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Neighborhood Effects of Social Captial on Children and Its Meaning for Adulthood Outcomes

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NEIGHBORHOOD EFFECTS OF SOCIAL CAPTIAL ON CHILDREN AND ITS MEANING FOR ADULTHOOD OUTCOMES

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DEDICATION

I dedicate this work to my mother, Nam-seok Lee, who offered unconditional love and support.

가장 존경하고 사랑하는 우리 엄마, 이남석 여사에게 이 논문을 바칩니다.

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NEIGHBORHOOD EFFECTS OF SOCIAL CAPTIAL ON CHILDREN AND ITS MEANING FOR ADULTHOOD OUTCOMES

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ABSTRACT

Individuals' residential location strongly affects their personal access to opportunity, such as obtaining sufficient public goods and services. In addition, the neighborhood environment shapes the outcomes of their children when they reach adulthood. One explanation for these neighborhood effects on children is social capital. This study reconceptualizes social capital based on Pierre Bourdieu's Capital theory (1984; 2011) to resolve unexplained gaps in existing social capital theory and aims to analyze empirically the impact of various forms of neighborhood social capital in childhood on adult outcomes.

This study categorizes social capital into two types: relation-based social capital (relationships within a neighborhood) and descriptive neighborhood social capital (the neighborhood location and its resources). This research quantitatively measures these two types of childhood social capital and examines its effects on adult outcomes, showing how a lack of cumulative resources creates unequal access to opportunities. This study uses Structural Equation Modeling (SEM) and data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to determine the role neighborhood social capital plays in unequal access to neighborhood resources. This approach shows both direct and indirect effects of each form of neighborhood social capital on adult outcomes. Also, how childhood neighborhood social capital mitigate or promote its effects on adult outcomes. Results indicate that a lack of cumulative resources creates unequal access to opportunities. It also shows the ways in which childhood neighborhood attachment acts as a mediator of that relationship. Even if

residents have access to neighborhood resources, the impact of neighborhood social capital can vary depending on whether they experience relationships within a neighborhood or not. This research contributes to the literature in two ways, by showing: 1) how the embeddedness of social capital creates unequal access to neighborhood resources, and 2) how the embeddedness of neighborhood social capital impacts adult outcomes.

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INTRODUCTION

Individuals' residential location strongly affects their access to opportunity as well as their children's outcomes when they reach adulthood (Allard, 2008; Ellen & Turner, 1997; Galvez, 2010; MacDonald, Shildrick, Webster, & Simpson, 2005). Access to locational opportunity has become the core issue of housing and community development policies since place-based housing policy such as public housing concentrates the poor into inner cities, and suburbanization removes resources from the inner city. Further, inner city residents (mostly families with low incomes), due to their location, suffer from a lack of nearby job opportunities, sufficient public goods, and services such as schools (Allard, 2008). Housing dispersal/mobility policy was designed to move families with low incomes from public housing based on a belief that de-concentrating poor from distressed public housing and moving them to private housing in better neighborhoods offered better access to opportunity to families with low incomes (Park, 2012). Moving to Opportunity (MTO) (Briggs, Popkin, & Goering, 2010) gives some good examples of MTO participants and their access to opportunity. MTO program allows families to move into a neighborhood with a poverty rate of less than ten percent, since living in a better neighborhood allows better neighborhood opportunities (Briggs, Popkin, & Goering, 2010; Duncan & Zuberi,

2006). However, Briggs, Popkin, & Goering (2010) introduced some examples of MTO participations who used to live in a public housing and moved to a better neighborhood with the program, but still suffered in their new neighborhood and moved back to their old neighborhood. One explanation for why people moved to back to their old neighborhood is social capital (Briggs, Popkin, & Goering, 2010). They decided to move back to their prior neighborhood which is a distressed place because they do not feel isolated there. This experience of social capital took on a critical role in neighborhood effects' studies (Alaimo, Reischl, & Allen, 2010; Carpiano, 2006; 2007; 2008; Carpiano & Hystad, 2011; Conner, 2012; DeFilippis, 2001; Haines, Beggs, & Hurlbert, 2011; Jencks & Mayer, 1990; Rupasingha & Goetz, 2008; Weiss, 2008).

1.1. Definitions Social Capital

Social capital has emerged as a common construct in social science literature in recent decades (Adler & Kwon, 2002; Drukker, 2000; Fukuyama, 1995, 2001; Lin, 1999) and is broadly defined as an intangible stock or resource based on a relationship (Adler & Kwon, 2002; Bourdieu, 1984; Coleman, 1988; Drukker, 2000; Fukuyama, 2001; Lin, 1999; Narayan & Cassidy, 2001; Putnam, 1993). However, the specific definition and operationalization of social capital varies depending on the researcher, and there is no single agreed-upon form of social capital theory (Bankston & Zhou, 2002; Bourdieu, 1984; Coleman, 1988; Fukuyama, 2001; Lin, 1999; Narayan & Cassidy, 2001; Putnam, 1993).

There are two main schools of thought in defining social capital – one based on the work of Pierre Bourdieu and the other on Robert Putnam. Even though Bourdieu (1984) first identified the term social capital, most readers are familiar with the popularization of the term thanks to the famous book *Bowling Alone: The Collapse and Revival of American*

Community by Putnam (2001) (DeFilippis, 2001; Portes, 1998). Robert Putnam (1993; 2001) considered social capital as largely a positive factor for individuals. He saw social capital as connections or social networks among individuals that give them mutual benefits. However, he overlooked the effects of its exclusion of outsiders. On the other hand, French sociologist Pierre Bourdieu (1984; 2011) operationalized the term social capital positing instead that social capital is the accumulation of relation-based resources that function to distinguish individuals and allow them to get ahead of others. He expressed a critical perspective on social capital because it reproduces gaps in the amount of social capital across individuals and neighborhoods, and therefore can lead to inequality (Bourdieu, 1984; 2011; Carpiano, 2006). Bourdieu referred to this inequality in social capital as embeddedness; his concept of embeddedness of social capital challenges existing neighborhood effect studies that rely on Putnam's view of social capital.

1.2. Neighborhood Social Capital

1.2.1. Social Capital as Unequal Access to Opportunity

In studies of neighborhood effects, social capital has largely been considered a positive factor for residents because most studies adopted Putnam's view of social capital (Carpiano, 2006; Chetty, Hendren, & Katz, 2016; Chetty, Hendren, Kline, & Saez, 2014; Ludwig et al., 2012; Rupasingha & Goetz, 2008). Chetty et al. (2014; 2016) argued that higher levels of social capital have a positive effect on children's success and their upward mobility. It is commonly believed that residents with more social capital have better community opportunities than those with less social capital (Putnam, 1993; Putnam, Leonardi, & Nanetti, 1994; Rupasingha & Goetz, 2008). However, Putnam and his followers' view of social capital has critics who illuminated the downside of social capital

(DeFilippis, 2001; Portes, 1998; Woolcock, 1998). These downsides to social capital can be divided into two categories. First, there are adverse effects on members in a relationship who share social capital (impediment of autonomy), such as excessive claims on group members, restrictions on individual freedoms, and downward leveling norms. Second, there are adverse effects on the outsiders (embeddedness), such as exclusion (Portes, 1998; Woolcock, 1998).

The tragedy of commons (Hardin, 2012) can be a good example of impediment of autonomy and embeddedness. In an open pasture, each herdsman attempts to keep as many cattle as possible. Since adding one more cattle has a positive effect of one but negative effects divided by the number of pasture members in an open pasture, each herdsman seeks to maximize their benefit by adding cattle. However, in the long run, the herdsmen must work together and manage the optimal number of cattle for the community. It makes everyone happy for the long term to keep their pasture. Putnam (1993; 2001) pointed out the importance of cooperation and claimed that everyone would be better off if everyone could cooperate. He suggested that social capital is a way to overcome social dilemmas of collective action such as tragedy of the commons. In this example, managing the optimal number of cattle for the long-term for the community instead of maximizing gain for each individual is the first downside of social capital (impediment of autonomy). However, Bourdieu pointed out that social capital is not an open pasture. In other words, the commons are not open to all. There is inequality between a herdsman with the access to the pasture and a herdsman without the access (embeddedness).

While Putnam (1993) does acknowledge limitations of social capital such as these, his contribution to scholarship is the resources that individuals gain through social capital.

He does not study what happens to those individuals who are either excluded from resources or who simply do not or cannot access resources. Thus, Putnam's critics argue that he does not go far enough in examining the limits of social capital. On the other hand, Bourdieu (1984; 2011) saw social capital as having mutual benefits but also as a transformative capital that created unequal access to network-based resources (Carpiano, 2006; 2007; 2008; 2011). In this regard, this research takes Bourdieu's embeddedness of social capital and focuses on not only positive effects but also the downside of embeddedness.

According to Bourdieu (1984; 2011), even though a neighborhood is one of the elementary boundaries of social capital, merely living in a neighborhood is not a sufficient condition to have access to social capital since social capital is created, maintained, and enhanced by continuous acquaintance and recognition. In other words, residents could obtain "very unequal profits from virtually equivalent (economic or cultural) capital based on their connection or relationship" (Bourdieu, 2011, p.27). Carpiano (2008) also took Bourdieu's view of social capital and demonstrated that neighborhood social capital has various forms and each type of neighborhood social capital has not only positive effects but also negative effects. Weiss (2008) examined how neighborhood social capital and school social capital work differently for children.

1.3. Dissertation Organization

This research studies the long-term effects of various forms of neighborhood social capital in conjunction with the resources parents offer children (parental neighborhood social capital and parental educational attainment as parental descriptive social capital) and the attachment children have to their particular neighborhood (childhood neighborhood

social capital) on adult outcomes. Taking Bourdieu's perspective, this research seeks to resolve unexplained gaps in the social capital literature. In chapter 2, a literature review of social capital outlines both positive and negative effects of social capital. This research reconceptualizes social capital focusing on Bourdieu's Capital theory (1984; 2011) and the embeddedness of social capital as a mechanism of inequality. In chapter 3, based on literature review, this study categorizes social capital into two types: relation-based neighborhood social capital (relationships within a neighborhood) and the neighborhood location and its resources (descriptive neighborhood social capital). Chapter 3 also provides the theoretical groundwork that allows me to conceptualize social capital in order to measure it for this research.

Chapter 4 quantitatively measures social capital and examines the relationships among various forms of childhood social capital and adult outcomes, showing how a lack of cumulative resources creates unequal access to opportunities. This study uses Structural Equation Modeling (SEM) and data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to determine the role neighborhood social capital plays in unequal access to neighborhood resources. The methodology of this study includes how I measure each form of neighborhood social capital and adult outcomes such as adult educational attainment, adult earnings, adult assets, and adult subjective economical outcomes. Childhood neighborhood social capital is used as a mediator of that relationship. Chapter 5 offers a descriptive summary and the results of SEM. Lastly, Chapter 6 provides a discussion and conclusion that summarizes the findings and discuss limitations. This chapter also notes implications and contributions of this paper.

Using SEM, this research examines both direct and indirect effects of each form of neighborhood social capital on adult outcomes. Also, how the role of childhood neighborhood social capital mitigates or promotes its effects on adult outcomes. This research contributes to the literature in two ways, showing how the embeddedness of social capital creates unequal access to neighborhood resources and how the embeddedness of neighborhood social capital impacts adult outcomes. This research argues urban policymakers must evaluate those who does not have access to the various forms of neighborhood resources and support these individuals in accessing them.

CHAPTER II

LITERATURE

2.1. The Chronology of Social Capital

Social capital becomes one of the most important lenses through which to examine neighborhood effects because the minute scholars attempt to study its trajectory, they find themselves lost in a sea of both definitions and scholarship, much of which leaves them tossed about. Most problematic in this examination is the backwards work that scholars must undergo. Since there is no single agreed-upon form of social capital, it is hard to identify when the term social capital started to be used. Depending on the theory, social capital's forms and boundaries change (Carpiano, 2006; 2007; 2008).

One of the first scholars to consider social capital was Bourdieu (1984; 2011) (Portes, 1998). He is the first scholar who studied "systematic contemporary analysis of social capital" (Portes, 1998, p.3). However, his work did not gain much attention in the "English-speaking world" since he wrote in French (Portes, 1998, p.3). Hanifan (1916) is considered as a person who created the term of social capital (Putnam 2001; Woolcock, 1998). The term social capital was popularized by Putnam's (2001) book *Bowling Alone: The Collapse and Revival of American Community* (DeFilippis, 2001; Portes, 1998; Woolcock, 1998). This scholar used Hanifan's definition of social capital which is

"goodwill, fellowship, mutual sympathy and social intercourse among a group of individuals and families" (1916, p.130). Under this definition, social capital has been considered as positive factors on people in the relationship.

2.2. Defining Social Capital

Social capital has multiple definitions. The problem with social capital is that, even though social capital serves a critical role as a neighborhood indicator, its vague definition makes it hard to use as an analytical tool (Fournier, Øyen, Darcy de Oliveira, Woolcock & Prakash, 2002; Portes & Sensenbrenner, 1993;). Lappe and Du Bois (1997) also skeptically considered it a "wonderfully elastic term," (p. 119) arguing that the vagueness of the definition of social capital as it is used covers too broad a range of social problems.

Putnam (2001) explained the disconnection faced by American communities and how connections among family, friends, and neighbors are enhanced by social capital, improving American communities. He considered social capital necessary for developing prosperous communities since social capital is a beneficial resource derived from relationships. The term as popularized by Putnam and Fukuyama (2001) expanded the study of social capital from sociology to economics.

Fukuyama (2001) and Putnam (1993) asserted that "trust" in a relationship was a key component of social capital, and social capital can exist for mutual benefit for those who are in the relationship. Putnam (1993) argued that voluntary cooperation and trust in a relationship creates social capital, and the social capital works as a booster of co-operation between individuals/groups among society.

While Putnam is most often cited regarding social capital, Bourdieu gave a more expensive depiction of this construct. Bourdieu defined social capital as "the sum of the

resources, actual or virtual, that accrue to an individual or a group by possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu, 1984, p.119). Bourdieu (1984; 2011) saw social capital as cumulative resource-based nature. People can use social capital to reproduce resources so it can create differences between people who owned social capital and people without social capital.

2.1.1. Two Schools of Thought on Social Capital: Bourdieu versus Putnam

Since there is no single agreed-upon form of social capital theory, the definition and conceptualization of social capital varies depending on the researcher (Bankston & Zhou, 2002; Bourdieu, 1984; Coleman, 1988; Fukuyama, 2001; Lin, 1999; Narayan & Cassidy, 2001; Putnam, 1993). Nevertheless, there are mainly two different ways researchers have conceptualized social capital: one based on Robert Putnam, and the other based on Pierre Bourdieu.

Putnam defined social capital as "features of social organization, such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam, 1993, p. 2). He saw "strong traditions of civic engagements", such as "voter turnout, newspaper readership, membership in choral societies and literary circles, Lions Clubs, and soccer clubs" as indicators of social capital (Putnam, 1993, p. 2). Scholars Chetty et al. (2014) and Rupasingha and Goetz (2008) follow Putnam in including residents' participation (such as voters' turnout rates) and the fraction of religious individuals in their social capital index. Again, these scholars emphasize the positive aspect of social organizations.

On the other hand, Bourdieu asserted that "the reproduction of social capital presupposes an unceasing effort of sociability, a continuous series of exchanges in which recognition is endlessly affirmed and reaffirmed" (Bourdieu, 2011, p. 22). In other words, he saw social capital as a cumulative relation-based resources that reproduce existing resources and class like other economic capital.

The difference between these scholars' views is that Putnam (1993) saw social capital as a feature that facilitates cooperation that give mutual benefits to people who cooperate while Bourdieu saw social capital as having the potential to give unequal access to opportunity. According to Putnam (1993), people cooperate or use social capital for reciprocal benefits. Since he saw social capital as an important value of democracy, his concept of social capital as represented by civic participation or cooperation has been regarded as having positive effects. Neighborhood effect studies which rely on Putnam and his followers' view of social capital have highlighted only positive aspects of social capital. Putnam (1993) mentions social inequality between insiders who are in a relationship and get benefits and outsiders who are not in the relationship, and so are excluded from the benefits.

On the other hand, Bourdieu (2011) explicitly expressed that social capital consists of cumulative relation-based resources which function to distinguish individuals and allow them to get ahead in life. While Putnam emphasized only the positive effects of social capital, which creates benefits for the insider, and overlooked its exclusiveness to outsiders, Bourdieu considered social capital as a mechanism that creates inequality, like economic capital, since people use social capital to get ahead of others.

2.1.2. Bourdieu's Capital Theory as Yielding Unequal Access

Bourdieu's social capital is focused on its resource-based nature, or how people use their relationships as resources to accumulate and reproduce what they have (Carpiano, 2006). In his research on the forms of capital, Bourdieu (1984, 2011) categorized capital into three forms: economic capital, cultural capital, and social capital.

Economic capital is directly transformed into money or property. This is clear to conceptualize but its effects are very broad. Economic capital is considered as the root of cultural capital and social capital and these three types of capital are transformable (Bourdieu, 2011). Cultural capital is very closely related to social capital since cultural capital is also related to relationships among family. Children within a family are a good example. Family is an essential and very exclusive form of social capital since it is based on blood ties, marriage, and legal relationships. Children consciously or unconsciously obtain cultural capital from their parents, grand-parents, families, and family traditions. Bourdieu defines cultural capital as focused on the relationship between groups who are very close such as families, close relatives, and kin, while social capital focuses on relationships between individuals/groups which is inclusive of cultural capital.

Bourdieu's social capital is a transformable form of cultural capital and defined as a resource-based relationship. 2011It is hard to know which one belongs to which particular form since social capital and cultural capital are rooted in economic capital, and these three forms are transformable (Bourdieu, 2011). In his theory, social capital and cultural capital contribute to inequality because they reproduce existing resources, just as economic capital does (Abel, 2008; Bourdieu, 2011). Bourdieu pointed out how the important features of

social capital (embeddedness or exclusiveness) allowed individuals unequal access to network-based resources (Bourdieu, 2011; Carpiano, 2006).

Based on Bourdieu's Capital theory, capital is categorized into three forms (economic capital, cultural capital, and social capital) and these are transformable. In other words, Bourdieu's social capital covers not only relationship-based resources but also cultural capital and economic capital. Taking his view, this research reconceptualized the social capital.

2.1.3. Distinguishing Social Network and Social Capital

Coleman (1988) was another important American sociologist studying social capital. Coleman's view of social capital is based on rational choice theory, which means social capital is a tool to gain a more productive social network to maximize utility (Coleman, 1988). He believed that trust is "a maximization of utility under risk" (Coleman, 1988; Kim, 2004, pp.76-77). Coleman defined the function of social capital as "...not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors whether persons or corporate actors within the structure" (Coleman, 1988, p. 98).

Based on the definitions above, social capital is a kind of invisible stock created between people or groups (Rupasingha & Goetz, 2008). In this regard, the terms *social capital* and *social network* are used interchangeably. Social network is defined as follows:

> The typologies referred initially to the degree of similarity or dissimilarity of a network, estimated with reference to the range of membership groups which make up the network. Membership groups identified from residents' account of their social ties include family, ethnic group, neighbors in the street/block, people in the wider community, school friends, people connected with present and past work, clubs, churches, voluntary organizations and local initiatives. (Cattell, 2001, p.1506)

Social networks provide not only social support, self-esteem, identity, and perceptions of control but also provide job-search tools (Cattell, 2001). They are influenced by relationships among persons as well as by individuals' location, which means the location affords proximity to neighbors who can offer a variety of supports (Cattell, 2001; MacDonald, Shildrick, Webster, & Simpson, 2005). In this regard, social network shares meaning with social capital for this research.

While social network and social capital share meaning, this distinction needs to be understood even though the two remain synonymous in this dissertation. Social capital is a capital (valuable relationships) someone holds through relationships with other individuals/groups since social capital is based on the network between people/groups. In this regard, social capital is a contextual synonym for the social network when people talk about social capital between individuals in social relationships. In this paper, I am using the term *social network* as a synonym for social capital since the definition of social capital means capital created between individuals/groups. In this literature, Coleman (1988) asserted that ownership was a factor in the definition of social capital, terming it "human capital" meaning that we do not own a relationship. While Coleman is correct in that no one owns others in relationships, for the purpose of this study, social capital does afford individuals with things they do own: the relationships bring them a wide variety of useful tools.

2.3. Forms of Neighborhood Social Capital

Individuals' residential location strongly affects their personal access to opportunity, such as obtaining sufficient public goods and services; and the neighborhood environment shapes the outcomes of their children when they reach adulthood (Allard,

2008; Ellen & Turner, 1997; Galvez, 2010; MacDonald, Shildrick, Webster, & Simpson, 2005;). For this reason, access to locational opportunity has become a core issue of housing and community development policies ever since public housing has had the effect of concentrating families with low incomes into inner cities. Suburbanization made inner city residents consist primarily of those families with low incomes to suffer the lack of nearby job opportunities and reach out for often insufficient public goods and services such as schools (Allard, 2008).

The Moving to Opportunity (MTO) program is a good example of shifting locational opportunity. MTO was created because public housing gathered people geographically who chronically experienced poverty (Briggs, Popkin, & Goering, 2010). The environment surrounding poor people and physically distressed public housing had adverse effects on residents and their community. The Housing Choice Voucher Program (HCVP, colloquially called Section 8) has had an effect on the de-concentration of the poor (Park, 2014), but the impact is limited since the program offers little direction regarding relocation (Briggs, Popkin, & Goering, 2010). HCVP often moves voucher holders into private housing in another poor neighborhood, instead of moving voucher households to better neighborhood (Briggs, Popkin, & Goering, 2010). To respond to this issue, the MTO program offered a housing voucher with housing relocation counseling, and a search assistant to give recipients an opportunity to live in a better neighborhood.

"Opportunity" in this program means locational opportunity and it is assumed that exists in a better neighborhood. Better locational opportunities are defined as a neighborhood with less than ten percent poverty. In other words, this program was designed assuming that less poverty in a neighborhood provides better resources to residents. Briggs

et al. (2010) argued that moving to a lower-poverty neighborhood led to MTO voucher holders' children lower drop-out rates in high school, long-term outcomes of college attendance, and higher earnings. Drukker (2000) and Turley (2001) also asserted that neighborhoods have a positive effect on children's future income.

Chetty et al. (2014) and Ludwig (2012) described "better" neighborhoods as those that have less than a ten percent poverty rate, while providing (a) less residential segregation, (b) less income inequality, (c) better primary schools, (d) greater social capital, and (e) better quality of public services. In other words, neighborhoods with less than a ten percent poverty rate tend to have less racial segregation and income inequality, better public services, and greater social capital. These features have positive effects on residents and their children.

Another way Putnam's view of social capital yields only positive results occurred in Chetty et al. (2014); these scholars examined social capital on residents and children using the social capital indices of Rupasingha and Goetz (2008) based solely on Putnam (1993). This social capital indices are comprised of residents' voter turnout rates, the fraction of religious individuals living in the neighborhood, and the violent crime rate of the neighborhood. In other words, in this research, greater social capital had positive effects on a neighborhood, meaning the community had more civic participation, more religious individuals, and less crime.

However, Bourdieu's neighborhood social capital provides a wider view of neighborhood social capital including not only positive, but also adverse effects. Carpiano (2006; 2007; 2008; 2011), who used Bourdieu's theory to see what kind of social capital exists in a neighborhood, divided neighborhood social capital into four characteristics: (a)

social support, (b) social leverage, (c) informal social control, and (d) neighborhood organization participation. Social support is how residents cope with daily problems with neighbors, such as social gathering. Social leverage is information channels that exist among residents, such as job referrals. Informal social control is like Jane Jacobs' externalities, such as "eyes on the street" (Jacobs, 1961). The "eyes on the street" keep the neighborhood clean and safe. A neighborhood watch group is an example of neighborhood organization participation. These four neighborhood social capital elements are based on residents' relationships. Carpiano (2008) examined the effects of the four forms of social capital on residents' health based on their smoking and drinking behavior. This is a notable study because this research categorized social capital into different forms and examined each form's effects. Also, this research found that each type of social capital works differently. Social support in neighborhoods has a negative correlation with residents' health, since people with higher levels of social support tend to smoke and drink more while individuals with higher social leverage have positive health effects.

In other words, the social capital construct that Chetty et al. (2014)'s neighborhood effects study used is based on Putnams' view and is different than Bourdieu's social capital construct since the definition and boundary of social capital are different. Putnam is an American political scientist. His social capital is focused on civic participations such as voter turnout rate which represents cooperation features for politics. Higher social capital means a higher participation rate or voter turnout rate. Thus, his social capital is focused on positive effects. However, Bourdieu is a French sociologist. He saw social capital as cumulative relation-based resources that reproduce existing resources and class, so it works just like other economic capital or cultural capital. Carpiano's (2008) study supported the

social capital concept based on Bourdieu's theory of social capital having both positive and adverse effects. Being aware of the existence of different types of social capital is also important. Weiss (2008) argued that higher neighborhood social capital increased violence for children, while higher social capital in schools decreased violence. It means the type of social capital varies depending not only on the form of social capital but also the place where the social capital developed.

2.3.1. Access to Neighborhood Social Capital

Housing and community development policies have focused on the dispersal of poverty for several decades (Briggs, Popkin, & Goering, 2010; Park, 2014; Turner, 2003). Housing policy in the United States is broadly divided into two categories: (1) Public Housing Program (PHP), and (2) Housing Choice Voucher Program (HCVP). PHP is the place-based policy or housing production subsidy program that was promoted from 1949 to 1973. HCVP is the people-based (or tenants-based) project or demand-side subsidy operating from 1973 to present (Orlebeke, 2000; Schwartz, 2014).

To supply a large number of units, public housing meant many high-rise and high-density buildings, which concentrated poverty and decreased locational opportunities (Currie & Yelowitz, 2000; Park, 2012). A concentration of poverty appeared mainly in the inner cities during the 1970's, and it was getting worse because of suburbanization - the middle-class and companies left the inner city and transferred to the suburbs. A conversion from housing policy to the tenant-based policy (HCVP), which is focused on deconcentrating poverty, was required.

