Distribution Agreement

In presenting this thesis as a partial fulfillment of the requirements for a degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis in whole or in part in all forms of media, now or hereafter now, including display on the World Wide Web. I understand that I may select some access restrictions as part of the online submission of this thesis. I retain all ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles or books) all or part of this thesis.

Lucy Jane Rabinowitz April 14, 2014

The Economics of Emotion: How Social Capital Affects Mental Well- Being

by

Lucy Jane Rabinowitz

Dr. Ellen Idler
Adviser

Department of Sociology

Dr. Ellen Idler

Adviser

Dr. Corey Keyes

Committee Member

Dr. Peter Brown

Committee Member

2014

The Economics of Emotion: How Social Capital Affects Mental Well- Being

By

Lucy Jane Rabinowitz

Dr. Ellen Idler

Adviser

An abstract of
a thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

Department of Sociology

2014

Abstract

The Economics of Emotion: How Social Capital Affects Mental Well- Being
By Lucy Jane Rabinowitz

The connection between social context and physical and mental health outcomes is widely recognized in research. In this paper, I examine the relationship between individual levels of social capital and self-reported mental well-being. Using data from the MIDUS social survey conducted in 1995 and 1996 by the MacArthur Foundation, I created one scale measuring social capital through neighborhood social environment and another scale measuring mental well-being. Using multivariate regression analysis, I found that neighborhood social environment has a statistically significant impact on mental well-being. I also examined this relationship through the relative effects of the demographic variables age, sex, race, marital status, income and education. The results of my analysis shed light on the specific mechanisms through which neighborhood level social capital function to improve mental well-being. My findings demonstrate the importance in considering subjective neighborhood social environment as a cause of poor mental well-being. Future research on the intersection between social capital and mental well- being would benefit from including objective census-level data about neighborhood social environment as well as subjective self-reported measures.

The Economics of Emotion: How Social Capital Affects Mental Well-Being

By

Lucy Jane Rabinowitz

Dr. Ellen Idler

Adviser

A thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

Department of Sociology

2014

Acknowledgements

Many thanks to Dr. Idler, Dr. Keyes and Dr. Brown!

Table of Contents

INTRODUCTION AND BACKGROUND

The idea that social context and environment can affect physical and mental health is evolving. The study of health outcomes as a result of social mechanisms and positions is expanding and the evidence for the real effects that social environment and status have on instances of disease and illness has built a strong case in the past century. In a time of extreme inequality and disparities in health in the United States, thoroughly examining the specific social elements that define these disparities is necessary in order to imagine a solution to the problem.

For this paper, I analyze the effect that neighborhood and social capital have on feelings of depression and mental illness. I used the Midlife in the United States Phase 1 (MIDUS) data for my analysis and constructed a regression model that includes the effects that age, sex, race, marital status, income and education have on the relationship between social capital (as defined by neighborhood environment) and mental well-being. By doing this, I can examine closely the direct effects that neighborhood and social place have on an individual's feelings of relative mental well-being.

Defining Social Capital

The sociological theoretical framework for the discussion of social capital and mental health is rooted in the seminal work of Durkheim on Suicide (1951). Durkheim's work on the role of social integration and regulation in predicting suicide set the stage for research related to mental illness as suicide is the ultimate indicator of mental struggle. Individuals in a group are bonded through attachment

and regulation; attachment can be defined as how we socialize with each other and regulation can be defined as the extent to which we follow the rules of society. Anomic suicide occurs when there is too little social regulation and individuals are so far outside the constructs of social life that they do not know how to orient themselves to others and suffer detrimental effects on self-esteem. Altruistic suicide occurs when there is too much social integration and the social and structural restrictions on the individual are too deeply rooted to self-esteem that an individual will be willing to give up life for the sake of the social construct. Alienated or egoistic suicide occurs when there is too little social integration and the individual feels that they are outside of the structure of society. This type of suicide serves as the basis for my discussion of social factors of mental health. Because of Durkheim's conclusions, I would expect that individuals who are more likely to be marginalized from society because of social factors like sex, race, age and socioeconomic status would have worse mental well-being, even to the point of being more likely to commit suicide because of this social exclusion.

Since Durkheim, the ideas around social solidarity and group formation have evolved to focus on specific networks. Social network theory mirrors the Durkheimian idea of the shift in society from mechanical to organic solidarity; in our modern society, people make social connections based on interpersonal relationships as a result of the rise of individualization rather than collective action for survival. Social networks provide us with comfort and security within our social place.

John Bowlby's (1982) formulation of attachment theory can also help us understand the way that people relate to each other and the effects that social connections have on individuals. Attachment theory attempts to define the human need to form close bonds, such as mother and child connections. When a mother creates a secure environment for a child, that child is more likely to venture out and explore, which can build self-esteem. Self-esteem is essential for the formulation of social ties throughout life. The social connectedness that results from forming social ties and joining social networks can be incorporated into the definition of social capital.

The most established and commonly used contemporary definition of social capital was proposed by Robert Putnam in "Bowling Alone (2000)," in which he analyzed the decline of Americans involved community groups and social clubs toward the end of the 20th century. Putnam formulated the idea of social capital as the "connections among individuals- social networks and the norms of reciprocity and trustworthiness that arise from them (Putnam 2000: 19)." The most productive form of social capital is found in communities where social relations are mutually beneficial to the members of a network and bring the community closer. Putnam argues that communities with fewer ties to social clubs and community organizations, such as PTA chapters or bowling clubs, end up with less social capital and therefore people are less connected to each other. The implications of the amount of social capital in a community are extensive; the research presented in *Bowling Alone* highlights important social outcomes of disparities in social capital, including barriers to education, employment and health. Social integration and

social support in the community protect against potentially devastating conditions of poverty, lack of education and health behaviors like smoking, obesity and physical inactivity. Social capital can be interpreted as a tangible amount of connectedness available to an individual in a community; communities with higher levels of social capital give the residents of that community access to social networks that can make a huge difference in access to employment, healthcare and psychological well being. Access to these social networks not only give psychosocial advantages to individuals; they also provide interpersonal resources that the community benefits from in the form of economic and political capital. Communities with high levels of social capital are more likely to have the resources to support community members and accomplish political goals.

Prior to Putnam's definition of social capital, Pierre Bourdieu wrote about the different forms of capital that affect social relationships beyond economic capital. Bourdieu defines social capital as "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationship of mutual acquaintance and recognition- or in other words, membership in a group. (Bourdieu 1986: 248)" The inclusion of resources in this definition highlights an important aspect of social capital that Putnam downplays in his theory of social capital; namely that material resources and economic capital are intrinsically linked to social capital. While Putnam emphasizes social capital as a path to the development of resources, Bourdieu articulates the importance of economic capital as a factor in the creation of social capital. The effects of economic

capital on social capital are important to highlight because of the association between socioeconomic status and spatial location and residential environment.

