

THE BONDS AND BRIDGES TO ECONOMIC SUCCESS:
AN APPLICATION AND TEST OF SOCIAL CAPITAL IN
LOW-INCOME URBAN NEIGHBORHOODS

by
Daniel Brisson

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Approved by

Charles L. Usher, Ph.D.

Shenyang Guo, Ph.D.

Cindy Guy, Ph.D.

William M. Rohe, Ph.D.

Marie O. Weil, DSW

ABSTRACT

Daniel Brisson: The bonds and bridges to economic success: an application and test of social capital in low-income urban neighborhoods
(Under the direction of Charles L. Usher)

This study focuses on the availability of different forms of social capital in low-income urban neighborhoods. Social capital is broadly understood as the resource that becomes available through membership in a trusting network of relationships. This study tests relationships among neighborhood conditions, bonding and bridging social capital, and economic outcomes. Findings indicate that certain neighborhood characteristics affect bonding social capital, and that bonding and bridging social capital have a significant, but complex relationship with the economic outcomes of families living in low-income neighborhoods. This research provides empirical support for social workers who incorporate social capital in their practice.

DEDICATION

To my parents, Mom and Dad thank you for providing me the opportunity to pursue any and every dream I ever felt was worthwhile. To Christine, Marc, Mike, Nance, Jeannie and all of my friends, thank you for your unconditional support, without which I could never have completed this endeavor.

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LIST OF ABBREVIATIONS

AECF	Annie E. Casey Foundation
CCI	Comprehensive Community Initiative
FES	Family Economic Success
HLM	Hierarchical Linear Modeling
ICC	Intraclass Correlation
NORC	National Opinion Research Corporation
PHDCN	Project on Human Development in Chicago Neighborhoods

INTRODUCTION

The research in this dissertation continues a long line of practice and research in the area of low-income neighborhoods. More specifically, the six chapters in this dissertation focus on low-income urban neighborhoods, and how the popular concept of social capital can be applied to these neighborhoods.

Chapter 1 provides a review of the issues facing families in low-income urban neighborhoods. Then, social capital is introduced as a theory that may offer guidance in addressing the complex array of issues facing families in these neighborhoods. This chapter concludes by applying the networks view, and bonding and bridging social capital, to low-income urban neighborhoods.

Chapter 2 presents a review of the empirical literature on social capital that is used to develop a conceptual framework applied to low-income urban neighborhoods. Chapter two begins with a critique of prominent research on social capital. Then, a more specific review is presented that focuses on empirical findings related to bonding and bridging social capital in low-income urban neighborhoods. A conceptual framework is developed from this literature review, and chapter 2 concludes with a broad hypothesis and six research questions that have been extracted from the conceptual framework.

Chapter 3 provides details of the design of the study. This chapter begins with an overview of the *Making Connections* initiative, and provides details on how neighborhoods from cities around the country were chosen to participate in the initiative. This chapter then details the design of the *Making Connections* survey, which provides

the data for this research. Chapter 3 concludes with descriptive statistics that provide context on the cities and neighborhoods sampled in this study.

Chapter 4 is the first of two chapters devoted to analysis of survey data collected in several low-income neighborhoods involved in the *Making Connections* initiative sponsored by the Annie E. Casey Foundation (AECF). Analyses of two measurement models are presented here. The first model measures bonding social capital in low-income urban neighborhoods, while the second model measures bridging social capital in low-income urban neighborhoods. Exploratory and confirmatory factor analyses are used to assess the measurement of these models.

Chapter 5 is the second analysis chapter. In chapter 5, Hierarchical Linear Modeling (HLM) is used to test the relationships between neighborhood context, bonding and bridging social capital, and economic outcomes in low-income urban neighborhoods. Results of the analysis and a discussion are presented. Chapter 6 presents an overview and summary of the findings of this research. It also describes implications for research and practice in social work.

CHAPTER 1

LOW-INCOME URBAN NEIGHBORHOODS AND SOCIAL CAPITAL

Statement of the Issue

Evidence suggests that the disparity in wealth between the richest and the poorest populations in the United States is growing (Keister, 2000; Reich, 1998; Yellen, 1998). Scholars claim that this growing poverty has a clustering effect (Gephart, 1997; Shaw & McKay, 1969) that is manifest in certain low-income neighborhoods. Research has consistently linked a number of detrimental outcomes such as lower educational attainment, poor public health outcomes, and high crime and delinquency with the living conditions found in these neighborhoods (Booth & Crouter, 2001; Brooks-Gunn, Duncan, & Aber, 1997). Thus, to address issues of poverty and its consequences for families and children, researchers must understand contextual and structural factors that both contribute to this pattern of poverty, but also may offer hope for alleviating it.

Theorists have offered several explanations for the concentration of poverty. Social disorganization theorists hypothesize that low-income inner city communities that emerged in the first half of the twentieth century resulted from the migration of poor foreign immigrants and job seekers from rural areas in the United States. The conflicting value systems of heterogeneous cultures, including street culture and middle class culture, created a downward spiral of social disorganization in these neighborhoods

resulting in negative outcomes (Coleman, 1976; Sampson & Groves, 1989; Shaw & McKay, 1969).

Social stratification theorists explain the concentration of poverty in terms of the resulting order of position and power—persons with abilities valued by society gain positions that are sustained through power, decision making, and authority (Lipsett, 1976; Tucker, 1978). Others hypothesize that the lack of opportunities in low-income neighborhoods creates a culture of poverty that, like other cultural traits, establish norms that are learned by neighborhood youth (Brown, 1972; Lewis, 1968; Rainwater & Yancey, 1967)¹. Still other theorists have assessed factors of discrimination, migration, economic opportunities, and population density of low-income neighborhoods as contributing to socially isolated communities that lack knowledge of, or access to, mainstream connections (Wilson, 1987).

Households in low-income neighborhoods, by themselves, often do not have the resources to meet the multitude of needs they face day to day, so they are forced to seek help from others to meet their basic needs. Typically government, private organizations, or religious institutions have provided support laden with rules and regulations designed to identify and assist the “worthy” poor (Jencks, 1992). This support generally requires households in low-income neighborhoods to meet some criteria or follow some expectation of the supporting agency. This disempowering approach to social service has not solved the problems of poverty and may actually sustain system dependency and undermine the worth of individuals living in low-income neighborhoods (Jencks, 1992; Schiller, 2001). Instead, other programs that promote community participation, indigenous leadership, and empowering decision making processes may provide more

sustainable, positive outcomes for low-income neighborhoods (Jencks, 1992; Schiller, 2001). Indeed, some low-income neighborhoods have shown that they can mobilize their resources and use their collective power to influence the direction and decisions affecting their neighborhood or community (Friere, 1994; Medoff & Sklar, 1994).

Further, programs designed to assist the poor often address discrete problems such as transportation, substance abuse, or job skills. This discrete approach misses the message of neighborhood research, which, as noted, indicates poverty is a neighborhood-level problem affecting all segments of an individual's life (Booth & Crouter, 2001; Brooks-Gunn, Duncan, & Aber, 1997).

In contrast to discrete programming and top-down bureaucratic assistance, Comprehensive Community Initiatives (CCIs), a relatively new approach to community development, are neighborhood-based initiatives that seek to create sustainable changes and improve household economic outcomes for families in low-income neighborhoods. Such initiatives follow a holistic approach that factors in the ecology of a neighborhood and promotes sustainable activities that build a neighborhood's capacity, and germinates relationships both within the neighborhood and with key outside resources (Aspen Round Table, 1995; Kubisch, 1996), including public services, and private enterprise.

Theoretically, capacity building involves mobilizing a neighborhood and raising the neighborhood's collective consciousness about key issues and empowering the community to take action. Practically, capacity building may include developing local leadership, providing technical assistance on economic development or advocacy strategies, building self-evaluation strategies, or assisting a neighborhood in accessing local political institutions. A comprehensive, flexible combination of services, support

and governance are established and supported in the neighborhood. Services may include transportation, mental health, social services and youth programs. Supports may include technical assistance, funding, research and evaluation, and governance for egalitarian decision-making. The rhetoric of CCIs articulate a neighborhood driven model, which uses community participation in the form of indigenous knowledge and leadership, and a democratic governance structure to inform the actions and goals of the CCI (Aspen Round Table, 1995).

The importance of the resident-driven model of a CCI cannot be over-emphasized. An example of the sustainability of such a program is illustrated when funders hear about the success of midnight basketball programs in low-income neighborhoods. A sponsor may provide the money and hire a coordinator with experience running midnight basketball programs and simply assume the youths in the neighborhood want the program. The program may operate with the sponsor's support, but when the funding is exhausted, no neighborhood residents are interested in running a program for youths from midnight until 2am on weekend evenings.

In contrast, a resident-driven CCI may pull together the community youth leaders to decide on programming options. The youth might decide that they are interested in cleaning up the trash from the neighborhood. The youths are then given the supplies necessary to conduct weekend cleaning activities and to create murals on the sides of dilapidated buildings. Through this resident driven approach, the program is sustained through the youth's interest. Further, the youths develop valuable leadership, cooperation, and management skills for future community building activities.

The sustainable, community level skills and relationships that CCIs germinate are often referred to as social capital or community capacity. The term social capital has been popularized by the book *Bowling Alone* (Putnam, 2000) in which Robert Putnam measures social capital as the trust and networks of relationships in a community that are realized through civic participation. Putnam claims that, over the last 50 years, a gradual decline in social capital has contributed to negative outcomes in safety, education and health in America (Putnam, 2000). Chaskin (2001) defines a similar concept—community capacity—as having four key elements: “a sense of community, a level of commitment among community members, the ability to solve problems, and access to resources” (Chaskin, 2001, p. 296). Both concepts are used by professionals across varied disciplines to study and explain the importance of communities and neighborhoods on individual outcomes.