PHP concentrated poor into a specific neighborhood, and it decreased locational opportunities. Dispersal/mobility housing policy was mainly designed to deconcentrate

poverty, asserting that it is not only beneficial for subsidy recipients in terms of escaping poor neighborhoods but also improved neighborhoods by reducing the number of people in poverty. An alternate approach is people-based subsidies—such as Housing Choice Voucher (HCV) or MTO programs-—which require migration to another neighborhood.

Imbroscio (2008) criticized the dispersal of poverty policies. He argued that American scholars are madly engaged in the idea of distributing the urban poor into wealthier suburban neighborhoods and skeptically illustrated this "hegemonic" Dispersal Consensus (DC). He discussed misconceiving the term freedom of choice:

> Most notable here is the ontological understanding of the critical concept of the freedom of choice, as it applies one's decisions about where to live. In the ontology of the concept embraced by some leading lights of Dispersal Consensus (DC), the expansion of residential choice for the urban poor only exists when the ability to exit is enhanced; it does not include enhancing-in Chester Hartmann's (1984) useful phrase-'the right [or ability] to stay put'" (Imbroscio, 2008, p.114).

In other words, he pointed out that the HCP should give the recipient more exit options as well as include the option of staying their current neighborhood and enhancing the area (Imbroscio, 2008). He further asserted that we should be aware that while many recipients desire to move from inner-cities, many others also desire to stay where they used to live or nearby, and pointed out that social ties from where they used to live are one reason why people want to stay their old neighborhood (Imbroscio, 2008). In other words, he argued that housing policy focused on the de-concentration of families with low incomes, which was blind to the negative effects of those policies, such as participants of the HCVP or MTO program losing their social capital by moving to another neighborhood. Once people move their housing to another area, they lose their social capital whether the social capital was worth something economically or not (Coleman, 1988). Because of moving,

they might lose not only their job, but also their social ties in church and their communities which they are used to live (Imbroscio, 2008).

Disconnecting relationships from the prior neighborhood can have a positive effect on children despite a decrease in the total amount social capital (Briggs, Popkin, & Goering, 2010). For example, moving from public housing to a suburb has been shown to have a positive effect on children (Briggs, Popkin, & Goering, 2010). The positive impact occurs because they lose the risky ties to their prior neighborhood. Interestingly, the positive impact on African American girls is larger than the effect on African American boys since the boys tend to not disconnect from the old relationships (Briggs, Popkin, & Goering, 2010).

Moving to another area also reduces social capital since families lose part or all of the connections from the former neighborhood, and they need time to establish new relationships in the new community. The loss means there can be a permanent, negative social capital affect caused by the move (Briggs, Popkin, & Goering, 2010; Mueller & Tighe, 2007). Keene and Ruel (2013) and Ruel et al. (2013) also pointed out the importance of social ties for families with low incomes. They agreed that moving out of public housing reduces social ties. Also, they pointed out that this is one of the things housing voucher recipients are concerned about, sometimes leading to their decision to stay in their current neighborhood.

Ruel et al. (2013) surveyed public housing residents who faced the demolition of their housing because of the HOPE VI program and relocated mostly to private housing with the voucher program. Subjects were interviewed twice, before and after the residents relocated. According to pre-relocation questions, senior residents preferred to stay in

renovated public housing more so than family residents. Keene and Ruel (2013) examined seniors' relocation and pointed out that social ties were the main reason why they preferred to stay in public housing. Also, it is interesting to note that both family and senior residents were worried about getting help from a neighbor in a new neighborhood in an emergency (Ruel et al., 2013).

Isolation or disconnection is one of the challenges of moving to a suburban locale. MTO participants are more likely to move to suburbs since the criteria of "moving to a better neighborhood" is that less than ten percent of the population is the poverty level (Briggs, Popkin, & Goering, 2010; Duncan & Zuberi, 2006). However, in a suburban neighborhood, the participants can be isolated because those who are racial minorities may not be welcomed by their new neighbors (Briggs, Popkin, & Goering, 2010). Since satisfying the criteria of a better neighborhood in the MTO program is dependent on the poverty rate, counseling is only focused on finding housing in a neighborhood that matches that criteria, ignoring others such as their social ties from where they used to live. When inner city residents move with the MTO program from where they used to live, they are likely to lose their connections within the old neighborhood and tend to move far away from their friends or kin (Briggs, Popkin, & Goering, 2010). They lost their social ties from church, and their children find it difficult to adapt to a new school in the suburban community. Ruel et al. (2010) asserted that family residents of public housing wanted to move with a voucher because they believed that moving to a new neighborhood provided them with an opportunity to improve their lives. However, senior residents preferred to stay rather than move to a private housing market with a housing voucher even though the new neighborhood is safer than the public housing they live in (Keene & Ruel, 2013).

Recipients felt they would be "just scattered." Imbroscio (2008) also pointed out that dispersal-focused housing policies only focused on scattering the poor and ignored the importance of social capital of families with low incomes. Thus, it is critical to note that people have stronger yearnings to be where they feel a sense of belonging than being in a place where they have to accommodate themselves to the new surroundings, no matter how clean and safe it may be (Briggs, Popkin & Goering, 2010).

In this regard, Keene and Ruel (2013) asserted the importance of making a new home for the families with low incomes who moved to new neighborhoods with a housing voucher. They pointed out the importance of resiliency and isolation for families who have no relationships in a new neighborhood. Resiliency and connection in the new neighborhood are important for the movers, according to Carpiano (2008), because neighborhood effects vary depending on residents' neighborhood relationships. Even if families with low incomes move to a better neighborhood, the neighborhood impact can vary based on whether they have social ties in the new neighborhood.

2.3.2. Parental Social Capital

Unequal access to neighborhood social capital could be the result of intergenerational transmission of social capital by parents. Children who have better-off parents often live in better neighborhoods while children who have poorer parents are not able to live in a better neighborhood because of their parents' economic situation (Drukker, 2000). Coleman (1988) also suggested that social capital is cumulative and inter-generationally transferred. His work analyzed how social capital within and outside the family contribute to creating human capital in the next generation (Coleman, 1988). In other words, parental social capital affects their children's human capital, in the form of

skills, experience, and capabilities that "make them able to act in new ways" (Coleman, 1988, p.100). Coleman (1988) also examined social capital's effects on creating human capital within the family. He found that school drop-out rate is reduced by social capital, particularly with the existence of a role model (in/outside the family), parents' presence, and parents' educational attainment (Coleman, 1988; Drukker, 2000; Turley, 2001).

Parents' educational attainment directly influenced their children's human capital. If parents were highly educated, their children tended to have higher human capital. However, even if parents had lower educational attainment, children could use their parents' social capital (such as their family, friends, or neighbors who have higher educational attainment), to mitigate the adverse effects on the children's human capital. Thus, parents' social capital does influence their children's human and social capital, but the parents' network can also make a difference. Coleman (1988) used parents' presence, the number of siblings, and the relationship between parents and children as variables to measure a child's social capital and examined the effects social capital has on children dropping out of high school. He found that the absence of parents or the absence of role models in the home as well as being from a single parent household negatively affected a child's social capital. Spending more time with parents or adults in the family had positive effects on a child's social capital. It is interesting to note that having siblings hurt a children's social capital since it meant dividing the parents' resources among the siblings (Coleman, 1988).

Bourdieu also emphasized intergenerational transmission of capital. Specially, he used embedded cultural capital as a mediator of intergenerational transmission. Embedded cultural capital is one of three forms of cultural capital which people learn through their experience especially with their family (Bourdieu, 2011). For instance, children can

consciously or unconsciously obtain cultural capital from their parents, grandparents, relatives, and family tradition. Children earn their cultural capital through their family, and the cultural capital has effects on their human and social capital. Embedded cultural capital can be considered one form of social capital since it applies to resources in a family relationship and has a role of inter-generational transmission. Bourdieu's embedded cultural capital has much in common with Coleman's social capital in the family.

Weiss (2008) also supported the theory of intergenerational transmission of social capital, mirroring Bourdieu (2011) and Colman (1988)'s point of view. He empirically investigated the effect of parents' social capital on their children's social capital and how it affected a children's early adulthood negative behaviors. Parents' social capital in the neighborhood was correlated with their children's social capital (Weiss, 2008).

2.4. Conclusion

The definition and operationalization of social capital varies, and there is no agreed-upon form of social capital theory. Nevertheless, because of Robert Putnam's (1993; 2001) foundational work, social capital has largely been considered a positive factor for residents. This embeddedness of Bourdieu's (1984; 2011) social capital theory challenges existing neighborhood effect studies which relied on Putnam and his followers' view of social capital. Using Bourdieu's definition of social capital, this study categorizes social capital into two forms: relation-based neighborhood social capital (relationships within a neighborhood) and descriptive neighborhood social capital (the neighborhood location itself with all its resources or lack thereof). This research studies the long-term effects of these two forms of social capital in conjunction with the resources parents offer children (including parental neighborhood social capital and parental education as a proxy of

parental descriptive social capital) and the attachment children have to their particular neighborhood (childhood neighborhood social capital) on adult outcomes.

CHAPTER III

CONCEPTUALIZATION

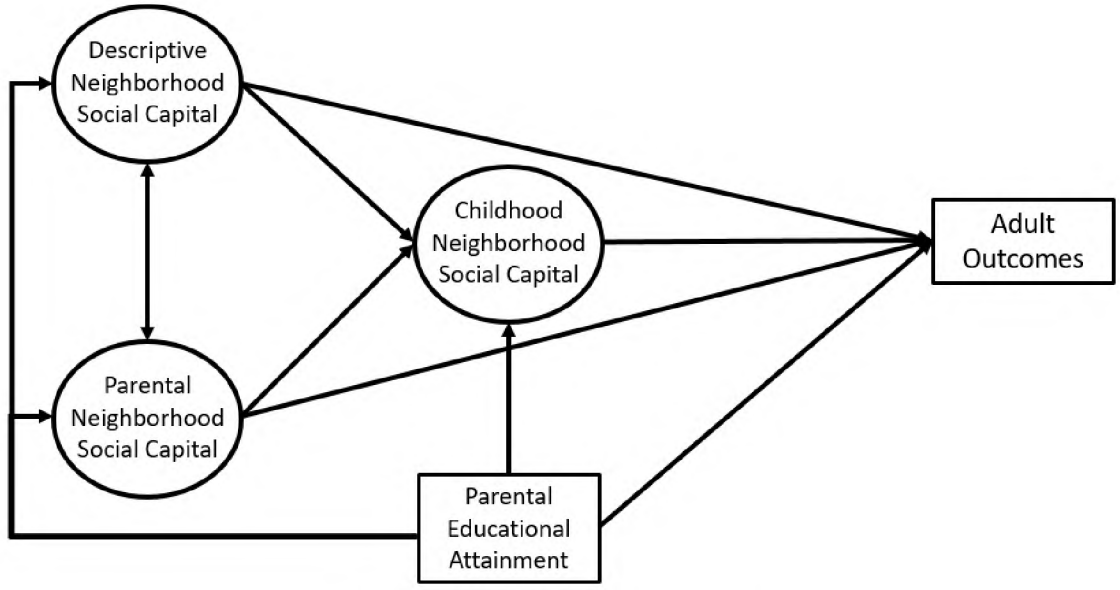

Figure 1 Conceptual Framework[1]

This research examines the impact of various forms of childhood social capital (descriptive neighborhood social capital, parental neighborhood social capital, parental educational attainment, and childhood neighborhood social capital) on adult outcomes (Figure 1). This chapter includes definitions of important terms for this research. This

[1] The rectangular boxes indicated a single observed variable, and the circles indicated latent variables (See Chapter 4.2.4. Structural Equation Modeling for more information.

chapter also provides a theoretical background that identifies indicators based on existing studies, so this synthesis clarifies the measurement of important indicators for this research in Chapter 4.

3.1. Data and Sample

In order to support an enhanced conception of neighborhood social capital and measure its effects on adult outcomes, this study uses the National Longitudinal Study of Adolescent to Adult Health (Add Health). This survey has tracked participants five times over the years 1994 through 2018, but the most recent fifth wave of data was not released in time for this study, so the data for this dissertation comes from Wave I and Wave IV. The dataset is collected by researchers at the University of North Carolina at Chapel Hill and Duke University from a nationally representative sample of U.S. adolescents. Wave I participants were in grades 7 through 12 during the 1994-1995 school year, and Wave IV participants reached adulthood in 2008 (Table 1). For this research, Wave I is used to measure childhood neighborhood social capital, and Wave IV is used to capture adulthood outcomes. My sample initially included 15,701 respondents who were interviewed in Wave I (n=20,745) and Wave IV (n=15,701). I excluded 5,144 respondents who moved to the neighborhood of Wave I when they were older than 12 years old since the definition of childhood of this research is younger than 13 years old. Missing values were imputed, but I dropped 995 observations due to missing weights and block-group level data that informs their geo-coding[23]. The total unweighted sample size for this research is 9,562.

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[2] The observations of 577 were deleted due to missing weights, and additional 418 observations were excluded due to missing block-group level data that informs their geo-coding.
[3] Data imputation is explained in Chapter 4 (4.2.2 Missing Data Imputation).

Table 1 Description of Add Health Data

Dataset	Wave I	Wave II	Wave III	Wave IV
Period	1994-1995	1996	2001-2002	2008
	-	1 year later	5-6 years later	6 years later
	Grades 7 to 12	Grade 8 to 13	18 to 26 years old	25 to 32 years old

3.2. Definition of Important Terms

3.2.1. Neighborhood

Respondents in the Add Health data survey were not given a definition of neighborhood when they were interviewed; rather, they interpreted the term for themselves (Harris et al., 2009). The operationalization of neighborhood is controversial and varies depending on the research. Many researchers suggest that the best operationalization is based on the residents' own definition of neighborhood (Weiss, 2008); however, since the definition and boundaries of neighborhood vary depending on the resident, this research defined neighborhood as residing in the same block group (Caughy, O'Campo & Muntaner, 2003; Comstock et al., 2010).

3.2.2. Childhood Neighborhood

Ellen and Turner (1997) argued that children are influenced by a neighborhood more than adolescents, and adolescents are influenced by their neighborhood more than adults. Chetty et al. (2015) also examined neighborhood effects on children and discovered moving to a better neighborhood with the MTO program had significant positive effects on children's college attendance rates and earnings for those children who moved to the new neighborhood before their 13th birthday. Childhood experiences in a neighborhood played a crucial role for children, and it shaped their adult outcomes (Allard, 2008; Chetty et al. 2015; Galvez, 2010; MacDonald, Shildrick, Webster, & Simpson, 2005; Ratcliffe,

2015). According to Ratcliffe (2015), childhood experiences of poverty (particularly the number of moves or neighborhood disadvantages) had adverse impacts on children's educational attainment, adult employment, teen premarital pregnancy, and number of arrests by the age of 20. Therefore, using these studies, I selected respondents interviewed in Wave I who indicated that they have lived at their current neighborhood between the ages of 0 and 12 years.

3.2.3. Social Capital

3.2.3.1. Various Forms of Neighborhood Social Capital.

The definition of social capital in this research is based on Bourdieu's (1984; 2011) Capital theory. I reconceptualized social capital as actual or potential (virtual) resources that are rooted not only in embedded relationships but also in the culture or economy. For this study, I divided neighborhood social capital into two types: 1) descriptive neighborhood social capital, and 2) relation-based neighborhood social capital.

3.2.3.1.1. Descriptive Neighborhood Social Capital

In this research, I categorized descriptive neighborhood social capital as one form of neighborhood social capital. Bourdieu's social capital included not only relation-based social capital, but also resources such as institutions and objectified resources. While Putnam (1993; 2001) discussed social capital in general, this research broadens this concept to include Bourdieu's (2011) economic capital and human capital in the Capital theory. Thus, descriptive aspects of neighborhood social capital are based on neighborhood characteristics that are not necessarily based on actual connections with neighbors, but only their socio-economic characteristics, such as racial makeup and

ethnic diversity, income inequality or income level, poverty rate, unemployment rate, educational attainment, and type of occupancy, such as homeownership rate or renter rate (Table 2).

Table 2 Indicators of Descriptive Aspects of Neighborhood Social Capital

Indicators \ Studies		1 Korbin & Coulton (1997)	2 Kleit (2001)	3 Bankston & Zhou (2002)	4 Caughy et al. (2003)	5 Rupasingha et al. (2006)	6 Weiss (2008)	7 Portes & Vickstrom (2015)	8 Collins et al. (2017)
1	Racial makeup/ ethnic diversity		v	v	v	v	v	v	v
2	Income inequality/ income level		v			v	v	v	
3	Poverty rate	v			v		v	v	
4	Unemployment rate	v			v				
5	Homeownership rate					v			
6	Educational attainment		v	v		v		v	

Note: "v" means the variable was used in that research.

Racial makeup/ ethnic diversity. Racial makeup or ethnic diversity is considered to be a negative indicator of neighborhood social capital since it implies racial discrimination. According to Chetty et al. (2014), racial segregation not only reduces access to opportunities such as local public goods and nearby jobs, but also decreases

exposure to successful peers and role models. Racial segregation is most widely measured by the Dissimilarity Index (DI) (Yun, Kwon, & Ma, 2014).

Income inequality/ income level. Income inequality has similar effects as racial segregation (Chetty et al. 2014) – it reduces neighborhood social capital since "society's rewards become more unevenly distributed, people may feel exploited by others, thus diminishing their faith in their fellow citizens" (Rupasingha, Goetz & Freshwater, 2006, p. 91). They also argued that low wages and earnings can cause people to work longer hours to supplement their income, leaving them with less time to participate in civic engagement. Therefore, higher median income has positive effects on neighborhood social capital.

Poverty rate. Higher poverty rate is expected to have negative effects on neighborhood social capital. Higher poverty rate has similar effects as low wages and earnings.

Unemployment rate. The unemployment rate's impact on social capital is similar to that of the poverty rate - high unemployment should decrease descriptive aspects of neighborhood social capital and have negative effects on adult success (Caughy, O'Campo & Muntaner, 2003).

Homeownership rate. Homeownership has been considered a positive indicator of neighborhood social capital, since homeownership decreases residential mobility (Rupasingha, Goetz & Freshwater, 2006). It also has positive effects on promoting neighborhood stability, community participation, and personal satisfaction (Glaeser, Laibson & Sacerdote. 2002; Shlay, 2006). In contrast, high residential mobility is considered to have a negative effect on social capital because it does not allow enough time to create networks (Wiess, 2008).

Educational attainment. Ellen and Turner (1997) described the impact of neighbors' educational attainment as socialization by adults. They asserted the importance of adults' sociability in the community since children learn a lot about what behaviors are considered 'normal' or 'acceptable' from their neighbors or adults around them. Adults monitor and influence children while children learn from adults when they meet in the community. They explained that community members serve as role models and that adults outside of the immediate family can assist parents in caring for, teaching, and disciplining their children (Ellen & Turner, 1997). Not only the presence of adults but also their behavior, education, and roles at work and in the community can influence children. Coleman (1988) also claimed that even low levels of parental social capital can be offset with social capital from parental's friends or neighbors who have higher educational attainment.

3.2.3.1.2. Descriptive Parental Social Capital

Parental educational attainment is often used as a proxy for socio-economic status from parents (Yun, Fukushima-Tedor, Mallett, Quinn and Quinn, 2021). Parental educational attainment is important to children because it is influenced by economic and cultural capital (Bourdieu, 2011). Parents' educational attainment directly influenced not only their children's economic capital but also their relation-based social capital. When parents were highly educated, their children tended to have higher human capital and the human capital has positive effects on social capital (Coleman 1988; Weiss 2008).

3.2.3.1.3. Relation-based Neighborhood Social Capital

Relation-based neighborhood social capital concerns relationships within a neighborhood and is based on connections with neighbors. In this research, high/strong

relation-based neighborhood social capital (or neighborhood attachment at the individual level) is based on accessibility to relation-based neighborhood resources, not based on frequency or closeness of relationships within a neighborhood. According to Bourdieu's social capital, "actual or virtual acquaintance and recognition" are important ways to formulate social capital (Bourdieu, 1984, p. 119). For example, the Add Health survey asked several questions related to childhood neighborhood experiences: "You know most of the people in your neighborhood," "In the past month, you have stopped on the street to talk with someone who lives in our neighborhood." Respondents could answer "yes," or "no."

When Respondents A answered "yes," and Respondent B answered "no," Respondent A knows (or is acquainted with) most of the people in the neighborhood, and Respondent B does not know most of the people in the neighborhood. Then, in this research, Respondent A is considered to have a higher level of neighborhood attachment (or neighborhood social capital) than Respondent B (Respondent A > Respondent B). Respondent A is considered to have more accessibility to neighbors than Respondent B. Also, if Respondent A has stopped to talk with someone who lives in his neighborhood in the past month, but Respondent B has not, Respondent A is considered to have a higher level of neighborhood social capital than Respondent B (Respondent A > Respondent B).

3.2.3.1.3.1. Limitation of Measuring Relation-based Social Capital

In this research, high/strong neighborhood social capital does not mean how well respondents know their neighbors. For example, if Respondent A has stopped to talk with people in the neighborhood three times in the last month, and Respondent B has stopped to talk with someone in the neighborhood one time in the last month, this research scored

them at the same level of neighborhood attachment (Respondent A = Respondent B) for two reasons.

First, the Add Health questions are not covering the frequency or closeness of the relationship in the neighborhood. Also, the frequency of the conversation is not enough to determine the quality of the relationship. For example, Respondent A talks with neighbors often since he or she uses the bus, which enables him or her to recognize other residents. However, since the interactions are brief, the conversations are superficial and may not demonstrate a meaningful relationship. By comparison, Respondent B has one conversation with a next door neighbor who just moved to the neighborhood last month. Respondent B invites the neighbor over to his or her house because during their initial two-minute conversation, they discover they share a similar hobby or they went to the same college. In this situation, it is difficult to measure who has more social capital based only on frequency of conversation.

This research is focused on accessibility to neighborhood resources, since relation-based social capital, in this research, refers to access to neighborhood resources. For example, Respondent A has stopped to talk with people in the neighborhood in the last month, and Respondent B has no experience talking with someone in the neighborhood at all in the last month, this research scored Respondent A as having a higher level of social capital than Respondent B. In other words, in this research, one conversation with a neighbor equates to a higher level of social capital than no conversations.

3.2.4. Measuring Adult Outcomes

Adult outcomes or adult success are often used as a dependent variable in studies of neighborhood effects on children (Table 3). Table 3 shows indicators of adult outcomes

from existing studies. Based on these studies, four indicators shape adult outcomes for this research: adult personal income, adult household assets, adult educational attainment, and adult subjective economical outcomes (Table 3).

Table 3 Indicator of Adult Outcomes in Existing Studies

Indicators \ Studies		1 Chetty & Hendren (2015)	2 Ludwig et al. (2013)	3 Ratcliffe (2015)	4 Duncan et al. (2010)	5 Plotnick & Hoffman (1999)	6 Kling et al. (2004)
1	Individual income	v	v		v	v	v
2	Family income	v					
3	Educational attainment	v		v	v	v	
4	Subjective well-being		v				

Note: "v" means the variable was used in that research

3.2.5. Conclusion

Only a few empirical studies examined the neighborhood effects of social capital because of the difficulty of measuring social capital. This chapter defined important terms and identified the indicators for this research based on existing research. This conceptualization provides a strong theoretical justification for measuring neighborhood social capital using the Add Health data.

CHAPTER IV

METHODOLOGY

This research tests hypothetical relationships between childhood neighborhood social capital and adult outcomes. This research includes two Structural Equation Modeling (SEM) analyses. First, this research analyzes the impact of various forms of childhood social capital (descriptive neighborhood social capital, parental neighborhood social capital, parental educational attainment and childhood neighborhood social capital) on adult outcomes and Figure 2 displays the initial hypothesized framework for the full sample. Childhood neighborhood social capital can be a mediator, in that it can provide benefits to residents who have the relationships to access neighborhood resources (while giving limited access to outsiders who do not have the relationship (unequal access)) or can create a risky tie since social capital has not only positive effects but also adverse effects in this framework.

Then this research categorizes the full sample into two groups based on poverty rate to see how parental neighborhood social capital, parental educational attainments, and childhood neighborhood social capital affect adult outcomes: (1) higher-poverty

neighborhood (with over 10 percent of poverty rate)[4] and (2) lower-poverty neighborhood (with less than 10 percent of poverty rate). Each neighborhood type SEM analysis was performed separately (Figure 3). The research question and hypotheses are as follows:

Research question 1: In what ways does childhood experience of parental educational attainment, descriptive neighborhood social capital, parental neighborhood social capital and childhood neighborhood social capital influence adult outcomes? (Figure 2)

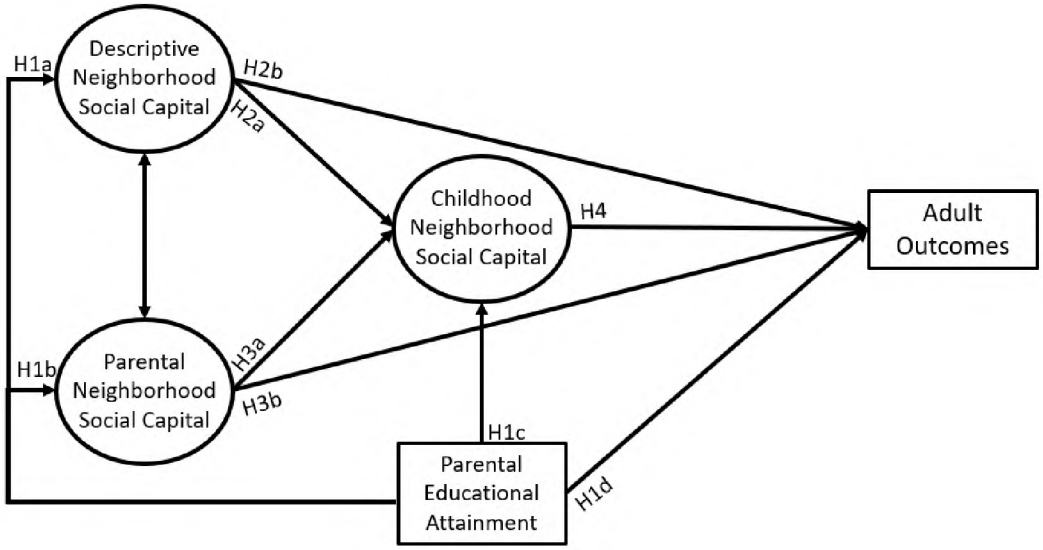

Figure 2 Hypothesized Framework for Full Sample

Hypothesis 1a: More parental educational attainment is positively related to childhood descriptive neighborhood social capital.

