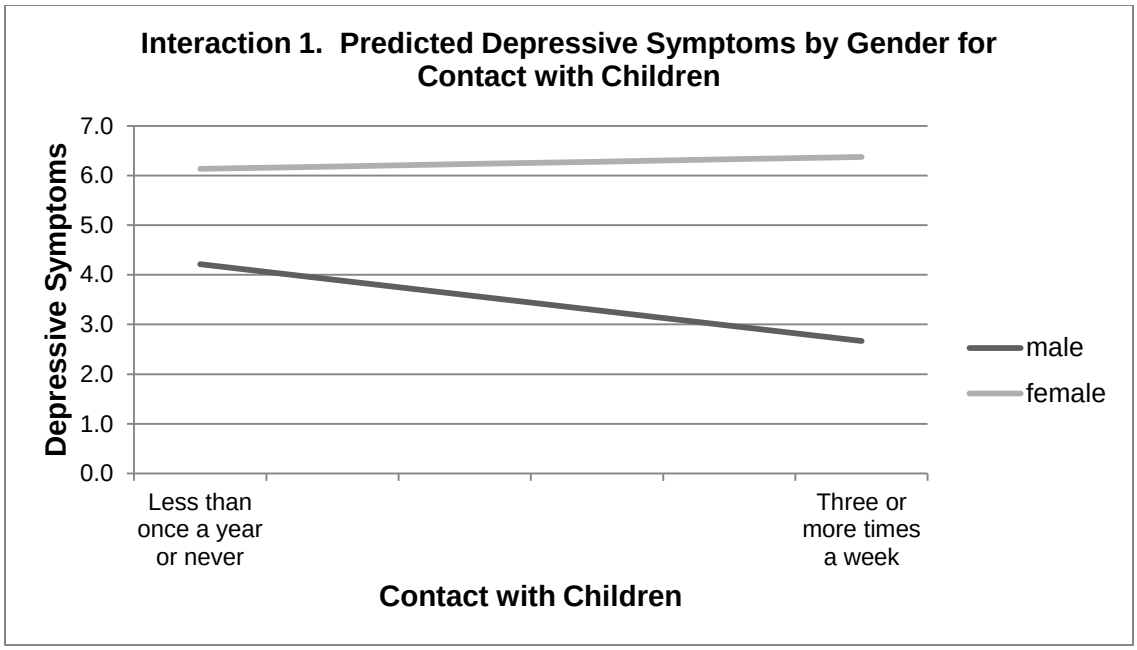
Table 2

*Regression Coefficients for the Regression of Depressive Symptoms on Gender, Social Isolation, Sociodemographic Controls, and Moderating Interactions*