The intersection of residential environment in social capital is where I focus my research. Using a measure of social capital defined by neighborhood characteristics, I examine the connections between social factors of place, identity and self-esteem. For the purpose of my analysis, I define social capital as the relative social connectedness to an individual's neighborhood and social environment. I use this measure of social capital as a primary determinant of mental well-being. In order to scrutinize the relationship between social environment and mental well-being effectively, I control for endogenous social characteristics of gender, race, and age and for institutional structural social characteristics of marital status, income and education. In this way, I am able to accurately evaluate the effects that neighborhood and social environment have on an individual's mental well-being.

Inequality and Health

Putnam noted about social capital that "our economy, our democracy and even our health and happiness depend on adequate stocks of social capital" (Putnam 2000: 27-28). The idea that health and happiness are affected by relative amounts of social capital is connected to a large body of research on social factors in determining health outcomes. Since Putnam published his theories on social capital in 2000, the disparities in wealth and resources in the US have become even more apparent and the result can be directly observed in the current disparities in health outcomes.

Michael Marmot's research presented in *The Status Syndrome* contributes a great deal to the growing body of work around disparities in health due to social factors. The book highlights the importance of biological and social factors in examining relative disparities in health outcomes. Marmot's theory of the status syndrome outlines how humans naturally form hierarchies and status groups in order to organize and categorize social interactions. Social influences like inequality have extreme effects on the health of every individual in a social structure and create a social gradient of health in which each lower level of a social hierarchy is associated with poorer health (Marmot 2004: 1). In other words, individuals at the top of the social status gradient are less likely to contract and die from disease and illness than those below them. This pattern can be imagined as a ladder with each rung acting as a step up or down on the social hierarchy. With each step up, an individual has a better chance at positive health outcomes; with each step down, an individual is more at risk for worse health outcomes. Poorer health outcomes overall are also associated with more inequality in a society; in a largely equal society, the ladder can be imagined as short with smaller spaces between the rungs. A society with large inequality would be represented by a tall ladder with large gaps in between the rungs, indicating extreme social distance between the stratified levels of society. This is particularly true of the United States, as seen in Wilkinson's work on health and wealth inequality.

Wilkinson's work on inequality and health outcomes expands on the idea of the status syndrome. In *The Spirit Level* (2009), Wilkinson finds that poor health outcomes are not just evident for those at the bottom of the social gradient;

inequality effects everyone from the bottom to the very top of the socioeconomic ladder. Relative inequality in societies also has effects on the health of that society. The examination of health outcomes across nations demonstrates that resources and GDP of a particular country are not reliable predictors of the health of the population. The relative socioeconomic status and levels of inequality are stronger predictors of health outcomes, in the form of life expectancy, when examined both between and within nations. Nations with more egalitarian societies, as measured by income inequality, have better health outcomes for the entire population than nations with large gaps in income.

The mechanism by which wealth inequality leads to health inequality is explained by Wilkinson in another publication on the impact of inequality. He proposes that greater income inequality leads to "increased social distances between income groups" (Wilkinson 2005: 201), which diminishes common identity and increases feelings of dominance and subordination between income and status groups. The large gaps between the rungs on the very tall ladder of the U.S.'s socioeconomic and health gradient are representative of this "social distance." The increasingly distinctive nature of the hierarchy leads individuals to become more competitive for a place at the top. This, in turn, leads to individualized focus on self-determination and material success and less pursuit of collective well-being and welfare, which erodes social relations (Wilkinson 2005). The application of this mechanism can be observed in society in the US today; as we have increased the gap between the rich and the poor, the discussion about collective accountability to help the underprivileged evolves into rhetoric of individualism and meritocratic

achievement. The effect that deteriorated social relations have on health evidences itself in higher rates of stress related disease and disorder as a result of increasing mistrust in society. Mistrust and social isolation in society are evidence of low levels of social capital. In this way, we can see that social capital helps to determine both physical and mental health outcomes. Relative levels of inequality in a society help predict the successful formation of social capital, which can then predict health outcomes for the society.

Mental Health and Social Environment

Mental health has been quantified and measured in a range of research methods. The relationship between mental health and social environment was first thoroughly evaluated in Chicago in 1939. Faris and Dunham, in the pioneering study examining mental disorder in urban areas, found that mental illness and societal place are closely related. Their research uncovered the intersectionality of quality of neighborhood living and other social factors that affect mental health outcomes. Mental disorder arises from struggles of developing successful connections in societal place as well as social isolation in neighborhoods. Residents of neighborhoods with high rates of poverty, crime and social problems have a higher likelihood of developing mental illness in the form of schizophrenia and depression as well as alcohol and substance abuse (Faris & Dunham 1939:154). The connection between social environment and mental health has been replicated and expanded in many studies since this finding by Faris and Dunham. The contemporary work

around mental health outcomes and social characteristics helps to inform my hypotheses.

For my analysis, I chose to examine mental well-being and its relationship to social capital in conjunction with other social characteristics. In particular, I chose to examine race, gender, income, education, marital status, and age as associated factors of relative feelings of mental well-being. The work done on social factors affecting all aspects of health are telling of growing issues around inequality and the need for effective approaches to ameliorate the negative effects of social inequality on the mental and physical health of populations.

Social Characteristic Variables

Age

In a study by Feinson (1985) on the relationship between aging and reported depressive symptoms, the idea that depression increases with age is debunked as myth (Feinson 1985: 167). The author examines multiple studies on the relationship between aging and mental illness and concludes that aging itself is not a significant factor in reported mental illness, but rather that other social factors like disability, social connectedness and sex account for the reported relationship between aging and depression. Blazer et al. (1991) conducted a similar study examining the relationship between depression and aging through potentially intervening variables and concluded that depressive symptoms actually decreased with age (Blazer et al. 1991: M214).

Another factor in considering aging and depressive symptoms is the idea of closeness and personal relationships. Close relationships reinforce both social capital and positive mental well-being. In a study by Lang et al. (2013), the amount of personal effort adults put into relationships was measured. The researchers found that older individuals (age 73) were more likely to invest emotional energy in social relationships, which then reinforces subjective feelings of closeness (Lang 2013: 537). This could be due to the feeling of "time running out" that aging individuals experience and a desire for close social connectedness in the latter years of life. This finding enforces the idea that age is associated with higher levels of social capital as developed through close relationships, and with better mental well-being as enhanced by those same personal relationships.

In the research conducted by Lisa Berkman (1997) about social integration and aging, she found that social isolation is a critical factor in aging and premature death. This research reflects the findings of Eric Klinenberg in his study of the Chicago heat wave of 1995. Klinenberg examined the social characteristics of the people who died in the heat wave and found that elderly residents who lived alone and without much social connectedness in the form of neighborhood, family or friendships were much more likely to die in the heat wave. In the two equally poor Chicago neighborhoods that Klinenberg examined, residents of the neighborhood with higher levels of social capital in the form of neighborly social interactions were much less likely to die in the heat wave than those in the neighborhood with more social isolation and less interaction. In other words, the neighborhood-level social

capital of elderly residents helped explain the seemingly randomly distributed pattern of mortality in the case of a natural disaster.