This dissertation attempts to build the knowledge base for social work community practitioners by testing a number of models of social capital in low-income urban neighborhoods. These models are meant to broaden the base of empirical support to complement the scant research on social capital in low-income urban neighborhoods. Before testing models of social capital, a thorough review of social capital theory is first provided. This review traces the roots of social capital and dissects this popular concept into bonding and bridging social capital—two particularly salient components for individuals in low-income urban neighborhoods. Then, important methodological considerations are reviewed. These include testing a latent variable, and testing a concept that is both an individual and a collective resource. The literature review concludes with a critique of recent findings concerning the causes and consequences of bonding and

bridging social capital. This provides the basis for a conceptual framework of bonding and bridging social capital in low-income urban neighborhoods.

Social Capital: A Theoretical and Conceptual Review

A group of mothers in a low-income neighborhood have, through shared experiences, built a network of cohesive trusting relationships. These relationships have been transformed into an informal understanding that the mothers will share the responsibility of watching each other's children. When one mother has to work late, or another is called unexpectedly to take care of a sick relative, the other mothers take responsibility for watching her children. This resource saves each mother the time and money of having to hire a babysitter. In the academic world, the resource that exists among the mothers is called social capital. Social capital is a community-level, latent resource that develops from a network of trusting relationships within a defined community. Like human capital, social capital can be transformed into a tangible resource that can be used to acquire goods and services.

While social capital is considered a meta-construct, folding together concepts like social cohesion, trust, and social networks, it is helpful to unpack the various characteristics of social capital. Servon (2002) has done this by breaking social capital into its two obvious components—social and capital.

The social component is fairly straight-forward; it refers to the trust and cohesion that is present in a network of relationships (Servon, 2002). These relationships can be small and singular—like a relationship between two people or among the members of a

family—or they can be large, multiple and interconnected—like the multitude of relationships that exist within a nation.

The capital component is more difficult to operationalize and has been contested by various academics claiming that social capital is not a form of capital but instead a set of behaviors (Solow, 1999). Fukuyama (2001) argues that many researchers, when referring to and studying social capital, actually have in mind the product or result of social capital, and not the trusting, cooperative relationships among people that, in fact, constitute social capital. He goes on to note that social capital is not easily quantified and does not behave similarly to other forms of capital. For example, capital, or human capital can be understood using simple mathematical principles. When people expend capital, they are left with less capital. Or, if they add more human capital, their stock of human capital has increased. However, social capital operates very differently: the more social capital is used, the higher the stock of social capital becomes; social capital is diminished with disuse and strengthened with use; social capital can be used by multiple people or groups simultaneously; social capital can be developed consciously, or unconsciously as a byproduct of other relationship building activities (Servon, 2002). This unpacking of social capital is helpful in understanding the concept, however, it also illuminates some of the difficulties that the concept presents to researchers trying to measure and understand its effects.

The Recent History of Social Capital

A review of the literature on social capital shows that the concept is used in a variety of ways. As mentioned earlier, it has been most widely associated with Robert

Putnam's book, *Bowling Alone: The Collapse and Revival of American Community* (2000). Putnam suggests that a decline in social capital is causing a disintegration of the sense of community in the United States and, in turn, causing negative outcomes for individuals and communities. He measures social capital primarily as participation in civic groups, emphasizing the more formal aspects of the concept.

A number of critics have found fault with Putnam's conceptualization and analysis of social capital. Fried (2002) suggests that Putnam fails to address how inequities in resources contribute to a declining social capital. Snyder (2002) agrees with Putnam that civic engagement has been declining in the United States. However, she suggests that support for more conservative policies and traditional family values has left traditionally marginalized groups distrustful of the U.S. government. She goes on to suggest that it is this distrust in America's public institutions that has led to a decline in civic life and social capital across the United States (Snyder, 2002).

Steger (2002) offers a different perspective suggesting that Putnam has convincingly illustrated the decline in civic engagement in the U.S., but has not addressed the role of globalization in this process. Using Karl Polanyi's critique of free market economies to inform his argument, Steger suggests that opening markets has destroyed the complex social relationships and obligations that exist in local economies. Further, destroying these relationships and obligations compromises the need for civic engagement. Others have found fault with Putnam's indicators of civic engagement, suggesting that, in the contemporary United States, social capital is not only found in formal associations as Putnam suggests, but that social capital is also found in informal groups (Boggs, 2002; Cuoto, 1999; Kretzman & McKnight, 1993).

Although Putnam's work has drawn recent attention, he is not the first scholar to address the concept of social capital. Coleman (1988) provided one of the most complete definitions of social capital. He extended the notions of physical capital (tools of production) and human capital to social capital, where collective action brings some value to individuals in a collectivity. He wrote, "...like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible. Like physical capital and human capital, social capital is not completely fungible but may be specific to certain activities. A given form of social capital that is valuable in facilitating certain actions may be useless or even harmful for others" (Coleman, 1988, p. 98). In his examination of social capital, three functional elements are important: (1) obligations and expectations; (2) information channels; and (3) social norms, but they will only be effective if a closure of social networks occurs.

Tracing the roots of social capital, Portes (1998) finds contributions from Durkheim and Marx, and gives credit to Bourdieu, for synthesizing a theoretical argument that through participation in groups, social capital provides a benefit over and above the stated purpose of the group. This benefit, realized through the relationships in the group, is access to the resources of others participating in the group. While forming relationships outside a group can bring in resources that are not available within the group, dense social networks within a group can make it difficult to form these outside relationships.

Nan Lin (2001) distills the central ideas on social capital, and notes that the basic idea behind social capital is simply that people invest in social relationships in the expectation of some return. Lin (2001) demonstrates that there are four ways that an

investment in social capital can achieve some return. First, social capital facilitates the flow of information in a network of relationships. Second, the social ties in a network of relationships influence the use of resources that exist within that network of relationships. Third, the social network provides a credential which makes the members of the network credible, and fourth, the network provides support or public reinforcement that a member of the network has claims to the resources of the network. Lin (2001) points out that social capital has been misunderstood and contrasted as a collective asset and an individual resource. While most scholars would agree that social capital exists as the resource embedded in a network of relationships, it is important to note conceptually if this resource is being used to benefit the collective (the neighborhood, the town, the state), or the individual.

Along with Lin's work, scholars in other disciplines have added their interpretations to the concept of social capital (Fukuyama, 2001; Krishna, 1999; Lochner, 1999; Rohe, 2004). In response, Rohe (2004) asks if these different interpretations actually deal with the same concept. If, he argues, social capital is to be useful in the development of low-income neighborhoods, characteristics of the concept first must be agreed upon and there must be reliable ways to measure these common elements. Then, ways to develop social capital at the neighborhood-level must be sought. Rohe (2004) suggests that four aspects of social capital must be captured in measuring it: "first, it must assess the level of community engagement. Second, it must gauge the characteristics of local social networks. Third, it must assess levels of trust among community members. Fourth, it must assess the extent and effectiveness of community organizational infrastructure" (p. 3). These elements seem to address a measurement concern of Servon

(2002), who notes that social capital is best measured as it relates to the enhancement of human and physical capital.

Paxton (1999), utilized many of the same essential elements as Rohe, and operationalized and measured the widely varying uses of social capital in terms of trust and associations. She chose trust because of its association with reciprocity, and in her definition of associations she is careful to include both formal and informal associations. In her view, social capital only exists when high levels of both trust and associations are present. Paxton's guidelines for measuring social capital account for both the within-group relationships, and the between-group relationships that must exist in order to accurately measure social capital.

Four Views of Social Capital

There is little question that the cross-disciplinary appeal of social capital has diffused its meaning. To clarify and maintain the utility of social capital, Woolcock and Narayan (2000) identified the four common conceptual uses of social capital; these are presented in Table 1. First, the communitarian view sees social capital through a lens of civic engagement. Second, the institutional view suggests that social capital is a outcome affected by government and government policy. Third, the synergy view holds that social capital forms through the complementarity and embeddedness of government and its citizens. Finally, the networks view suggests that the vertical and horizontal ties among community participants are the foundations of social capital.

Table 1
Four Views of Social Capital^a

Communitarian	Social capital is a virtue that comes from participation in formal or informal local groups. With dense and numerous local groups a community will experience high social capital that will benefit the community. The communitarian view assumes communities behave synchronously, and does not account for limitations and the possible negative effects of social capital.
Institutional	Social capital is a result of the political, legal, and institutional forces in a society. Societies with strong and just political systems and a growing economy produce strong communities and civic groups. The institutional view takes a top down approach in explaining a community's level of social capital.
Synergy	Social capital is formed through complementarities (the mutually benefiting relationship between formal systems and informal communities) and embeddedness (the depth of relationships between community residents and public representatives). Neither institutions nor communities can develop high levels of social capital without support from the other.
Networks	Social capital is the community level commodity that comes from the network of relationships within and traversing communities. Social capital can provide both positive and negative benefits for the community. The networks of relationships that occur within a community are called bonding social capital and the networks of relationships that occur between communities are called bridging social capital.

^aAdapted from Woolcock, M. & Narayan, D. (2000). Social capital: implications for development theory, research, and policy. *The World Bank Research Observer*, vol. 15, no. 2. pp. 225-49.

The Networks View and Bonding and Bridging Social Capital

To understand how CCIs seek to improve economic conditions for families in low-income neighborhoods this dissertation utilizes the networks view of social capital. In the networks view, horizontal ties are bonding social capital—the social capital that

exists within a neighborhood, and vertical ties are bridging social capital – the social capital that exists between a neighborhood and other neighborhoods or organizations. The networks view attends to both intra- and extra-community relationships, recognizing that neighborhoods function both as closed systems that serve the needs of the individuals in the system and as open systems that build relationships with policy makers, service organizations, and local businesses.

Viewing social capital as both an intra- and extra-community variable is especially pertinent for low-income neighborhoods. For example, from a bonding social capital perspective, a household that has overspent its monthly budget because of an unexpected car repair can rely on neighbors for help with both transportation and expenses to get through the month. From a bridging social capital perspective, an entire neighborhood's lack of fiscal and human resources to provide after-school programs for adolescents can be relieved when the local school board recognizes the neighborhood's needs and allocates school funding for needed programs. The intra-community ties provide an explanation for how households in a neighborhood find resources to meet the emergency needs of the unexpected car repair, while the extra-community ties provide an explanation for how the neighborhood accesses resources to develop an after-school youth program.