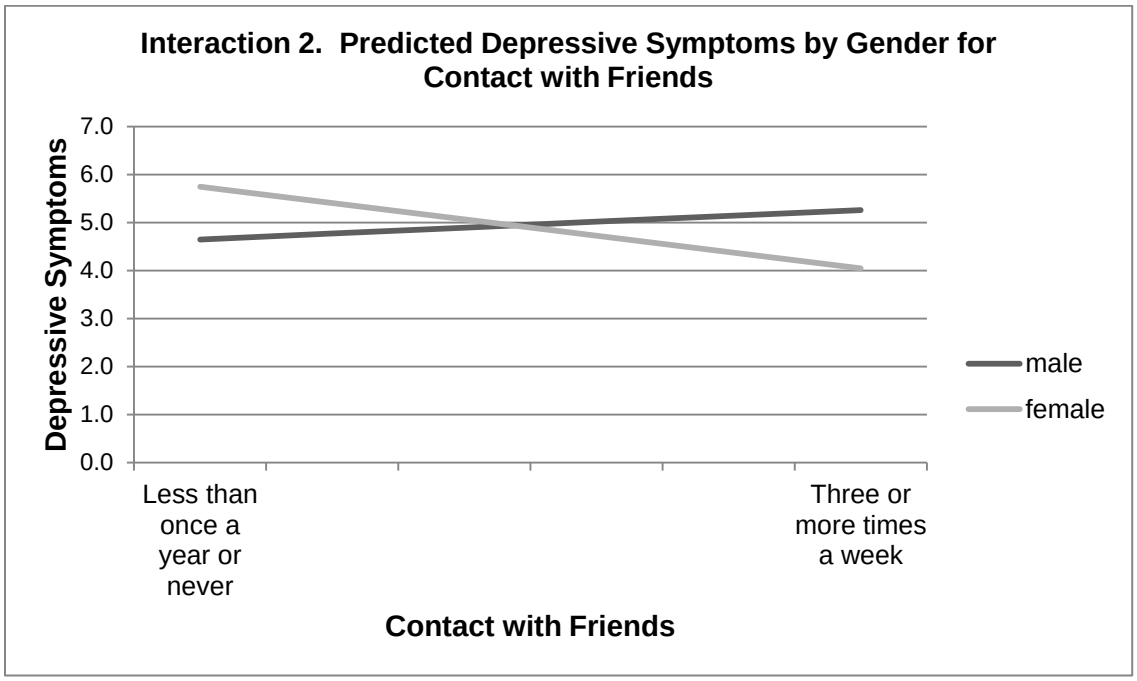
| **Variables** | **β** |
|---|---|
| **Gender** | |
| Female | 1.560*** |
| **Social Isolation** | |
| Lives with Spouse or Partner | -.781*** |
| Contact with Children | -.309*** |
| Contact with Family | .056 |
| Contact with Friends | .123** |
| Neighborhood Cohesion | -.139*** |
| **Interactions** | |
| Female x Lives with Spouse or Partner | .114 |
| Female x Contact with Children | .357*** |
| Female x Contact with Family | -.115 |
| Female x Contact with Friends | -.463*** |
| Female x Neighborhood Cohesion | -.132** |
| **Sociodemographic Controls** | |
| Ethnicity – African Americans | -.029 |
| Ethnicity – Latinos, Latinas | .396*** |
| Age | -.007* |
| Constant | 4.524*** |
| **R-squared** | .159 |

*Note: p<.05 is designated *; p<.01 is designated **; p<.001 is designated ***. The reference group for ethnicity is non-Hispanic white; the reference group for gender is male.*

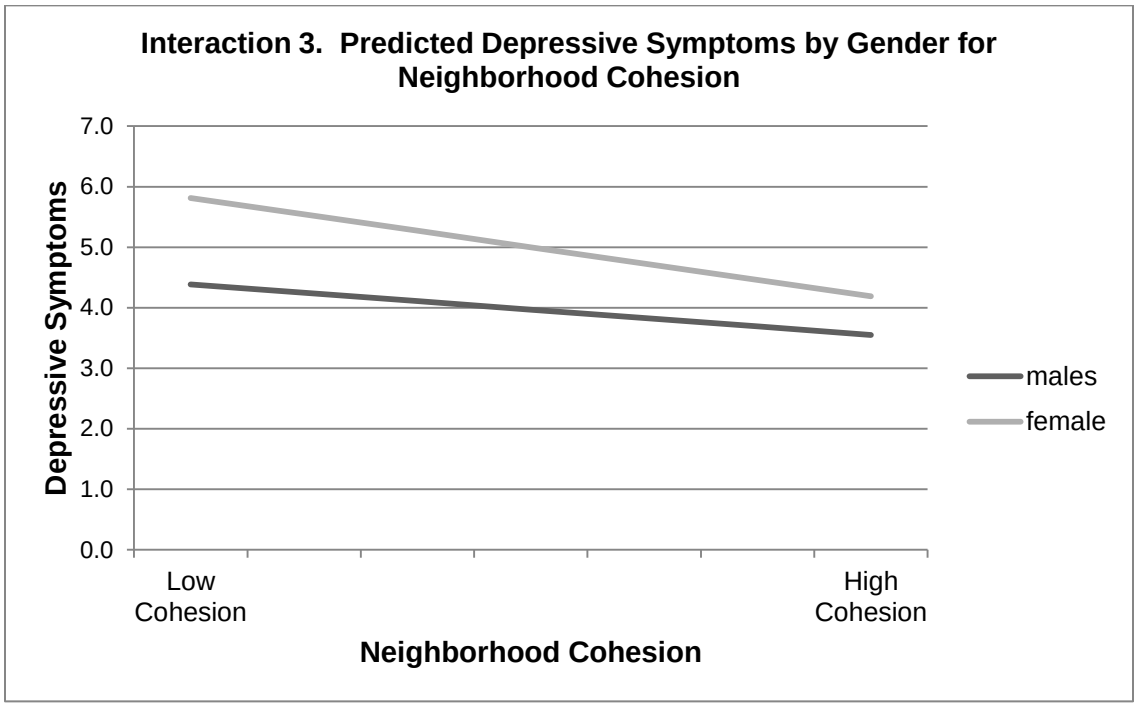
The first significant interaction between gender and contact with children is graphed below (Interaction 1). As shown, women have more depressive symptoms than men regardless of the amount of contact with their children. As contact with children increases, women's depressive symptoms increase slightly, whereas men's depressive symptoms decline sharply.