The theory and research surrounding age and social capital leads me to predict that older respondents may report higher mental well-being as a result of feeling closer to their neighborhood social environment and intentional effort in sustaining close personal relationships as they age.

Race

Race is one of the most interesting variables that I have chosen to include in my analysis. When discussing social capital theory in the context of race, it is worth noting that Lisa Garcia Bedolla, as well as other scholars, have criticized Putnam's model of social capital for its lack of relevance to those outside of white middle class America. Bedolla (2007) calls attention to the fact that most social networks in America are largely racially homogenous and that a framework for examining social capital that includes the way that race informs social relations is needed to truly piece apart the ways that social capital operates in all of American society (Jenning 2007:13). In one study, Hero (2003) used Putnam's own index of social capital presented in *Bowling Alone* to measure relative levels of social capital against relative levels of diversity in U. S. States. He found that when we consider racial diversity in examining social capital through voting and voter registration, higher rates of social capital increased civic engagement in white populations, but did not make a difference in black populations (Hero 2003: 114). This disparity clearly

demonstrates the need for more complex mechanisms to evaluate social capital in the context of race.

When examining the relationship between race and mental well being or depressive symptoms, an interesting pattern occurs. In another study of the MIDUS data, Keyes et al. (2009) found that there is a paradox in mental and physical health among black and white respondents. While black respondents are at higher risk for physical illness and disease, they faired better in mental health measures. The measures that Keyes used to address this were based around the idea of experienced discrimination. The findings suggest that thriving in difficult circumstances, while having adverse effects on physical health through the detrimental effects stress has on the body, actually acts as a protective factor against mental illness. Struggling in the face of a real perceived threat, such as race-based discrimination, actually strengthens mental resiliency. One of the protective factors against mental illness discussed in Keyes' finding is the idea of community; the strong social ties and support found in black social institutions like church and religion can act as a preventative measure for developing mental illnesses caused by social isolation and low position on the social structure gradient. The study of Chae et al. (2011) also supports the idea that interpreting experiences of discrimination helps to ameliorate their effect on mental health by minimizing personal characteristics as the cause of the discrimination, which is protective to self esteem. The results of the study demonstrated that individuals who reported high levels of racial group identification were less likely to develop serious psychological

disorders, which demonstrates that racial group identification can serve as a buffer against mental distress for African American populations.

Molinaa et al. (2012) examined differences in substance abuse between racial groups in neighborhood context. The findings of this study expand on the findings of Faris and Dunham. The authors found that while residential context matters in terms of comparing between neighborhoods, the racial composition of a community or neighborhood can actually help protect against substance abuse. The results of their analysis found that the risks for substance abuse for Asian, Black and Non-White Hispanic respondents living in predominantly white neighborhoods were higher than residents of neighborhoods with the same ethnic composition of the individual. This could be the result of social isolation based on race in higher income and socioeconomic status neighborhoods that are largely white. This shows that income alone is not an indicator that a member of a minority group can overcome mental illness. Higher median income neighborhoods were associated with higher rates of alcoholism and substance abuse for Black respondents, which could be due to feelings of social isolation and disconnect from their neighborhood and community. Even more interesting is the finding that living in low-income Latino communities was associated with lower risk of any alcohol or substance abuse for Latino residents. This sheds light on the mechanism of cultural practices as a protective factor against mental illness; the stability and sense of inclusion in immigrant and Latino communities reinforce cultural ideals about substance abuse and provide a space where individuals are less likely to feel socially isolated.

In another study done by Ospyuk (2012) on three major urban areas found that high segregation is associated with lower obesity and other health issues that minority populations face. The life course study on segregation found that there is intersectionality between residential segregation and the differential effects of social factors like race, gender, socioeconomic status and developmental stage.

Based on the research surrounding race as an indicator of both social capital and mental health, I predict that non-white respondents may score higher on the well-being scale, despite the fact that they report lower instances of social capital as they relate to neighborhood measures.

Sex

The relationship between sex and social capital is interesting in that it was largely ignored in Putnam's discussion of the varying degrees of social capital. Putnam argues that household social capital decreases partly due to more women leaving the home to join the workforce, as opposed to staying home and forming social connections. Lowndes (2004) posits that women are more likely to foster social capital through participation in community activities focused on health, education and social services. The decrease in women involved in these activities as a result of the increase of women in the workforce contributes to the diminishing of social capital. O'Neil (2006) takes a different approach to this evaluation and instead concludes that the organizations and clubs that were available to women were a result of sex exclusion from men's groups and served as a place for women to air their grievances about this social exclusion (O'Neil 2006: 21). O'Neil also asserts

that we must take economic capital and the issue of choice when we approach social capital with a gendered lens (O'Neil 2006: 5). Combining the exclusive nature of men's clubs and the gendered economic inequality of women entering the workforce allows us to see that women are at a disadvantage for accumulating social capital.

Women are also at higher risk for depressive symptoms then men, across many cultures. Women have a lifetime prevalence for major depressive disorders of 21.3% compared with 12.7% for men (Nolen-Hoeksema 2001:173). This is due to the stress of outsider status that women face, which include lack of respect, constrained choices and higher rates of poverty. In addition to the actual social factors contributing to the prevalence of depressive symptoms in women, the difference between male and female expressions of mental illness and depression must also be considered. Horwitz et al. (1996) found that in the case of divorce, women were more likely to develop emotional disorders like anxiety and depression while men were more likely to develop drug or alcohol abuse disorders in response to emotional distress. I am using expressive indicators of mental well-being, as opposed to diagnosed substance abuse disorders, which leads me to expect that the well-being of female respondents will be more accurately captured in the data than male. Because of the underprivileged status of women in both social capital and mental well-being lead me to predict that women will be more likely to have lower social capital and neighborhood measures and that these will be associated with lower levels of mental well-being.

Marital Status

Marital status is an important factor in considering the effects of social capital on mental well-being. Marriage contributes significantly to the level of social capital in an individual through secure social support and a two-fold increase in social networks. Two married people experience high levels of love, intimacy, security and social interaction and also expand their networks of social capital through their connection to another person (Waite & Lehrer 2003:6). The factors involved in social capital in marriage also contribute significantly to high mental well-being and happiness in married people.