Bonding social capital

In discussing social networks in a community, Coleman (1988) illustrates the benefit of bonding social capital. He maintains that the combination of trust and social cohesion in a community creates an obligation or sanction between community members.

This obligation between community members can be used as a type of capital. Coleman uses the illustration of the community of Jewish diamond traders in New York as an example of this process. When buying and selling these expensive precious gems, community members are allowed to freely inspect and handle the product. This allows resources that might be used for surveillance and armed guards, to be used in other ways.

Others scholars have recognized the costs and benefits of bonding social capital. Putnam (2002) writes that many people receive social support from bonding social capital. Woolcock & Narayan (2000) add that while bonding social capital may provide initial benefits for low-income individuals if, over time, these relationships become too dependent they can limit the access to opportunities for new relationships that can bring in new resources. For example, a neighborhood watch group may become so trusting that their group becomes a closed system. A closed system does not allow penetration of the group by new members, thereby, setting an upper limit to the resources available through bonding social capital.

Granoveter (1973) presents a similar point about the limitations of strong bonding social capital. Granoveter (1973) writes that the information and resources that flow within a tightly knit group can be used over and over in that group. However, the strength of the bonding relationships fragments or precludes relationships outside the group. Granoveter (1973) presents a logical argument for the importance of weak connections to external groups. These weak connections present the opportunity for access into new systems of resources.

Bridging social capital

Relating to Granoveter's (1973) argument for the strength of weak ties, bridging social capital is the trust and cohesion that exists between individuals from different communities acting on behalf of their community. Bridging social capital is the connection from one group to another group and is realized as access to resources across system boundaries. Putnam (2002) writes that bridging social capital grows out of the network of relationships between people who are unlike one another – while Portes (1998) uses the example of ties to outside community members to find employment to illustrate the use of bridging social capital. In his example, Portes notes that it is not the density of relationships, but the ties to outside players with access to new resources that reveal employment opportunities. While ties to outsiders players may be important for securing employment opportunities, some evidence suggests that diverse ties within a neighborhood do not make a difference for finding employment (Kleit, 1999). Examples of bridging social capital include when leaders from a neighborhood association negotiate with members of a town council to have street lights installed or, when members of adjacent communities come together to oppose a plan for urban renewal or, when community members access their churches to raise money to support a family whose house was destroyed in a fire.

Whereas bonding social capital assumes a trusting relationship between individuals in a single community, bridging social capital is the trusting network of relationships between members of different communities. Bridging relationships can serve the exclusive needs of an individual or, they can serve the needs of the community. Sometimes in a bridging relationship, an individual is acting on behalf of a community,

and represents the community's values and goals. This type of bridging relationship implies that the outcomes from the relationship serve some function for the larger community. Other times, a bridging relationship may serve more the needs of an individual.

One example of a bridging relationship is that between an organization's development specialist and a foundation. The development specialist uses this relationship to secure funds from the foundation, and perhaps, to leverage additional investment from local governments. Another example is the relationship between a neighborhood advocate and a town council. The advocate lobbies the neighborhood position and garners council members to vote for neighborhood friendly policies. A final example is a relationship between a neighborhood resident and a local police officer. Through this relationship, the resident is able to attract added police attention to improve neighborhood safety.

In bridging social capital, therefore, the trust and social cohesion that Paxton (1999) describes as social capital is realized as access or exchange of resources across groups. If individuals from a neighborhood have a trusting relationship with individuals from another neighborhood, they are willing to share resources. Similarly, if individuals from a neighborhood have a trusting relationship with members of the local political system, that neighborhood has access to politicians who can make policies that benefit the neighborhood.

Summary

Social capital represents a potential resource for low-income urban neighborhoods. While low-income neighborhoods historically have been viewed by outsiders as dangerous, barren, isolated, and desperate places, residents of low-income neighborhoods know that networks of relationships and other untapped resources often are embedded in their communities. The concept of social capital has brought newfound attention to what low-income households have always known – the network of relationships in low-income urban neighborhoods can serve as a vital resource.

CCIs utilize social capital to explain how strengthening relationships both within the neighborhood and between neighborhood residents and outside stakeholders will provide better outcomes for low-income families. The CCI framework is built on the concepts of community building and comprehensiveness. By building community, individuals working with CCIs are implicitly developing bonding social capital. Similarly, by working on comprehensive solutions, those individuals working with CCIs are implicitly building extra-neighborhood relationships and developing bridging social capital.

Through a synthesis of the varied conceptualizations across academic disciplines, this study will use social cohesion and trust in a network of relationships as the definition of social capital. Further, this study uses the networks view when applying social capital theory to low-income urban neighborhoods. In particular, the networks view's bisection of social capital into bonding and bridging provides an especially salient explanation for how social capital can be used to improve economic outcomes for families in low-income urban neighborhoods.

In the next chapter, this definition and conceptualization of social capital is the basis for a review of the empirical work surrounding social capital in low-income urban neighborhoods. Then, building on both the reviewed theoretical and empirical work, a framework is constructed that illustrates the role of social capital in low-income urban neighborhoods.

CHAPTER 2

AN EMPIRICAL REVIEW AND CONCEPTUAL FRAMEWORK OF SOCIAL CAPITAL APPLIED TO LOW-INCOME URBAN NEIGHBORHOODS

Building from the conceptual review in Chapter 1, this chapter reviews the evidence supporting the role of social capital in improving life for residents of low-income urban neighborhoods. The first part reviews seven foundational and frequently cited articles linking social capital to various outcomes. A number of additional research articles that link social capital to disparate social outcomes are then quickly reviewed. Then, this foundational evidence is critiqued for its application to bonding and bridging social capital in low-income urban neighborhoods.

The next section provides a review and critique of the most recent research on social capital as applied to low-income urban neighborhoods. It focuses on empirical evidence in three areas: conceptualization and measurement; neighborhood-level correlates; and economic outcomes. The critique in this section focuses on the careful conceptualization and use of latent variable analysis techniques, the dissection of social capital into bonding and bridging, the application of social capital to low-income urban neighborhoods, and the use of Hierarchical Linear Modeling (HLM) to account for variations in social capital at the individual and neighborhood-levels.

The final section presents a conceptual framework to serve as a model to test bonding and bridging social capital in low-income urban neighborhoods. This chapter

concludes by offering a broad hypothesis about social capital and low-income urban neighborhoods and six research questions that grow out of the conceptual framework.

Foundational Evidence of Social Capital

Although mixed, evidence to date seems to support the theory that social capital can be used to improve wide ranging outcomes in low-income neighborhoods.

Researchers have found clear linkages between social capital and economic, health, criminal and other outcomes. However, a number of issues regarding research on social capital remain unresolved.

Putnam (2000) measures social capital as an aggregate of a community's civic engagement and finds statistical support for a relationship between declining civic engagement and such neighborhood characteristics as increased crime rates, lowered economic opportunities, and poor health. His research documents the decline in civic engagement in America, but his use of civic engagement as a proxy for social capital and the methodologically weak links between social capital and his outcome variables, leave questions about the causal nature of social capital's role in community life.

Other studies present more convincing linkages between social capital and important individual and community level outcomes. Sampson, Raudenbush, and Earls (1997) studied the effects of an aggregate variable which they call collective efficacy—a combination of social cohesion, social control, and trust—on neighborhood violence. Using data from the Project on Human Development in Chicago Neighborhoods (PHDCN) and HLM to account for both neighborhood and individual effects, the researchers found that collective efficacy, a neighborhood-level factor, has a negative

relationship with a number of indicators of violence (Sampson, Raudenbush, & Earls, 1997). They found that high socio-economic status, homeownership, and age were all positively associated with high levels of collective efficacy, while the number of years in a neighborhood, gender, and race were not related to this phenomenon (Sampson Raudenbush and Earls, 1997). In addition, they found that the effects of neighborhood-concentrated disadvantage and residential instability on violence were mediated through collective efficacy (Sampson, Raudenbush and Earls, 1997).

Another study, by Furstenberg and Hughes (1995), examined the relationship between social capital and youth development. This study used panel data from a 20-year study of low-income mothers and their children from Baltimore. Furstenberg and Hughes did not create an aggregate social capital variable, instead they chose to use a number of indicators at both the neighborhood and individual-levels that they believed might measure social capital. Despite their imprecise measurement of social capital, they found that a number of indicators at both levels were related to measures of successful youth development, including economic success, lower crime, lower teen birth rates, labor force participation, educational achievement, and mental health (Furstenberg & Hughes, 1995).

Still another study, by Temkin and Rohe (1998), looked at the relationship between neighborhood stability and social capital. The researchers recognized the difficulty in measuring social capital without a clear conceptual definition., After discussing their concerns, however, they choose to measure social capital as institutional infrastructure – which is the degree to which residents vote, neighborhood volunteerism, and the presence of a neighborhood organization, and an array of behavioral

characteristics that exemplify trust and a sense of community (Temkin & Rohe, 1998). The researchers measured neighborhood stability as the rate of change of neighborhood housing values compared to other housing values in the city, and found that social capital has a positive and significant effect on neighborhood stability (Temkin & Rohe, 1998).

Knack and Keefer (1997), in researching the relationship between social capital and economic growth, build on the theory that economic transactions have a cost and that the trust and relationships of social capital reduce these transaction costs. Further, they suggest that social capital creates economic growth through the development of human capital (Knack & Keefer, 1997). In their study, Knack and Keefer (1997) measure social capital as trust and civic norms, and find that their measure of social capital has a positive relationship with economic growth. The researchers are careful to note that their measurement of social capital does not include civic associational activity, a separate dimension of social activity that they find not to be related to economic growth. The researchers suggest that associational activity is related to social capital, but that social capital is the trust and shared norms in a community. They argue that trust and shared norms, not necessarily joining a group, contribute to economic growth (Knack and Keefer, 1997).