Female participants who have more contact with friends reported fewer depressive symptoms, while low contact with friends resulted in more depressive symptoms. Male participants with more contact with friends reported more depressive symptoms; less frequent contact with friends resulted in fewer depressive symptoms (Interaction 2).



Both females and males with higher levels of neighborhood cohesion had fewer depressive symptoms, though the decline is more pronounced for women (Interaction 3). Women consistently report more depressive symptoms across the scale.




## Mediation Model

In order to test if there is mediation, the Sobel test is run using regression coefficients and standard errors. For each Sobel test, two regressions are run: (1) the mediator is regressed upon the independent variable (in this case, gender), and (2) the outcome (in this case, depressive symptoms) is regressed upon the independent variable and mediator. The Sobel test then determines if the independent variable (gender) works to affect the outcome (depressive symptoms) via the mediator.

There were five mediators tested. The Sobel test value was significant in all five cases. Partner contact mediates the relationship between gender and depressive

symptoms (10.161, p<.001). Contact with children mediates the relationship between gender and depressive symptoms (-7.071, p<.001). Contact with family members mediates the relationship between gender and depressive symptoms (-4.961, p<.001). Contact with friends mediates the relationship between gender and depressive symptoms (-5.945, p<.001). Neighborhood cohesion mediates the relationship between gender and depressive symptoms (-2.742, p>.01).

Table 3

*Regression Coefficients for the Sobel Test Value for Mediating Interactions*

| | regression coefficient for the association between IV and mediator (standard error) | coefficient for the association between the mediator and the DV (standard error) | Sobel test value |
|---|---|---|---|
| Female → Lives with spouse or partner → depressive symptoms | -.229(.014) | -.778(.060) | 10.161*** |
| Female → Contact with children → depressive symptoms | .402(.032) | -.230(.027) | -7.071*** |
| Female → Contact with family → depressive symptoms | .393(.031) | -.135(.025) | -4.961*** |
| Female → Contact with friends → depressive symptoms | .272(.031) | -.186(.026) | -5.545*** |
| Female → neighborhood cohesion → depressive symptoms | .109(.039) | -.270(.019) | -2.742** |

*Note: p<.05 is designated *, p<.01 is designated **, p<.001 is designated ***. Reference group for gender is male.*

## Chapter Six: Discussion and Conclusion

This thesis sought to identify the relationship between gender and social isolation and the influence of these variables on depressive symptoms in older adults using the data gathered by the Health and Retirement Study in 2012. This research suggests that depressive symptoms may be averted by some aspects of social support. A review of the existing literature shows that women generally have larger social support networks, but admit to more depressive symptoms than men (Chumbler et al., 2003; Papastavrou et al., 2007). As expected, older females reported significantly higher levels of depressive symptoms than older males, but the difference between genders was not as extreme as was expected. This finding is consistent with feminist theories in gerontology, in that the aging process is gendered.