Marriage provides numerous health benefits to people. In a study by Murphy in 1997, the researcher demonstrated that married people are less likely to suffer from long term illness and disability then unmarried people. Goodwin (1987) also showed that married people have higher rates of survival for illness then unmarried people. There are also measurable mental health benefits of marriage. Horwitz et al. (1996) showed that there are significant improvements in mental well being following marriage and significant declines after the marriage ends, in the case of widows, divorce or separation. Waite (2003) also showed that marriage is associated with overall happiness. Using evidence from the General Social Survey, Waite showed that married respondents were much more likely to report being happy with life than those who are not or have never been married. In another study about the health effects of marriage by Cornwell and Waite (2012), the importance of marriage in developing and maintaining social networks is emphasized. In the context of physical health, married individuals benefit from the

closeness of a spousal relationship as well as larger social networks as a result of intense partnership and extended family. The quality and extent of the social networks of married individuals would then translate into higher levels of social capital. Because of the positive effects on mental well-being and the likelihood of elevated levels of social capital that come along with being married, I predict that married respondents will have higher scores on the mental well-being scale and that those scores will be positively influenced by social capital measures.

Income

The relationship between income and mental health is well documented in many studies. When considering the effects of income on mental well-being, we can reincorporate the ideas of Bourdieu (1986) and social capital as well. The studies about economic factors of social capital reiterate the idea that social capital and economic capital are inextricably linked. Gresenze et al. (2001) found evidence that income plays a role in vulnerability to diagnosed mental illness as well as depressive mood and symptoms of struggle with mental well-being. In this way, socioeconomic status hierarchies mirror social capital hierarchies. Since I have already established that depressive symptoms and socioeconomic status are also related, I predict that socioeconomic status and mental well-being scores will be positively correlated.

Income & Marriage

In considering marital status and income as explanatory variables in social capital and mental well-being, I must account for the interaction between the two as

well as their independent effects. Since married individuals have the compounded effects of two incomes in a household, I predict that income will help explain some of the association that marital status has with social capital and mental well-being. Although married individuals may not individually have higher income then unmarried individuals, the reports of satisfaction and happiness of married individuals may be higher as a result of the economic security that comes with a two-income household.

Education

An individual's level of education has important effects on health. Education acts in conjunction with income to improve health outcomes, as those with more education are more likely to have higher paying jobs. The independent effects that education has on health are also significant, as Mirowsky and Ross (2003) examine in their comprehensive analysis of education, social status and health. Mirowksy and Ross found that more educated people generally report higher levels of good subjective health and fare better on measures of mortality and disease than those with less education (Mirowsky and Ross 2003: 33). The mechanisms through which more education leads to better health outcomes is defined by agency or the sense of personal control and resources an individual has at their disposal, which increases with education. Social capital can also be incorporated into the relationship between education and health. Mirowsky and Ross discuss the effects of education on interpersonal relationships and assert that education helps individual's develop stable and supportive relationships with other people (Mirowsky and Ross 2003:

126). More schooling increases an individual's capability to form supportive and equitable relationships through increasing an individual's capacity to solve interpersonal problems, negotiate issues and communicate effectively. Through these socialized skills, people with more education are more likely to form secure social connections that lead to higher levels of social capital. In this way, education should have a positive effect on mental well-being as well as social capital measured by neighborhood.

METHODS

In order to examine the relationship between mental well-being and social capital through neighborhood characteristics, I used data from the Midlife in the United States social survey (MIDUS). The MIDUS survey was conducted in 1995-1996 by the MacArthur Foundation Research Network on Successful Midlife Development. The study was a result of a collaborative interdisciplinary effort to examine the role of social and behavioral factors in health and well-being in a national sample of Americans. The MIDUS survey lends itself nicely to multivariate analysis of the social categories that I have chosen to examine.

Neighborhood

I chose to operationalize the section of the MIDUS questionnaire that surveys individual level comfort and security in neighborhood environment to measure social capital and trust in the community of respondents. I created a composite measure that combined the questions about neighborhood into an overall index of

Self-Reported Neighborhood Social Environment, found in Table 1. The questions measured level of agreement on statements from “A Lot,” “Some,” “A little,” and “Not at all.” The statements that I used to create my measure were; “I feel safe being out in my neighborhood during the day time” “I feel safe being alone in my neighborhood at night” “I live in as nice a home as most people” “I’m proud of my home” “I could call on a neighbor for help if I needed it” “Most people live in a better neighborhood than I do” “People in my neighborhood trust each other” “I don’t like to invite people into my home because I do not live in a very nice place” “Buildings and streets in my neighborhood are kept in good repair” “I feel very good about my neighborhood” “My neighborhood is kept clean” “It feels hopeless to try and improve my home and neighborhood situation.” The questions break down into categories that define different aspects of social capital and neighborhood. The statements about feeling safe in the day and night, as well as the statement about calling on neighbors for help measure perceived security and safety in the home of the respondents. The statements about pride and feeling good about the respondent’s home and neighborhood measure pride and self-esteem. The statements about the respondent’s feelings about their home and neighborhood in comparison to others measure levels of perceived relative deprivation. The statements about trust, and those about the cleanliness and upkeep of the quality of neighborhood measure trust and confidence. Accounting for trust, relative deprivation, safety and pride in my measure covers many aspects of social capital as it relates to social place. Low levels of any of these measures will be representative of missing key aspects of social capital and connectedness.

In order to create the composite measure, I had to recode some of the statement responses so that all 12 of the statement responses reflected a range of low to high comfort in neighborhood social environment. This measure proved to be statistically reliable, with a Cronbach's alpha measure of .848 overall. Self-Reported Neighborhood Social Environment served as my primary independent variable when examining the outcomes of the mental well-being index that I derived from the MIDUS data. Because there are 12 individual responses for the measure with a range of agreement from 1-4, the lowest possible score on Self-Reported Neighborhood Social Environment is 12, indicating extremely low social capital, and the highest is 48, indicating extremely high social capital. The actual range of scores on this composite measure in the MIDUS data is 14-48.

Mental Well-Being

While the MIDUS questionnaire includes questions about diagnosed mental illness including depression and mood disorders, I chose to create my own index measuring relative levels of mental well-being, which can be found in Table 2. I made this decision because of the barriers and biases that occur when using reported data on diagnosed mental illness. Respondents who are experiencing symptoms of depression or other mood disorders may not be diagnosed in an official capacity and receiving treatment. Even with the diagnosis of a mental illness, a respondent may be less likely to report their status on a questionnaire like the MIDUS. As a social scientist, I believe that the responses to a series of questions on

mood and satisfaction are a stronger indicator of feelings and general attitudes about life.