Also studying the economic effects of social capital, Narayan and Pritchett (1997) created a survey designed specifically to capture information about social capital. They measure social capital as membership in voluntary groups, and social or civic norms (in particular trust at the micro and macro levels) (Narayan & Pritchett, 1997). The researchers studied 1,376 randomly selected households in 87 rural villages in Tanzania. The two major findings of the study are: first, social capital has significant effects on

household earnings; and second, these effects are found at both the household and village levels (Narayan and Pritchett, 1997). These conclusions are especially pertinent to the present research because the findings demonstrate that social capital is capital because it is translated into higher household earnings. Also, social capital is a neighborhood or social construct in that it is not just utilized and developed in households and for individuals, but that neighborhood social capital creates increases capital for the entire community (Narayan and Pritchett, 1997).

Research has also supported the relationship between social capital and a number of additional outcomes. Some studies indicate that social capital plays a role in securing employment, increasing labor force participation, and enhancing the ability of individuals to stay on the job (Aguilera, 2003; Zippay, 2001). Other evidence shows a strong positive relationship between social capital and health (Kawachi, Kennedy, Lochner, & Prothrow-Stith, 1997). Still other research supports the relationship between social capital and lower teen pregnancy rates (Gold, Kennedy, Connell, & Kawachi, 2002), lower incidence of crime (Saegert, Winkel, & Swartz, 2002), increased micro-entrepreneurial earnings (Gomez & Santor, 2001), and improved educational achievement (Ainsworth, 2002). Finally, theory suggests that bridging social capital is related to increased political participation, but contrary to Granoveter's (1973) weak ties theory, research shows that strong and multiple bridging relationships are important for bridging social capital (Teorell, 2003).

Strengths and Limitations of the Foundational Evidence

Some empirical support exists for the broad theory that social capital is a community-level resource that can be used to improve the well-being of individual

residents. This line of research has a number of important implications for the study of bonding and bridging social capital in low-income urban neighborhoods. First, Sampson and his colleagues (1997) provide one of the most clear and well-tested measures of the concept of social capital. Although these researchers call their concept collective efficacy, two important components of this concept – social cohesion and trust – match the definition of social capital used in this study. Using HLM, these authors use multiple indicators of these concepts and empirically test a latent variable model. The same techniques also permit these researchers to test the effects of collective efficacy at the neighborhood-level where a block group of approximately 8,000 residents constitutes a neighborhood (Sampson, Raudenbush & Earls, 1997).

Knack and Keefer (1997) also provide a clear conceptualization of social capital as trust and civic norms. Unfortunately, they admit that their measurement of social capital is inexact, particularly at the national level at which they attempted to measure and test social capital. Narayan and Pritchett's (1997) study is particularly useful as, again, these researchers provided a clear and careful conceptualization and measurement of the concept. Also, these researchers use hierarchical linear models to show the economic effects of social capital in poor communities. Given its focus on poor rural communities in villages in Tanzania, their research is likely to yield significant differences in comparison to low-income urban neighborhoods in the United States.

While it has strengths, empirical research related to social capital also has a number of limitations when applied to the study of low-income urban neighborhoods. In Putnam's (2000) study, the latent construct social capital is measured using a proxy indicator – civic participation. Unfortunately, the concept of social capital has proven to

be too unwieldy to capture using this simple indicator (Knack and Keefer, 1997). The study by Furstenberg and Hughes (1995) suffers a similar limitation. As a result, the studies to date provide only a narrow empirical base from which to pursue further research on bonding and bridging social capital in low-income urban neighborhoods.

Methodological Issues

While these foundational studies provide some support for social capital theory, they have been useful in uncovering an array of methodological issues. First, researchers studying social capital must provide a careful and concise conceptualization of social capital. This includes a clear description of the population under study. In the present study social capital is conceptualized as the trusting network of relationships (social cohesion and trust) in a low-income urban neighborhood. Social capital is then dissected into bonding and bridging social capital. Bonding social capital is the trusting network of relationships that exist among low-income neighbors. Bridging social capital is the trusting network of relationships that exist between low-income neighborhood residents and individuals from institutions and organizations that traverse the neighborhood boundaries.

Other than a clear conceptualization, it is imperative that studies of social capital carefully develop a valid measure of the latent construct. As an unobserved resource, social capital cannot be captured using a single indicator. Instead, studies of social capital need to first present some method of measuring the latent concept before they are able to test the causes and effects related to social capital.

Also, careful attention must be paid to the array of issues concerning the aggregate concept of social capital. Social capital is most often understood as a community-level resource that has benefits for individuals. For this reason, researchers need to be clear about the aggregate unit of analysis at which they are applying the concept. Some researchers have aggregated social capital to the country level (Putnam, 2000; Knack and Keefer, 1997), while others have aggregated social capital as an organizational resource, or a resource that is present in religious groups (Smidt, 2003; Wuthnow, 2002). When testing social capital as a neighborhood resource, analysis techniques need to account for the variation that exists at the aggregate unit of analysis, but also at the individual-level. This implies the need for HLM, a statistical technique that accounts for nested data structures.

Finally, social capital theory explicates neighborhood-level variables that contribute to the development of social capital, as well as individual-level variables that are affected by social capital. Unfortunately, testing the causal structure of social capital is nearly impossible with most cross-sectional data-sets. Therefore, researchers also need to be careful in assessing cause, as opposed to correlation, in testing measures of social capital.

More recent research has a specific application to the present study of social capital as a concept applied to low-income urban neighborhoods to improve economic outcome for families. The following review of these studies will focus on the issues specifically applicable to this study: a careful conceptualization and measurement of bonding and bridging social capital in low-income urban neighborhoods; neighborhood-level variables effecting the development of bonding and bridging social capital in low-

income urban neighborhoods; and the individual-level economic outcomes related to bonding and bridging social capital in low-income urban neighborhoods.

Recent Empirical Evidence of Bonding and Bridging Social Capital in Low-income Urban Neighborhoods

Conceptualization and Measurement

A review of the most recent research on social capital reveals agreement on the use of social cohesion and trust as indicators of social capital. Following Sampson, Raudenbush and Earl's (1997) use of the PHDCN social cohesion and trust indicators, a number of studies have accepted this as a valid indicator of social capital (Dorsey & Forehand, 2003; Drukker, Kaplan, Feron & van Os, 2003; Lochner, Kawachi, Brennan & Buka, 2003; Rankin & Quane, 2002; Subramanian, Lochner & Kawachi, 2003). In fact these studies use exactly the same survey items of neighborhood social cohesion and trust that Sampson and his colleagues tested in 1997.

In a study by Dorsey and Forhehand (2003), the researchers identify social cohesion and trust among neighbors as one type of social capital and find a negative relationship between social capital and the perceived level of neighborhood danger, and a positive relationship between social capital and effective parenting. These researchers use structural equation modeling to test both the measurement and causal paths for factors affecting social capital. Using the PHDCN items of social cohesion and trust, the researchers calculate a reliability coefficient alpha of .62 for their measure of social capital in a population of 150 single African-American mothers in New Orleans.

In another study, Drukker, Kaplan, Feron & van Os (2003) conceptualize and measure social capital as social cohesion and trust among neighbors. Using the same PHDCN survey items of trust and social cohesion, these researchers use HLM to test the effect of social capital on urban neighborhoods using longitudinal data from a city in the Netherlands. Unfortunately, alpha coefficients were not reported to provide evidence of the reliability of their measure of social capital. Findings from this study did show, however, that social capital has an inverse relationship with socio-economic deprivation, residential instability, poor child health, and poor quality of life indicators.

There are still additional studies that use the PHDCN social cohesion and trust items to measure social capital. Rankin and Quane (2002) use these items in their neighborhood conceptualization of social capital and find a relationship between social capital and prosocial competency, and a negative relationship between social capital and problem behaviors in adolescents. These researchers use HLM to account for neighborhood (measured as census tracts) and individual-level variation. Also, Lochner, Kawachi, Brennan, and Buka (2002) and Subramanian, Lochner and Kawachi (2003) use the PHDCN items of social cohesion and trust to test their conceptualization of social capital.

While these studies provide support for the use of social cohesion and trust, and the PHDCN indicators of these concepts, as a measure of neighborhood social capital, others have provided different frameworks. In a qualitative study, Fox and Gersham (2000) examine the effects of bridging social capital. However, bridging social capital is measured and tested as relationships between organizations and not as a neighborhood-level resource. Perkins and Long (2002) attempt to bridge the literature on psychological

sense of community with social capital. Also relying on HLM, they test four conceptualizations of social capital—sense of community, collective efficacy, neighboring, and citizen participation. The authors are able to show a relationship between these four dimensions of social capital; unfortunately their broad conceptualization of social capital seems to muddle, instead of clarify, the measurement issues of neighborhood social capital.

Some researchers have chosen not to measure social capital as a latent construct, but instead choose to measure social capital with single indicators (Claibourn & Martin, 2000; Putnam, 2000). Others have provided a clear conceptualization of social capital and have findings that suggest an economic effect, but rely on single-measure indicators (Glaeser, Laibson & Sacerdote, 2002). These studies, because of differences in their conceptualization of social capital, are only marginally relevant to the present study of bonding and bridging social capital in low-income urban neighborhoods.

It appears that the PHDCN social cohesion and trust items represent valid and reliable measures of bonding social capital. The concepts of social cohesion and trust provide content validity. The numerous studies showing a statistically significant correlation with outcome variables such as health, safety, and well-being indicate criterion validity, and repeated use of these indicators across studies points to construct validity in terms of acceptance of these items as a measure of bonding social capital. However, tests of reliability and validity still need to be conducted for the application of these items to bonding social capital in *low-income* urban neighborhoods.

While some research has been done on bridging social capital in low-income urban populations (Servon, 1998), this work does not conceptualize social capital at the

neighborhood-level, and does not provide indicators to measure bridging social capital. Therefore, the empirical literature provides no clear direction as to which indicators will provide a reliable and valid measure of bridging social capital.

From this review, the PHDCN social cohesion and trust items seem to be the most clear and concise way to measure bonding social capital at the neighborhood-level. While this empirical foundation is a starting point for the measurement of social capital in low-income urban neighborhoods, a number of notable gaps remain in the empirical literature. None of these studies have tested this measurement of social capital specifically for low-income neighborhoods. Further, none of the studies have applied the networks view of social capital to their work and bisected the concept into bonding social capital and bridging social capital.