[4] To examine the effects of parental educational attainment, childhood neighborhood social capital, and parental neighborhood social capital on adult outcomes in the extreme poverty neighborhoods for additional analysis, I selected neighborhood with the two standard deviations above the mean of the poverty level but the sample size was too small to get significant results.

Hypothesis 1b: More parental educational attainment is positively related to childhood parental neighborhood social capital.

Hypothesis 1c: More parental educational attainment is positively related to childhood neighborhood social capital.

Hypothesis 1d: More parental educational attainment is positively related to adult outcomes.

Hypothesis 2a: Experiences in a neighborhood with high levels of descriptive neighborhood social capital is positively related to childhood neighborhood social capital.

Hypothesis 2b: Experiences in a neighborhood with high levels of descriptive neighborhood social capital is positively related to adult outcomes.

Hypothesis 3a: Experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to childhood neighborhood social capital.

Hypothesis 3b: Experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to adult outcomes.

Hypothesis 4: Experiences in a neighborhood with high levels of childhood neighborhood social capital is positively related to adult outcomes.

Research question 2-1: In what ways does childhood experience of parental educational attainment, parental neighborhood social capital and childhood neighborhood social capital influence adult outcomes in higher-poverty neighborhoods? (Figure 3)

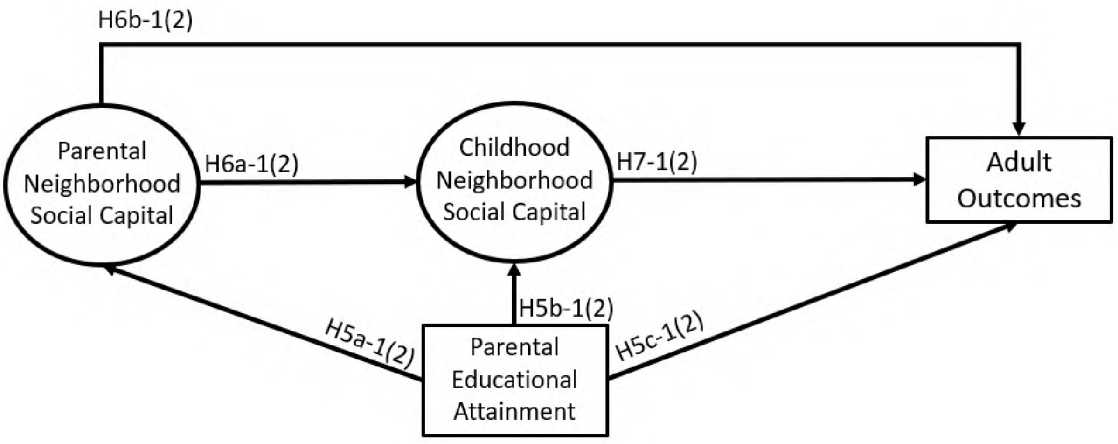

Figure 3 Hypothesized Framework for Different Neighborhood Types

Hypothesis 5a-1: More parental educational attainment is positively related to childhood parental neighborhood social capital in higher-poverty neighborhoods.

Hypothesis 5b-1: More parental educational attainment is positively related to childhood neighborhood social capital in higher-poverty neighborhoods.

Hypothesis 5c-1: More parental educational attainment is positively related to adult outcomes in higher-poverty neighborhoods.

Hypothesis 6a-1: Experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to childhood neighborhood social capital in higher-poverty neighborhoods.

Hypothesis 6b-1: Experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to adult outcomes in higher-poverty neighborhoods.

Hypothesis 7-1: Experiences in a neighborhood with high levels of childhood neighborhood social capital is positively related to adult outcomes in higher-poverty neighborhoods.

Research question 2-2: In what ways does childhood experience of parental educational attainment, parental neighborhood social capital and childhood neighborhood social capital influence adult outcomes in lower-poverty neighborhoods? (Figure 3)

Hypothesis 5a-2: More parental educational attainment is positively related to childhood parental neighborhood social capital in a lower-poverty neighborhood.

Hypothesis 5b-2: More parental educational attainment is positively related to childhood neighborhood social capital in a lower-poverty neighborhood.

Hypothesis 5c-2: More parental educational attainment is positively related to adult outcomes in a lower-poverty neighborhood.

Hypothesis 6a-2: Experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to childhood neighborhood social capital in lower-poverty neighborhoods.

Hypothesis 6b-2: Experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to adult outcomes in lower-poverty neighborhoods.

Hypothesis 7-2: Experiences in a neighborhood with high levels of childhood neighborhood social capital is positively related to adult outcomes in lower-poverty neighborhoods.

4. 1. Measures

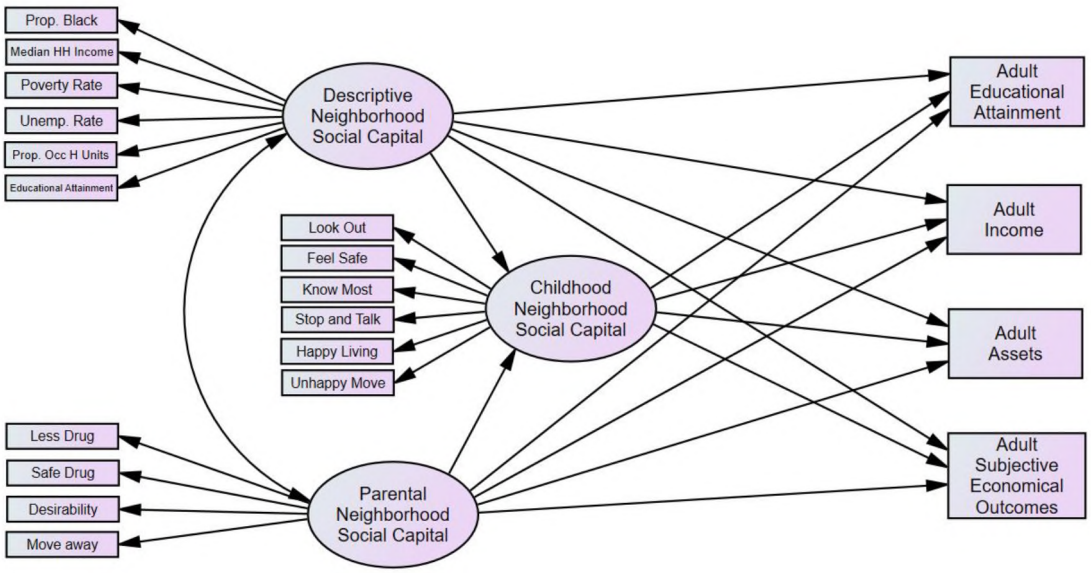

Figure 4 Conceptual Framework with Indicators[5]

4.1.1. Descriptive Neighborhood Social Capital

The Add Health data offers 1990 US Census data to pair with each respondent's residential location for Wave I. The contextual data set of Wave I contains 37 states, 267 counties, or 4,411 block-groups in the United States (Harris et al., 2009). For this research, neighborhood was defined as residing in the same block group. Six items were used to measure childhood descriptive neighborhood social capital: proportion black used as a proxy for racial makeup, median household income, poverty rate, unemployment rate, proportion occupied housing units that are owner-occupied, and proportion of aged over 25 with college degree or higher for measuring educational attainment in the neighborhood.

[5] Figure 4 includes only latent variables and dependent variables.

These variables were standardized using z-score formula[6] (Caughy, O'Campo & Muntaner, 2003).

4.1.2. Parental Neighborhood Social Capital

To obtain the information about parental neighborhood social capital, the adolescent's resident mother or other female head of the household in Wave I was initially selected to be asked to participate in the parental questionnaire. When the adolescent's biological mother did not live with their child, the first person on the following list who lived with the adolescent completed the parental questionnaire: 1) stepmother, 2) other female guardian, such as a legal guardian or grandmother, 3) father, 4) stepfather, and 5) other male guardian, such as a legal guardian or grandfather. This order was followed because mothers are generally more familiar than fathers with children's schooling and their behaviors (Harris et al., 2009). Parents were asked several questions related to their neighborhood's safety and desirability in Wave I: "In this neighborhood, how big a problem are drug dealers and drug users?", "In this neighborhood, how big a problem is litter or trash on the streets and sidewalks?" If respondent answered "no problem at all" then it is coded as one, "a small problem" or "big problem" as zero. One item asked in Wave I: "How much would you like to move away from this neighborhood?" If respondent answered "not at all" then it was coded as one, "some" or "very much" as zero. When respondents were asked "Please tell me whether each of the following statements is true with regard to your present neighborhood: You live here because there is less drug use and other illegal activity by adolescents in this neighborhood," they could answer "yes" or "no".

[6] More information about standardizing variables is available in Chapter 4 (4.2.1. Standardizing Variables)

When respondents indicated "yes" then it was coded as one, otherwise zero. When respondents indicated as "refused," then it was coded as a missing value.[7] Thus, for each variable, a one signifies a higher neighborhood social capital and a zero means the respondent has a lower neighborhood social capital (Table 4).

4.1.3. Parental Educational Attainment

Parental educational attainment is used to capture a proxy for socio-economic status from parents and this represents parental descriptive social capital in this research (Table 4). At least one residential parent, or residential parental figure if there are no residential parents, graduated from a college or university[8] or higher education[9], it is coded as one, otherwise zero.

4.1.4. Childhood Neighborhood Social Capital

Weiss (2008) measured adolescent neighborhood social capital using Add Health data to see its influence on adolescents' early adulthood behavior. He used three items to measure adolescent neighborhood social capital in his research: "You know most of the people in your neighborhood," "In the past month, you have stopped on the street to talk with someone who lives in our neighborhood," and "On the whole, how happy are you with living in your neighborhood?" The use Weiss (2008) made of the Add Health data is vital for this research; in my study, I have continued his three items above and added several more to them.

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[7] Data imputation is explained in Chapter 4 (4.2.2 Missing Data Imputation).

[8] When residential parents or parental figure went to college, but did not graduate, it was coded zero.

[9] Add Health data defined "higher education" as professional training beyond a 4-year college or university.

In this study, six items were used to measure childhood neighborhood social capital (Table 4). Participants indicated whether each of the following statements was true or not: "People in this neighborhood look out for each other," "You know most of the people in your neighborhood," and "In the past month, you have stopped on the street to talk with someone who lives in our neighborhood," "Do you usually feel safe in your neighborhood." When respondents answered "true (or yes)" then it was coded as one, otherwise zero. Participants also asked how much the following statement was true: "On the whole, how happy are you with living in your neighborhood?" If respondents answered "somewhat," "quite a bit," or "very much," then it was coded as one. When respondents answered, "not at all," or "very little" then it was coded as zero. The last item was "for any reason, you had to move from here to some other neighborhood, how happy or unhappy would you be?" When respondents indicated "very unhappy," "a little unhappy" then it was coded as one. If they answered, "wouldn't make any difference," "a little happy," and "very happy" then it was coded as zero. When answer was indicated as "refused," "don't know," or "not applicable" then it was coded as a missing value[10]. In other words, a one means a higher neighborhood social capital and a zero means the respondent has a lower neighborhood social capital.

4.1.5. Demographic Variables

This study has several control variables which literature found to be significantly correlated with neighborhood social capital and adult outcomes. Most control variables for this research are dummy variables: *gender* (female coded as one), and *race/ethnicity*

[10] Data imputation is explained in Chapter 4 (4.2.2 Missing Data Imputation).

(Hispanic, Non-Hispanic Black or African American, Other, and Non-Hispanic White as the reference group) (Table 4).

Table 4 Measures Neighborhood Social Capital and Demographic Variables

Category	Variable Name	Question/Definition	Coding
Descriptive Neighborhood Social Capital	Proportion Black		Standardized
	Median Household Income (in dollars)		Standardized
	Poverty Rate		Standardized
	Unemployment Rate		Standardized
	Proportion of Occupied Housing Units that are Owner-occupied		Standardized
	Proportion of Aged over 25 with College Degree or Higher		Standardized
Parental Neighborhood Social Capital	Less Drug	You live here because there is less drug use and other illegal activity by adolescents in this neighborhood.	1=Yes 0=No
	Safe Drug	In this neighborhood, how big a problem are drug dealers and drug users?	1=No problem 0=Problem
	Desirable	In this neighborhood, how big a problem is litter or trash on the streets and sidewalks?	1=No problem 0=Problem
	Move Away	How much would you like to move away from this neighborhood?	1=Not at all 0=Very Much
Childhood Neighborhood Social Capital	Look Out	People in this neighborhood look out for each other.	1=True 0=False
	Feel Safe	Do you usually feel safe in your neighborhood?	1=Yes 0=No
	Know Most	You know most of the people in your neighborhood.	1=Yes 0=No
	Stop and Talk	In the past month, you have stopped on the street to talk with someone who lives in our neighborhood.	1=Yes 0=No
	Happy Living	On the whole, how happy are you with living in your neighborhood?	1=Happy 0=Unhappy
	Unhappy Move	If, for any reason, you had to move from here to some other neighborhood, how happy or unhappy would you be?	1=Happy 0=Unhappy

Category	Variable Name	Question/Definition	Coding
Parental Educational Attainment		Completed college [bachelor's degree], some graduate school, complete a master's degree, some graduate training beyond a master's degree, completed a doctoral degree, some post baccalaureate professional education (e.g., law school, med school, nurse), and completed post baccalaureate professional education (e.g., low school, med school, nurse)	1=College degree or higher 0= No college degree
Demographic Variables	Race/ethnicity	Hispanic (=1), Non-Hispanic Black or African (=1), Other (=1), and Non-Hispanic White (=0)	Non-Hispanic White as the reference group
	Biological Sex		1=Female 0=Male

4.1.6. Adult Outcomes

For this research, four dependent variables measured adult outcomes: *adult income*, *adult assets*, *adult educational attainment*, and *adult subjective economical outcomes*. Respondents were asked the following questions in Wave IV when they were aged between 24 and 34: "Now think about your personal earnings. In {2006/2007/2008}, how much income did you receive from personal earnings before taxes, that is, wages or salaries, including tips, bonuses, and overtime pay, and income from self-employment?" (measuring adult income), "What is your best estimate of the total value of your assets and the assets of everyone who lives in your household and contributes to the household budget? Include all assets, such as bank accounts, retirement plans and stocks. Do not include equity in your home" (measuring adult assets[11]), "What is the highest level of education that you have achieved to date?" (measuring adult educational attainment), "Think of this ladder as representing where people stand in the United States. At the top of the ladder (step 10) are the people who have the most money and education, and the most respected jobs. At the bottom of the ladder (step 1) are the people who have the least money and education, and the least respected jobs or no job. Where would you place yourself on this ladder? Pick the number for the step that shows where you think you stand at this time in your life, relative to other people in the United States" (measuring adult subjective economical outcomes). *Adult income* is a ratio variable, and *adult assets* and *adult subjective economical outcomes*[12] are ordinal variables, and these three variables were standardized using z-score

[11] Respondents answered in a range of dollars: (1) less than $5,000; (2) $5,000 to $9,999; (3) 10,000 to $24,999; (4) $25,000 to $49,999; (5) $50,000 to $99,999; (6) $100,000 to $249,999; (7) $250,000 to $499,999; (8) $500,000 to $999,999 and (9) $1,000,000 or more (Harris et al., 2009).

formula. *Adult educational attainment* is dummy variable, and it was coded as one when respondents graduate from a college or university or higher education and zero otherwise.

4.2. Analysis

4.2.1. Standardizing Variables

Standardizing makes it easier to compare scores, even if those scores were measured on different scales. Standardized variables are variables that have been standardized using the z-score formula so to rescale the variable to have a mean of 0 and a standard deviation of 1 (Caughy, O'Campo & Muntaner, 2003). The z-score transformation is the process of, for every observation, subtracting the variable's mean and dividing by the variable's standard deviation. Another advantage of transformation will be to reduce any collinearity between variables. The variables that were standardized were the seven indicators of childhood descriptive neighborhood social capital (proportion black used as a proxy for racial makeup, median household income, poverty rate, unemployment rate, proportion occupied housing units that are owner-occupied, and proportion of aged over 25 with college degree or higher for measuring educational attainment in the neighborhood) and the dependent variable of adult income, adult assets, and adult subjective economical outcomes.

4.2.2. Missing Data Imputation

Missing data can be very problematic during analysis. If it is ignored, then valuable information is lost as that observation and all its non-missing data is removed from analysis. Imputation is a process of substituting and imputed value for the missing data. Imputation methods can be simple, using one variable, or multivariate, using a collection of variables. Though simple imputation is attractive and is often used to impute missing data, the use of

multiple imputation methods allows the incorporation of statistical techniques to create plausible distributions while accounting for any variability that is introduced by the process (Rubin, 1987).

In situations where the missing data problem is multivariate, may include variables of differing type (continuous, nominal, binary, ordinal), and has an arbitrary pattern of missing values, it is analytically difficult to assess the joint posterior distribution (Rubin, 1987). In such cases, iterative simulation techniques such as Markov Chain Monte Carlo allows the use of the entirety of the observed data. For each variable during each iteration, the fully conditional specification method fits a univariate model using all other available variables in the model as predictors, then imputes missing values for the variable being fit. The method continues until the maximum number of iterations is reached, and the imputed values at the maximum iteration are saved to the imputed dataset.

The variables that were imputed were indicators of parental neighborhood social capital (less drug, safe drug, desirable, and move away), childhood neighborhood social capital (look out, feel safe, know most, stop and talk, happy living, and unhappy Move), and three dependent variables (adult income, adult assets, and adult subjective economical outcomes). The indicators of parental neighborhood social capital and the three dependent variables have more than 5% missing values. Thus, this research decided to do multiple implication.

4.2.3. Weighting

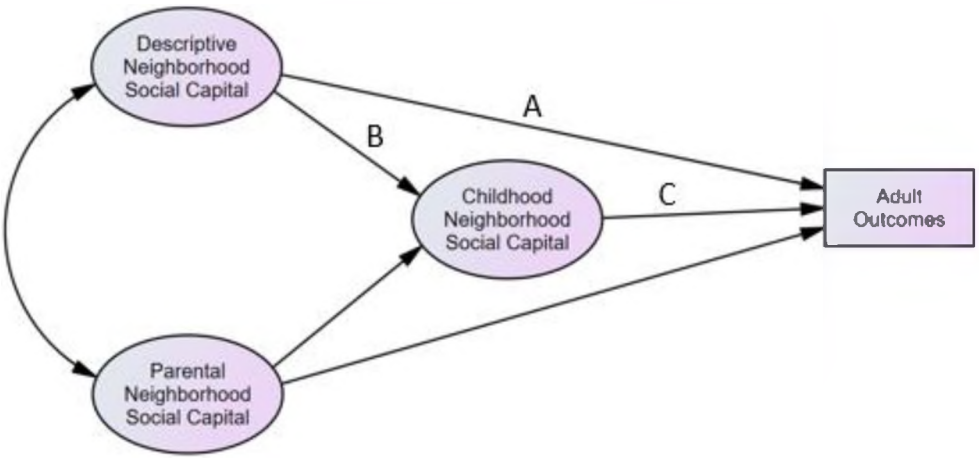
Respondents who interviewed for both Wave I and Wave IV were weighted using the cross-sectional weight (Chen & Chantala, 2014). Weighting is used to account for demographic characteristics, such as age, gender, location, and education. Weights are also

used to account for the differences between those who partake or do not partake in research studies.

4.2.4. Structural Equation Modeling (SEM)

This research used Structural Equation Modeling (SEM) to determine the role neighborhood social capital plays in unequal access to neighborhood resources and its effects on adult outcomes. SEM is a statistical technique that identifies causal relationships among variables in non-experimental situations. The model uses a latent variable to indicate a causal relationship between the latent variable and the model of the latent variable being measured (as the observed variable is the structural equation model). For this reason, SEM is a combination of regression analysis and factor analysis (Hox & Bechger, 1998). This methodology assumes that the model can structure the existing theories and test hypotheses. Based on existing studies mentioned in the review of literature, this dissertation offers strong conceptualization and the basis of SEM.

This research showed not only the effects on adult outcome of different forms childhood neighborhood social capital in a neighborhood, but also childhood neighborhood social capital as mediators (Figure 5). In Figure 5, the rectangular box indicated a single observed variable, and the circles indicated latent variables. SEM shows not only direct effect (A), but also indirect effect (B*C). For example, descriptive neighborhood social capital has not only directly affects adult outcomes, but also indirectly effects adult outcomes through childhood neighborhood social capital.



Direct effect: A (Direct effect of Descriptive Neighborhood Social Capital on Adult Outcomes
Indirect effect: B*C (Indirect effect of Descriptive Neighborhood Social Capital and Childhood Neighborhood Social Capital on Adult Outcomes)
Total effect: (A) + (B*C) (Total effect of direct effect and indirect effect)

Figure 5 Direct, Indirect, and Total Effect of SEM

According to Hox and Bechger (1998), there are two main critiques on SEM. One is related with SEM's key assumptions – sample size and multivariate normal distribution. SEM assumes that the sample data is multivariate normal distribution. Also, sample size is very sensitive in SEM. As a heuristic, the sample size should be more than 200 observations (Hox & Bechger, 1998). The other critique is about causal interpretation (Hox & Bechger, 1998; Jeon, 2015). Jeon (2015) pointed out the importance of understanding basic concepts of regression analysis, factor analysis, or correlation analysis. Hox and Bechger (1998) also asserted that "SEM model has been corroborated by the data, does not mean that it has been proven true" (p. 15).

This methodology assumes that it can structure the existing theories and test hypotheses. Conceptualization of this study based on existing studies (see chapters 2 and 3) will strengthen the assumption of the methodology. Also, this research uses about 9,000 unweighted sample, and therefore meets the observation threshold.

4.2.4.1. Factor Analysis

SEM is a combination of regression analysis and factor analysis, and factor analysis is used to create latent variables in SEM (Hox & Bechger, 1998). Factor analysis is technically not an analysis; it is data handling technique, essentially data reduction. Factor analysis is a very powerful tool to reduce the number of variables in a model. It is very important to note that while factor analysis reduces the number of variables, it does not delete variables. Reducing variables means that observed variables are measured as a latent variable. In other words, a latent variable is comprised of multiple observed variables.

Factor analysis is a very crucial tool in this research, since neighborhood social capital is complex, and it is "unrealistic to expect single indicators to capture validly and reliably such complex constructs" (Jeon, 2015, p. 1639). Also, measurement errors should be shown in the model since it is impractical to include all indicators of the constructs in quasi-experimental research (e11 through e18 in Figure 6). This is called "reflective" research. For example, in my research, childhood neighborhood social capital is reflected by six observed variables (Figure 6), but it assumes that it includes an error term. As a quasi-experimental analysis, it is almost impossible to execute formative factor analysis (without error term) like a true experiment. The reflective model is presented in the direction of the arrow (Figure 6). The arrow starts from the latent variable of childhood neighborhood social capital to six observed variables. It means that the latent variable is reflected by the three variables. In other words, this research assumes that childhood neighborhood social capital is explained by the three variables, but there are error terms which are not explained by the three variables. If the direction of the arrow starts from

observed variable to latent variable, it means that the latent variable is formatted by the six observed variables.

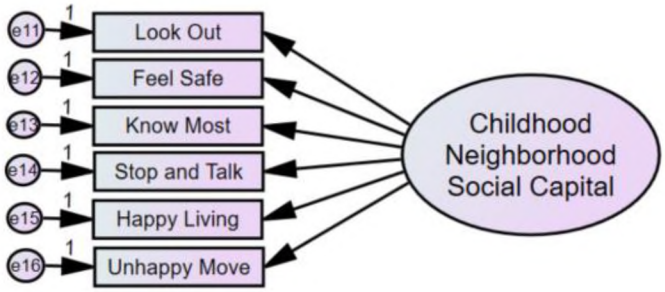


Figure 6 Example of Reflective Model in CFA

A weakness of this approach is that it does not show individual effects of observed variables. For example, in the hedonic price model in real-estate studies, a multiple regression model avoids use of factor analysis because the researcher wants to see the individual impact of independent variables (number of bathrooms, size of house, distance to park, and etc.) on dependent variables (housing price). However, in this research factor analysis can capture complex constructs of neighborhood social capital through the creation of a latent variable.

There are two kinds of factor analysis. One is Confirmatory Factor Analysis (CFA), and the other one is Exploratory Factor Analysis (EFA) (Hurley et al., 1997). CFA categorizes observed variables based on existing theories and executing factor analysis to confirm the categorization. EFA puts all the observed variables into the analysis without categorizing it to a specific factor, executes factor analysis, and sees how many factors emerge and what they look like. Structural Equation Modeling (SEM) uses CFA. CFA in SEM are used to test "designs for construct validation and scale refinement, measurement invariance" (Jeon, 2015, p. 1639).

Cronbach's Alpha measures internal consistency (e.g., thresholds, excellent, good, and acceptable) of each factor. This can be used to characterize the reliability and validity of the CFA. CFA sets a strong theoretical foundation to support the measurement model before analyzing data (Hurley et al., 1997) and therefore using CFA, construct validity of this research can be assessed. Observed variables for latent variables are a little different since the definition of social capital is different, but variable selection is based on existing research and Bourdieu's view (2011). According to Hurley et al. (1997), well-constructed CFA have "generally worked out fine" with the content validity issue (p. 674).

4.2.4.1.1. Measurement Model Identification

SEM is a combination of CFA (measurement model) and regression analysis (structural model), and identification in regard the measurement model. The main concerns of measurement model identification are related to having enough indicators of each latent variable (Kenny, 2011; Yeom, 2018). Kenny (2011) suggested two indicators are required as a minimum per latent variable, and Yeom (2018) used a three-indicator rule. In this research, seven indicators for descriptive neighborhood social capital, four indicators for parental neighborhood social capital, and six indicators for childhood neighborhood social capital were used.