In order to create my index of mental well-being, I used responses from a section of the questionnaire that asks about level of agreement with statements about happiness and depressed feelings. The questions asked about the level of agreement on certain feelings experienced in the past 30 days and ranged from "All of the time," "Most of the time," "Some of the time," "A little of the time," and "None of the time." The questions I used were all framed as "During the past 30 days, how much of the time did you feel..." and the categories were "so sad that nothing could cheer you up?" "Nervous?" "Restless or Fidgety?" "Hopeless?" "That everything was an effort?" "Worthless? "Cheerful?" "Extremely happy?" "Calm and Peaceful?" "Satisfied?" "Full of Life?" In order to create my composite measure, I had to recode some of the responses so that each response indicated higher levels of agreement were in line with less depression and higher satisfaction and happiness. This measure was also very statistically reliable, with a Cronbach's alpha of .910 overall. In this way, I created a reliable and useful way to analyze relative depressed feelings, which allowed me to use the mental well-being index as my dependent variable. Because the measure consists of 11 items with 5 possible responses each, the range of responses is 11, indicating very low mental well-being, to 55, indicating very high satisfaction and happiness and mental well-being. The full range of possible scores was represented in the MIDUS data. Using this index, I examine the change in levels of mental well-being as examined through neighborhood, as well as other potentially explanatory variables.

Social Characteristic Variables

To examine the relationship between mental well-being and neighborhood characteristics, I included the six social characteristic variables that are traditionally used in the social sciences. I examined sex, race and age as endogenous social qualities and education, marital status and income as institutional structural or external social group identifiers. The descriptive statistics for all of the variables used in my regression model can be found in Table 3. Sex was measured by dichotomous male and female grouping. I coded the sex category 0 for male and 1 for female respondents. The category of age is included in the survey questionnaire, and because of the continuous nature of the variable, I used the full range of 20-75 years old as the measure of age.

Finding a way to measure race proved to be a challenge using the MIDUS data. The race categories on the questionnaire did not identify Hispanic as a response option, which I was disappointed in because I would have liked to have been able to break down the race category by ethnicity, with an individual Hispanic response because of the unique sociocultural structure found in Hispanic communities. I also found that the overwhelming majority of the respondents (90.7%) were white, which gives me extremely lopsided data that may be hard to draw population inferences from. I broke the race category down into White, Black and Other. The Other group includes respondents who identified as Native American or Aleutian Islander/Eskimo, Asian or Pacific Islander, Other and Multiracial. I found it important to divide the racial category of Black from the Other and White categories

because of the paradox in mental health found in research about Black populations. For my multivariate regression analysis, I created a Black/Non Black category to examine the relationship between black mental well-being versus White and Other respondents. I also created an Other/Non-Other category to examine the differences in the relationship between White respondents' versus Other respondents' well-being. This leaves White as the comparison, or reference group.

In order to measure the relative effects of education on the relationship between neighborhood and mental well-being, I broke down education into 5 categories; Less than High school degree, High school degree, A few years of college, College degree and Graduate degree or more. While the category of education is not continuous, the five educational distinctions enable useful analysis because of the value of higher education and importance of education in mental well-being. In order to examine the effect that marital status has on the relationship between neighborhood and mental well-being, I created two groups of people who are currently married and those who are unmarried, including separated, divorced, widowed and never married respondents. This allowed me to look at the various effects that marriage has on individuals. Similar to age, income is measured directly on the MIDUS survey in a continuous format of income brackets of $1,000. Because of this, I was able to perform analysis on income using this standard measure.

RESULTS

Bivariate Analysis

My bivariate correlations and means comparisons can be found in Tables 4 and 5. I first correlated the scores on the neighborhood trust and environment scale with the mental well-being index I made. Higher scores on neighborhood trust, demonstrating higher confidence and comfort in the respondent's neighborhood, was positively correlated with higher scores on the mental well-being scale, indicating higher life satisfaction and happiness (Pearson=.301). This correlation was statistically significant ($p<.001$). This positive correlation demonstrates that the connection between levels of mental well-being and self-reported neighborhood social environment exists in the MIDUS dataset.

I found positive correlations between mental well-being and age, education, income. In the case of age, the correlation of .115 ($p<.001$) indicates that older respondents have better mental well-being which replicates the findings of Blazer et al. and Feinson. The correlation between mental well-being and education is .050 ($p<.001$) which replicates Mirowsky's theories about how increased education protects against depressive symptoms. Income is also positively correlated at .072 ($p<.001$) indicating that higher income and mental well-being are associated in the data.

The bivariate relationships between mental well-being and the explanatory variables replicated much of the existing research and can be found in tables 4 and 5. In comparing mean scores on the mental well-being scale of male and female respondents, I found that male respondents had slightly higher average scores

(43.95 SD=6.32) than female respondents (43.05, SD=7.09). The 95% confidence interval of the mean difference between male and female mental well-being scores is (0.56, 1.23, p<.001). Since 0 is not included in this interval, there is evidence to support statistically significant, but very small differences between male and female respondents' scores on mental well-being. Similar evidence arises when examining the variable of marital status. Married respondents had higher average scores on the mental well-being scale (44.09, SD=6.33) than unmarried respondents (42.19, SD=7.40). A confidence interval of (1.55, 2.26, p<.001) demonstrates another case where the difference between married and unmarried respondent's scores on the mental well-being scale is significantly different. This means that female respondents have lower scores on the scale, as well as unmarried respondents. This is in line with the research on likelihood of depressive symptoms in women as a result of marginalization and in unmarried people as a result of the lack of protective social support that is provided through the institution of marriage.

The variable of race is important to examine at the bivariate level. In order to examine each racial category, I used my groupings of Black/White/Other and compared each category against a category that included the other two variables. For the means comparisons, Black respondents had the highest average well-being score (44.57, SD=6.50), Other respondents had the lowest (42.13, SD=6.33) and White respondents scores fell in between the two other categories (43.49, SD=6.69). However, a 95% confidence interval for the Black respondents mean scores (0.35, 1.92=3, p=.315) shows that while the mean scores for Black respondents versus Non Black respondents may be higher, the difference is not statistically significant. The

95% confidence interval for Other respondents versus Non Other respondents (-2.26, -0.56, p=.001) demonstrates that the lower average scores on mental well-being for Other respondents versus White and Black respondents are statistically significant. The 95% confidence interval for White versus Non White respondents (-.56, .63, p=.035) tells us even more about the relationship between race and mental well-being score. Because 0 is included in this interval, there may not be a significant difference between White respondents' mental well-being scores and Non White respondents. This could be because both Black and Other scores are included in the Non White category, one of which is higher and one of which is lower. The means comparisons of racial groups and mental well-being scores indicate a hierarchy of average scores ranging from Black as the highest scoring racial group, to White, to Other. This replicates the paradox; while Non-White minorities may overall score lower on mental well-being, Black minority respondents actually score higher on mental well-being than those who identify as "Other" in the racial category. The statistical significance at the bivariate level is not strong enough to make direct conclusions at this point, but the multivariate analysis may tell us more about the relationship between mental well-being and these three racial categories.

Multivariate analysis

The multivariate regression models that I constructed to examine the relationship between neighborhood environment and mental well-being help me to understand the effects of the explanatory variables on the relationship. The first equation I created shows the relationship between neighborhood index and mental

well-being scores. As seen in Table 6, the standardized coefficient of .301($p<.001$) is the same as the Pearson correlation coefficient in the bivariate measure.