Several types of contact helped mediate depressive symptoms, such as living with a spouse or partner; contact with children; contact with friends; and high neighborhood cohesion. The strongest of these effects was living with a spouse or partner. This is probably due to the fact that the spousal relationship is, for many people, the primary close and long-term relationship (Acitelli & Antonucci, 1994). After this relationship, all other relationships were comparatively weak, with neighborhood cohesion making the next biggest difference in depressive symptoms. This was followed by contact with friends, then contact with children.

To determine whether the interaction of gender and social isolation had a moderating effect on depressive symptoms, the interactions between each of the independent variables were created and then included in a linear regression. Three out of five tested interactions were significant. The results of this regression show that both females and males with higher levels of neighborhood cohesion had fewer depressive

symptoms, although women reported more depression across the board. This finding supports Goffman's (1963) theory that neighborhood cohesion can affect a person's self-concept.

This research suggests that there is a gendered component to aging, as is asserted by feminist theories in gerontology. As contact with their children increases, depressive symptoms also increase slightly for women, although male participants reported fewer depressive symptoms as frequency of contact with their children increased. This could be because women assume the problems of other people more than men do (Papastavrou et al., 2007). When children talk with their mothers, it may be that they are seeking to be relieved of their own burdens, which can in turn cause female respondents to feel more stress. Female participants with more contact with friends reported fewer depressive symptoms, while male participants with more contact with friends reported more depressive symptoms. This result could take place for much the same reason – women take on the burdens of others; however, a friend could help bear depression for a woman in ways that her children could not due to the reciprocity of the relationship.

In summary, all of the social isolation variables mediate the relationship between gender and depression and most of them, except living with a spouse or partner and contact with family, moderate that relationship. Further research should be conducted to determine whether the respondents' feelings regarding the types of relationships examined here (for instance, if the respondent enjoys speaking to her children versus dreading speaking with her children) have an extended effect on the relationship between gender and depressive symptoms.

This research suggests that the frequency of contact is associated with depressive symptoms, but that effect could be increased by examining the closeness of existing relationships. Since the HRS is a longitudinal study, cause and effect could be established in the future by adding time order data from multiple waves. In addition to further examining how the closeness of relationships affects depressive symptoms, future research could explore how other variables, specifically loneliness and living arrangement, affect depressive symptoms.

This study highlights how social isolation and gender are associated with depressive symptoms. Healthcare providers or caregivers can use this information to help their patients decrease their depressive symptoms by encouraging patients to increase the frequency of contact in their important relationships. This study could also be used to highlight the importance of aging in place in a safe and welcoming neighborhood to legislators who have the ability to grant money for renovation projects in aging neighborhoods. Since staying in a neighborhood is not always possible for aging adults, the results of this study could be used to emphasize the importance of identity maintenance to those people who are in charge of caring for older Americans who may have to move out of their neighborhoods due to failing health or inability to live on their own. These results could be used to stress the importance of public funding for senior centers and public transportation in order to aid older adults in maintaining important relationships.

In conclusion, gender and social isolation are both associated with depression. Social isolation both mediates and moderates the relationship between gender and depression.

# Appendices

## Appendix A: 2012 HRS Questions

### Gender

Respondent is male (0) or female (1).

### Contact with Social Network

Q04. Do you have a husband, wife, or partner with whom you live?

0. Unpartnered
1. Partnered

Q09a. On average, how often do you meet up (include both arranged and chance meetings) with children?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q09b. On average, how often do you speak on the phone with children?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q09c. On average, how often do you write or email with children?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q13a. On average, how often do you meet up (include both arranged and chance meetings) with other family?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q13b. On average, how often do you speak on the phone with other family?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q13c. On average, how often do you write or email with other family?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q17a. On average, how often do you meet up (include both arranged and chance meetings) with friends?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q17b. On average, how often do you speak on the phone with friends?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

Q17c. On average, how often do you write or email with friends?

1. Three or more times a week
2. Once or twice a week
3. Once or twice a month
4. Every few months
5. Once or twice a year
6. Less than once a year or never

### Neighborhood Cohesion

Neighborhood cohesion is assessed with four statements measured on a seven point scale (1-7).