4.2.5. Software for Analysis

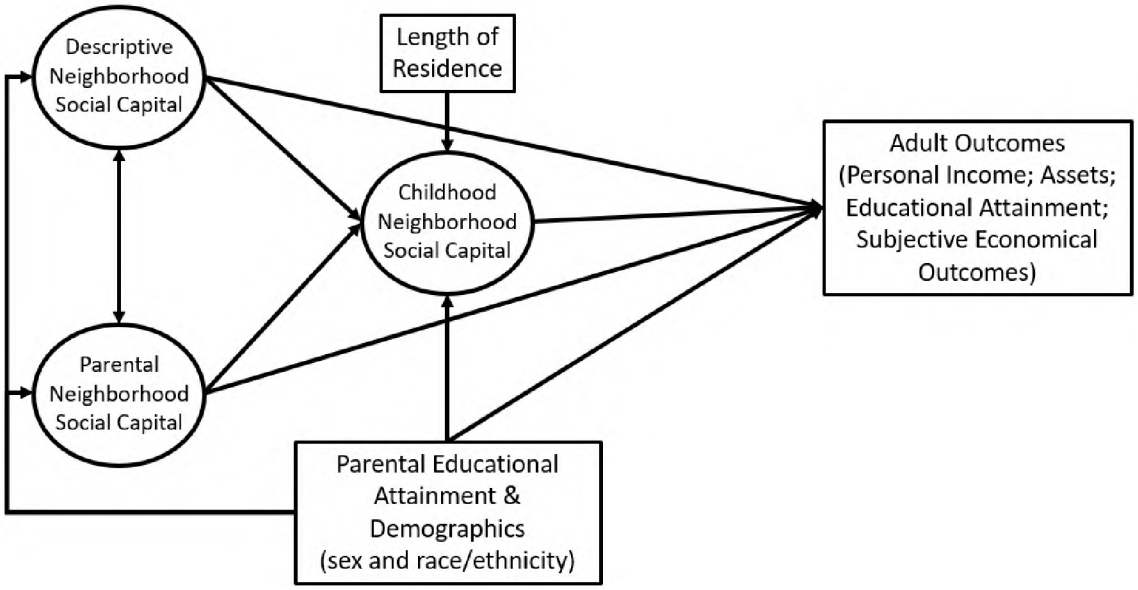
Descriptive statistics and summary statistics were performed using SPSS version 25. The structural equation modeling was performed using R x64 4.0.2. The specific package used was the lavaan package, version 0.6-7, which was released on CRAN (Rosseel, 2012).

4.3. Analysis Overview

This study used SEM and data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to determine the role neighborhood social capital plays in unequal access to neighborhood resources. This approach showed not only the effects of each form of neighborhood social capital on adult outcomes but also the ways in which personal childhood neighborhood social capital acts as a mediator of that relationship. This research includes two part of SEM analyses.

First, the hypotheses involved examining the path from various forms of neighborhood social capital in childhood to adult outcomes using full sample (unweighted sample size = 9,562). Figure 7 shows the initial theoretical SEM model, including three latent variables to measure various forms of neighborhood social capital in childhood: descriptive neighborhood social capital, parental neighborhood social capital, and childhood neighborhood social capital. Parental educational attainment is used as a proxy for descriptive parental social capital. Biological sex and race/ethnicity are used as demographics. Descriptive neighborhood social capital and parental neighborhood social capital were regressed on parental educational attainment and a set of demographic variables (biological sex and race/ethnicity). Descriptive neighborhood social capital and parental neighborhood social capital were correlated with each other, as indicated by the double headed arrow. Childhood neighborhood social capital were regressed on descriptive neighborhood social capital, parental neighborhood social capital, parental educational attainment, demographic variables, and length of residence. Finally, adult outcomes were regressed on descriptive neighborhood social capital, parental neighborhood social capital, childhood neighborhood social capital, parental educational attainment and demographics

variables. This model shows not only direct effects but also indirect effects of demographic variables at each step of the path.



Note: The rectangular box indicated a bundled variable including each of three observed variables, and the circles indicated latent variables.

Figure 7 Initial Theoretical Framework for Full Sample

Second, to examine the effects of each latent variable (parental neighborhood social capital and childhood neighborhood social capital) and the observed variable parental educational attainment as a proxy of parental descriptive social capital in different type of neighborhoods, this research divides the full sample into two groups based on the neighborhood poverty rate in their childhood (Wave I): (1) Lower-poverty neighborhood: a neighborhood with less than 10 percent of poverty rate and (2) Higher-poverty neighborhood: a neighborhood with over 10 percent of poverty rate. This research performed each SEM analysis for two types of neighborhoods.

Figure 8 shows a theoretical SEM model by neighborhood types based on their poverty rate. In this model, there are two latent variables (parental neighborhood social capital and childhood neighborhood social capital), the observed variable parental

educational attainment as proxy of parental descriptive social capital, and demographics variables. Descriptive neighborhood social capital was removed from this model because descriptive neighborhood is highly correlated with the poverty rate, which I used to distinguish neighborhood types. Descriptive neighborhood social capital was regressed on parental educational attainment, and biological sex and race/ethnicity variables. Childhood neighborhood social capital was regressed on parental neighborhood social capital, parental attainment, demographic variables, and length of resident variable. Lastly, the four adult outcomes were regressed on the two latent variables and control variables.

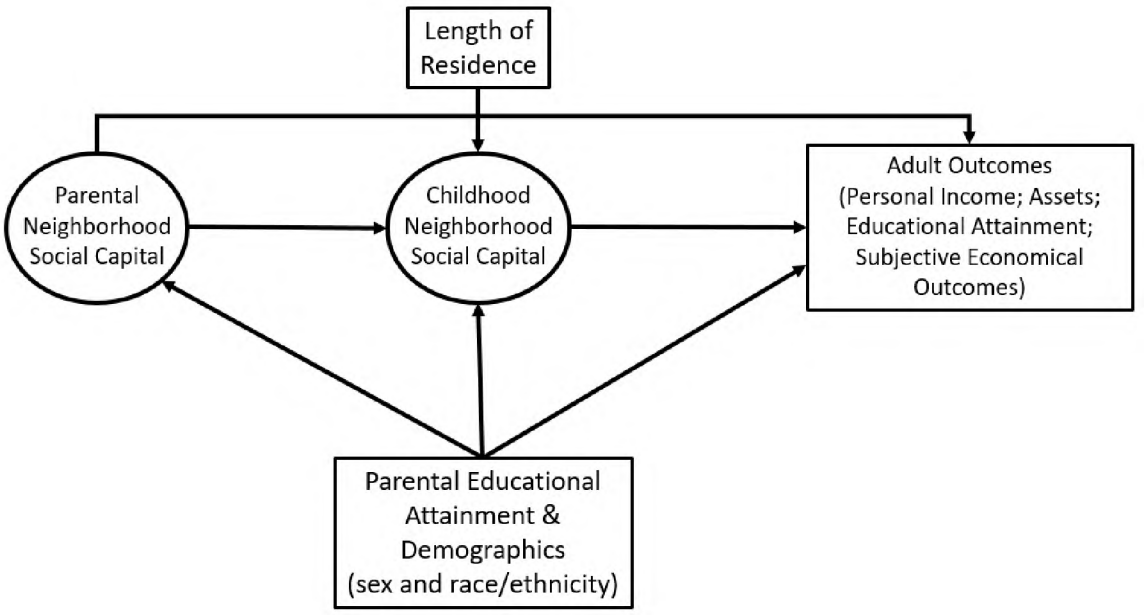


Figure 8 Initial Theoretical Framework for Different Neighborhood Types

CHAPTER V

RESULTS

5.1. Descriptive Results

Descriptive summaries by unweighted sample and weighted sample are shown in Table 5. This research is based on respondents who were interviewed in Wave I and Wave IV. The unweighted sample size was 9,562, and the weighted sample size was 14,448,437. The summary statistics are consistent between sample and weighted sample values except for race because Add Health oversampled adolescents who listed their race as Hispanic, Black, and other (Harris et al., 2009). For this reason, the analysis for this research was performed using the weighted sample.

Based on the definition of childhood in this research, all respondents in the full sample lived in the neighborhood when they were interviewed in Wave I when they were younger than 13 years old. The mean age when they moved in the neighborhood in Wave I was 5.62 years old, and they had on average lived in the neighborhood about 9.48 years when they were first interviewed for the Add Health survey. The respondents were between 11 and 21 years old (the mean age was 15.09) in 1994-1995 (or in Wave I) and between 24 and 34 years old (the mean age was 27.98) in 2008 (or in Wave IV). Of the 14.4 million

respondents in the weighted sample, 49% were female and 51% were male. Seventy two percent were Non-Hispanic White, and 28% were non-White: 11% were Hispanic, 13% were Non-Hispanic Black, and 4% were Other. Parental educational attainment was used as a proxy for descriptive parental social capital. Thirty seven percent of at least one resident parent or parental figure has some college or higher degree. This research has four dependent variables: adult educational attainment, adult income, adult assets, and adult subjective economical outcomes. Thirty four percent of respondents earned some college or higher by Wave IV, the mean income was $36,430, the mean assets were between $10,000 to $49,999[13], and respondents thought they stood at 5.04 (out of 10) on the career ladder[14].

This research breaks out the full sample into two groups for the second analysis: those who lived (in Wave I) in lower-poverty neighborhoods (poverty rate less than 10 percent), and those who lived in higher-poverty neighborhoods (poverty rate over 10 percent) to see how personal relation-based social capital works in different types of neighborhoods. Table 6 displays the weighted demographic summaries by neighborhood to show the difference between the neighborhood types. For the lower-poverty neighborhood, the weighted sample size was 8,892,726 and the unweighted sample size was 6,041. For the higher-poverty neighborhood, the weighted sample size was 5,555,711 and the unweighted sample size was 3,521. For this sub-group SEM analysis, descriptive

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[13] Respondents answered in a range of dollars: (1) less than $5,000; (2) $5,000 to $9,999; (3) 10,000 to $24,999; (4) $25,000 to $49,999; (5) $50,000 to $99,999; (6) $100,000 to $249,999; (7) $250,000 to $499,999; (8) $500,000 to $999,999 and (9) $1,000,000 or more (Harris et al., 2009).

[14] At the top of the ladder (step 10) are the people who have the most money and education, and the most respected jobs. At the bottom of the ladder (step 1) are the people who have the least money and education, and the least respected jobs or no job (Harris et al., 2009).

neighborhood social capital was not used because neighborhood was already divided based on poverty rate.

Forty-two percent of non-White respondents lived in higher-poverty neighborhoods while only 19 percent of non-White respondents lived in lower-poverty neighborhoods. More Black and Hispanic people (24% and 15% respectively) live in higher-poverty neighborhoods than lower-poverty neighborhoods (6% and 8%). In higher-poverty neighborhoods, median household income ($20,232) was lower than in lower-poverty neighborhoods ($38,661). In the higher poverty neighborhoods, unemployment (11%) was higher, proportion of people aged over 25 with college degree or higher (14%) and proportion of owner-occupied housing (62%) were lower than lower-poverty neighborhoods (5%, 29%, and 77% respectively).

Parental educational attainment was also lower in higher-poverty neighborhoods. Only 23% of parents had some college degree or higher while 45% of respondents who live in lower-poverty neighborhood had parents with some college degree or higher. Respondents who lived in higher-poverty childhood neighborhoods were less likely to earn a college degree or higher (22%), have lower adult income ($31,635), and fewer adult assets than (3.51) those who lived in lower-poverty childhood neighborhoods (41%, $39,426, and 3.97 reflectively). Respondents who lived in higher-poverty neighborhoods thought they stood at step 4.73 on a 10 step-ladder and those who lived in lower-poverty neighborhoods thought they stood at 5.24 on the ladder in the United States.

Table 5 Unweighted and Weighted Demographic Summaries, Full Sample

	Sample (n=9,562)				Weighted Sample (n=14,448,437)			
Variables	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
Race/Ethnicity								
Hispanic	0.14	0.35	0	1	0.11	0.31	0	1
Black	0.19	0.39	0	1	0.13	0.34	0	1
Other	0.07	0.25	0	1	0.04	0.20	0	1
White	0.60	0.49	0	1	0.72	0.45	0	1
Biological Sex								
Female	0.53	0.50	0	1	0.49	0.50	0	1
Parental Educational Attainment								
Some College or Higher	0.39	0.49	0	1	0.37	0.48	0	1
Residence in Wave I								
Age Moved in the Neighborhood in Wave I	5.51	4.54	0	12	5.62	4.56	0	12
Length of Residence	9.78	5.01	0	21	9.48	5.07	0	21
Adult Educational Attainment								
Some College or Higher	0.36	0.48	0	1	0.34	0.47	0	1
Adult Income	37,205	44,115	0	999,995	36,430	42,270	0	999,995
Adult Assets	3.84	1.93	1	9	3.79	1.91	1	9
Adult Subjective Economical Outcomes	5.11	1.71	1	10	5.04	1.73	1	10

Table 6 Weighted Demographic Summaries by Neighborhood Types

Variables	Weighted Lower-poverty neighborhood (Poverty rate less than 10%) Weighted sample size = 8,892,726 Unweighted sample size = 6,041				Weighted Higher-poverty neighborhood (Poverty rate over 10%) Weighted sample size = 5,555,711 Unweighted sample size = 3,521			
	Mean	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
Race/Ethnicity								
Hispanic	0.08	0.28	0	1	0.15	0.35	0	1
Black	0.06	0.24	0	1	0.24	0.43	0	1
Other	0.05	0.22	0	1	0.03	0.18	0	1
White	0.81	0.40	0	1	0.58	0.49	0	1
Biological Sex								
Female	0.49	0.50	0	1	0.49	0.50	0	1
Parental Educational Attainment								
Some College or Higher	0.45	0.50	0	1	0.23	0.42	0	1
Residence in Wave I								
Age Moved in the Neighborhood in Wave I	5.59	4.47	0	12	5.66	4.68	0	12
Length of Residence	9.55	4.97	0	21	9.36	5.24	0	20
Adult Educational Attainment								
Some College or Higher	0.41	0.49	0	1	0.22	0.41	0	1
Adult Income	39,426.42	43,555.35	0	999,995*	31,635.71	39,660.99	0	999,995*
Adult Assets	3.97	1.93	1	9	3.51	1.83	1	9
Adult Subjective Economical Outcomes	5.24	1.72	1	10	4.73	1.70	1	10
Descriptive Neighborhood Social Capital								
Proportion Black	0.06	0.15	0	1	0.24	0.33	0	1
Median Household Income	38,661.23	13,243.48	11,190	148,752	20,232.40	6,741.95	4,999	51,620
Poverty Rate	0.04	0.03	0	0	0.23	0.12	0	1
Unemployment Rate	0.05	0.03	0	0	0.11	0.07	0	0
Proportion of Aged over 25 with College Degree or Higher	0.29	0.15	0	1	0.14	0.09	0	1
Proportion of Owner-occupied	0.77	0.17	0	1	0.62	0.23	0	1

*999,995 is coded as the top value.

5.2. Structural Equation Modeling

5.2.1. Latent Variables

Figure 9 shows the detailed SEM model focusing on neighborhood latent variables without the parental educational attainment and demographics variables. This research contains three latent variables: descriptive neighborhood social capital, parental neighborhood social capital, and childhood neighborhood social capital. The observed variables reflecting these latent variables are listed in Table 7. All observed variables for each of the three latent variables are statistically significant.

(1) Descriptive neighborhood social capital was reflected by six observed variables and an error term: proportion Black, median household income, poverty rate, unemployment rate, proportion of aged over 25 with college degree or higher, and proportion of owner-occupied. Poverty rate is the largest driver of descriptive neighborhood social capital (standard estimate was 0.87). Median household income was the second largest driver to create the latent variable of descriptive neighborhood capital (standard estimate was 0.79), and proportion of owner-occupied had the lowest power (standard estimate was 0.51).

(2) Parental neighborhood social capital was reflected by four observed variables and an error term: less drug, safe drug, desirability, and move away. Safe drug had the most power in the latent variable of parental neighborhood social capital (standard estimate was 0.62), and less drug had the lowest power (standard estimate was 0.35).

(3) Childhood neighborhood social capital was reflected by six observed variables and an error term: look out each other, feel safe, know most people, stop and talk within a month, happy living, and unhappy move. Standard estimates of all six observed variables

in childhood neighborhood social capital were over 0.30. Look out for each other had the largest effects to create the latent variable of childhood neighborhood social capital. As I discussed earlier, direction of arrow started from each latent variable to their observed variables. This arrow indicated that each latent variable is explained by their observed variables, but there are error terms which are not explained by the observed variables in the model.

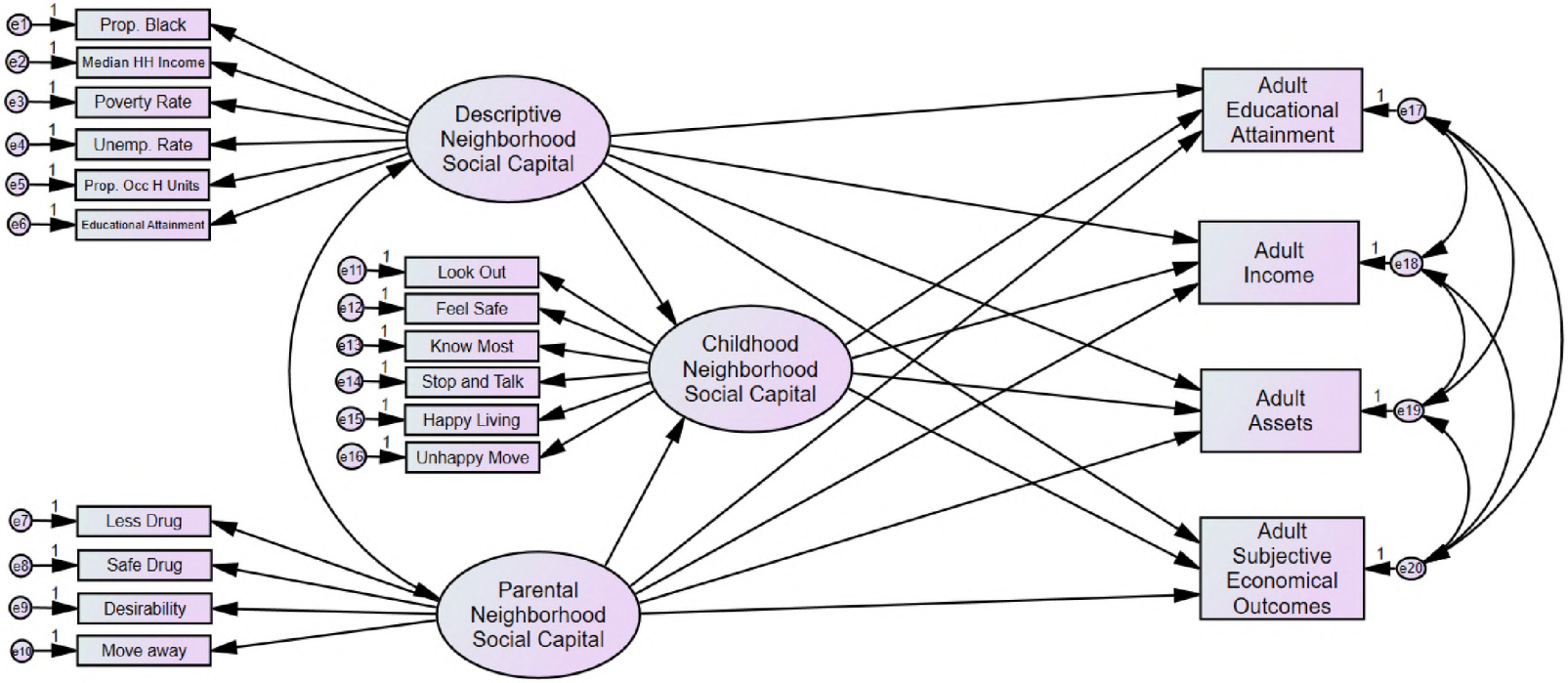

Figure 9 Latent Variables in SEM Model

Table 7 Latent Variable, Weighted Full Sample

Variables	Unstandardized Estimate	Standard Estimate	p-value
Descriptive Neighborhood Social Capital			
Proportion Black	0.39	0.54	<.01
Median Household Income	0.65	0.79	<.01
Poverty Rate	0.69	0.87	<.01
Unemployment Rate	0.55	0.63	<.01
Proportion of Aged over 25 with College Degree or Higher	0.63	0.74	<.01
Proportion of Owner-occupied	0.39	0.51	<.01
Parental Neighborhood Social Capital			
Less Drug	0.16	0.35	<.01
Safe Drug	0.28	0.62	<.01
Desirability	0.26	0.56	<.01
Move Away	0.19	0.41	<.01
Childhood Neighborhood Social Capital			
Look Out Each Other	0.24	0.60	<.01
Feel Safe	0.09	0.31	<.01
Know Most People	0.20	0.50	<.01
Stop and Talk within a Month	0.15	0.40	<.01
Happy Living	0.08	0.34	<.01
Unhappy Move	0.16	0.34	<.01

5.2.2. Model Fit

For SEM and CFA analyses, more than a dozen different model fits could be used (Hopper, 2008; Parry, 2017; Yeom, 2018). Table 8 shows the most recommended model fit and cut-offs from Parry (2017). Among these indices, the model chi-square, RMSEA,

CFI, and SRMR are the most popular model-fit indices (Kline, 2015; Parry, 2017; Yeom, 2018). Thus, these four indices were used to access model fit.

Table 8 Model Fit Indices

Measure	Name	Description	Recommended cut-off for good fit
X^2	The Model Chi-square	Assess overall fit and the discrepancy between the sample and fitted covariance matrices. Sensitive to sample size. H_0: The model fits perfectly.	p-value>0.05
(A)GFI	(Adjusted) Goodness of Fit	GFI is the proportion of variance accounted for by the estimated population covariance. Analogous to R^2. AGFI favors parsimony.	GFI ≥ 0.95* AGFI ≥0.90
(N)NFI TLI	(Non Normed-Fit Index/ Tucker Lewis Index	An NFI of .95, indicates the model of interest improves the fit by 95% relative to the null model. NNFI is preferable for smaller samples. Sometimes the NNFI is called the Tucker Lewis index (TLI)	NFI ≥ 0.95 NNFI ≥ 0.95
CFI	Comparative Fit Index	A revised form of NFI. Not very sensitive to sample size. Compares the fit of a target model to the fit of an independent, or null, model.	CFI ≥.90
RMSEA	Root Mean Square Error of Approximation	A parsimony-adjusted index. Values closer to 0 represent a good fit.	RMSEA <0.08
(S)RMR	(Standardized) Root Mean Square Residual	The square-root of the difference between the residuals of the sample covariance matrix and the hypothesized model. If items vary in range (i.e. some items are 1-5, others 1-	SRMR <0.08

Measure	Name	Description	Recommended cut-off for good fit
		7) then RMR is hard to interpret, better to use SRMR.	
AVE (CFA only)	Average Value Explained	The average of the R2s for items within a factor	AVE >.5

Note: This table is from Parry (2017), Fit Indices commonly reported for CFA and SEM

The model chi-square (X^2) was significant ($p<0.01$) for all three analyses (including the model for the full sample and each neighborhood type). All three Root Mean Square Error of Approximation (RMSEA) were less than 0.08: 0.059 for full sample analysis, 0.038 for the model of neighborhood with poverty rate over 10 percent, and 0.029 for the model of neighborhood with poverty rate less than 10 percent. The standardized root mean square residual (SRMR) statistics were also below the 0.08 recommended cut-off for all three analyses: 0.058 for full sample analysis, 0.042 for the model of neighborhood with poverty rate over 10 percent, and 0.036 for the model of neighborhood with poverty rate less than 10 percent.

The comparative fit indices (CFI) were lower than the recommended threshold of 0.90: 0.677 for full sample analysis, 0.773 for the model of neighborhood with poverty rate over 10 percent, and 0.831 for the model of neighborhood with poverty rate less than 10 percent. CFI range between 0 (no fit) and 1 (perfect fit), and cut-off criteria for CFI were suggested to be above 0.95 (Hu & Bentler, 1999) or 0.90 (Pary, 2017; Yoem, 2018). However, Oke, Ogunsami, & Ogunlana (2012) suggested to be 1.00 for perfect model fit, >0.90 for good, >0.80 acceptable, and >0.70 for poor model fit. For this research, this low

CFI was consistent with a large proportion of variance that is still left unexplained. All unstandardized and standardized estimates are reported in Table 9.

5.3. SEM Results

5.3.1 SEM Results for Full Sample

Table 9 and Figures 10 through 18 display the results of SEM for the overall weighted sample (the unweighted sample size is 9,562, and the weighted sample size is 14,448,437). Table 10 displays the full results of the weighted SEM for regression along with the unstandardized estimate, standard estimate, and p-value. For this research, seven simultaneous regressions were made as part of the SEM analysis: each regression includes demographic variables (race/ethnicity and biological sex) and parental educational attainment. Figures 10 through 18 show only statistically significant relationships. A solid arrow indicates that the specific variable has a significant positive relationship with the adult outcome variable. The dashed arrow shows a significant negative relationship with an adult outcome variable. Three latent variables are used in the regression models: descriptive neighborhood social capital, parental neighborhood social capital, and childhood neighborhood social capital.