When I added the endogenous social characteristic measures into the equation, the standardized coefficient for neighborhood index became .295 ($p<.001$). This means that the variables of sex, race and age helped explain a very small part of the relationship between social capital defined by neighborhood environment and mental well-being. Age had a positive effect of .033 meaning that with every increase of one year of age, the mental well-being score increased by .033. This is not a very strong influence, but the positive direction and statistical significance ($p<.001$) of the relationship confirms the research about the connection between age and mental well-being. These results indicate that two respondents with a 30 year age difference will have one point difference in mental well-being. The standardized coefficient for male versus female respondents in this model is –.054 ($p<.001$), which is fairly weak, but significant. The negative direction indicates that female respondents score slightly lower than male respondents on mental well-being. This replicates the bivariate findings of a small but statistically significant difference in the mental well-being scores of male and female respondents.

For Black respondents, versus White respondents, the unstandardized coefficient is -2.198. Since this is a dummy coded variable, the unstandardized regression coefficient tells us that the mean difference of scores on mental well-being scale between Black respondents and White respondents is 2.198 ($p<.001$) in favor of White respondents, when controlling for the other variables in the equation. The relationship between Other respondents and White respondents gives us

another piece of important information. The unstandardized regression coefficient for Other respondents versus White respondents is .061, with a significance of .886. This shows that there is no difference between White and Other scores on mental well-being once neighborhood is taken into account. This replicates the bivariate findings of the lack of significant difference between mental well-being scores of White and Other respondents.

My final regression model included the effects of both endogenous and external or structural institutional variables on the relationship between neighborhood environment and mental well-being. The effects of sex and age on mental well-being and neighborhood replicated the results from the previous model, with standardized coefficients of -.022 ($p=.098$) and .087 ($p<.001$) respectively. The relationship between Black versus White respondent's scores on the mental well-being scale was also consistent with the previous model, with a standardized coefficient of -.074 ($p<.001$). The unstandardized coefficient increased from -2.198 to -2.372, meaning that Black respondents had lower average scores on mental well-being than White respondents when taking all of the other variables into account. The slight increase in the unstandardized coefficients for age and race in the final model indicates that the effects of these variables on the relationship between mental well-being and neighborhood environment are slightly stronger taking all other variables into account. However, the effect as observed in this data is still very small and insignificant.

The coefficient for marital status in the regression model is negative and significant (-.964, $p<001$), which is consistent with my predictions about how being

unmarried (as opposed to being married, the reference category) is associated with lower scores on mental well-being and neighborhood social environment scales, when controlling for the other variables. The coefficients for education (.164, p=.033) and income (.041, p<.001) are also consistent with my predictions about the positive effects that these variables have on mental well-being and social capital as defined by self-reported neighborhood social environment. The standardized coefficients of all three of these variables are very small; for marital status the coefficient is -.066, for education the coefficient is .028 and for income the coefficient is .06. This demonstrates that while these variables have some statistically significant directional impact, they do not account for large differences in scores on mental well-being and neighborhood social environment.

When examining the standardized coefficients of the final regression model, the largest effects on mental well-being scores are a direct result of neighborhood social environment. The coefficient for self-reported neighborhood social environment is reduced from the original estimate of .301 to .271, which dramatically exceeds the effect of the other variables. The R squared for the final regression equation is .111, which is an increase from the original bivariate relationship between neighborhood and mental well-being scores (.091), This R squared value tells us that 11.1% of the variation in mental well-being scores is explained by the linear combination of all of the other variables (sex, race, age, marital status, education and income). This indicates that even taking all of the explanatory variables into account, 89.9% of the variation in mental well-being scores remains unexplained.

DISCUSSION

The results of my multivariate regression analysis largely confirm my predictions about the intersectionality between social characteristics, neighborhood social environment and mental well-being. Directional pattern is the most important information that can be derived from the effects of individual social characteristics on the relationship between neighborhood and mental well-being. Because all of the coefficients themselves are very small and therefore somewhat weak indicators of the relative strength of the variables, the negative or positive sign of the coefficients and the associated significance becomes the best way to interpret the regression model.

As predicted, age and income had highly significant positive directional impact on the original bivariate relationship. Neighborhood is especially important in the context of age because of the effect that personal effort has on the formation of social connections in elderly people; the fact that age interacts with neighborhood in explaining mental well-being demonstrates that older people may be more likely to interact with neighbors and feel more comfortable in their social environment as a result of intentional effort toward strengthening social connections in later life. Education also had a positive directional impact, but was not as significant ($p=.033$). Marital status had significant negative directional impact; specifically, being unmarried had a direct negative association with mental well-being. Being female, versus being male, had negative directional impact as well, but was not very significant ($p=.098$).

Race was the most complicated variable included in the regression model. The coefficients and significance of the racial group explanatory variables were revealing of some weaknesses in my analysis and in the data. Because of the nature of the dummy coded variable, I am able to make inferences about Black respondents and Other Respondents versus White respondents. The final coefficient for Black respondents was negative and significant, indicating that Black respondents have lower scores than White respondents on mental well-being and neighborhood social environment scales. The final coefficient for Other respondents was negative (-.002), very weak and not significant (.905). This indicates that there is no significant difference or advantage for White or Other respondents in scores of mental well-being and neighborhood social environment.

Overall, the association of neighborhood social environment with mental well-being was the strongest of all of my variables. This confirms my original hypothesis about the relationship between social capital and mental well-being. The fact that only a small percentage of the variation in mental well-being scores can be attributed to all of my other variables means that there are real population level effects of social capital as defined by neighborhood social environment on mental well-being and relative feelings of depression or satisfaction.

CONCLUSION

The results of my regression analysis and the extensive research on social capital and mental well-being lead me to conclude that neighborhood environment is an important factor in mental well-being of individuals. My findings replicate the

findings of the existing research on various social factors that effect both mental well-being and social capital. The idea that higher levels of social capital are acquired through more education, income, age and the institution of marriage are reinforced in my findings. These levels of social capital are also directly related to better mental well-being and give individuals an advantage in fighting symptoms of depression and possibly other health issues. The importance of marital status is also highlighted in my results, as the effect that marital status has on the relationship between mental well-being and neighborhood social environment was the greatest of my explanatory variables. This makes sense with regard to the existing research on marital status which finds that married people have higher levels of both social capital and mental well-being. The strength of the relationship is important because it is telling of the discrete benefits of marriage. Married people are more likely to have higher household incomes and larger social networks as a result of the two people in the union. Marriage also provides extremely close and intimate social support, which protects against experience of depressive symptoms. In this way, married people compound the benefits of marriage with other social characteristics and end up with better mental well-being and higher levels of social capital.