Q21a. I really feel part of this area (1) /I feel that I don't belong in this area (7)

Q21c. Most people in this area can be trusted (1) /Most people in this area can't be trusted (7)

Q21e. Most people in this area are friendly (1) /Most people in this area are unfriendly (7)

Q21g. If you were in trouble, there are lots of people in this area who would help you (1) /If you were in trouble, there is nobody in this area who would help you (7)

### Depression

This score is taken from eight categories in which respondents are asked to rate whether each of the statements was true in the past week.

Q110. Felt depressed within previous week

0. No
1. Yes

Q111. Felt activities were efforts within previous week

0. No
1. Yes

Q112. Was sleep restless within previous week

0. No
1. Yes

Q113. Was respondent happy within previous week

0. No
1. Yes

Q114. Loneliness felt within previous week

0. No
1. Yes

Q115. Enjoyed life within previous week

0. No
1. Yes

Q116. Felt sad within previous week

0. No
1. Yes

Q117. Felt unmotivated within previous week

0. No
1. Yes

# Appendix B: Frequencies

## Gender

**Gender**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 2066 | 41.0 | 41.0 | 41.0 |
| | Female | 2971 | 59.0 | 59.0 | 100.0 |
| | Total | 5037 | 100.0 | 100.0 | |

## Lives with Spouse or Partner

**Lives with a Spouse or Partner**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Unpartnered | 1686 | 33.5 | 38.6 | 38.6 |
| | Partnered | 2680 | 53.2 | 61.4 | 100.0 |
| | Total | 4366 | 86.7 | 100.0 | |
| Missing | System | 671 | 13.3 | | |
| Total | | 5037 | 100.0 | | |

## Mean Amount of Contact with Children

**Amount of Contact with Children (mean)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Less than Once a Year or Never | 91 | 1.8 | 2.0 | 2.0 |
| | 1.33 | 28 | .6 | .6 | 2.6 |
| | 1.50 | 2 | .0 | .0 | 2.7 |
| | 1.67 | 46 | .9 | 1.0 | 3.7 |
| | 2.00 | 71 | 1.4 | 1.6 | 5.3 |
| | 2.33 | 131 | 2.6 | 2.9 | 8.2 |
| | 2.50 | 11 | .2 | .2 | 8.5 |
| | 2.67 | 206 | 4.1 | 4.6 | 13.0 |
| | 3.00 | 323 | 6.4 | 7.2 | 20.2 |
| | 3.33 | 446 | 8.9 | 9.9 | 30.1 |
| | 3.50 | 33 | .7 | .7 | 30.9 |
| | 3.67 | 526 | 10.4 | 11.7 | 42.6 |
| | 4.00 | 634 | 12.6 | 14.1 | 56.7 |
| | 4.33 | 594 | 11.8 | 13.2 | 69.9 |
| | 4.50 | 24 | .5 | .5 | 70.4 |
| | 4.67 | 362 | 7.2 | 8.1 | 78.5 |
| | 5.00 | 392 | 7.8 | 8.7 | 87.2 |
| | 5.33 | 230 | 4.6 | 5.1 | 92.3 |
| | 5.50 | 55 | 1.1 | 1.2 | 93.5 |
| | 5.67 | 152 | 3.0 | 3.4 | 96.9 |
| | Three or More Times a Week | 139 | 2.8 | 3.1 | 100.0 |
| | Total | 4496 | 89.3 | 100.0 | |
| Missing | System | 541 | 10.7 | | |
| Total | | 5037 | 100.0 | | |