Table 9 Weighted SEM Results for Regressions, Full Sample

Variables	Unstandardized Estimate	Standard Estimate	p-value
Descriptive Neighborhood Social Capital			
Parental Educational Attainment	0.68	0.28	< 0.01
Hispanic	-0.48	-0.13	< 0.01
Non-Hispanic Black	-1.48	-0.42	< 0.01
Other	-0.19	-0.03	< 0.05

Variables	Unstandardized Estimate	Standard Estimate	p-value
Female	0.00	0.00	0.99
Parental Neighborhood Social Capital			
Parental Educational Attainment	0.40	0.19	< 0.01
Hispanic	0.08	0.02	0.23
Non-Hispanic Black	-0.49	-0.16	< 0.01
Other	0.04	0.01	0.71
Childhood Neighborhood Social Capital			
Descriptive Neighborhood Social Capital	-0.01	-0.01	0.74
Parental Neighborhood Social Capital	0.21	0.21	< 0.01
Parental Educational Attainment	-0.04	-0.02	0.33
Hispanic	-0.33	-0.10	< 0.01
Non-Hispanic Black	0.04	0.01	0.46
Other	-0.36	-0.07	< 0.01
Female	-0.06	-0.03	0.12
Length of Residence	0.03	0.13	< 0.01
Adult Educational Attainment			
Childhood Neighborhood Social Capital	-0.01	-0.02	0.23
Descriptive Neighborhood Social Capital	0.06	0.16	< 0.01
Parental Neighborhood Social Capital	0.04	0.08	< 0.01
Parental Educational Attainment	0.29	0.29	< 0.01
Hispanic	-0.06	-0.04	< 0.01
Non-Hispanic Black	0.05	0.04	< 0.01
Other	0.01	0.00	0.81
Female	0.09	0.10	< 0.01
Adult Income			
Childhood Neighborhood Social Capital	-0.01	-0.01	0.66
Descriptive Neighborhood Social Capital	0.05	0.07	< 0.01
Parental Neighborhood Social Capital	0.03	0.03	0.09

Variables	Unstandardized Estimate	Standard Estimate	p-value
Parental Educational Attainment	0.17	0.09	< 0.01
Hispanic	0.00	0.00	0.92
Non-Hispanic Black	0.01	0.00	0.83
Other	0.09	0.02	0.38
Female	-0.25	-0.13	< 0.01
Adult Assets			
Childhood Neighborhood Social Capital	0.06	0.07	< 0.01
Descriptive Neighborhood Social Capital	0.08	0.09	< 0.01
Parental Neighborhood Social Capital	0.04	0.04	0.07
Parental Educational Attainment	0.13	0.06	< 0.01
Hispanic	0.03	0.01	0.55
Non-Hispanic Black	-0.18	-0.06	< 0.01
Other	0.18	0.04	< 0.01
Female	-0.13	-0.07	< 0.01
Adult Subjective Economical Outcomes			
Childhood Neighborhood Social Capital	0.05	0.05	< 0.01
Descriptive Neighborhood Social Capital	0.11	0.12	< 0.01
Parental Neighborhood Social Capital	0.07	0.07	< 0.01
Parental Educational Attainment	0.32	0.15	< 0.01
Hispanic	0.07	0.02	0.19
Non-Hispanic Black	0.00	0.00	0.97
Other	-0.03	-0.01	0.68
Female	0.03	0.01	0.34

[1]Reference categories are: Non-Hispanic White male, and parents have no college degree

[2]Latent variables are in bold.

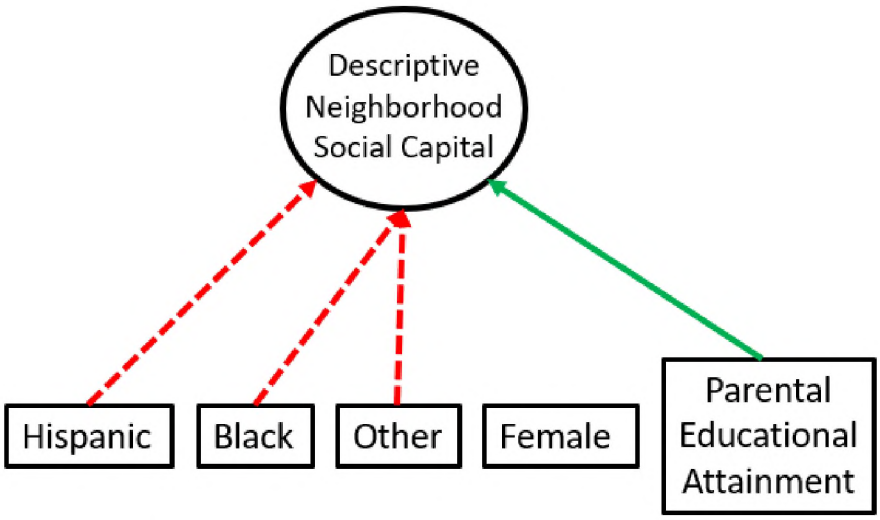

Figure 10 Regression Model within the SEM to Explain Descriptive Neighborhood Social Capital

The direct relationships among the four demographic variables, parental educational attainment, and the latent variable of descriptive neighborhood social capital is displayed in Figure 10. A negative relationship exists between the three racial/ethnicity groups (Hispanic, Black, and Other) and descriptive neighborhood social capital. In other words, respondents of color are less likely to live in better neighborhoods than White group. Respondents who have at least one parent with a college degree or higher are more likely to have better descriptive neighborhood social capital. Female is not significantly associated with descriptive neighborhood social capital.

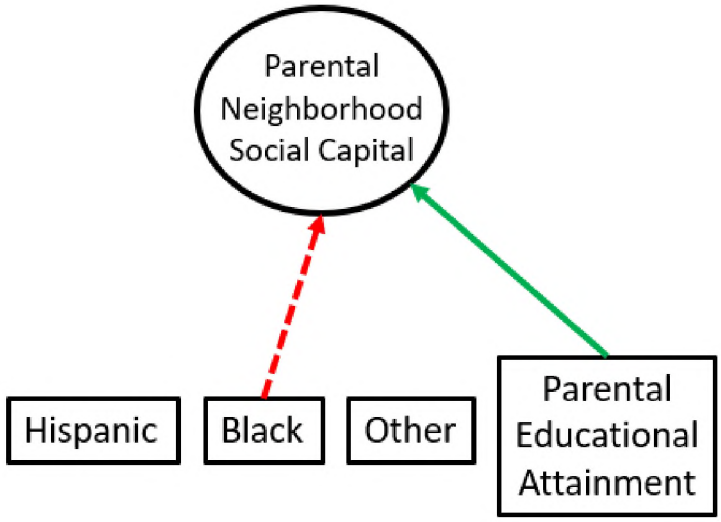

Figure 11 Regression Model within the SEM to Explain Descriptive Parental Social Capital

Figure 11 displays the direct relationships among the three demographic variables, parental educational attainment, and the latent variable of parental neighborhood social capital. Biological sex (female) variable is not in this model because children's biological sex is not associated with parental neighborhood social capital. In this model, a negative relationship exists between Black group. In other words, Black group is less likely to have higher-level of parental neighborhood social capital than White group. Parental educational attainment has a positive effect on parental neighborhood social capital. Parents with a college degree or higher are more likely to feel safe and desire to live in their neighborhood.

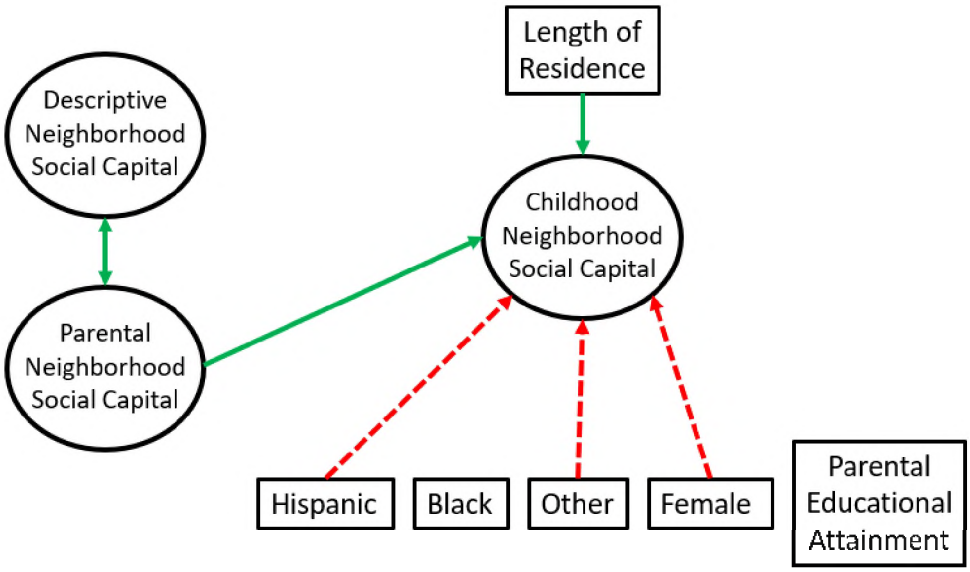

Figure 12 Regression Model within the SEM to Explain Descriptive Childhood Social Capital

Figure 12 displays childhood neighborhood social capital as predicted by the direct relationship among the four control variables along with length of residence, parental educational attainment, descriptive neighborhood social capital, and parental neighborhood social capital.

Hispanic, Other, and female are less likely to have higher-level of childhood neighborhood social capital. Respondents who live longer in the neighborhood are more likely to have higher-level of childhood neighborhood social capital. Descriptive neighborhood social capital and parental neighborhood social capital are significantly correlated with each other (r=0.40) (Appendix A). Parental neighborhood social capital is positively related with childhood neighborhood social capital. In other words, when parents feel safe and desire to live in their neighborhood, their children are more likely to have higher-level of childhood neighborhood social capital (more relation-based social capital

in the neighborhood). Parental educational attainment and Black do not have a significant relationship with childhood neighborhood social capital.

Figure 13 shows direct relationship among the four demographic variables, parental educational attainment, the three latent variables of descriptive neighborhood social capital, parental neighborhood social capital, childhood neighborhood social capital and *adult educational attainment.* Figure 14 displays not only direct relationships but also indirect relationships among the three latent variables, four demographic variables, parental educational attainment and *adult educational attainment*.

For direct effects, a positive effect for adult educational attainment exists for Black, female, those who had at least one parent with a college degree or higher, descriptive neighborhood social capital, and parental neighborhood social capital. In other words, a child who lives in a better neighborhood with better parental neighborhood social capital was more likely to have higher educational attainment. For direct effects, Black respondents are more likely to have higher educational attainment (unstandardized estimate is 0.05). However, Black respondents are less likely to live in a better neighborhood (-1.48) and less likely to have better parental neighborhood social capital (-0.49) (Table 9). Positive direct effects on adult educational attainment were a function of descriptive neighborhood social capital and parental neighborhood social capital.

Being Hispanic has negative effects on adult educational attainment (Figure 14). Other race did not have a significant direct effect on adult educational attainment in Figure 13 but has an indirect negative effect on adult educational attainment through descriptive neighborhood social capital and childhood neighborhood social capital. All three race/ethnicity groups are less likely to live in a better neighborhood than white respondents.

Parental education has significant positive effects on descriptive neighborhood social capital, parental neighborhood social capital, and adult educational attainment. Four dependent variables of adult outcomes were significantly correlated with each other (Appendix A).

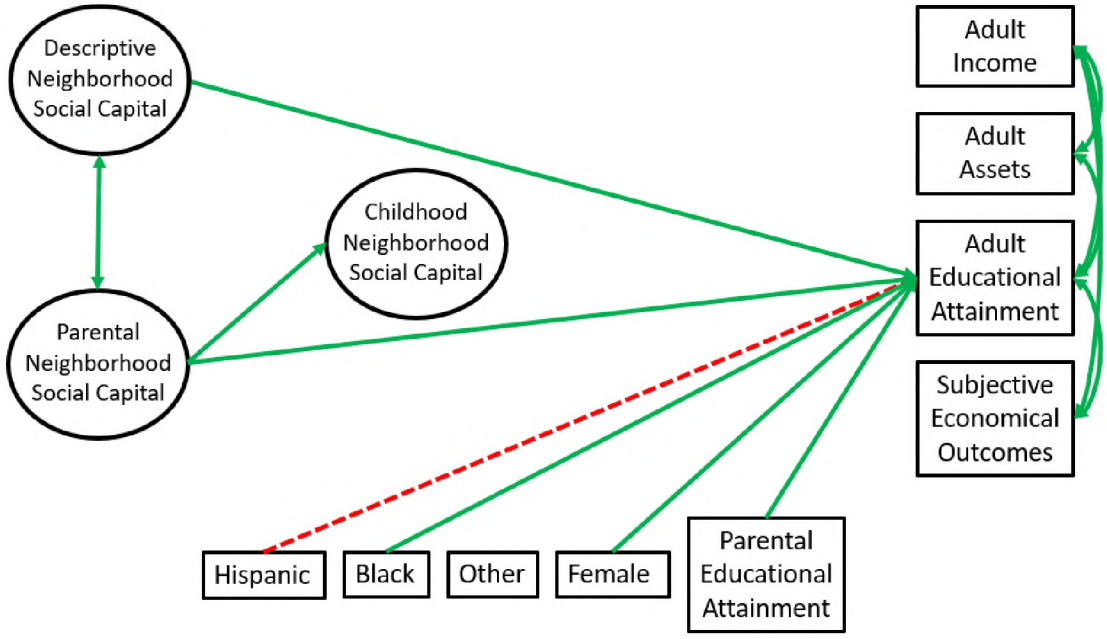

Figure 13 Regression Model within the SEM to Explain Adult Educational Attainment (1)

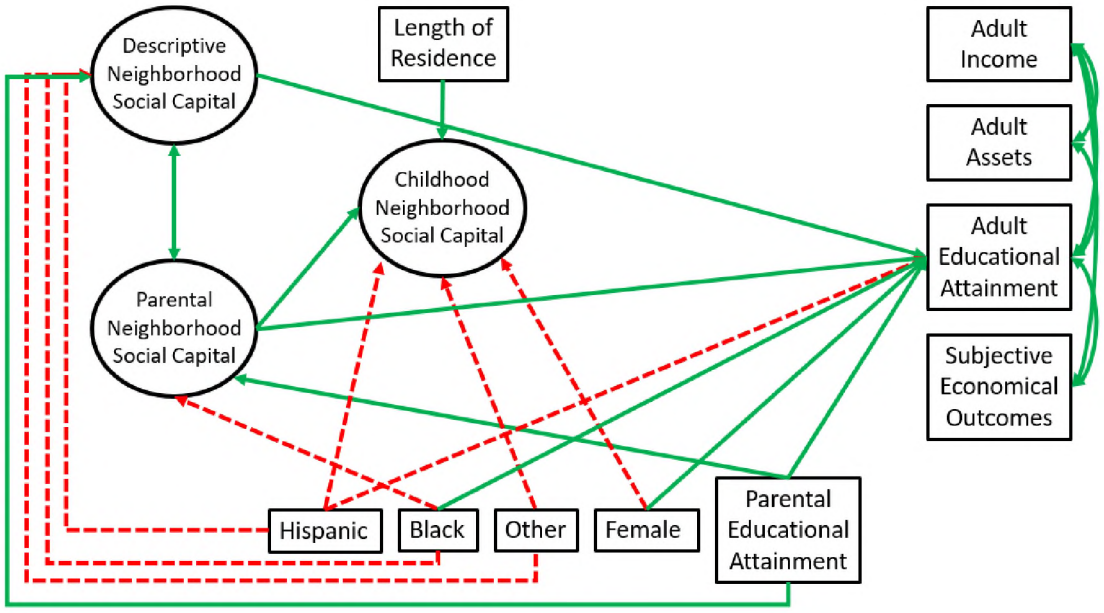

Figure 14 Regression Model within the SEM to Explain Adult Educational Attainment (2)

In Figure 15, three latent variables (descriptive neighborhood social capital, parental neighborhood social capital, and childhood neighborhood social capital) have direct positive effects on *adult assets*. Respondents who had at least one parent with a college degree or higher were more likely to have more adult assets.

Compared with the model with *adult educational attainment* (Figure 13 and 14), female and Black respondents are less likely, and Other is more like to have more adult assets. The direct relation between Hispanic group and adult assets was not significant in Figure 15, but Hispanic group has indirect effects through three latent variables in Figure 16. Hispanic respondents are less likely to have better descriptive neighborhood social capital and childhood neighborhood social capital, which have positive effects on adult assets. Thus, Hispanic respondents has indirect negative effects on adult assets. However,

Hispanic respondents also has a direct positive effect on parental neighborhood social capital.

Parental educational attainment has direct positive effects on parental neighborhood social capital, descriptive social capital, and adult assets. In other words, higher parental educational attainment has positive effects on the condition of their neighborhood and satisfaction of their neighborhood. Also, higher parental educational attainment is positively associated with their children's adult assets. This effect is consistent with in the model with *adult educational attainment*.

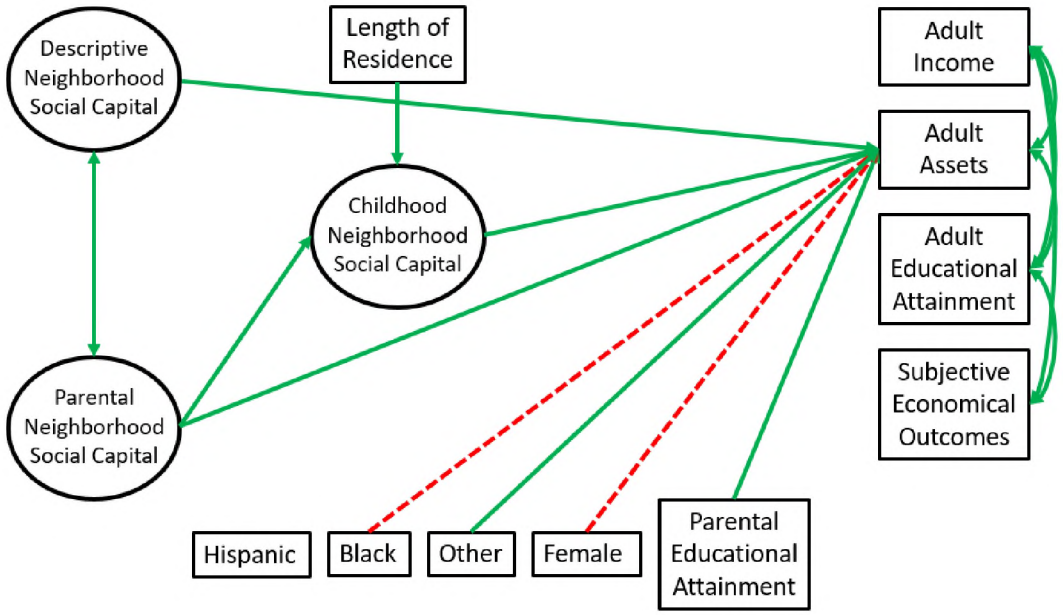

Figure 15 Regression Model within the SEM to Explain Adult Assets (1)

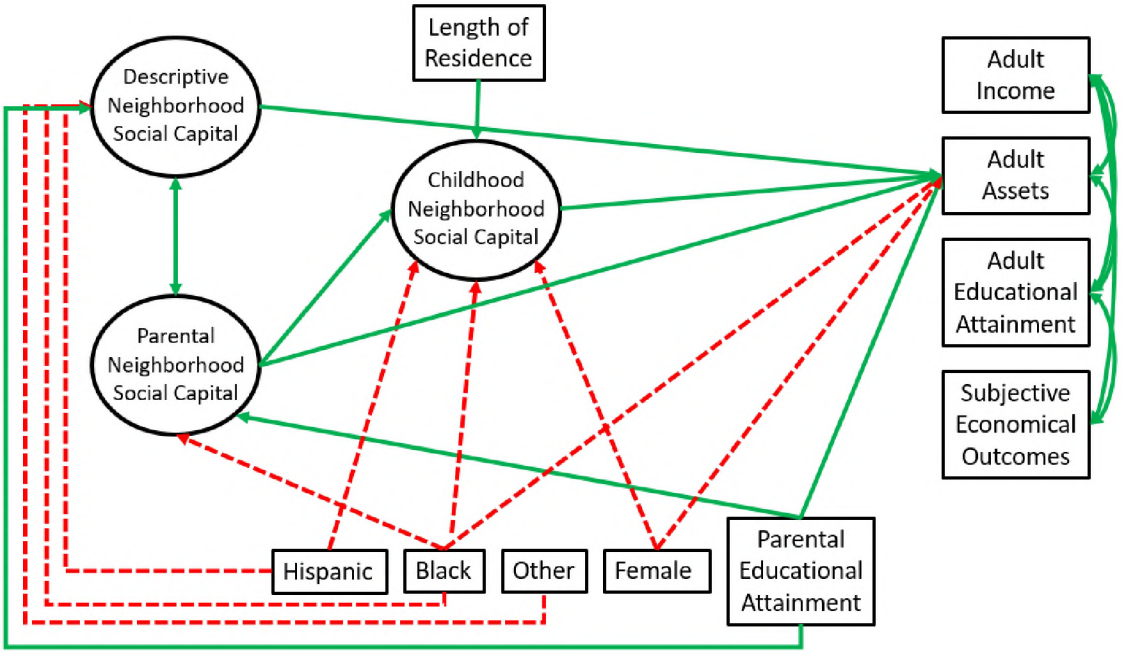

Figure 16 Regression Model within the SEM to Explain Adult Assets (2)

Figure 17 shows the direct and indirect relationship among the four demographic variables, parental educational attainment, three latent variables of descriptive neighborhood social capital, parental neighborhood social capital, and childhood social capital and *adult income*. Female has a negative direct effect on adult income. Descriptive neighborhood social capital and parental neighborhood social capital have positive direct effects on adult income (Figure 17).

In Figure 18, parental educational attainment has a direct positive effect on descriptive neighborhood social capital and parental neighborhood social capital. These latent variables have direct positive effects on adult income. In other words, parental educational attainment has indirect and direct positive effects on adult income. Childhood neighborhood social capital is not significantly related with adult income in this model.

Being Hispanic, Black, and Other race are not directly related with adult income, but respondents of color were less likely to live in a better neighborhood (low descriptive neighborhood social capital). Consistent with the models with *adult educational attainment* and *adult income*, parental neighborhood social capital is positively associated with Hispanic and female.

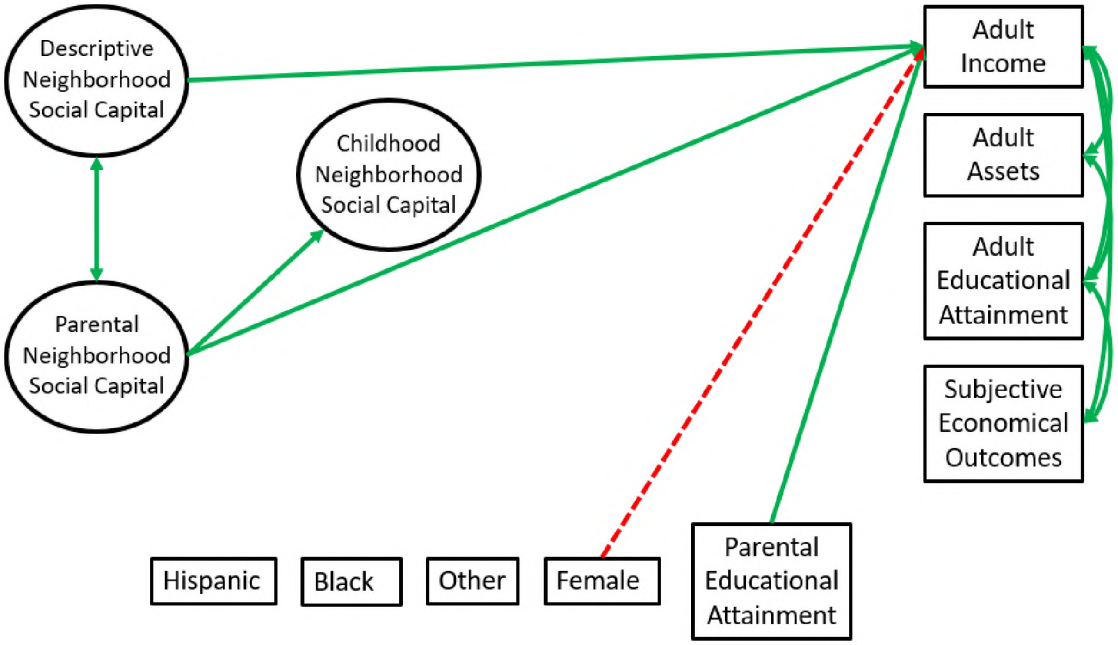

Figure 17 Regression Model within the SEM to Explain Adult Income (1)

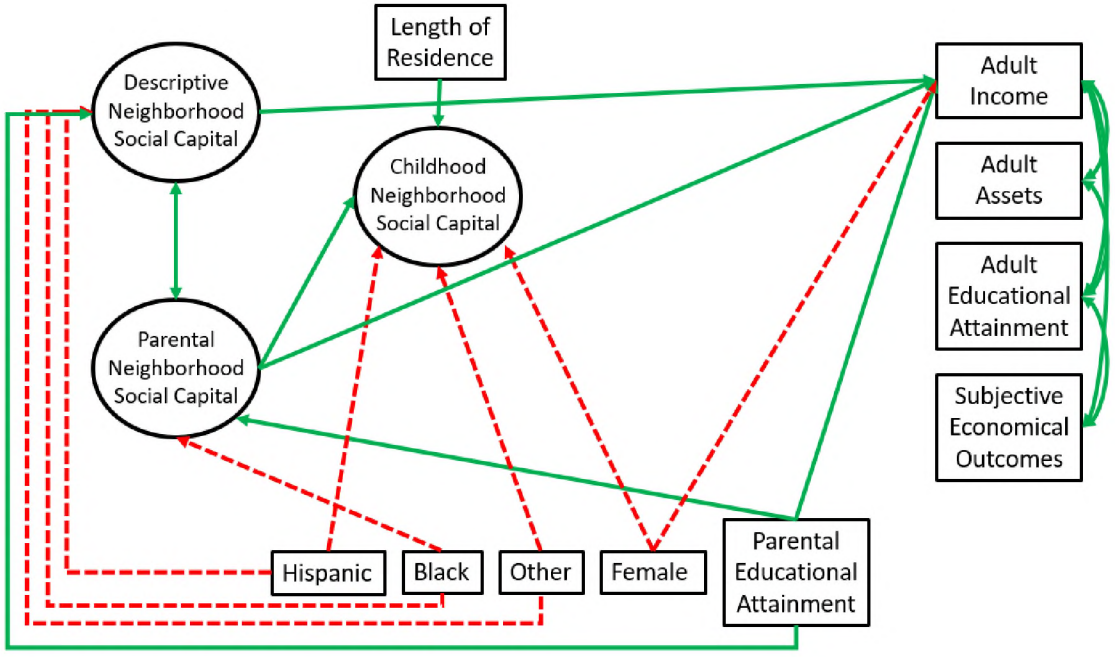

Figure 18 Regression Model within the SEM to Explain Adult Income (2)

Figure 19 displays the direct relationship among the four demographic variables, parental educational attainment, three latent variables of descriptive neighborhood social capital, parental neighborhood social capital, and childhood social capital and *subjective economical outcomes*. Figure 20 shows a more detailed regression model within the SEM to explain adult subjective economical outcomes including the direct and indirect relationships with those variables in Figure 19 and length of residence. Parental educational attainment, descriptive neighborhood social capital, parental neighborhood social capital, and childhood neighborhood social capital have positive direct effects on subjective economical outcomes. In other words, more childhood parental and neighborhood social capital increased adulthood subjective economical outcomes. Race/ethnicity and gender have no significant direct effects on subjective economical outcomes, but those variables have indirect relationships through the three latent variables (Figure 20).