The concept of the Black/White paradox in mental health that Keyes (2009) found in the MIDUS data is not fully confirmed in my analysis. Black respondents had an advantage in average mental well-being scores, but this advantage did not translate into the multivariate regression analysis. When taking neighborhood social environment into consideration, Black respondents were more likely to have lower mental well-being scores. This is interesting in that it reflects the research about the

differential effects that social capital has on different racial groups; the influence of social capital measured through the self-reported neighborhood social environment scale for Black respondents actually leads to worse mental well-being.

Limitations and Future Research

The limitations of this study are most evident in the social category of race. The significance of my race variables were the weakest of all of the explanatory variables. Because of this, I cannot make population level inferences about the relationship between White and Other racial categories and mental well-being and neighborhood. I believe that this issue of insignificance is most likely due to the lack of an effective ethnic/race category. The sample population in the data reflects the racial composition of the US in 1995, but this causes problems for effective analysis on race variables when minorities do not make up enough of the sample. 90.7% (N=5600) of the respondents of the MIDUS survey were White, while only 5.2% (N=321) were Black and 4.1% (255) identified as the group I categorized as Other. Because of the small percent and number of Black and Other respondents, the results of my regression model as it relates to race are compromised. In order to resolve this issue for future research, it may be useful to examine a data set of a more racially diverse and sufficiently large sample.

I was also limited in this study by the original racial categories included in the MIDUS data. I was hoping to include the racial category of Hispanic/Non Hispanic White and Asian/Non Asian White in my analysis, but the original questionnaire does not include this racial category as an option for respondents.

Future research on the intricacies of specific racial group membership and the effects on mental well-being and social capital would benefit from including this racial category, as existing research has found interesting differences between Black, Hispanic, Non-Hispanic White and Asian populations.

For future research in the area of social capital and mental health, I believe that it would be helpful to include census-level data to examine specific characteristics of neighborhood in evaluating social capital. The MIDUS data is subjective in nature, which is an important measure of relative social capital, but I believe that objective factors and differences in neighborhood social environment such as urban, rural, suburban or relative rates of poverty and crime would be extremely useful in a thorough analysis of social capital. Self-reported measures can be useful to examining how people feel about their social environment, but relying exclusively on people's interpretations of their environment can sometimes lead to response bias and skewed data. I also believe that being able to extract information about relative residential segregation and integration would enable a more complete analysis of the specific effects that racial group identification has on social capital and mental health. Integrating objective statistical data about neighborhood characteristics into a study about subjective neighborhood social environment would provide a more complete picture of the social factors at work in the relationship between social capital and mental well-being.

Works Cited:

Berkman, Lisa F. and Lester Breslow. 1983. *Health and Ways of Living: the Alameda County Study.* New York, NY: Oxford University Press.

Berkman, Lisa F. 1997. "Looking beyond Age and Race: The Structure of Networks, Functions of Support, and Chronic Stress." *Epidemiology* 8 (5): 469-470.

Blazer, Dan, Bruce Burchett, Connie Service and Linda K. George. 1991. "The Association of Age and Depression Among the Elderly: An Epidemiologic Exploration." *Journal of Gerontology* 46(6): 210-215.

Bourdieu, Pierre. 1986. "The Forms of Capital." Pp. 241-258 in *Handbook of Theory and Research for the Sociology of Education,* edited by J. Richardson. New York: Greenwood.

Bowlby, John. 1982. *Attachment and Loss: Volume 1: Attachment.* 2nd Ed. New York, NY: Basic Books Inc. Publishers.

Chae, D.H., K.D. Lincoln and J.S. Jackson. 2011. "Discrimination, Attribution, and Racial Group Identification: Implications for Psychological Distress Among Black Americans in the National Survey of American Life (2001-2003)."*American Journal of Orthopsychiatry,* 81:489-497.

Cornwell, Erin York, Linda J. Waite. 2012. "Social Network Resources and Management of Hypertension." *Journal of Health and Social Behavior* 53 (2): 215-231.

Durkheim, Emile. 1951. *Suicide.* New York, NY: The Free Press.

Faris, R. E., & H. W. Dunham. 1939. *Mental disorders in urban areas; an ecological study of schizophrenia and other psychoses*. Chicago, IL: University of Chicago Press.

Feinson, Marjorie Chary. 1985. "Aging and Mental Health: Distinguishing Myth from Reality" *Research on Aging* 7: 155-174.

Gresenz, C.R., R. Strum and L. Tang. 2001. "Income and Mental Health: Unraveling Community and Individual Level Relationships." *Journal of Mental Health Policy and Economics* 4(4):197-203.

Goodwin, James S., William C. Hunt, Charles R. Key and Jonathan M. Samet. 1987. "The Effect of Marital Status on Stage, Treatment, and Survival of Cancer Patients." *Journal of the American Medical Association* 258 (21): 3125-3130.

Halpern, David. 2005. *Social Capital*. Malden, MA: Policy Press.

Hero, Rodney E. 2003. "Social Capital and Racial Inequality in America." *Perspectives on Politics* 1(1): 113-122.

Horwitz, Allan V., Helene Raskin White and Sandra Howell-White. 1996. "Becoming Married and Mental Health: A Longitudinal Analysis of a Cohort of Young Adults." *Journal of Marriage and the Family* 58:895–907.

Horwitz, Allen V., Helene Raskin White, Sandra Howell-White. 1996 "The Use of Multiple Outcomes in Stress Research: A Case Study of Gender Differences in Responses to Marital Dissolution." *Journal of Health and Social Behavior* 37 (3): 278-291.

Jennings, James, ed. 2007. *Race, Neighborhoods and The Misuse of Social Capital.* New York, NY: Palgrave Macmillan.

Kawachi, Ichiro, S.V. Subramanian and Daniel Kim, eds. 2008. *Social Capital and Health.* New York. NY: Springer Science and Business Media.

Keyes, C. L. M. 2009. "The Black–White Paradox in Health: Flourishing in the Face of Social Inequality and Discrimination." *Journal of Personality* 77: 1677–1706.

Klinenberg, Eric. 2002. *Heat Wave: A Social Autopsy of Disaster in Chicago.* Chicago, IL: University of Chicago Press.

Lang, Frieder R, Jenny Wagner, Cornelia Wrsuz, Franz J Neyer. 2013. "Personal Effort in Social Relationships Across Adulthood" *Psychology and Aging* 28 (2): 529-539.

Lowndes, Vivien. 2004. "Getting On or Getting By? Women, Social Capital and Political Participation" *British Journal of Politics and International Relations* 6:45-64.

Marks, Nadine F. and James D. Lambert. 1998. "Marital Status Continuity and Change Among Young and Midlife Adults: Longitudinal Effects on Psychological Well-Being." *Journal of Family Issues* 19:652–686.