## Mean Amount of Contact with Family

**Amount of Contact with Family (mean)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | less than once a year | 131 | 2.6 | 2.8 | 2.8 |
| | 1.33 | 89 | 1.8 | 1.9 | 4.8 |
| | 1.50 | 1 | .0 | .0 | 4.8 |
| | 1.67 | 166 | 3.3 | 3.6 | 8.4 |
| | 2.00 | 271 | 5.4 | 5.9 | 14.3 |
| | 2.33 | 344 | 6.8 | 7.5 | 21.7 |
| | 2.50 | 10 | .2 | .2 | 21.9 |
| | 2.67 | 475 | 9.4 | 10.3 | 32.2 |
| | 3.00 | 501 | 9.9 | 10.9 | 43.1 |
| | 3.33 | 523 | 10.4 | 11.3 | 54.4 |
| | 3.50 | 18 | .4 | .4 | 54.8 |
| | 3.67 | 516 | 10.2 | 11.2 | 66.0 |
| | 4.00 | 491 | 9.7 | 10.6 | 76.6 |
| | 4.33 | 369 | 7.3 | 8.0 | 84.6 |
| | 4.50 | 22 | .4 | .5 | 85.1 |
| | 4.67 | 211 | 4.2 | 4.6 | 89.7 |
| | 5.00 | 220 | 4.4 | 4.8 | 94.4 |
| | 5.33 | 99 | 2.0 | 2.1 | 96.6 |
| | 5.50 | 22 | .4 | .5 | 97.1 |
| | 5.67 | 50 | 1.0 | 1.1 | 98.1 |
| | three or more times a week | 86 | 1.7 | 1.9 | 100.0 |
| | Total | 4615 | 91.6 | 100.0 | |
| Missing | System | 422 | 8.4 | | |
| Total | | 5037 | 100.0 | | |

## Mean Amount of Contact with Friends

**Amount of Contact with Friends (mean)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Less than Once a Year | 84 | 1.7 | 1.8 | 1.8 |
| | 1.33 | 37 | .7 | .8 | 2.6 |
| | 1.50 | 2 | .0 | .0 | 2.7 |
| | 1.67 | 83 | 1.6 | 1.8 | 4.5 |
| | 2.00 | 148 | 2.9 | 3.2 | 7.7 |
| | 2.33 | 221 | 4.4 | 4.8 | 12.6 |
| | 2.50 | 8 | .2 | .2 | 12.8 |
| | 2.67 | 310 | 6.2 | 6.8 | 19.5 |
| | 3.00 | 406 | 8.1 | 8.9 | 28.4 |
| | 3.33 | 460 | 9.1 | 10.1 | 38.5 |
| | 3.50 | 24 | .5 | .5 | 39.0 |
| | 3.67 | 593 | 11.8 | 13.0 | 52.0 |
| | 4.00 | 617 | 12.2 | 13.5 | 65.5 |
| | 4.33 | 404 | 8.0 | 8.8 | 74.3 |
| | 4.50 | 44 | .9 | 1.0 | 75.3 |
| | 4.67 | 310 | 6.2 | 6.8 | 82.1 |
| | 5.00 | 367 | 7.3 | 8.0 | 90.1 |
| | 5.33 | 187 | 3.7 | 4.1 | 94.2 |
| | 5.50 | 17 | .3 | .4 | 94.6 |
| | 5.67 | 131 | 2.6 | 2.9 | 97.4 |
| | Three or More Times a Week | 118 | 2.3 | 2.6 | 100.0 |
| | Total | 4571 | 90.7 | 100.0 | |
| Missing | System | 466 | 9.3 | | |
| Total | | 5037 | 100.0 | | |