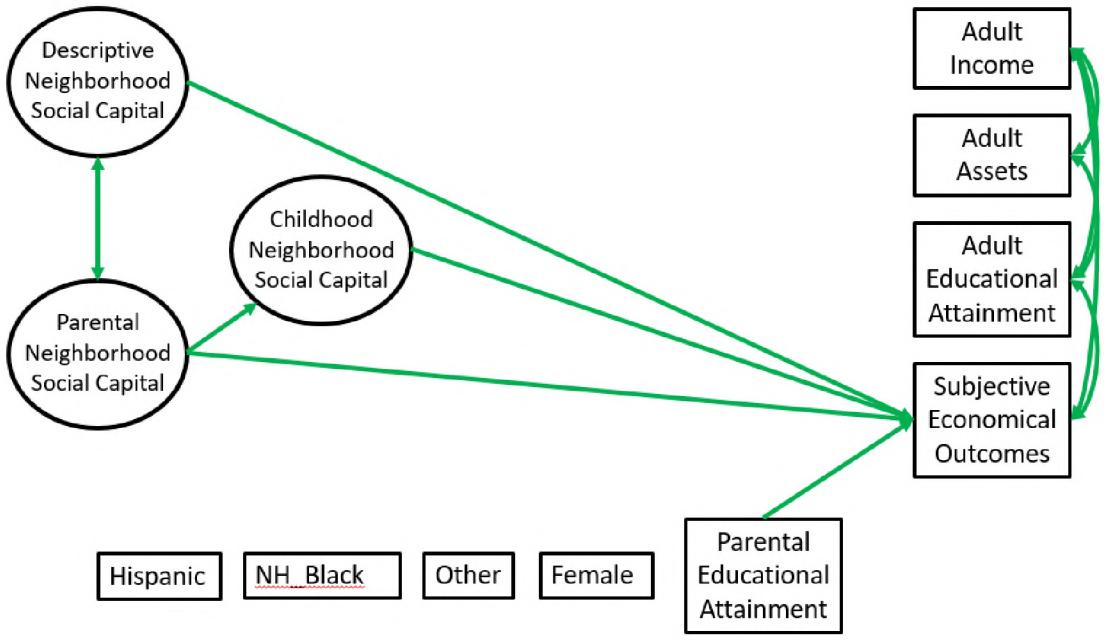

Figure 19 Regression Model within the SEM to Explain Adult Subjective Economical Outcomes (1)

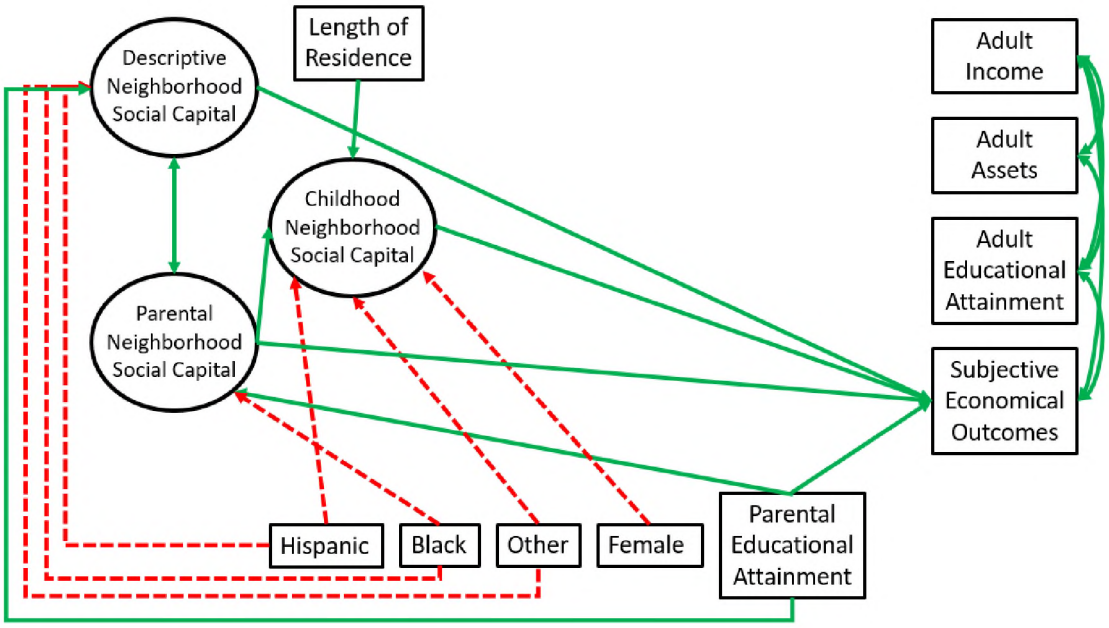

Figure 20 Regression Model within the SEM to Explain Adult Subjective Economical Outcomes (2)

It is noteworthy that parental educational attainment as proxy of descriptive parental social capital has direct and positive effects on all four adult outcomes (Figure 21). Respondents who have at least one parent with a college degree or higher are more likely to live in a better neighborhood and have higher parental neighborhood social capital. Parental educational attainment has no significant direct effect on childhood neighborhood social capital but an indirect positive effect through parental neighborhood social capital.

Childhood neighborhood social capital is also notable. Childhood neighborhood social capital has a positive effect on adult assets and subjective economical outcomes but there are no significant effects on adult income and adult educational attainment (Figure 22).

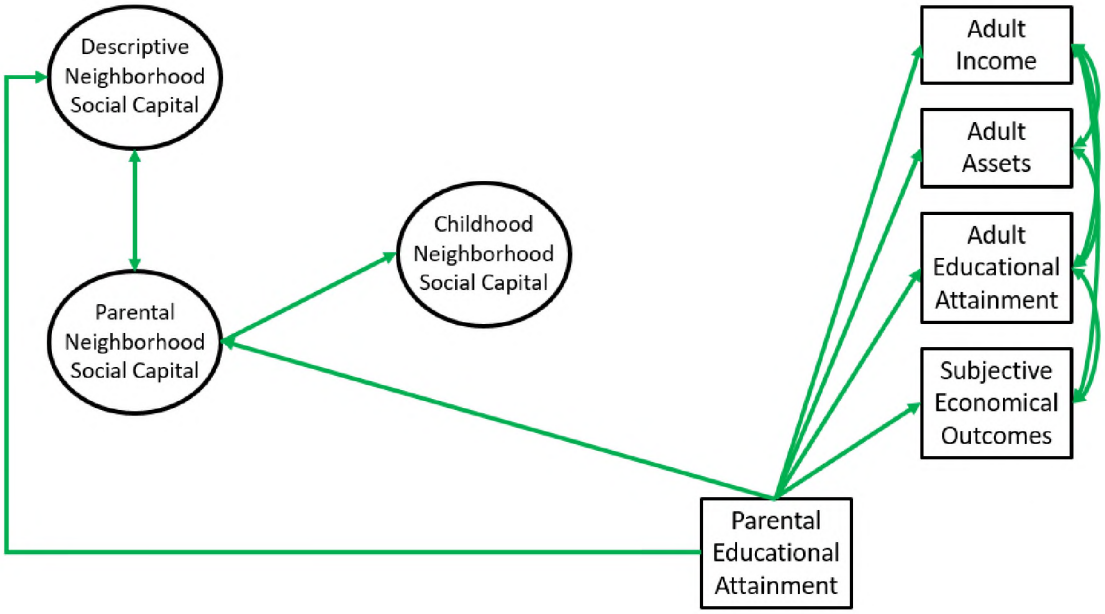

Figure 21 Regression Model within the SEM to Explain Parental Educational Attainment

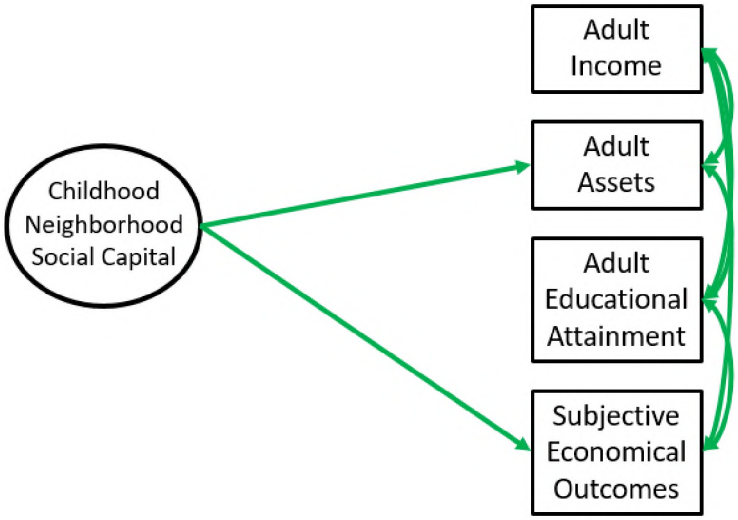

Figure 22 Regression Model within the SEM to Explain Parental Educational Attainment

5.3.2 SEM Results for Neighborhood Types by Poverty Rate

Table 10 displays weighted SEM results for all latent variables by full sample and each neighborhood type. Table 11 through 13 show the full results for full sample and each neighborhood type of the weighted SEM for regression including the unstandardized estimate, standard estimate, and p-value.

Table 10 Weighted SEM Results for Latent Variable by Neighborhood Types

	Full sample n = 9,562			Lower-poverty neighborhoods (Poverty rate less than 10 %) n = 6,041			Higher-poverty neighborhoods (Poverty rate over 10 %) n = 3,521		
Variables	Unstandardized Estimate	Standard Estimate	p-value	Unstandardized Estimate	Standard Estimate	p-value	Unstandardized Estimate	Standard Estimate	p-value
Childhood Neighborhood Social Capital									
Look out each other	0.24	0.60	<0.01	0.22	0.55	<0.01	0.24	0.59	<0.01
Feel safe	0.09	0.31	<0.01	0.05	0.20	<0.01	0.13	0.42	<0.01
Know most people	0.20	0.50	<0.01	0.25	0.61	<0.01	0.16	0.45	<0.01
Stop and talk within a month	0.15	0.40	<0.01	0.18	0.48	<0.01	0.12	0.32	<0.01
Happy living	0.08	0.34	<0.01	0.05	0.22	<0.01	0.12	0.44	<0.01
Unhappy move	0.16	0.34	<0.01	0.14	0.28	<0.01	0.18	0.38	<0.01
Parental Neighborhood Social Capital									
Less drug	0.16	0.35	<0.01	0.15	0.32	<0.01	0.16	0.34	<0.01
Safe drug	0.28	0.62	<0.01	0.27	0.60	<0.01	0.31	0.67	<0.01
Desirability	0.26	0.56	<0.01	0.24	0.52	<0.01	0.23	0.51	<0.01
Move away	0.19	0.41	<0.01	0.18	0.37	<0.01	0.21	0.45	<0.01

Table 11 Weighted SEM Results for Regressions, Full Sample

Variables	Full Sample n = 9,562		
	Unstandardized Estimate	Standard Estimate	p-value
Parental Neighborhood Social Capital			
Parental Educational Attainment	0.40	0.19	<0.01
Hispanic	0.08	0.02	0.23
Non-Hispanic Black	-0.49	-0.16	<0.01
Other	0.04	0.01	0.71
Childhood Neighborhood Social Capital			
Descriptive Neighborhood Social Capital	-0.01	-0.01	0.74
Parental Neighborhood Social Capital	0.21	0.21	<0.01
Parental Educational Attainment	-0.04	-0.02	0.33
Hispanic	-0.33	-0.10	<0.01
Non-Hispanic Black	0.04	0.01	0.46
Other	-0.36	-0.07	<0.01
Female	-0.06	-0.03	0.12
Length of Residence	0.03	0.13	<0.01
Adult Educational Attainment			
Childhood Neighborhood Social Capital	-0.01	-0.02	0.23
Descriptive Neighborhood Social Capital	0.06	0.16	<0.01
Parental Neighborhood Social Capital	0.04	0.08	<0.01
Parental Educational Attainment	0.29	0.29	<0.01
Hispanic	-0.06	-0.04	<0.01
Non-Hispanic Black	0.05	0.04	<0.01
Other	0.01	0.00	0.81
Female	0.09	0.10	<0.01
Adult Income			
Childhood Neighborhood Social Capital	-0.01	-0.01	0.66
Descriptive Neighborhood Social Capital	0.05	0.07	<0.01
Parental Neighborhood Social Capital	0.03	0.03	0.09
Parental Educational Attainment	0.17	0.09	<0.01
Hispanic	0.00	0.00	0.92
Non-Hispanic Black	0.01	0.00	0.83
Other	0.09	0.02	0.38
Female	-0.25	-0.13	<0.01
Adult Assets			
Childhood Neighborhood Social Capital	0.06	0.07	<0.01
Descriptive Neighborhood Social Capital	0.08	0.09	<0.01
Parental Neighborhood Social Capital	0.04	0.04	0.07
Parental Educational Attainment	0.13	0.06	<0.01

Variables	Full Sample n = 9,562		
	Unstandardized Estimate	Standard Estimate	p-value
Hispanic	0.03	0.01	0.55
Non-Hispanic Black	-0.18	-0.06	<0.01
Other	0.18	0.04	<0.01
Female	-0.13	-0.07	<0.01
Adult Subjective Economical Outcomes			
Childhood Neighborhood Social Capital	0.05	0.05	<0.01
Descriptive Neighborhood Social Capital	0.11	0.12	<0.01
Parental Neighborhood Social Capital	0.07	0.07	<0.01
Parental Educational Attainment	0.32	0.15	<0.01
Hispanic	0.07	0.02	0.19
Non-Hispanic Black	0.00	0.00	0.97
Other	-0.03	-0.01	0.68
Female	0.03	0.01	0.34

[1]Reference categories are: Non-Hispanic White male, and parents have no college degree

[2]Latent variables are in bold.

Table 12 Weighted SEM Results for Regressions for Lower-poverty Neighborhood

Variables	Lower-poverty Neighborhoods (Poverty Rate Less than 10%) n = 6,041		
	Unstandardized Estimate	Standard Estimate	p-value
Parental Neighborhood Social Capital			
Parental Educational Attainment	0.28	0.14	<0.01
Hispanic	0.20	0.05	0.03
Non-Hispanic Black	-0.22	-0.05	0.01
Other	0.09	0.02	0.43
Childhood Neighborhood Social Capital			
Parental Neighborhood Social Capital	0.15	0.15	<0.01
Parental Educational Attainment	-0.10	-0.05	0.06
Hispanic	-0.22	-0.06	0.01
Non-Hispanic Black	0.02	0.01	0.79
Other	-0.35	-0.07	<0.01
Female	-0.02	-0.01	0.65
Length of Residence	0.03	0.13	<0.01
Adult Educational Attainment			
Childhood Neighborhood Social Capital	-0.02	-0.05	0.07
Parental Neighborhood Social Capital	0.06	0.13	<0.01

Variables	Lower-poverty Neighborhoods (Poverty Rate Less than 10%) n = 6,041		
	Unstandardized Estimate	Standard Estimate	p-value
Parental Educational Attainment	0.32	0.33	<0.01
Hispanic	-0.12	-0.07	<0.01
Non-Hispanic Black	-0.04	-0.02	0.20
Other	-0.03	-0.01	0.40
Female	0.10	0.10	<0.01
Adult Income			
Childhood Neighborhood Social Capital	-0.01	-0.01	0.53
Parental Neighborhood Social Capital	0.05	0.05	0.03
Parental Educational Attainment	0.19	0.10	<0.01
Hispanic	-0.08	-0.02	0.11
Non-Hispanic Black	-0.13	-0.03	<0.01
Other	0.12	0.03	0.39
Female	-0.27	-0.14	<0.01
Adult Assets			
Childhood Neighborhood Social Capital	0.06	0.06	<0.01
Parental Neighborhood Social Capital	0.06	0.06	0.02
Parental Educational Attainment	0.14	0.07	<0.01
Hispanic	0.02	0.00	0.84
Non-Hispanic Black	-0.21	-0.05	<0.01
Other	0.22	0.05	<0.01
Female	-0.12	-0.06	<0.01
Adult Subjective Economical Outcomes			
Childhood Neighborhood Social Capital	0.06	0.06	0.01
Parental Neighborhood Social Capital	0.12	0.12	<0.01
Parental Educational Attainment	0.39	0.19	<0.01
Hispanic	0.01	0.00	0.95
Non-Hispanic Black	-0.20	-0.05	<0.01
Other	-0.02	0.00	0.82
Female	0.02	0.01	0.59

[1]Reference categories are: Non-Hispanic White male, and parents have no college degree

[2]Latent variables are in bold

Table 13 Weighted SEM Results for Regressions for Higher-poverty Neighborhood

Variables	Higher-poverty Neighborhoods (Poverty Rate Over 10%) Unweighted n = 3,521		
	Unstandardized Estimate	Standard Estimate	p-value
Parental Neighborhood Social Capital			
Parental Educational Attainment	0.34	0.14	<0.01
Hispanic	0.12	0.04	0.20
Non-Hispanic Black	-0.31	-0.13	<0.01
Other	-0.08	-0.02	0.66
Childhood Neighborhood Social Capital			
Parental Neighborhood Social Capital	0.25	0.24	<0.01
Parental Educational Attainment	0.00	0.00	0.98
Hispanic	-0.41	-0.14	<0.01
Non-Hispanic Black	0.03	0.01	0.68
Other	-0.36	-0.06	0.05
Female	-0.16	-0.08	0.01
Length of Residence	0.03	0.14	<0.01
Adult Educational Attainment			
Childhood Neighborhood Social Capital	-0.01	-0.01	0.66
Parental Neighborhood Social Capital	0.04	0.10	<0.01
Parental Educational Attainment	0.27	0.27	<0.01
Hispanic	-0.03	-0.02	0.29
Non-Hispanic Black	0.02	0.02	0.42
Other	0.04	0.02	0.45
Female	0.09	0.10	<0.01
Adult Income			
Childhood Neighborhood Social Capital	0.00	0.00	0.93
Parental Neighborhood Social Capital	0.02	0.03	0.33
Parental Educational Attainment	0.16	0.07	<0.01
Hispanic	0.06	0.02	0.14
Non-Hispanic Black	0.03	0.01	0.54
Other	-0.02	0.00	0.84
Female	-0.22	-0.12	<0.01
Adult Assets			
Childhood Neighborhood Social Capital	0.07	0.07	0.02
Parental Neighborhood Social Capital	0.05	0.06	0.08
Parental Educational Attainment	0.18	0.08	<0.01
Hispanic	0.01	0.00	0.89
Non-Hispanic Black	-0.25	-0.11	0.00

Variables	Higher-poverty Neighborhoods (Poverty Rate Over 10%) Unweighted n = 3,521		
	Unstandardized Estimate	Standard Estimate	p-value
Other	0.06	0.01	0.65
Female	-0.15	-0.08	<0.01
Adult Subjective Economical Outcomes			
Childhood Neighborhood Social Capital	0.02	0.02	0.50
Parental Neighborhood Social Capital	0.07	0.07	0.03
Parental Educational Attainment	0.29	0.12	<0.01
Hispanic	0.08	0.03	0.27
Non-Hispanic Black	-0.03	-0.01	0.56
Other	-0.13	-0.02	0.27
Female	0.04	0.02	0.43

[1]Reference categories are: Non-Hispanic White male, and parents have no college degree

[2]Latent variables are in bold

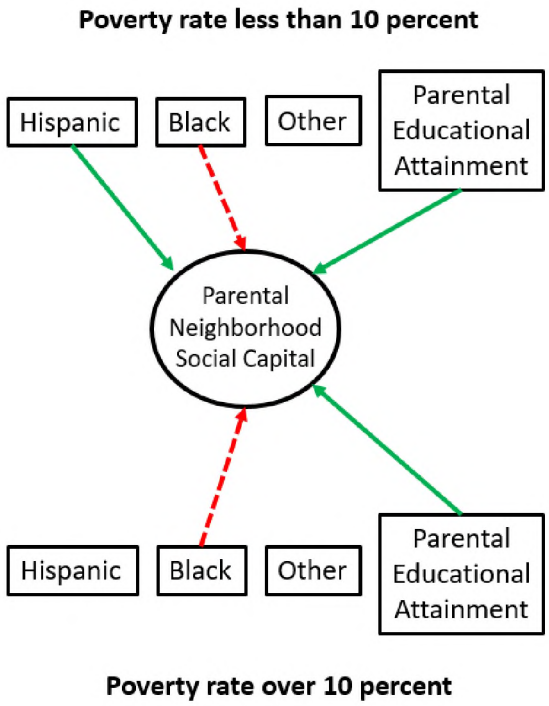

Figure 23 Regression Model within SEM to Explain Parental Neighborhood Social Capital by Neighborhood Types

Figure 23 shows the regression model explaining parental neighborhood social capital by each neighborhood type. In the SEM results in the full sample, Black has a negative relationship with parental neighborhood social capital, and parental educational attainment has a positive relationship with parental neighborhood social capital. In the second SEM model by neighborhood type based on poverty rate, consistent with the previous SEM model for full sample, Black respondents are less likely to have higher parental neighborhood social capital than White respondents, and parental educational attainment increases the parental neighborhood social capital. However, Hispanic respondents is more likely to have better parental neighborhood social capital in lower-poverty neighborhoods.

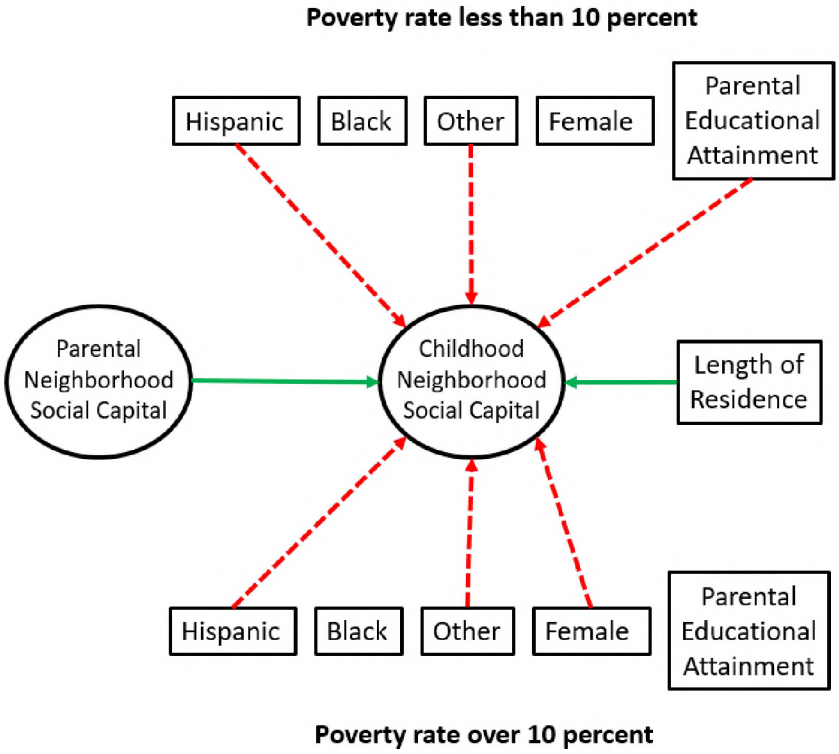

Figure 24 Regression Model within SEM to Explain Childhood Neighborhood Social Capital by Neighborhood Types

Figure 24 shows the relationship among childhood neighborhood social capital, the four demographic variables, length of residence, parental educational attainment, and parental social capital in each neighborhood type. The relationships in the higher-poverty neighborhoods are consistent with the result of the first SEM model for the full sample. In both neighborhood types, being Hispanic and other race, and female are less likely to have better childhood neighborhood social capital. Respondents who live longer in the neighborhood are more likely to have better childhood neighborhood social capital. Parental neighborhood social capital was positively related with childhood neighborhood social capital. In other words, when parents feel safe and desire to live in their neighborhood, their children are more likely to have more childhood relationship-based

social capital in higher-poverty neighborhoods. However, in the lower-poverty neighborhood, female does not have a significant effect on childhood neighborhood social capital. Also, it is interesting to note that parental educational attainment has a negative effect on childhood neighborhood social capital since parental educational attainment has no significant effect on childhood neighborhood social capital in both the first SEM for the full sample and higher-poverty neighborhood.