Neighborhood Predictors of Social Capital

Some evidence links neighborhood conditions to social capital. Using cross-sectional data from the British census, McColloch (2003) found that concentrated affluence is a significant predictor of social capital for women. Other researchers found poverty and poor neighborhoods to be related to social isolation (Ainsworth, 2002; Fernandez and Harris, 1992). Additionally, Price (2002), using qualitative data from key stakeholders in Texas, found that work-related time constraints had a negative impact on the development of social capital.

Neighborhood density can also effect the development of social capital (Putnam, 2000; Magdol & Bessel, 2003; McColloch, 2003). A more densely populated neighborhood will provide residents more opportunities to engage and build

relationships, while a less dense neighborhood will provide fewer opportunities for engagement. Leyden (2003) provided support for this assertion by studying neighborhood types and showing that more walkable neighborhoods are associated with higher levels of social capital.

Also, homeownership can affect the development of social capital (Rohe & Basolo, 1997; Rolins, Saris & Johnston-Robledo, 2001). Homeowners have an investment in the community, and therefore, a financial incentive to build relationships and make the neighborhood a better place. Using the PHDCN items of social cohesion and trust, and HLM, Drukker, Kaplan, Feron & van Os (2003) demonstrated a relationship between social capital and residential instability. McCulloch (2003) found this same relationship. It is the goal of many residents in low-income neighborhoods to “move-up” into a better neighborhood. The migration or stability of residents in the neighborhood will also affect social capital (Rolins, Saris & Johnston-Robledo, 2001). In their study using panel data from the National Survey of Families and Households, Magdol and Bessel (2003) found that residential stability is related to social capital. Xavier Desouza Briggs (1998), using qualitative data, also demonstrated that housing mobility has a complex relationship with the development of bridging social capital for youths from low-income neighborhoods.

Using a case study approach, Ueda Reed (1999) found that neighborhoods with similar values about education and community had higher levels of social capital. McCulloch (2003), surprisingly, found that ethnic heterogeneity was a significant predictor of neighborhood social capital for women.

While this abundance of research provides empirical support to the theory that neighborhood-level variables affect the development of social capital, much of this research suffers from the limitations already discussed. With the exception of the Drukker, Kaplan, Feron & van Os (2003) study, none of these studies used the PHDCN items and none involved latent variable analysis to measure social capital. Further, in most cases, social capital was not conceptualized as a resource for low-income urban neighborhoods, and when it was, with the exception of the Desouza Briggs (1998) study, none of this research dissected social capital into bonding and bridging. Finally, the cross-sectional and qualitative data used in many of these studies prevents any firm conclusions about the causal nature of the relationship between social capital and these neighborhood contextual factors.

Economic Outcomes

Bonding and bridging social capital ultimately may be of critical importance to economic outcomes in low-income urban neighborhoods. Knack and Keefer (1997) and Narayan and Pritchett (1997) have already been decisive in linking social capital to economic outcomes generally. Also, focusing on the population of interest, empirical evidence, like that of Gomez & Santor (2001) and Servon, (1998) has demonstrated that social capital has a positive effect on earnings for low-income entrepreneurs.

Social capital, and in particular bridging social capital, is often linked to improved employment outcomes. This hypothesis has been supported by various studies. Aguilera (2003) found that low-income immigrant workers who used social capital to secure employment had longer employment tenure. Using longitudinal data, Zippay (2001) also

found that social networks rather than job training was most influential in laid-off workers securing a new job. Also, Fernandez & Castillo (2001) found social networks to be an important variable in hiring new employees, and that employees hired through social networks were related to improved outcomes for the hiring company.

In an ethnographic study, Dominguez and Watkins (2003) explored bonding and bridging social capital among low-income mothers. The findings from this study suggest that bonding social capital, through increased obligations, can limit bridging opportunities, and opportunities for improving a family's economic condition. The researchers found that one strategy for low-income mothers in this situation was to give up bonding social capital for more formal, and potentially economically beneficial, bridging social capital. Also supporting this finding, Kleit (1999) found that diverse ties within a neighborhood do not make a difference for finding employment. Again, the evidence linking social capital to economic outcomes is promising, but not as convincing when applied to low-income urban neighborhoods and when more careful measurement is made of the latent construct.

Criticisms of Empirically-Based Studies

A number of scholars attack the conceptual clarity, the imprecise measurement issues, and the findings of the research supporting the role of social capital in improving neighborhood well-being (Claibourn & Martin, 2000; Durlauf, 2002; Kennelly, O'Shea & Garvey, 2003; Warde & Tampubolon, 2002). Durlauf (2002) challenges social capital research by critically examining three seminal articles in the field. Durlauf (2002) critiques the work of Furstenberg and Hughes (1995), Narayan and Pritchett (1997), and

Knack and Keefer (1997) and finds a number of problems similar to the criticisms of social capital research outlined above. In summary, he finds that the definitions of social capital used in these studies lacked conceptual clarity that led to measurement imprecision. He also found that the evidence of a causal relationship between social capital and the variables in these studies was tenuous. Durlauf (2002) notes that there is a tendency in the empirical work to address the benefits of social capital, while ignoring possible negative effects related to social capital.

Caughy, O'Campo, and Muntaner (2003) conducted a study to test this negative role of neighborhood social capital. These researchers studied the relationship between social capital (measured as psychological sense of community) and children's mental health in Baltimore. What they found is that in low-income neighborhoods, children reported fewer mental health problems, such as depression and anxiety, when their parents had fewer neighborhood relationships. Interestingly, the inverse of this relationship was true in wealthy neighborhoods—children from wealthy neighborhoods had more mental health problems when their parents had fewer neighborhood relationships.

Summary

Available evidence suggests that social capital in low-income urban neighborhoods is affected by neighborhood conditions, and has an effect on the economic trajectories of neighborhood families. However, the research on which this evidence is based suffers from a number of limitations. These limitations cumulatively compromise the validity of the findings. First, a number of these studies do not provide the conceptual

clarity necessary to study the complexities of the latent social construct—social capital. Further, the majority of the studies do not focus completely on the population of interest to this study—low-income urban neighborhoods. And, they do not bisect social capital into the meaningful concepts for study in low-income urban neighborhoods—bonding and bridging social capital. Second, the majority of the studies do not employ methods with the analytical rigor necessary to accurately measure the latent variable social capital. Third, the majority of these studies do not employ HLM to partition the observed variance of key variables into neighborhood-level, and individual-level effects. Finally, the designs employed in almost all of these studies limits any conclusive statements to that of correlation, not causation.

Despite these limitations, the available evidence, as well as the theoretical analysis, provide the necessary substantiation on which to build a framework for the application of bonding and bridging social capital in low-income urban neighborhoods. As in most research, these limitations should not serve as a road-block to further research, but instead as signs providing direction for analytic study. The next section utilizes this empirical evidence to build a conceptual framework of bonding and bridging social capital in low-income urban neighborhoods.

A Conceptual Framework of Bonding and Bridging Social Capital in Low-income Urban Neighborhoods

The framework in Figure 1 utilizes the networks view of social capital in the context of a CCI, and illustrates how neighborhood contextual variables and resident participation build bonding and bridging social capital in a low-income urban

neighborhood. This framework also illustrates how resident participation, neighborhood contextual variables and bonding and bridging social capital all influence the economic support and Family Economic Success (FES) of residents in low-income urban neighborhoods. FES is a framework for economic well-being constructed by AECF staff. A detailed description of the FES framework will be provided later in this chapter.

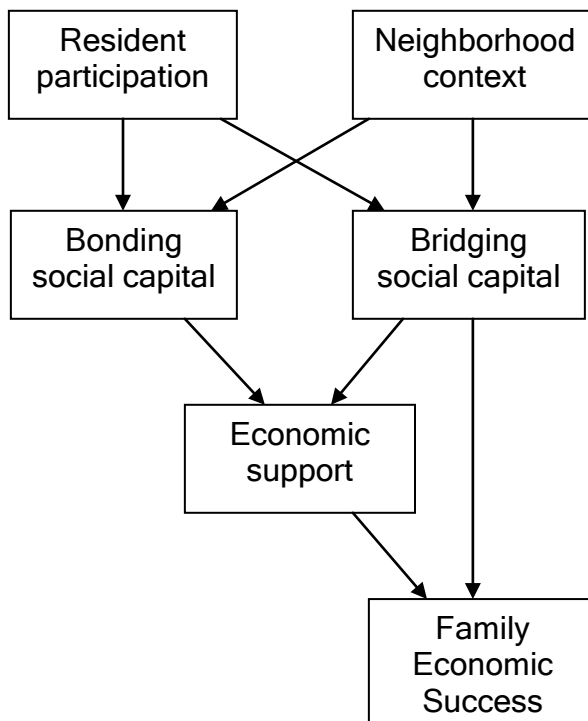


Figure 1. Conceptual framework of bonding and bridging social capital in low-income urban neighborhoods

In Figure 1, resident participation and neighborhood contextual variables are important predictors of bonding and bridging social capital. Then, bonding and bridging social capital can be used by families in a low-income neighborhood for economic support that can lead to FES. Or, bridging social capital can be used directly to access extra-neighborhood resources that can improve FES. Bonding and bridging social capital

are resources available both at the individual and neighborhood-level and are an integral step for families from low-income neighborhoods achieving FES.

Resident Participation

Resident participation is a key component in the development of social capital. The contribution of resident participation for neighborhood development has been emphasized in numerous social programs and initiatives (Annie E. Casey Foundation, 2002a; Castelloe, Watson, & White, 2001; Friedmann, 1992; Friere, 1994; Medoff & Sklar, 1994; Rubin, 2000; Schleifer, 1991; Wilkinson & Quarter, 1995). In low-income neighborhoods, resident participation may be stimulated by an influx of resources from a government or foundation program, or it may be a response to a crisis such as the deteriorating public health of the community due to industrial pollution, an under-achieving and dangerous school, or a natural disaster.