## Mean Neighborhood Cohesion

**Neighborhood Cohesion (mean)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Low Cohesion | 44 | .9 | .9 | .9 |
| | 1.25 | 22 | .4 | .4 | 1.3 |
| | 1.33 | 1 | .0 | .0 | 1.4 |
| | 1.50 | 25 | .5 | .5 | 1.9 |
| | 1.75 | 35 | .7 | .7 | 2.6 |
| | 2.00 | 43 | .9 | .9 | 3.5 |
| | 2.25 | 42 | .8 | .9 | 4.3 |
| | 2.50 | 49 | 1.0 | 1.0 | 5.3 |
| | 2.67 | 1 | .0 | .0 | 5.3 |
| | 2.75 | 57 | 1.1 | 1.2 | 6.5 |
| | 3.00 | 73 | 1.4 | 1.5 | 8.0 |
| | 3.25 | 70 | 1.4 | 1.4 | 9.4 |
| | 3.33 | 1 | .0 | .0 | 9.4 |
| | 3.50 | 101 | 2.0 | 2.1 | 11.5 |
| | 3.67 | 7 | .1 | .1 | 11.6 |
| | 3.75 | 106 | 2.1 | 2.2 | 13.8 |
| | 4.00 | 164 | 3.3 | 3.3 | 17.1 |
| | 4.25 | 137 | 2.7 | 2.8 | 19.9 |
| | 4.33 | 8 | .2 | .2 | 20.0 |
| | 4.50 | 159 | 3.2 | 3.2 | 23.3 |
| | 4.67 | 2 | .0 | .0 | 23.3 |
| | 4.75 | 222 | 4.4 | 4.5 | 27.8 |
| | 5.00 | 242 | 4.8 | 4.9 | 32.8 |
| | 5.25 | 240 | 4.8 | 4.9 | 37.6 |
| | 5.33 | 6 | .1 | .1 | 37.8 |
| | 5.50 | 313 | 6.2 | 6.4 | 44.1 |
| | 5.67 | 13 | .3 | .3 | 44.4 |
| | 5.75 | 358 | 7.1 | 7.3 | 51.7 |
| | 6.00 | 434 | 8.6 | 8.8 | 60.5 |
| | 6.25 | 403 | 8.0 | 8.2 | 68.7 |
| | 6.33 | 8 | .2 | .2 | 68.8 |
| | 6.50 | 357 | 7.1 | 7.3 | 76.1 |
| | 6.67 | 8 | .2 | .2 | 76.3 |
| | 6.75 | 384 | 7.6 | 7.8 | 84.1 |
| | High Cohesion | 783 | 15.5 | 15.9 | 100.0 |
| | Total | 4918 | 97.6 | 100.0 | |
| Missing | System | 119 | 2.4 | | |
| Total | | 5037 | 100.0 | | |

## CESD Score

**CESD Score**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0 | 2437 | 48.4 | 48.4 | 48.4 |
| | 1 | 1095 | 21.7 | 21.7 | 70.1 |
| | 2 | 561 | 11.1 | 11.1 | 81.3 |
| | 3 | 312 | 6.2 | 6.2 | 87.5 |
| | 4 | 201 | 4.0 | 4.0 | 91.5 |
| | 5 | 153 | 3.0 | 3.0 | 94.5 |
| | 6 | 117 | 2.3 | 2.3 | 96.8 |
| | 7 | 105 | 2.1 | 2.1 | 98.9 |
| | 8 | 55 | 1.1 | 1.1 | 100.0 |
| | Total | 5036 | 100.0 | 100.0 | |
| Missing | System | 1 | .0 | | |
| Total | | 5037 | 100.0 | | |

## Race and Ethnicity

**Non-Hispanic White**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Non-white | 1282 | 25.5 | 25.5 | 25.5 |
| | White | 3755 | 74.5 | 74.5 | 100.0 |
| | Total | 5037 | 100.0 | 100.0 | |

**Non-Hispanic Black**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Non-black | 4370 | 86.8 | 86.8 | 86.8 |
| | Black | 667 | 13.2 | 13.2 | 100.0 |
| | Total | 5037 | 100.0 | 100.0 | |

**Hispanic**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Non-Hispanic | 4546 | 90.3 | 90.3 | 90.3 |
| | Hispanic | 491 | 9.7 | 9.7 | 100.0 |
| | Total | 5037 | 100.0 | 100.0 | |