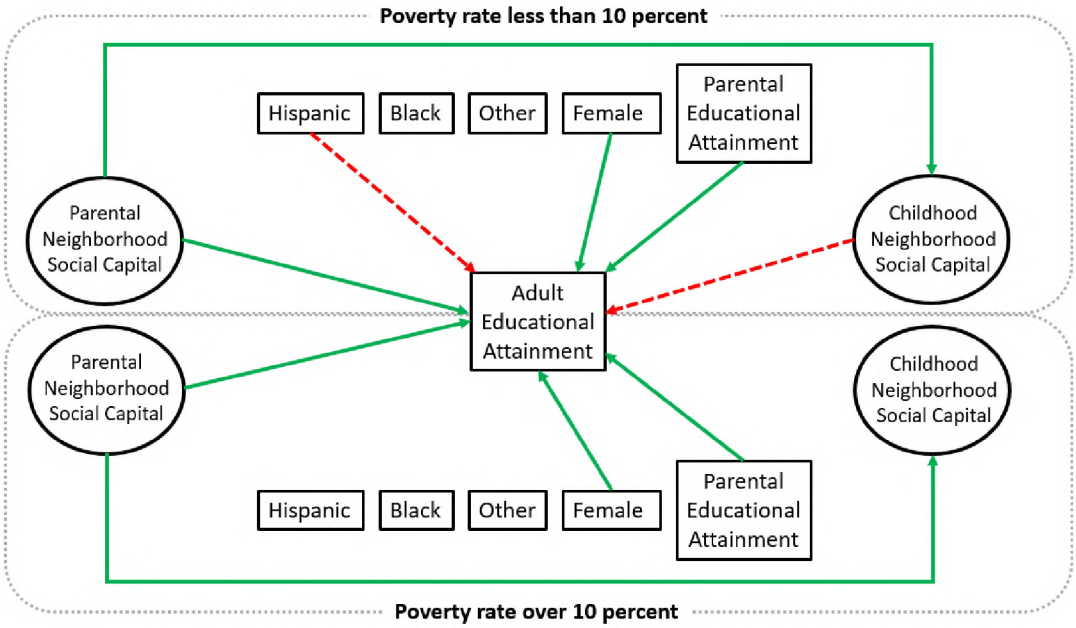

Figure 25 Regression Model within SEM to Explain Adult Educational Attainment by Neighborhood Types

Figure 25 shows a regression model explaining the relationship among two latent variables (parental neighborhood social capital and childhood neighborhood social capital), parental educational attainment, the four demographic variables, and *adult educational attainment*.

Parental neighborhood social capital, parental educational attainment, and female have positive relationships with adult educational attainment in all three SEM model (including SEM model for full sample and both neighborhood types). However, Hispanic group is less likely to have a better adult educational attainment in the first SEM model for the full sample and the lower-poverty neighborhood. Being Hispanic has no significant effect on the higher-poverty neighborhood. Respondents with better childhood neighborhood social capital are less likely to have better adult educational attainment, but only if they live in lower-poverty neighborhoods.

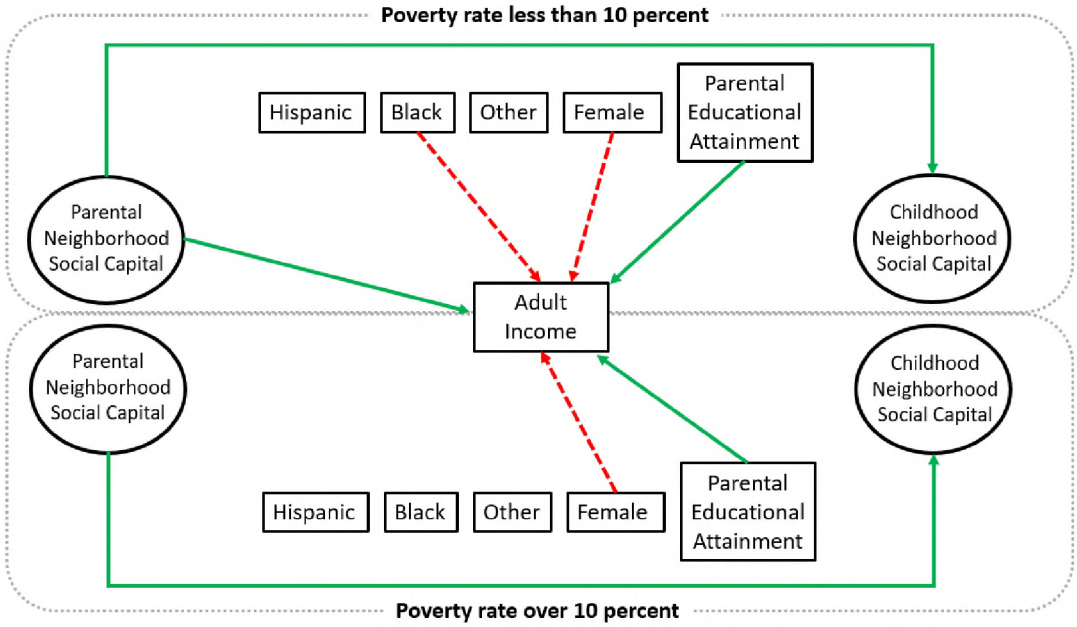

Figure 26 Regression Model within SEM to Explain Adult income by Neighborhood Types

Positive relations between parental neighborhood social capital and adult income exists only in the lower-poverty neighborhood (Figure 26). Parental neighborhood social capital is not significant in the higher-poverty neighborhood. More parental education

increases their children's adult income, and female is less likely to earn more adulthood personal income than male in both neighborhoods. Being Black is also less likely to earn more adulthood personal income, but only in the lower-poverty neighborhood.

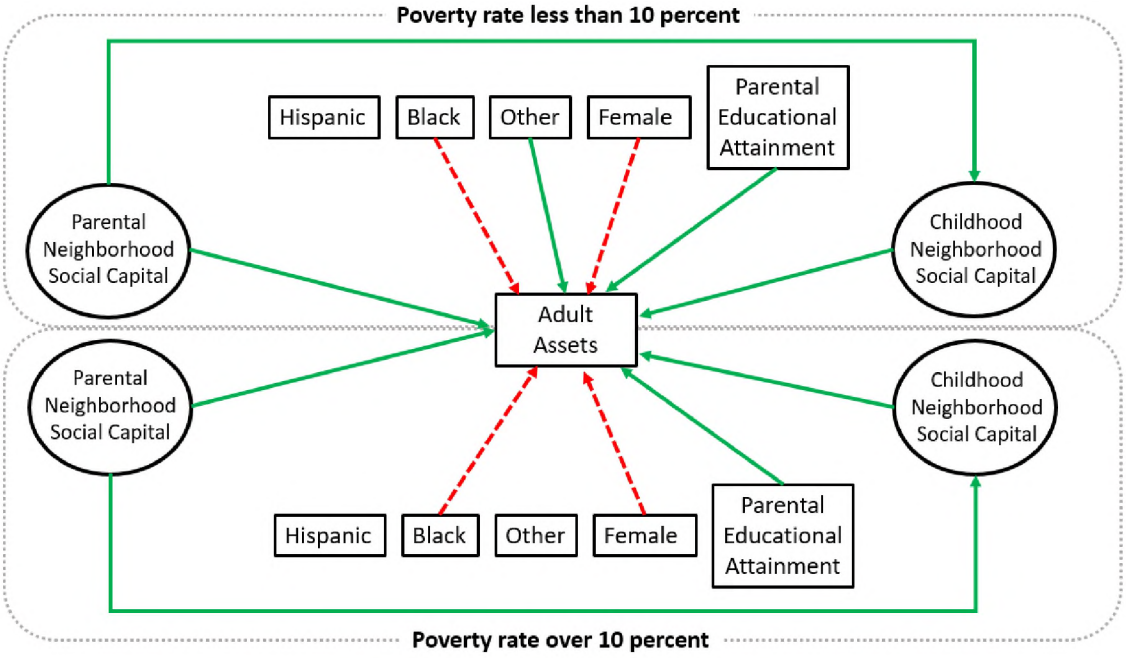

Figure 27 Regression Model within SEM to Explain Adult Assets by Neighborhood Types

The regression models explaining adult assets are very similar for both neighborhood types (Figure 27). Parental neighborhood social capital, childhood neighborhood social capital, and parental educational attainment have positive relationships with *adult assets*. Female and Black respondents are less likely to have more

adult assets. The only difference between two neighborhood type is other has a significant and positive effect on adult assets in the lower-poverty neighborhood.

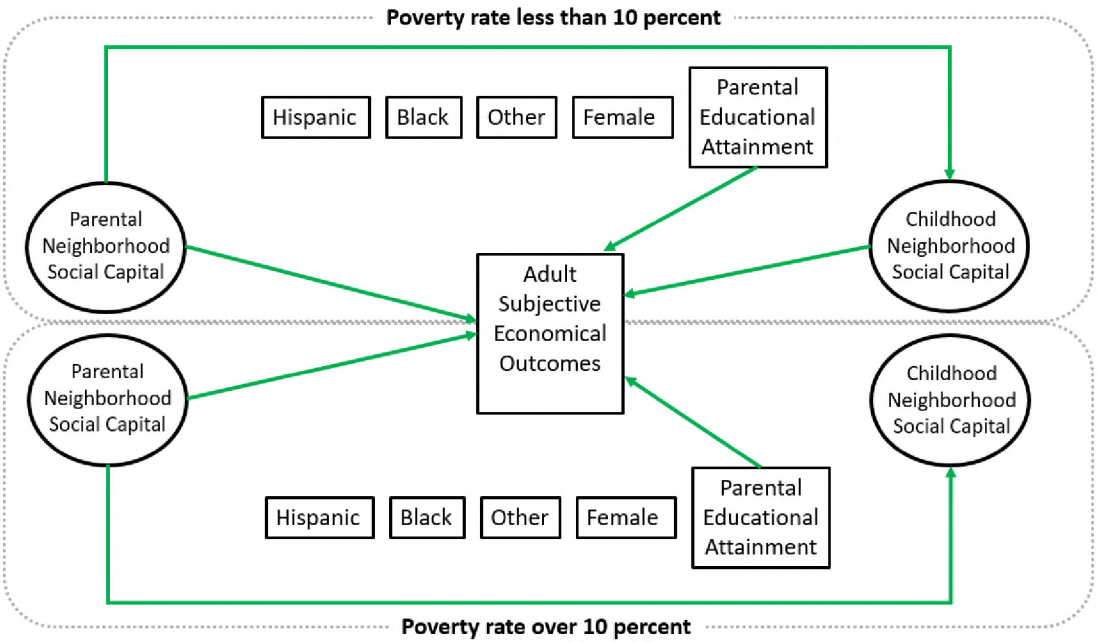

Figure 28 Regression Model within SEM to Explain Adult Subjective Economical Outcomes by Neighborhood Types

In Figure 28, Parental neighborhood social capital and parental educational attainment are positively related with adult subjective economical outcomes in both types of neighborhoods. However, childhood neighborhood social capital is only positively significant in the lower-poverty neighborhood. In other words, relationship-based

childhood neighborhood social capital increase future adulthood subjective economical outcomes in low poverty neighborhoods.

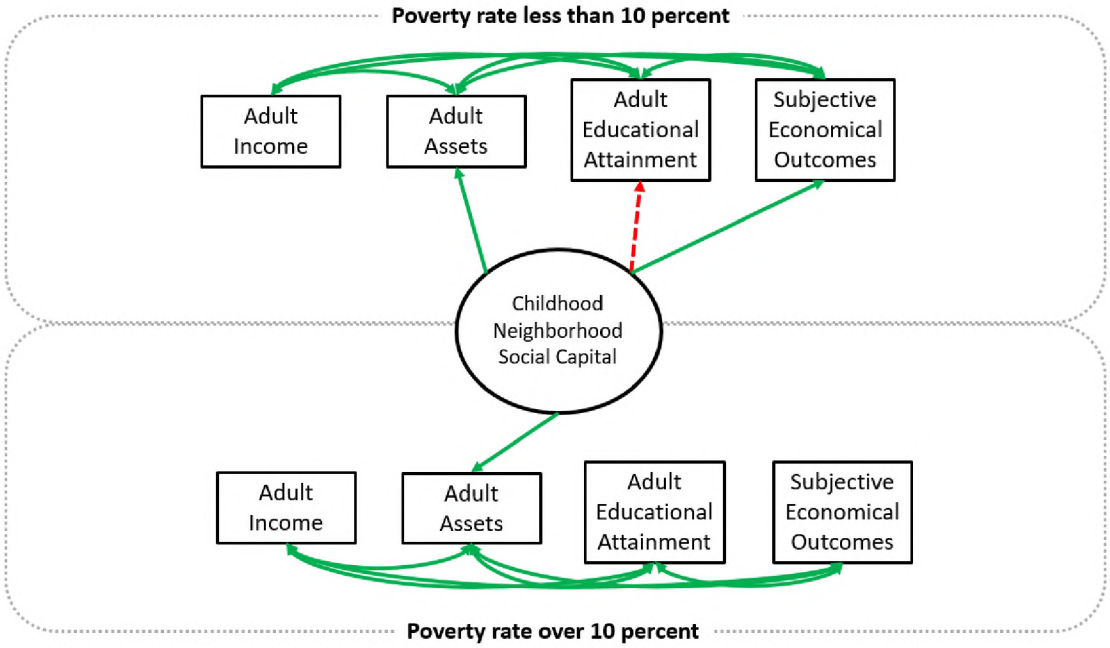

Figure 29 Direct Relationships among Childhood Neighborhood Social Capital and Four Dependent Variables by Neighborhood Types

The direct relationships among childhood neighborhood social capital and the four dependent variables by neighborhood types are shown in Figure 29. The role of childhood neighborhood social capital works differently based on neighborhood characteristics. In the lower-poverty neighborhood, childhood neighborhood social capital increases adult assets and subjective economical outcomes. However, childhood neighborhood social

capital decreases adult educational attainment. In the higher-poverty neighborhood, only childhood neighborhood social capital has a positive relationship with adult assets.

Parental educational attainment is positively related with parental neighborhood social capital and the four dependent variables in both neighborhoods (Figure 30 and Figure 31). However, more parental educational attainment decreases childhood neighborhood social capital in the lower-poverty neighborhood. Parental neighborhood social capital is not significant in the higher-poverty neighborhood.

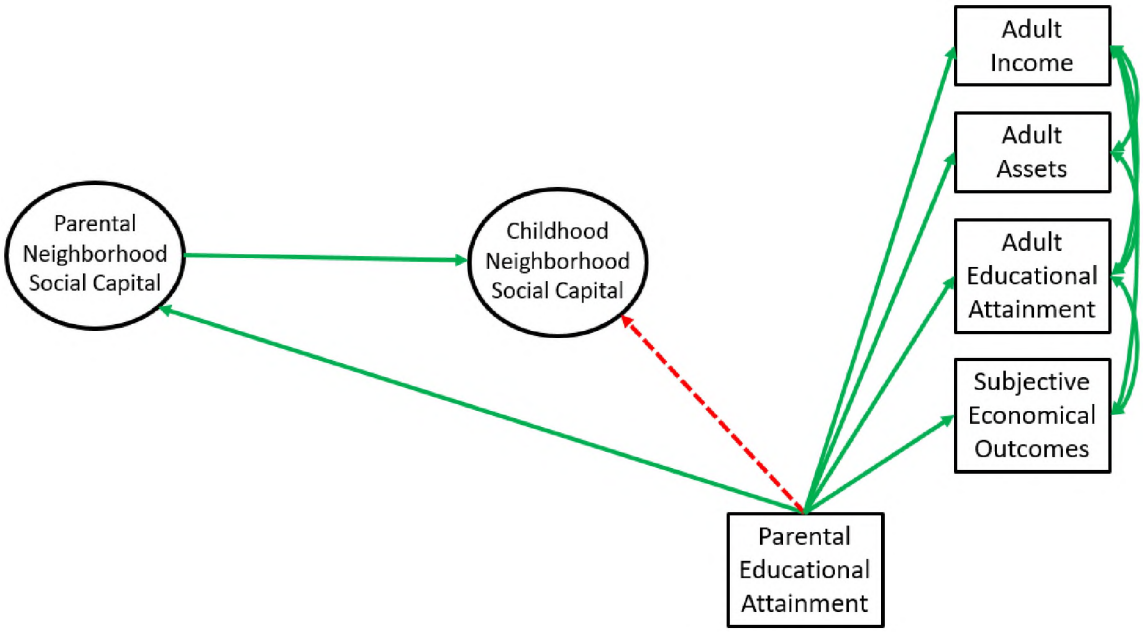

Figure 30 Effects of Parental Educational Attainment in Lower-poverty Neighborhoods

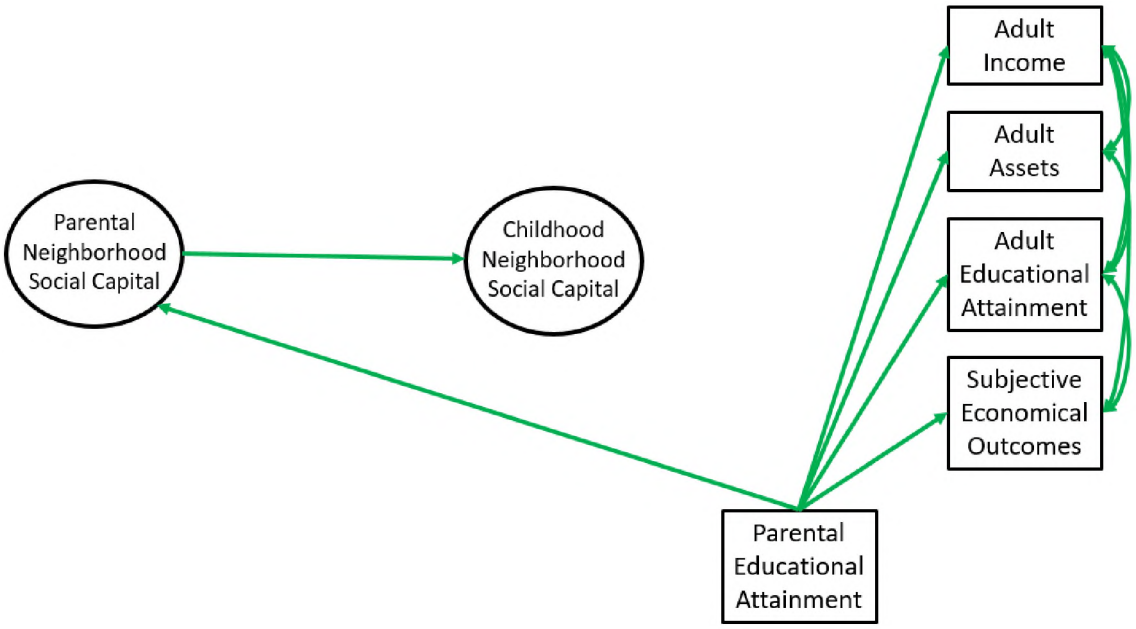

Figure 31 Effects of Parental Educational Attainment in Lower-poverty Neighborhoods

5.4. Results Summary

This research quantitatively measured neighborhood social capital and parental social capital in childhood and examined the effects of the various forms of childhood social capital on adult outcomes. This research includes two analyses. The first analysis examined the relationships among descriptive neighborhood social capital, parental neighborhood social capital, childhood neighborhood social capital, parental educational attainment and adult outcomes using the full sample and started with three hypotheses: Hypothesis 1) more parental educational attainment is positively related to a) descriptive neighborhood social capital, b) parental neighborhood social capital, c) childhood neighborhood social capital, and d) adult outcomes. Hypothesis 2) experiences in a neighborhood with high levels of descriptive neighborhood social capital is positively

related to a) childhood neighborhood social capital and b) adult outcomes. Hypothesis 3) experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to a) childhood neighborhood social capital and b) adult outcomes. Hypothesis 4) experiencing in a neighborhood with high levels of childhood neighborhood social capital is positively related to a) adult outcomes.

The full sample is categorized into two different types of neighborhoods to examine the effects of parental neighborhood social capital, childhood neighborhood social capital, and parental educational attainment on adult outcome. Each neighborhood type SEM was performed with each three hypotheses: Hypothesis 5) more parental educational attainment is positively related to a-1(2)] parental neighborhood social capital, b-1(2)] childhood neighborhood social capital, and c-1(2)] adult outcomes. Hypothesis 6) experiences in a neighborhood with high levels of parental neighborhood social capital is positively related to a-1(2)] childhood neighborhood social capital and b-1(2)] adult outcomes., and Hypothesis 7) experiencing in a neighborhood with high levels of childhood neighborhood social capital is positively related to 1(2)] adult outcomes. The results by hypotheses are summarized in Table 14.

First, parental educational attainment was positively related with descriptive neighborhood social capital (Hypothesis 1a), parental neighborhood social capital (Hypothesis 1b) and all four adult outcomes (Hypothesis 1d). However, there is no significant relation between parental educational attainment and childhood neighborhood social capital for the full sample (Hypothesis 1c). The SEM results by each neighborhood types were very similar with the result for the full sample. Parental educational attainment had a positive relationship with parental neighborhood social capital

[Hypothesis 5a-1(2)) and all four adult outcomes [Hypothesis 5c-1(2)]. In higher-poverty neighborhoods, there is no relationship between parental educational attainment and childhood neighborhood social capital as similar to the result of the full sample (Hypothesis 5b-1). However, more educational attainment decreased childhood neighborhood social capital in lower-poverty neighborhoods (Hypothesis 5b-1).

Second, descriptive neighborhood social capital had no effect on childhood neighborhood social capital (Hypothesis 2a). However, descriptive neighborhood social capital was positively related with all four adult outcomes (Hypothesis 2b). In other words, neighborhood conditions did not affect childhood neighborhood attachment but where a child lives matters for their adulthood outcomes.

Third, parental neighborhood social capital increases their children's neighborhood social capital (Hypothesis 3a) and all four forms of adult outcomes (Hypothesis 3b). High levels of parental relationships within neighborhood increased their children's neighborhood relationships [Hypothesis 6a-1(2)] and adulthood outcomes in both higher-poverty and lower-poverty neighborhoods, but no relationship existed between parental neighborhood social capital and their children's adulthood personal income in higher-poverty neighborhoods (Hypothesis 6b-1).

Lastly, high-level of childhood neighborhood social capital increased adulthood assets and adult subjective economical outcomes, but there is no relationship between childhood neighborhood social capital and adult educational attainment or adult personal income (Hypothesis 4). In both higher-poverty and lower-poverty neighborhoods, childhood neighborhood social capital has a positive effect on adult assets. A high level of childhood neighborhood social capital was also positively related with subjective

economical outcomes in lower-poverty neighborhood, but there is no effect in higher-poverty neighborhoods. Also, there is no relationship between childhood neighborhood social capital and personal income in both higher-poverty and lower-poverty neighborhoods (Hypothesis 7).

Table 14 Result Summary

Research Hypotheses	1st Analysis	Research Hypotheses	2nd Analysis	
	Full Sample		Higher-poverty Neighborhoods (1)	Lower-poverty Neighborhoods (2)
Hypothesis 1a	+		N/A	N/A
Hypothesis 1b	+	**Hypothesis 5a**	+	+
Hypothesis 1c	X	**Hypothesis 5b**	X	-
Hypothesis 1d				
Educational attainment	+	**Hypothesis 5c**	+	+
Assets	+		+	+
Income	+		+	+
Subjective Economical Outcomes	+		+	+
Hypothesis 2a	X		N/A	N/A
Hypothesis 2b				
Educational attainment	+		N/A	N/A
Assets	+		N/A	N/A
Income	+		N/A	N/A
Subjective Economical Outcomes	+		N/A	N/A
Hypothesis 3a	+	**Hypothesis 6a**	+	+
Hypothesis 3b		**Hypothesis 6b**		
Educational attainment	+		+	+
Assets	+		X	+
Income	+		+	+
Subjective Economical Outcomes	+		+	+
Hypothesis 4		**Hypothesis 7**		
Educational attainment	X		X	-
Assets	+		+	+
Income	X		X	X
Subjective Economical Outcomes	+		X	+

Note: "X" means no association, "+" means a positive association, and "-" means a negative association exist.

CHAPTER VI

CONCLUSIONS AND IMPLICATIONS

6.1. Importance of the Topic

Researchers of neighborhood social capital have largely concentrated on terms of positive elements of social capital, emphasizing the importance of coordination and cooperation in community/economic development based on Putnam's (1993; 2001) view of social capital (Portes, 1998). Many studies explain why neighborhood social capital is important but overlook the embeddedness of social capital (Portes, 1998) that reveals how exclusion can have long lasting effects in the lives of children. In addition, only a few empirical studies (Chetty, Hendren, Kline, & Saez, 2014; Rupasingha & Goetz, 2008) have analyzed the neighborhood effects of social capital due to the difficulty of measuring social capital.

To address these gaps, this research reconceptualizes social capital to include Bourdieu's Capital theory (1984; 2011) and the notion of embeddedness, allowing me to examine more fully aspects of social capital that were overlooked by Putnam and his followers. This reconceptualized social capital includes the wide spectrum of social capital (not only positive effects but also negative effects) along with its meaning at the neighborhood/community level.

Most relevant to this research is that of Weiss (2008) who used the same data set (Add Health data) to measure neighborhood social capital. However, his work mentioned Bourdieu's social capital but did not implement the embeddedness of Bourdieu's social capital and Capital theory. Trained as a sociologist, Weiss (2008) focused on how parental relationship-based social capital and children's neighborhood and school relationship-based social capital had effects on crime. In contrast, this research is far more expansive: it considers social capital includes not only relationship-based but also economic capital and cultural capital based on Bourdieu's Capital theory. Also, this reconceptualized social capital offers reader other dimensions of social capital that Bourdieu described as embeddedness so they can work as an unequal access to opportunities. While the emphasis Weiss (2008) provided on social capital and crime remains a valuable study for individuals and community, this research offers a broader look at the ways the lack of access and the exclusion of individuals lessens opportunities—these aspects of embeddedness provide valuable insights into ways society and urban planners can address inequalities that they do not realize exist.

Carpiano (2006; 2007; 2008; 2011) used Bourdieu's viewpoint of social capital and criticized Putnam's social capital; he categorized neighborhood social capital into different types using Bourdieu. This research is valuable because it focused on health and saw the relationship among different types of neighborhood social capital and daily-based smoking behavior. His research is important for its emphasis on the negative aspects of social capital, and he empirically analyzed the effects. My research more expansive in that it isolates a number of variables that expose the effects of embeddedness as leading to social inequality.

My statistical analyses offer a wide array of how various variables affect adult outcomes, allowing other scholars to address social inequality in new ways as well.