While resident participation implies a linkage to a neighborhood, many scholars have assessed participation in the context of broader communities. Gamble and Weil (1995, p. 483) provide a definition of participation as “. . . the active, voluntary engagement of individuals and groups to change problematic conditions and to influence policies and programs that affect the quality of their lives or the lives of others." Using this definition, one example of resident participation is through the political process, but it could be extended to include what de Tocqueville called civic associations (Tocqueville, 1945). As understood by de Tocqueville, civic associations are formal organizations germinated from the needs of local community life. Two popular examples

of civic associations today are neighborhood watch organizations and environmental watch groups.

Building on Tocqueville's conceptualization of participation, other authors have cited the benefits of participation to community life. Participation empowers community groups to be self-reliant (Adams, 1975), and build local governance structures (Adams, 1975; Cuoto, 1999). In addition, participation is cited as playing a critical role in the formation of social capital, especially through the use of voluntary organizations (Cuoto, 1999).

Contextual Influences

While the framework in figure 1 outlines a process for achieving FES in low-income neighborhoods, a number of contextual influences need to be considered. The empirical literature suggests that neighborhood poverty, density, homeownership, and migration contribute to the development of social capital. In addition, residents' perception of safety in the neighborhood will have an effect on the stock of social capital available in the neighborhood (Bruin & Cook, 1997; Rolins, Saris & Johnston-Robledo, 2001; Varady & Walker, 1999). Fear may deter some residents who will remain in their homes, but this same fear may motivate others to do something about problems in their neighborhood.

Also, the resource of time is an important variable that will affect resident participation (Cuoto, 1999; Sills, 1968; Wilson, 1987). Low-income families are often burdened by working multiple-jobs, using public transportation, finding inexpensive child-care, meeting social service appointments, and an array of household chores (Lott

& Bullock, 2001; Edin & Lein, 1997). While families with greater resources can use their money to buy timesaving services, low-income families do not have this luxury and may not have the time to participate in community building activities (Edin & Lein, 1997).

A neighborhood with racial harmony may be more likely to develop social capital (Goode, 2001). Disharmony, on the other hand, may affect residents in opposite ways—for some residents, disharmony may be an impetus to develop trusting relationships in the neighborhood, while for others, disharmony may encourage social isolation (Goode, 2001).

The education of individuals is another factor that will affect their participation in neighborhood development efforts. If an individual is knowledgeable of the potential resources the neighborhood can marshal, or conversely, aware of threats to neighborhood well-being, the resident is more likely to participate.

Bonding Social Capital to Build Economic Support and Achieve Family Economic Success (FES)

The relationship-building process that comes from a resident-driven CCI will result in a variety of shared experiences that can help build networks of trusting relationships. As these experiences provide the opportunity to build relationships, they also present opportunities to build trust. This combination of trust and social cohesion among neighborhood residents participating in a CCI will create an intangible resource, bonding social capital that can be used for real gains in the neighborhood.

Economic support refers to an economic benefit that maintains, but does not advance, a family's existing economic situation. DeSouza Briggs (1998) maintains that there are two forms of social capital useful for individuals, social support, or “getting

by”, and social leverage, or “getting ahead”. Economic support is conceptualized as the way social capital is used by families to “get by” economically. In this framework, economic support is a step to achieving FES for low-income households. In low-income neighborhoods, individual resources will be limited and therefore accessible almost exclusively for emergency situations. This means that the collective resource obtainable through bonding social capital will be limited and only available in times of crisis – to maintain the current level of economic well-being or to “get by”. A more viable way to expand the resource base of a neighborhood, or use social capital to “get ahead”, is to traverse neighborhood boundaries and draw on, or build, bridging relationships that can be used to achieve FES.

Using the example of an emergency car repair, if a resident of the neighborhood has a car that breaks down unexpectedly, other neighbors, due to trusting relationships that have been formed, may assist her by providing her with rides to work until her car is fixed. By garnering rides to work, she is able to maintain the income from her job. In addition, she is able to maintain perfect attendance at work, which may increase her chances of receiving a merit raise or promotion at work. In this example, the rides provided by her neighbors are a form of bonding social capital that result in economic support evidenced by her maintenance of her current employment status. Looking ahead, the bonding social capital used for economic support, also maintains her perfect attendance record. The benefits of keeping her job and maintaining perfect attendance at work may lead to an increase in wages, and a more stable attachment to the labor force, therefore contributing to her achievement of FES.

Although economic support provided through the development of bonding social capital will provide some opportunities for achieving FES, a more direct way to achieve FES is through bridging social capital.

Bridging Social Capital to Build Economic Support and Achieve FES

A low-income neighborhood without trusting relationships is nothing more than a shared geography often characterized by social and economic isolation. Although individuals can certainly have relationships outside of their neighborhood, it is unlikely that, in a neighborhood depleted of trust, individuals will use these outside relationships for the good of their neighborhood. Therefore, neighborhood residents need to build bonding relationships and gain a sense of community before they can be expected to act on behalf of the neighborhood. Once residents live in a bonded neighborhood there is the opportunity to use bridging relationships for the good of the neighborhood. If individuals in a low-income neighborhood develop a network of trusting relationships and have a sense of community they can use their collective identity to build trusting relationships that traverse their neighborhood boundary and reach into other neighborhoods, organizations, and institutions. Woolcock and Narayan (2000) theorize that it is the skills and resources gained from bonding social capital that allow neighborhoods to negotiate relationships across their boundaries.

In a CCI, neighborhoods may mobilize and generate bonding social capital through resident participation. These mobilized neighborhoods have a sense of community, they share a vision, and have a voice. It is this mobilization that creates opportunities to draw on existing bridging relationships and to build new relationships.

When the neighborhood is a group of isolated individuals sharing a geographical boundary, politicians can be disregarding, churches cannot focus their generosity, foundations cannot identify a portal to provide philanthropy, and business does not see an investment. As a low-income neighborhood gains a voice through bonding social capital, politicians are forced to listen, churches can focus their generosity, foundations have a structure to work through, and business recognizes an opportunity for investment.

Low-income neighborhoods often have scarce economic and political resources, which makes them vulnerable to the whims of those people and institutions with economic and political power. To gain power, individuals in low-income neighborhoods must mobilize their scarce resources and gain power through their numbers and their trusting network of relationships within the neighborhood. When neighborhood residents gain the confidence, skills and power, they can bridge neighborhood boundaries and access new resources. Woolcock and Narayan (2000), in an attempt to simplify this idea, say that neighborhoods building bonding social capital are on the defensive, while neighborhoods building bridging social capital are on the offensive.

FES

FES is a framework generated by the AECF that lays out the family and neighborhood strategies necessary for households in low-income neighborhoods to improve their economic well-being (Annie E. Casey Foundation, 2003a). The AECF defines FES for a household as “having sufficient and predictable resources and connections available to meet basic family needs, to provide for emergencies, to work toward improving quality of life, to make ongoing investments in lifelong learning for the

entire family, and to build assets that grow with the family over time, such as homeownership and retirement accounts” (Annie E. Casey Foundation, 2003b, pg. 5).

The FES framework is built on the premise that economic success strategies for low-income households must be comprehensive and sustainable (Annie E. Casey Foundation, 2003b). To achieve a comprehensive and sustainable framework, FES calls for the integration of three broad strategies: workforce development, family economic support, and community investment (Annie E. Casey Foundation, 2003b). Within each of these three broad strategies multiple smaller strategies and programs can be combined and implemented (Annie E. Casey Foundation, 2003b). In addition, often programs for one broad strategy, i.e. workforce development, will also be helpful in achieving outcomes for another broad strategy, i.e. family economic support (Annie E. Casey Foundation, 2003b). To better understand the FES framework, a more detailed description of each of the three strategies is provided.

Workforce Development

Workforce development means that household members obtain jobs, income, and health benefits, from which they can save and generate household assets (Annie E. Casey Foundation, 2003a). Workforce development focuses on neighborhood connections to regional labor markets, and addresses a range of workforce issues including job training, job readiness, job placement, job retention, job advancement, and workforce supports (Annie E. Casey Foundation, 2003b). Additional issues addressed in workforce development strategies include child care and transportation (Annie E. Casey Foundation, 2003a).

Gainful and reliable employment is perhaps the most straightforward means for households to generate income; however, in low-income neighborhoods, employment is a daily obstacle (Edin & Lein, 1997). Therefore, programs must be put in place to assist families in workforce development. There are many government and privately funded programs that provide some level of employment assistance ranging from databases of available jobs, to career counseling, to job skills training. In addition, many employment programs will promote educational pursuits since entry level jobs often require that the applicant hold a general education degree, high school diploma, or an associates degree.

In the workforce development strategy of FES, families seek to find gainful employment and increase their earnings. Bridging social capital provides the opportunity for increased earnings by stimulating local economic development that creates new jobs. As residents of a bonded neighborhood build relationships with other systems, the neighborhood gains access to the resources of those systems. Additionally, through these new relationships, outside organizations may realize the market potential, and invest in the neighborhood. Through this mutual trusting relationship, neighborhood residents gain access to new employment opportunities with new organizations, and the organizations expand their business to this new market, also creating employment opportunities for neighborhood residents. Further, the new organizational systems that the neighborhood has been able to access can provide skill-building opportunities that can enhance an individual's human capital. Thus, both an expanded job market and enhanced human capital will increase earnings for neighborhood households.

Family Economic Support

In the FES model, family economic support means that households have tools and strategies to save, to take advantage of tax opportunities, to establish credit, to reduce debt, and to acquire assets (Annie E. Casey Foundation, 2003a). Through the use of these tools and strategies (and the reduction in use of predatory lending practices), families can build savings and credit for homeownership, education, self-employment, retirement or other opportunities. Family economic support strategies often require the investment of some financial institution in the neighborhood.

In addition to workforce development, an alternative strategy for achieving FES for households in a low-income neighborhood is through family economic support. It has been suggested that bridging social capital can improve opportunities for employment and income. Through these opportunities, households also have improved opportunities for savings and asset-building, both of which are family economic support strategies. Simply stated, the more income being generated, the greater the opportunity to save that income for needed assets. One way asset building achieves FES is by increasing the share of capital that flows into or throughout the neighborhood. For example, when a family owns a home in the neighborhood the profits from the homeownership are held by the neighborhood resident. In contrast, when an absentee landlord profits from a neighborhood resident's rent, those profits are removed from the neighborhood.