## Years of Education

**Years of Education**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0 (None) | 32 | .6 | .6 | .6 |
| | 1 | 9 | .2 | .2 | .8 |
| | 2 | 18 | .4 | .4 | 1.2 |
| | 3 | 31 | .6 | .6 | 1.8 |
| | 4 | 18 | .4 | .4 | 2.1 |
| | 5 | 28 | .6 | .6 | 2.7 |
| | 6 | 70 | 1.4 | 1.4 | 4.1 |
| | 7 | 51 | 1.0 | 1.0 | 5.1 |
| | 8 | 145 | 2.9 | 2.9 | 8.0 |
| | 9 | 152 | 3.0 | 3.0 | 11.0 |
| | 10 | 243 | 4.8 | 4.8 | 15.9 |
| | 11 | 222 | 4.4 | 4.4 | 20.3 |
| | 12 | 1692 | 33.6 | 33.7 | 54.0 |
| | 13 | 380 | 7.5 | 7.6 | 61.5 |
| | 14 | 559 | 11.1 | 11.1 | 72.6 |
| | 15 | 226 | 4.5 | 4.5 | 77.1 |
| | 16 | 528 | 10.5 | 10.5 | 87.6 |
| | 17+ | 621 | 12.3 | 12.4 | 100.0 |
| | Total | 5025 | 99.8 | 100.0 | |
| Missing | System | 12 | .2 | | |
| Total | | 5037 | 100.0 | | |

## Age

**Age in Years**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 60 | 227 | 4.5 | 4.5 | 4.5 |
| | 61 | 218 | 4.3 | 4.3 | 8.8 |
| | 62 | 222 | 4.4 | 4.4 | 13.2 |
| | 63 | 210 | 4.2 | 4.2 | 17.4 |
| | 64 | 183 | 3.6 | 3.6 | 21.0 |
| | 65 | 183 | 3.6 | 3.6 | 24.7 |
| | 66 | 132 | 2.6 | 2.6 | 27.3 |
| | 67 | 155 | 3.1 | 3.1 | 30.4 |
| | 68 | 161 | 3.2 | 3.2 | 33.6 |
| | 69 | 152 | 3.0 | 3.0 | 36.6 |
| | 70 | 216 | 4.3 | 4.3 | 40.9 |
| | 71 | 249 | 4.9 | 4.9 | 45.8 |
| | 72 | 244 | 4.8 | 4.8 | 50.7 |
| | 73 | 255 | 5.1 | 5.1 | 55.7 |
| | 74 | 213 | 4.2 | 4.2 | 60.0 |
| | 75 | 220 | 4.4 | 4.4 | 64.3 |
| | 76 | 209 | 4.1 | 4.1 | 68.5 |
| | 77 | 189 | 3.8 | 3.8 | 72.2 |
| | 78 | 176 | 3.5 | 3.5 | 75.7 |
| | 79 | 154 | 3.1 | 3.1 | 78.8 |
| | 80 | 157 | 3.1 | 3.1 | 81.9 |
| | 81 | 152 | 3.0 | 3.0 | 84.9 |
| | 82 | 129 | 2.6 | 2.6 | 87.5 |
| | 83 | 101 | 2.0 | 2.0 | 89.5 |
| | 84 | 82 | 1.6 | 1.6 | 91.1 |
| | 85 | 90 | 1.8 | 1.8 | 92.9 |
| | 86 | 71 | 1.4 | 1.4 | 94.3 |
| | 87 | 59 | 1.2 | 1.2 | 95.5 |
| | 88 | 48 | 1.0 | 1.0 | 96.4 |
| | 89 | 49 | 1.0 | 1.0 | 97.4 |
| | 90 | 35 | .7 | .7 | 98.1 |
| | 91 | 30 | .6 | .6 | 98.7 |
| | 92 | 15 | .3 | .3 | 99.0 |
| | 93 | 17 | .3 | .3 | 99.3 |
| | 94 | 9 | .2 | .2 | 99.5 |
| | 95 | 6 | .1 | .1 | 99.6 |
| | 96 | 9 | .2 | .2 | 99.8 |
| | 97 | 5 | .1 | .1 | 99.9 |
| | 98 | 1 | .0 | .0 | 99.9 |
| | 99 | 2 | .0 | .0 | 100.0 |
| | 100 | 1 | .0 | .0 | 100.0 |
| | 101 | 1 | .0 | .0 | 100.0 |
| | Total | 5037 | 100.0 | 100.0 | |

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