Marmot, Michael. 2004. *The Status Syndrome: How Social Standing Affects Our Health and Longevity.* New York, NY: Henry Holt and Company.

Mirowsky, John and Catherine E. Ross. 2003. *Education, Social Status and Health*. Livingston, NJ: Transaction Publishers.

Molina, K.M., M. Alegría and C.N. Chen. 2012. "Neighborhood Context and Substance Use Disorders: a Comparative Analysis of Racial and Ethnic Groups in the United States." *Drug and Alcohol Dependence* 125 (1): 35-43.

Murphy, Mike, Karen Glaser and Emily Grundy. 1997. "Marital Status and Long-Term

Illness in Great Britain." *Journal of Marriage and the Family* 59(1):156–164.

Nolen-Hoeksema, Susan. 2001. "Gender Differences in Depression." *Current Directions in Psychological Science* 10(5): 173-176.

O'Niel, Brenda and Elisabeth Gidengil, eds. 2006. *Gender and Social Capital.* New York, NY: Taylor and Francis Group.

Osypuk, Theresa L. 2012. "Integrating a Life-Course Perspective and Social Theory to Advance Research on Residential Segregation and Health."3/24/14 4:46 PM *American Journal of Epidemiology* 177(4): 310-315.

Putnam, Robert. 2000. *Bowling Alone: The Collapse and Revival of American Community.* New York, NY: Simon and Schuster.

Ross, Catherine E., John Mirowsky and John Goldsteen. 1990. "The Impact of the Family on Health: A Decade in Review." *Journal of Marriage and the Family* 52:1059–1078.

Simon, Robin W. 2002. "Revisiting the Relationship Among Gender, Marital Status, and Mental Health." *American Journal of Sociology* 107:1065–1096.

Waite, Linda J. and Evelyn L. Lehrer. 2003. "The Benefits from Marriage and Religion in the United States: A Comparative Analysis." *Population Development Review* 29(2): 255–276.

Wilkinson, Richard. 2005. *The Impact of Inequality: How to Make Sick Societies Healthier.* New York, NY: The New Press.

Wilkinson, Richard and Kate Picket. 2009. *The Spirit Level: Why Greater Equality Makes Societies Stronger.* USA: Bloomsbury Press.

Table 1: Self-Reported Neighborhood Social Environment Index[1]		
Survey Question	*Measurement*	*Response*
I feel being out in my neighborhood during the day time	Safety and Security	Agree: 1= A Lot, 2= Some, 3= A Little, 4= Not At All
I feel safe being alone in my neighborhood at night	Safety and Security	
I could call on a neighbor for help if I needed it	Safety and Security	
I'm proud of my home	Pride and Self Esteem	
I feel very good about my neighborhood	Pride and Self Esteem	
I live in as nice a home as most people	Relative Deprivation	
Most people live in a better neighborhood than I do	Relative Deprivation	
I don't like to invite people into my home because I do not live in a very nice place	Relative Deprivation	
People in my neighborhood trust each other	Trust and Confidence	
Buildings and streets in my neighborhood are kept in good repair	Trust and Confidence	
My neighborhood is kept clean	Trust and Confidence	
It feels hopeless to try and improve my home and neighborhood situation	Trust and Confidence	

[1] Responses were recoded so that higher scores reflected more comfort and security in neighborhood social environment.

Table 2: Mental Well-Being Scale[2]		
Survey Question: How many times in the past 30 days did you feel…	*Measurement*	*Response*
So sad nothing could cheer you up	Depression	1= All of The Time, 2= Most of The Time, 3= Some of the Time, 4= A Little of the Time, 5= None of The Time
Nervous	Depression	
Restless or Fidgety	Depression	
Hopeless	Depression	
That everything was an effort	Depression	
Worthless	Depression	
Cheerful	Well- Being	
Extremely happy	Well- Being	
Calm and Peaceful	Well- Being	
Satisfied	Well- Being	
Full of Life	Well- Being	

[2] Responses were recoded so that higher scores reflected higher mental well-being.

Table 3: Descriptive Statistics					
Variable	N	Minimum	Maximum	Mean	Std. Dev
Dependent Variable					
Well-Being Scale	6165	11	55	43.4832	6.75193
Independent Variable					
Neighborhood Scale	6065	17	48	39.2617	4.9028
Explanatory Variables					
Age		20	75	46.38	13.004
Sex	7027			0.5169	0.49975
Male	3395 (48.3%)	0			
Female	3632 (51.7%)	1			
Race	6176			1.1346	0.44616
White	5600 (90.7%)	1			
Black	321 (5.2%)	2			
Other	255 (4.1%)	3			
Education	7095			2.9577	1.17387
Some High School or Less	681 (9.6%)	1			
High School Grad or GED	2060 (29.0%)	2			
Some College	2173 (30.6%)	3			
College Degree	1240 (17.5%)	4			
Graduate School or More	941 (13.3%)	5			
Marital Status	7103			0.3431	0.47478
Married	4666 (65.7%)	0			
Unmarried	2437 (34.3%)	1			
Income		1=Less than 0$	31=100,000 or More	18.02	10.037

Table 4: Means Comparisons						
Variable	N	Mean (Well-Being Score)	Std. Dev.	95% Lower	95% Upper	Significance
Race						
Black (vs Non Black)	296	44.5709	6.5002	0.35359	1.92712	0.315
White (vs Non White)	5484	43.4896	6.69284	-0.55918	0.6263	0.035
Other (vs Non Other)	250	42.136	7.70526	-2.26149	-0.55647	0.001**
Sex						
Male	2940	43.9524	6.32615	0.56008	1.23367	0.000***
Female	3225	43.0555	7.0919			
Marital Status						
Married	4173	44.099	6.32751	1.54685	2.26195	0.000***
Unmarried	1989	42.1946	7.40424			

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

Table 5: Correlations	
Variable	Mental Well Being Scale
Income	.072 ***
Education	.050 ***
Age	.115 ***
Neighborhood Scale	.301 ***

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

Table 6: Multiple Regression Models			
Variables	Model 1	Model 2	Model 3
Neighborhood Index	0.415**	0.405**	0.373**
(Standardized Coefficients)	(0.301)**	(0.295)**	(0.271)**
Male (vs Female)	-	-0.722**	-0.303
	-	(-0.054)**	(-0.022)
Race			
Black (vs white)	-	-2.198**	-2.372**
	-	(-0.069)**	(-0.074)**
Other (vs white)	-	0.061	-0.052
	-	(0.002)	(-0.002)
Age	-	0.033**	0.046**
	-	(0.063)**	(0.087)**
Unmarried (vs Married)	-	-	-0.964**
	-	-	(-0.066)**
Income	-	-	0.041**
	-	-	(0.06)**
Education	-	-	0.164
	-	-	(0.028)
Intercept	27.203	28.43	28.187
R squared	0.091	0.102	0.111
N	5919	5835	5587

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