This dissertation built on these two studies and recategorized social capital focusing on embeddedness social capital based on Bourdieu's Capital theory and examined social capital as an unequal access to opportunities. This dissertation goes beyond the work of Weiss (2008) and Carpiano (2001) because childhood neighborhood social capital (one of forms of social capital) is examined as a mediator, so it showed not only direct effects on adulthood outcomes but also indirect effect using Structural Equation Modeling (SEM). Also, it examined how childhood neighborhood social capital mitigate or promote the effects of childhood neighborhood,

The wide spectrum of social capital examined in this research enables policymakers and scholars of urban planning to develop ways to augment the experience of children hidden from the traditional notions of social capital that falsely assure society that simply being near community resources means children will experience strong adult outcomes. Therefore, this research contributes to a new framework of neighborhood social capital, and it sought to test quantitatively the relationship between this neighborhood social capital in children's experience regarding their eventual adult outcomes using Structural Equation Modeling.

6.2. Summary and Conclusions

Where the family lives contribute to neighborhood social capital of children; therefore, this research examined parental social capital that is not only relation-based but also descriptive social capital. Parental education was used as a proxy for parental descriptive social capital. Respondents who have more parental education are more likely

to live in a better neighborhood (higher level of descriptive neighborhood social capital) (Hypothesis 1a). Also, higher parental education increases parental relationship-based social capital in the neighborhood (parental neighborhood social capital) (Hypothesis 1b) which has a positive effect on their children's relationship-based social capital in the neighborhood (childhood neighborhood social capital) (Hypothesis 3a) (Weiss 2008). In other words, parental education as a proxy of parental socio-economic social capital has direct positive effects on where the family lived, how parents interacted with their neighbors or how much they are satisfied with their neighborhood, and indirect positive effects on their children's neighborhood social capital.

Parental neighborhood social capital is a critical positive factor in their children's future outcomes (Hypothesis 3b). Parental neighborhood social capital is positively associated with all four adult outcomes (adult personal income, adult family assets, adult educational attainment, and subjective economical outcomes). In other words, children who have experiences in a neighborhood with high levels of parental neighborhood social capital are more likely to earn more personal income, family assets, a college degree or higher, and better subjective economic outcomes in their adulthood. Parental neighborhood social capital also increased their children's relation-based social capital in the neighborhood (childhood neighborhood social capital) (Hypothesis 3a). Parental neighborhood social capital is not only positively related to their children's adult outcomes but also their children's neighborhood social capital.

Childhood neighborhood conditions (descriptive neighborhood social capital) matter to children's future outcomes. Descriptive neighborhood social capital has a direct positive effect on all four adult outcomes (adult personal income, adult family assets, adult

educational attainment, and subjective economical outcomes). In other words, children who live in a neighborhood with better descriptive neighborhood social capital are more likely to earn more personal income, family assets, a college degree or higher, and better subjective economic outcomes (Hypothesis 2b).

The role of childhood neighborhood social capital works differently (Hypothesis 4). Childhood neighborhood social capital is only positively related with adult assets and subjective economic outcomes. The role of relation-based neighborhood social capital is controversial. Relation-based neighborhood social capital in higher-poverty neighborhoods has been considered a risky tie (Briggs, Popkin, & Goering, 2010) especially for adolescents because they were more likely to be exposed to and/or involved in juvenile delinquency or incarceration (Baglivio, Wolff, Epps & Nelson, 2017). However, according to MTO participants who moved from higher-poverty neighborhoods to lower-poverty neighborhoods with housing voucher programs, they moved back to their prior neighborhood because they still needed neighborhood social capital from the old neighborhood such as relation-based trading skills such as babysitting and giving social support (Briggs, Popkin, & Goering, 2010; Keene and Ruel 2013). Thus, the role of childhood neighborhood social capital can work differently by people and where they live.

In order to analyze how relation-based neighborhood social capital, especially childhood social capital, works within different neighborhood conditions, I divided the total respondents for the first analysis into two groups based on the poverty rate: (1) higher-poverty neighborhood (with over 10 percent of poverty rate) and (2) lower-poverty neighborhood (with less than 10 percent of poverty rate). In both higher-poverty and lower-poverty neighborhoods, parental education as proxy of descriptive or non-relation based

parental social capital increases parental neighborhood social capital and all four adult outcomes [Hypothesis 5a-1(2) and Hypothesis 5c-1(2)].

Parental education had no significant relationship with childhood neighborhood social capital in the first analysis with the full sample. However, more parental education or descriptive parental social capital decreased childhood neighborhood social capital in lower-poverty neighborhoods (Hypothesis 5b-2)., while there is no relationship between parental educational attainment and childhood neighborhood social capital in higher-poverty neighborhoods (Hypothesis 5b-1).

Parental relation-based social capital is positively related with childhood neighborhood social capital in both neighborhood type [Hypothesis 6a-1(2)]. Also, parental relation-based or neighborhood social capital matter to their children's four adulthood outcomes in both lower-poverty and higher-poverty neighborhoods. However, no relationship exists between parental relation-based neighborhood social capital and personal income at higher-poverty neighborhood [Hypothesis 6b-1(2)].

Additionally, it is interesting to note that childhood neighborhood social capital decreased adult educational attainment at a lower-poverty neighborhood (no significant childhood neighborhood social capital effect in higher-poverty neighborhoods) [Hypothesis 7-1(2)]. In other words, a child with parents who has a college degree or higher are less likely to have a high-level of childhood neighborhood social capital and the low-level of childhood neighborhood social capital increased their adulthood educational attainment.

The results of this empirical analysis can be summarized in the following two aspects. First, parental educational attainment as a proxy for descriptive parental social

capital is intergenerationally transmitted to their children in several forms. Parental education not only affects where the family lives, but also it shapes their children's neighborhood social capital. Also, parental educational attainment and parental neighborhood social capital have effects on their children's neighborhood social captial as well as their children's future outcomes. These results show how intergenerational transmision from parents to children occurs through not only visible forms such as economic capital but also intangible forms such as cultural capital and social capital. This finding tells us that how inequality is enhanced structrally.

Second, childhood neighborhood social capital has a postive effect on adulthood outcomes (directly on adult assets and subjective economical outcomes, and indirectly on adult educational attainment and adult income). These results are in line with previous research on social capital based on Putnam's view (2001), but they can be interpretated differently from the view of reconceptulalized social capital based on Bourdieu (1984; 2011). Neighborhood effects are generally considered by scholars to influence all residents who live in the neighborhood equally (Chetty et al. 2014; 2016; Rupasingha & Goetz, 2008). However, this research sought to understand more nuanced dimensions of neighborhood effects, particularly how neighborhood social capital and attachment play a role in unequal access to neighborhood resources. Even if residents have access to neighborhood resources, the impact of neighborhood social capital can vary depending on whether they experience relationships within a neighborhood or not. This finding alone should motivate urban planners and policy makers to pursue forming and strengthening relationships within neighborhoods.

6.3. Limitations

There are limitations to the findings of this research. First, this research includes respondents who moved to their neighborhood before 13 years old when they were interviewed for Wave I. They have lived in that neighborhood on average for 9.5 years. Forty-eight percent of respondents have lived their neighborhood 10 years or more, and 91% lived there 3 years or more. However, there are 4.6% respondents who lived their neighborhood for a year or less. Also, the information concerning whether they moved after the interview is unknown. The average age when they started to live in the neighborhoods when they interviewed in Wave I was 5.62 years old and they lived in the neighborhood for about 9.48 years in Wave I. The average age in Wave I was 15.09 so sample size of people who used to live in the neighborhood for a while and moved to another neighborhood before 13 is very small, but this research is not capturing the neighborhood they moved after interviewing the Wave I. In addition, this research used only parental educational attainment as a proxy of parental descriptive social capital. Add Health data offer parental personal income, but the income variable was not included due to quite a bit of missing data. Fourth, "Accumulative" social capital is also a critical component in Bourdieu's (1984; 2011) theory. A higher frequency of meetings or greetings or closeness of the relationship could be important to determine the sum total of social capital. However, this research only focused on "accessibility," not how much close the relations are because of the data limitation. Lastly, examining the role of various forms of social capital on adult outcomes in the extreme poverty will be very interesting. Due to the data limitation, this research only examined the neighborhood with over 10 percent of poverty rate as a higher-poverty neighborhoods.

6.4 Contributions and Policy Implications

This research has four contributions. First, this research reconceptualized social capital using Bourdieu's Capital theory and focusing on embeddedness of social capital. It provided wider spectrum of social capital. Second, using reconceptualized social capital, this research empirically measured various forms of descriptive social capital and relation-based social capital using expensive data set (Add Health data) with new ways. Third, this research examined not only direct effects but also indirect effects of the various forms of social capital using Structural Equation Modeling. Finally, the results showed how invisible recourse such as relation-based social capital or parental educational attainment act as an unequal access to opportunities and transmit cumulative resources intergenerationally and structurally over and over.

This research spotlights the embeddedness social capital as the feature that reveals how social capital is reproduced through both exclusion of those who do not possess it and their inability to achieve it because of the exclusion. Exclusion poses massive inequality in our society even with the best of social intentions from urban planners because they do not know how to address it. Housing and community development policies in United States has changed from placed-based policy to people-based policy to solve the problem of concentrating poor people in a specific area (Park, 2012). The dispersal housing policy has improved compared to public housing, but it is still not enough. Moving to another area, at least temporarily or permanently, reduces social capital since families lose a part or all of the connections from the former district. The loss means there can be a permanent, negative social capital affect caused by the move (Briggs, Popkin, & Goering, 2010; Mueller & Tighe, 2007). Disconnecting relationships from the prior neighborhood can have a positive

effect on children despite a decrease in the total amount social capital (Briggs, Popkin, & Goering, 2010). However, Moving to Opportunity (MTO) program reminds us that the meaning of "better" neighborhood for low-income families extends beyond poverty rate.

Living in a better neighborhood matters; however, the definition of "better" should be developed by the residents. They lose relationships and are isolated, but at the same time, they need to access the resources of the "better" neighborhood. This dispersal housing unwittingly causes harm through the isolation and lack of resources for the families who often return to their prior neighborhood with its lack of resources and sometimes dangers. This research suggests that policymakers examine any impending social plans regarding exclusion.

Keene and Ruel (2013) also asserted the importance of "making a new home" for the low-income families who moved to new neighborhoods with housing voucher. They pointed out the importance of "resiliency" and "isolation" in a new neighborhood. Resiliency and connection in new neighborhood are important for the movers, according to Carpiano (2008), because neighborhood effects do vary depending on residents' neighborhood relationship. Even if low-income families move to a better neighborhood, the neighborhood impact can vary whether they have social ties in the neighborhood or not.

This research is not about whether families should move or not; dispersed housing policy is not a cure-all. However, this research shows how social capital plays a role in a neighborhood, such that even if a child moves to a better area, without social capital there, adult outcomes still suffer, and if a child has strong neighborhood social capital, that child, despite the quality of the area, will likely have better adult outcomes. This research explains why dispersal housing does not necessarily produce desirable adult outcomes. My research

adds fresh insights to the important role of neighborhood social capital in housing policy, especially the study of neighborhood effects.

Putnam (2001) wrote that American society used to have carefully arranged social ties from church and community events, and most scholars today know that these ties are strained given the necessity of all family members being in the workforce. Nonetheless, this research points to the further isolation from dispersal housing policy that has not been discussed in this literature. Though some readers may argue that the Internet connects everyone, it remains a profound concern that young scholars and scientists may well be both isolated and excluded, decreasing their adult success socially and economically. This research will lead to different ways of understanding the mechanism of inequality through invisible social capital, not only tangible resources such as economic capital.

If a neighborhood is indeed full of negative aspects and the parental social capital is high, children still suffer the experience of having few persons outside the home to discuss their goals with. A neighborhood with low social capital can produce an alienating effect despite the individual success of some of its members. Within a home that has little parental capital that is located within a neighborhood with few resources, children can grow up unable to discuss their goals with anyone. Thus, this research shows the need for urban policymakers to examine carefully who may be excluded from various neighborhood resources and to find ways to introduce these resources to this ignored population.

REFERENCES

Abel, T. (2008). Cultural capital and social inequality in health. Journal of Epidemiology and Community Health, 62(7), e13-e13.

Adler, P. S., & Kwon, S.-W. (2002). Social capital: Prospects for a new concept. Academy of Management review, 27(1), 17-40. doi. Doi 10.2307/4134367

Alaimo, K., Reischl, T. M., & Allen, J. O. (2010). Community gardening, neighborhood meetings, and social capital. Journal of Community Psychology, 38(4), 497-514.

Allard, S. W. (2008). Out of reach: Place, poverty, and the new American welfare state. Yale University Press.

Baglivio, M. T., Wolff, K. T., Epps, N., & Nelson, R. (2017). Predicting adverse childhood experiences: The importance of neighborhood context in youth trauma among delinquent youth. Crime & Delinquency, 63(2), 166-188.

Bankston III, Carl & Min Zhou. 2002. "Social capital as process: The meaning and problems of a theoretical metaphor." Sociological Inquiry 72(2), 285-317.

Bourdieu, P. (1984). Distinction: A social critique of the judgement of taste. Cambridge, Massachusetts; Harvard University Press.

Bourdieu, P. (2011). The forms of capital.(1986). Cultural Theory: An Anthology, 81-93.

Carpiano, R. M. (2006). Toward a neighborhood resource-based theory of social capital for health: Can Bourdieu and sociology help? Social Science & Medicine, 62(1), 165-175.

Carpiano, R. M. (2007). Neighborhood social capital and adult health: An empirical test of a Bourdieu-based model. Health & Place, 13(3), 639-655.

Carpiano, R. M. (2008). Actual or potential neighborhood resources and access to them: Testing hypotheses of social capital for the health of female caregivers. Social Science & Medicine, 67(4), 568-582.

Carpiano, R. M., & Hystad, P. W. (2011). "Sense of community belonging" in health surveys: What social capital is it measuring? Health & Place, 17(2), 606-617.

Cattell, V. (2001). Poor people, poor places, and poor health: The mediating role of social networks and social capital. Social Science & Medicine, 52(10), 1501-1516.

Caughy, M. O. B., O'Campo, P. J., & Muntaner, C. (2003). When being alone might be better: neighborhood poverty, social capital, and child mental health. Social Science & Medicine, 57(2), 227-237.

Currie, J., & Yelowitz, A. (2000). Are public housing projects good for kids? Journal of Public Economics, 75(1), 99-124.

Chetty, R., Hendren, N., & Katz, L. F. (2015). The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment (No. w21156). National Bureau of Economic Research.

Chetty, R., Hendren, N., & Katz, L. F. (2016). The effects of exposure to better neighborhoods on children: New evidence from the Moving to Opportunity experiment. The American Economic Review, 106(4), 855-902.

Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014). Where is the land of opportunity? The geography of intergenerational mobility in the United States: National Bureau of Economic Research.

Chen, P. & Chantala, K. (2014). Guidelines for analyzing Add Health data. Carolina Population Center, University of North Carolina at Chapel Hill. Retrieved September 1st, 2020 at https://www.cpc.unc.edu/projects/addhealth/documentation/guides/wt_guidelines_20161213.pdf

Coleman, J. S. (1988). Social capital in the creation of human capital. American Journal of Sociology, S95-S120.

Collins, C. R., Neal, Z. P., & Neal, J. W. (2017). Transforming social cohesion into informal social control: Deconstructing collective efficacy and the moderating role of neighborhood racial homogeneity. Journal of Urban Affairs, 39(3), 307-322.

Comstock, N., Dickinson, L. M., Marshall, J. A., Soobader, M. J., Turbin, M. S., Buchenau, M., & Litt, J. S. (2010). Neighborhood attachment and its correlates: Exploring neighborhood conditions, collective efficacy, and gardening. Journal of Environmental Psychology, 30(4), 435-442.

Conner, S. (2012). Reproducing (dis) advantage: The role of family-based, school-based, and cumulative-based processes. ProQuest LLC. 789 East Eisenhower Parkway, PO Box 1346, Ann Arbor, MI 48106.

de Souza Briggs, X., Popkin, S. J., & Goering, J. (2010). Moving to opportunity: The story of an American experiment to fight ghetto poverty. New York, New York: Oxford University Press.

DeFilippis, J. (2001). The myth of social capital in community development. Housing Policy Debate, 12(4), 781-806.

Drukker, D. M. (2000). Neighborhood effects on social mobility and social welfare (Dortoral dissertation, University of Texas at Austin)

Duncan, G. J., Ziol-Guest, K. M., & Kalil, A. (2010). Early-childhood poverty and adult attainment, behavior, and health. Child Development, 81(1), 306-325.

Duncan, G. J., & Zuberi, A. (2006). Mobility lessons from Gautreaux and moving to opportunity. Nw. JL & Soc. Pol'y, 1, 110.

Ellen, I. G., & Turner, M. A. (1997). Does neighborhood matter? Assessing recent evidence. Housing Policy Debate, 8(4), 833-866.

Fournier, F., Øyen, E., Darcy de Oliveira, M., Woolcock, M., & Prakash, S. (2002). Social capital and poverty reduction. Which role for the civil society organizations and the state. United Nations Educational, Scientific and Cultural Organization (UNESCO). Paris.

Fukuyama, F. (1995). Social capital and the global economy. Foreign Affairs, 89-103.

Fukuyama, F. (2001). Social capital, civil society and development. Third World Quarterly, 22(1), 7-20.

Galvez, M. M. (2010). What do we know about housing choice voucher program location outcomes? A review of recent literature. Washington, DC: The Urban Institute.

Glaeser, E. L., Laibson, D., & Sacerdote, B. (2002). An economic approach to social capital. The Economic Journal, 112(483), F437-F458.

Haines, V. A., Beggs, J. J., & Hurlbert, J. S. (2011). Neighborhood disadvantage, network social capital, and depressive symptoms. Journal of Health and Social Behavior, 52(1), 58-73.

Hanifan, L. J. (1916). The rural school community center. The Annals of the American Academy of Political and Social Science, 67(1), 130-138.

Hardin, G. (2012). Tragedy of the Commons (1968) Science, 162. cit, 10-12.

Harris, K.M., C.T. Halpern, C.T., Whitsel, E., Hussey, J. Tabor, J., Entzel, P., & Udry, J.R. (2009). The National Longitudinal Study of Adolescent to Adult Health, retrieved at: https://addhealth.cpc.unc.edu//documentation/study-design

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6, 1-55.

Hox, J. J., & Bechger, T. M. (1998). An introduction to structural equation modeling. Family Science Review, 11, 354-373.

Hurley, A. E., Scandura, T. A., Schriesheim, C. A., Brannick, M. T., Seers, A., Vandenberg, R. J., & Williams, L. J. (1997). Exploratory and confirmatory factor analysis: Guidelines, issues, and alternatives. Journal of Organizational Behavior, 667-683.

Imbroscio, D. (2008). "[U] Nited and Actuated by Some Common Impulse of Passion" 1: Challenging the Dispersal Consensus in American Housing Policy Research. Journal of Urban Affairs, 30(2), 111-130.

Jacobs, J. (1961). The death and life of great American cities: New York, New York; Random House.

Jencks, C., & Mayer, S. E. (1990). The social consequences of growing up in a poor neighborhood. Inner-city Poverty in the United States, 111, 186.

Jeon, J. (2015). The Strengths and Limitations of the Statistical Modeling of Complex Social Phenomenon: Focusing on SEM, Path Analysis, or Multiple Regression Models. Int J Soc Behav Educ Econ Bus Ind Eng, 9, 1629-1637.

Keene, D. E., & Ruel, E. (2013). "Everyone called me grandma": Public housing demolition and relocation among older adults in Atlanta. Cities, 35, 359-364.

Kenny, D. (2015). Identification: Overview. Retrieved September 11, 2011, from http://davidakenny.net/cm/identify.htm

Kim, S. (2004). A critique of Bourdieu's, Coleman's and Putnam's concept of social capital. Korean Journal of Sociology, 38(6), 63-95.

Kleit, R. G. (2001). The role of neighborhood social networks in scattered-site public housing residents' search for jobs. Housing Policy Debate, 12(3), 541-573.

Kline, R. B. (2015). Principles and practice of structural equation modeling. Guilford Publications.

Kling, J. R., Liebman, J. B., Katz, L. F., & Sanbonmatsu, L. (2004). Moving to opportunity and tranquility: Neighborhood effects on adult economic self-sufficiency and health from a randomized housing voucher experiment.

Korbin, J., & Coulton, C. J. (1997). Understanding the neighborhood context for children and families: combining epidemiological and ethnographic approaches. In J. BrooksGunn, G. J. Duncan, & J. L. Aber (Eds.), Neighborhood poverty: Policy implications in studying neighborhoods, Vol. II. (pp. 65–79). New York: Russell Sage Foundation.

Lappe, F. M., & Du Bois, P. M. (1997). Building social capital without looking backward. National Civic Review, 86(2), 119-128.

Lin, N. (1999). Building a network theory of social capital. Connections, 22(1), 28-51.

Ludwig, J., Duncan, G. J., Gennetian, L. A., Katz, L. F., Kessler, R. C., Kling, J. R., & Sanbonmatsu, L. (2012). Neighborhood effects on the long-term well-being of low-income adults. Science, 337(6101), 1505-1510.

MacDonald, R., Shildrick, T., Webster, C., & Simpson, D. (2005). Growing up in poor neighbourhoods: The significance of class and place in the extended transitions of "socially excluded" young adults. Sociology, 39(5), 873-891.

Mueller, E. J., & Tighe, J. R. (2007). Making the case for affordable housing: Connecting housing with health and education outcomes. CPL Bibliography, 21(4), 371-385.

Narayan, D., & Cassidy, M. F. (2001). A dimensional approach to measuring social capital: Development and validation of a social capital inventory. Current Sociology, 49(2), 59-102.

Oke, A. E., Ogunsami, D. R., & Ogunlana, S. (2012). Establishing a common ground for the use of structural equation modelling for construction related research studies.

Construction Economics and Building, 12(3), 89–94.

Orlebeke, C. J. (2000). The evolution of low-Income Housing Policy, 1949 to 1999. Housing Policy Debate, 11(2), 489-520.

Park, M.S., (2012). Poverty deconcentration and minority desegregation through Housing Choice Voucher Program, Housing Studies Review, 20(1), 5-33.

Park, M.S., (2014). Improper Payment and Fraud of Housing Choice Voucher Program in the United States, Housing Studies Review, 12(2), 79-101.

Parry, Stephen A. "Fit Indices Commonly Reported for CFA and SEM". Cornell Statistical Consulting Unit, 17 Nov. 2017. Web. < http://www.cscu.cornell.edu/news/Handouts/SEM_fit.pdf>.

Plotnick, R. D., & Hoffman, S. D. (1999). The effect of neighborhood characteristics on young adult outcomes: Alternative estimates. Social Science Quarterly, 1-18.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. LESSER, Eric L.Knowledge and Social Capital.Boston: Butterworth-Heinemann, 43-67.

Portes, A., & Sensenbrenner, J. (1993). Embeddedness and immigration: Notes on the social determinants of economic action. American Journal of Sociology, 98(6), 1320-1350.

Portes, A., & Vickstrom, E. (2015). Diversity, social capital, and cohesion. SERIES «ETUDESEUROPEENNES», 41.

Putnam, R. D. (1993). The prosperous community. The American Prospect, 4(13), 35-42.

Putnam, R.D. (2001). Bowling alone: The collapse and reival of American Community. New York, New York; Simon and Schouster.

Putnam, R. D., Leonardi, R., & Nanetti, R. Y. (1994). Making democracy work: Civic traditions in modern Italy. Princeton University Press.

Ratcliffe, C. (2015). Child poverty and adult success. Brief, Urban Institute.

Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling and more. Version 0.5–12 (BETA). Journal of Statistical Software, 48(2), 1-36.

Rubin, D. B. (1987). Multiple imputation for nonresponse in surveys (No. 04; HA31. 2, R8.).

Ruel, E., Oakley, D. A., Ward, C., Alston, R., & Reid, L. W. (2013). Public housing relocations in Atlanta: Documenting residents' attitudes, concerns and experiences. Cities, 35, 349-358.

Rupasingha, A., & Goetz, S. J. (2008). US county-level social capital data, 1990-2005. The Northeast Regional Center for Rural Development, Penn State University, University Park, PA.

Rupasingha, A., Goetz, S. J., & Freshwater, D. (2006). The production of social capital in US counties. The Journal of Socio-Economics, 35(1), 83-101.

Schwartz, A. F. (2014). Housing policy in the United States: Routledge.

Shlay, A. B. (2006). Low-income homeownership: American dream or delusion? Urban Studies, 43(3), 511-531.

Turley, R. N. L. (2001). Neighborhood effects on children: Mechanisms, interactions, and relative deprivation. Harvard University.

Turner, M. A. (2003). Strengths and weaknesses of the Housing Voucher Program. Testimony before the subcommittee on Housing and Community Opportunity of the Committee on Financial Services, US House of Representatives (June 17). Washington: Urban Institute.

Weiss, H. E. (2008). The intergenerational transmission of social capital, its meaning for crime in adolescence, and for offending in early adulthood (Doctoral dissertation, The Ohio State University).

Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. Theory and Society, 27(2), 151-208.

Yeom, M. (2018). Identifying, Explaining, and Rethinking Gentrification.

Yun, J., Fukushima-Tedor, M., Mallett, C. A., Quinn, M. I., & Quinn, L. M. (2021). Examining Trauma and Crime by Gender and Sexual Orientation among Youth: Findings from the Add Health National Longitudinal Study. Crime & Delinquency, 0011128721999342.

Yun, J., Kwon, O., & Ma, K. (2014). Changing spatial distribution of Chinese population in Seoul: A comparision between Korean-Chinese and non-Korean Chinese. The Korean Regional Development Association, 26(2), 39-54.

APPENDIX A. COVARIANCES BETWEEN LATENT VARIABLES

	Estimate	Std.all	p value
Descriptive Neighborhood Social Capital			
Parental Neighborhood Social Capital	0.401	0.401	< 0.01
Adult Educational Attainment			
Adult Assets	0.05	0.119	< 0.01
Adult Income	0.057	0.14	< 0.01
Adult Subjective Economical Outcomes	0.115	0.275	< 0.01
Adult Assets			
Adult Income	0.188	0.208	< 0.01
Adult Subjective Economical Outcomes	0.219	0.233	< 0.01
Adult Income			
Adult Subjective Economical Outcomes	0.186	0.203	< 0.01