Bridging social capital can build household assets by increasing income, which provides surplus capital for asset building. In addition, bridging social capital can build assets by connecting households with resources that can assist with asset building. Examples of bridging relationships that can provide family economic support include

relationships with accountants willing to provide pro-bono tax work to low-income households, and relationships with banks and mortgage lenders who can help low-income households reduce debt and secure low-interest loans.

Community Investment

Finally, community investment means the careful and synergistic investment in the housing, business, and infrastructure of a neighborhood (Annie E. Casey Foundation, 2003a). Such investment preserves housing opportunities in the neighborhood for low-income residents while also providing opportunities for business investment and infrastructure improvement. By protecting against gentrification, the benefits brought into the neighborhood are preserved for neighborhood residents.

This FES strategy is in many ways the embodiment of bridging social capital. Community investment refers to the careful and synergistic links to needed resources, and the development of bridging social capital, by definition, provides these links.

Synergy of the Three Strategies

Although each of the strategies is important by itself, the multitude of issues facing families in low-income neighborhoods requires that workforce development, family economic support, and community investment strategies are developed synergistically (Annie E. Casey Foundation, 2003b). It is unlikely that any single strategy will accomplish the goals of FES, instead households in low-income neighborhoods need the combined support of these three economic well-being strategies together.

Unfortunately, achieving a synergy between these three strategies has been difficult to accomplish.

One example of a program that has accomplished the synergy of workforce development, family economic support, and community investment is the Grameen bank program. The Grameen bank is a lending strategy that puts the power of lending into participants hands. Used primarily in rural areas of developing countries, the Grameen bank strategy calls for a number of neighborhood residents to combine their limited savings into one pot that can be used by any member of the group as a loan for investment (Jain, 1996). There is evidence that this type of lending pool has loan recovery rates over 95% (Jain, 1996). The way the Grameen Bank strategy embodies FES principles is that the loans can serve to improve workforce development, the savings in the combined pool serve to improve family economic support, and the trust and neighborhood investment that comes from investing the pooled savings serves to improve community investment.

An example of bridging social capital being used to provide the synergistic relationship between the three FES strategies is illustrated with the process of residents of a low-income neighborhood coming together to petition local politicians to oppose an urban renewal plan in their neighborhood. Through an ongoing dialogue, neighborhood residents and politicians form a relationship and instead of an urban renewal plan, the politicians enact a plan for a land trust. Local residents are hired as administrators, managers, and consultants in the land trust providing new jobs and increased earnings in the neighborhood. The land trust acts as a family economic support organization through its low interest mortgage, debt reduction, and savings programs. In addition the land trust

enables more households to become neighborhood homeowners. Through homeownership, the neighborhood becomes safer which attracts increased business opportunities, while the increased homeownership preserves the neighborhood for low-income households. The bridging social capital between neighborhood residents and local politicians was the impetus for a domino effect of opportunities and services that achieve FES for neighborhood households.

Systemic Limitations to the Framework

Not only can social capital in low-income neighborhoods provide a resource to meet a household's basic needs, but it can provide a resource necessary to achieve FES. While social capital in low-income neighborhoods has the potential to transform family outcomes, it is important to remember that low-income neighborhoods are products of systemic forces including discrimination and exploitation (Kubisch et al., 2002). These systemic forces present residents with an impediment to self-sufficiency and self-reliance. Low-income neighborhoods will need continued assistance in influencing institutional-level change (Kubisch et al., 2002). Despite the systemic limitations, developing social capital in vibrant low-income neighborhoods presents a plausible theory for achieving FES.

Hypotheses and Research Questions

The preceding conceptual framework provides the basis for several hypotheses to guide this research. First, it is reasonable to hypothesize that bonding and bridging social are latent constructs that exist in low-income neighborhoods. Second, a number of

neighborhood characteristics, including participation, affect the level of bonding and bridging social capital for an individual and a neighborhood. Third, both bonding and bridging social capital are key factors in achieving FES in low-income urban neighborhoods.

To test these hypotheses, six research questions have been developed. These research questions, and their interrelationships, will be tested using a range of analytic methods. The six research questions are as follows:

- 1) Can indicators for the concepts social cohesion and trust provide a valid and reliable measure of bonding social capital in low-income neighborhoods?
- 2) Can indicators of access to organizational resources and political influence provide a valid and reliable measure of bridging social capital in low-income neighborhoods?
- 3) How do neighborhood contextual factors and resident participation affect bonding social capital?
- 4) How do neighborhood contextual factors, resident participation, and bonding social capital affect bridging social capital?
- 5) How do neighborhood contextual factors, resident participation, bonding social capital, and bridging social capital affect economic support?
- 6) How do neighborhood contextual factors, resident participation, bonding social capital, bridging social capital, and economic support affect FES?

The next three chapters provide an overview of the data and methods used to address these six research questions. They also include results of the analyses, and conclusions based on the results.

CHAPTER 3

STUDY DESIGN AND SAMPLE

This study uses cross-sectional data to measure bonding and bridging social capital in low-income urban neighborhoods. In addition, this study describes the relationships between neighborhood characteristics, resident participation, bonding and bridging social capital, economic support, and FES in low-income urban neighborhoods. To accomplish these goals, this study relies on data from surveys conducted in neighborhoods from five cities that are participating in the Annie E. Casey Foundation's (AECF) *Making Connections*. Factor analysis will be used to measure, and create indices for bonding and bridging social capital, and HLM will be used to test and describe the relationships between the hypothesized variables.

Using data from the AECFs *Making Connections* initiative, the validity and reliability of bonding and bridging social capital indices in a low-income urban neighborhood will be tested. Also, this data will be used to test the relationships between resident participation, neighborhood contextual factors, bonding and bridging social capital, economic support, and FES. However, the cross-sectional data will limit conclusions based on the findings to be predictive or associational—not causal. After these concepts have been measured, and the relationships between these variables tested, subsequent waves of data, forming a longitudinal data set, can be analyzed to inform the causal relationship between the variables. Specifically, how neighborhood variables

affect the development of bonding and bridging social capital, and how bonding and bridging social capital affect economic outcomes can be tested using a longitudinal design.

The specified research questions can be dissected into two sections: measurement models and model testing. Research questions one and two address the need to create measurement models of bonding and bridging social capital. After measurement models of these constructs have been established model testing can be employed to test research questions three through six. Although model testing will be employed to answer research questions one and two, the term “model testing” is used here to represent a distinction between testing measurement models and testing hypothesized relationships between variables.

The model testing to address research questions three through six is predicated on the results of the measurement models. Therefore, this dissertation will first describe the methods and present the results of the measurement models in Chapter 4. Then using these results, this dissertation will describe the methods and present the results of the model testing to address research questions three through six in Chapter 5.

Research Design

Data for these analyses are drawn from baseline surveys conducted by the AECF as part of *Making Connections*, a community change initiative involving a ten-year commitment by the Foundation and partners in eleven cities. The basic theory behind *Making Connections* is that children will do well when their families do well, and families do better when they live in supportive communities (Annie E. Casey Foundation,

2002b). In each city, the Foundation is sponsoring a longitudinal survey of residents in participating neighborhoods that is being conducted jointly by the National Opinion Research Corporation at the University of Chicago (NORC) and the Urban Institute. The first wave of the survey was administered in late-2002 in Denver, Des Moines, Indianapolis, and San Antonio, and in early-2003 in Seattle. Respondents represent probability samples of approximately 800 residents living in designated *Making Connections* neighborhoods in each of the five cities.

The *Making Connections* initiative is committed to assisting low-income neighborhoods by providing funding over ten years to develop a local movement that supports a philosophy of neighborhood transformation and family development. The AECF believes that connecting families in low-income neighborhoods to economic opportunities, social networks and services and supports is the impetus for this local movement (Annie E. Casey Foundation, 2002b). Further, the AECF believes that data collection and evaluation serve a crucial role in the local movement. Data, in the form of evaluations and assessments, provide guidance for local programs, services, and supports. Evaluations also provide a mechanism to leverage additional resources to sustain the local movement (Annie E. Casey Foundation, 2002b).

Making Connections began Phase I in 1999 with low-income neighborhoods in 22 cities around the country. The purpose of Phase I was to assess the fit between the AECF's neighborhood transformation family development philosophy and the practice and capacity of the targeted cities. During Phase I the AECF assessed city partners' progress on a number of milestones. In order to move to Phase II, the AECF assessed evidence of 1) key external stakeholders embracing the idea of neighborhood

transformation and family development; 2) local leadership embracing this same idea; 3) local organizations working collaboratively to build a network of connections for families; and 4) that neighborhoods had the capacity to collect data (Annie E. Casey Foundation, 2001). An initial cohort of five of the original 22 cities moved from Phase I to Phase II of the initiative in 2001. By 2003 the AECF had moved a second cohort of six cities into Phase II. The eleven cities that moved to Phase II are Denver, Des Moines, Indianapolis, San Antonio, Seattle (cohort I), Boston, Hartford, Louisville, Milwaukee, Oakland, and Providence (cohort II).

The cities in Phase II are expected to move beyond a *philosophy* of neighborhood transformation and family development and into outcomes focused work. Through a local movement, premised on a network of connections between neighborhood residents, formal support and service systems, and economic opportunities, cities that have moved to Phase II are expected to improve a wide range of family outcomes. These outcomes are in the areas of family strengthening, connections to informal social networks, connections to formal helping systems, connections to economic opportunities, building neighborhood assets, supporting family functioning, and improving child and family well-being.

As of May 2004, data has been collected for the cohort I cities in *Making Connections*: Denver, Des Moines, Indianapolis, San Antonio, and Seattle. Therefore, all subsequent analyses are derived from data in these five cities. Table 2 provides descriptive statistics, taken from the 2000 Census, of these five cities. Table 2 shows that San Antonio and Seattle have the largest populations, each with over a million residents, and Des Moines has the lowest population with approximately 385,000 residents. Denver, Indianapolis and San Antonio have considerably lower median household incomes than

Des Moines and Seattle. Also, approximately 90 percent of the residents in Des Moines and Seattle have a high school degree. Denver has the lowest percentage of homeowners, and is also the most densely populated of the five cities.

Table 2
Descriptive Statistics for *Making Connections* Cohort I Cities

	Pop.	Median income	% people with a HS degree	% home owners	Minutes to work	Pop. density ^a
Denver	560,415	\$39,500	79	53	25	3,617
Des Moines	385,691	\$46,116	88	69	18	658
Indianapolis	863,429	\$40,421	82	59	23	2,172
San Antonio	1,446,333	\$38,328	77	61	24	1,117
Seattle	1,759,604	\$53,157	90	60	27	817

^aPeople per square mile

The *Making Connections* Survey and Sample

An integral component of the *Making Connections* initiative is the *Making Connections* survey. A team of mixed stakeholders including AECF staff, *Making Connection's* neighborhood leaders, and consulting experts were assembled to assure that the necessary data was available to conduct proper evaluation and assessments. This evaluation team decided that administrative data and process data could be used to evaluate *Making Connections*, but that a survey would also be necessary to capture information not available through these other sources. Particularly, a survey was deemed the only way to capture information about connections between neighborhood residents, formal and informal services and supports, and economic opportunities.

A team of NORC and the Urban Institute won a bid to conduct the national multi-site survey. NORC and the Urban Institute then joined the existing evaluation team to construct the survey. This team constructed a survey using a combination of original items, and items and scales that had been validated by previous studies. The final product constitutes a 45 minute, in-person survey covering neighborhood connections, neighborhood actions, services and amenities, organizations and volunteerism, family hardship, the focus child, income and assets, and demographics.

Making Connections targets specific low-income neighborhoods in each of the Phase II cities. Therefore, to construct a proper sampling frame, local stakeholders were implored to use census blocks to construct boundaries designated as *Making Connections* neighborhoods. The evaluation team decided that a probability sample of 800 residents from the designated *Making Connections* neighborhoods in each city would be selected to participate in the survey. In addition, the evaluation team decided to use the larger metropolitan area to serve as a comparison group for the *Making Connections* neighborhoods. An abbreviated version of the survey was administered by phone to a probability sample of 800 people from the remainder of the metropolitan area.

The survey is designed to capture information at a number of different levels. Other than the multiple content areas, the survey captures household information. Then, a household is split into a single adult, or a family. If the household is a family, then the survey captures information about a child chosen at random from the household and an adult in the household. Additionally, street addresses are recorded for each household so that each household can be identified within a specific block, block group, zip code, and census tract.

The AECF's careful selection of cities to move through to Phase II of *Making Connections* has implications for the generalizability of this study. This study does not represent a random sample of residents of low-income urban neighborhoods. Instead, this study represents a random sample of residents of low-income urban neighborhoods in Denver, Des Moines, Indianapolis, San Antonio, and Seattle. Due to this careful selection of neighborhoods participating in *Making Connections*, inferences to low-income urban neighborhoods in general, should be made with caution.

Making Connections Neighborhoods

In the present research, a neighborhood is defined as a census block group. The block groups that represent *Making Connections* neighborhoods have been identified from the street addresses of survey respondents. The tables in this section present the basic demographic characteristics of the neighborhoods used in this analysis. All statistics in this section were obtained from the 2000 United States Census using Geolytics software (Geolytics, 2002).

Table 3 presents the median income, percent of people with a high school degree, percent of home owners, mean travel time to work, and people per square mile for the *Making Connections* neighborhoods in each city. This table can be used to compare the city wide characteristics in Table 2 to the characteristics of the *Making Connections* neighborhoods. Comparing Table 3 to Table 2 the differences between the *Making Connections* neighborhoods and the rest of the city become clear. The median income for the *Making Connections* neighborhoods is considerably lower than for the larger metropolitan areas. In Denver, *Making Connections* neighborhoods median income is

approximately \$8000 lower; in Des Moines, *Making Connections* neighborhoods median income is approximately \$17,000 lower; in Indianapolis and San Antonio, *Making Connections* neighborhoods median income is approximately \$15,000 lower; and in Seattle, *Making Connections* neighborhoods median income is approximately \$12,000 lower. Similarly, education rates are lower in *Making Connections* neighborhoods, as are homeownership rates, however, not as dramatic. The population density in *Making Connections* neighborhoods is substantially greater than that found in the entire city, and mean travel time to work does not seem to be different for *Making Connections* neighborhoods compared to the entire city. Graphs comparing the descriptive statistics of the *Making Connections* neighborhoods to the descriptive statistics of the city are presented in Figures 2-6.

Table 3
Descriptive Statistics for *Making Connections* Neighborhoods in the Five Cohort I Cities

	Median income	% people with a HS degree	% home owners	Minutes to work	Pop. density ^a
Denver	\$31,158	55	40	24	8,898
Des Moines	\$28,774	68	55	17	5,930
Indianapolis	\$25,837	59	55	23	5,357
San Antonio	\$23,378	43	63	25	7,445
Seattle	\$40,944	76	56	26	6,279

^aPeople per square mile

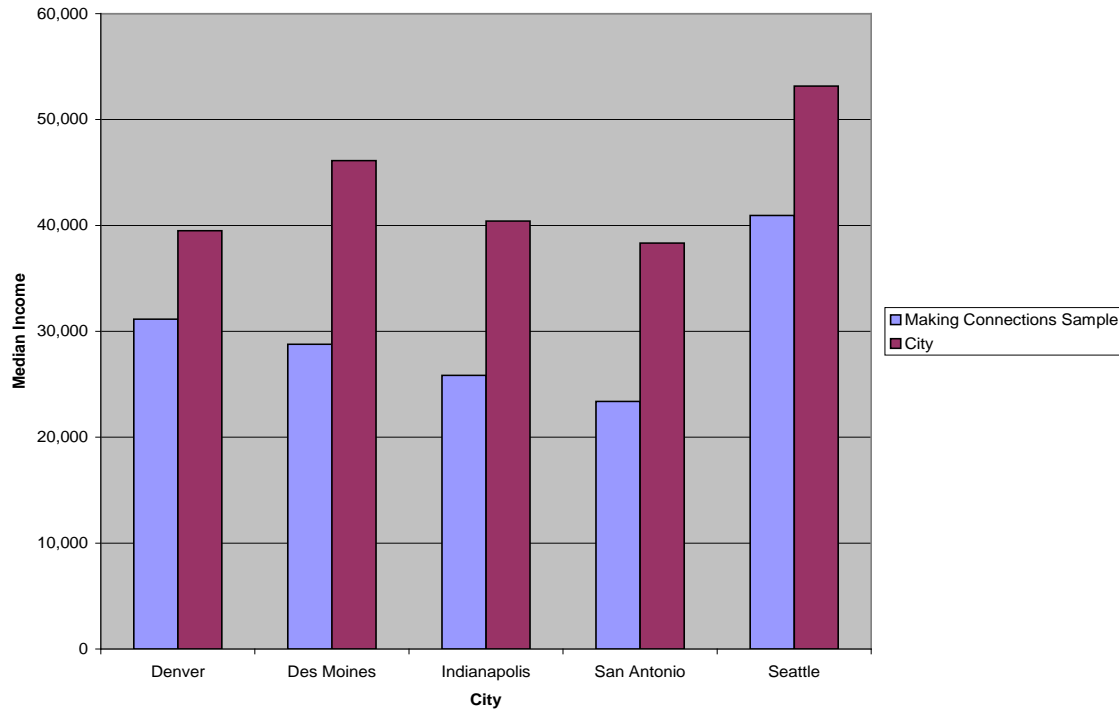


Figure 2. Comparing median income in the *Making Connections* sample to the city

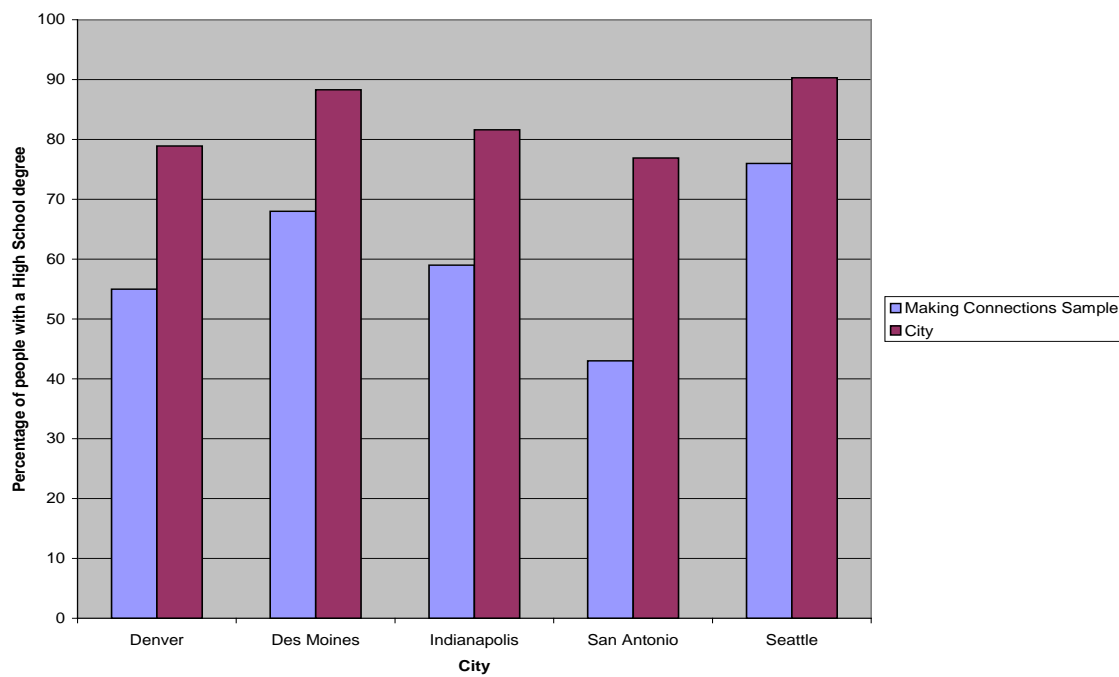


Figure 3. Comparing education in the *Making Connections* sample to the city

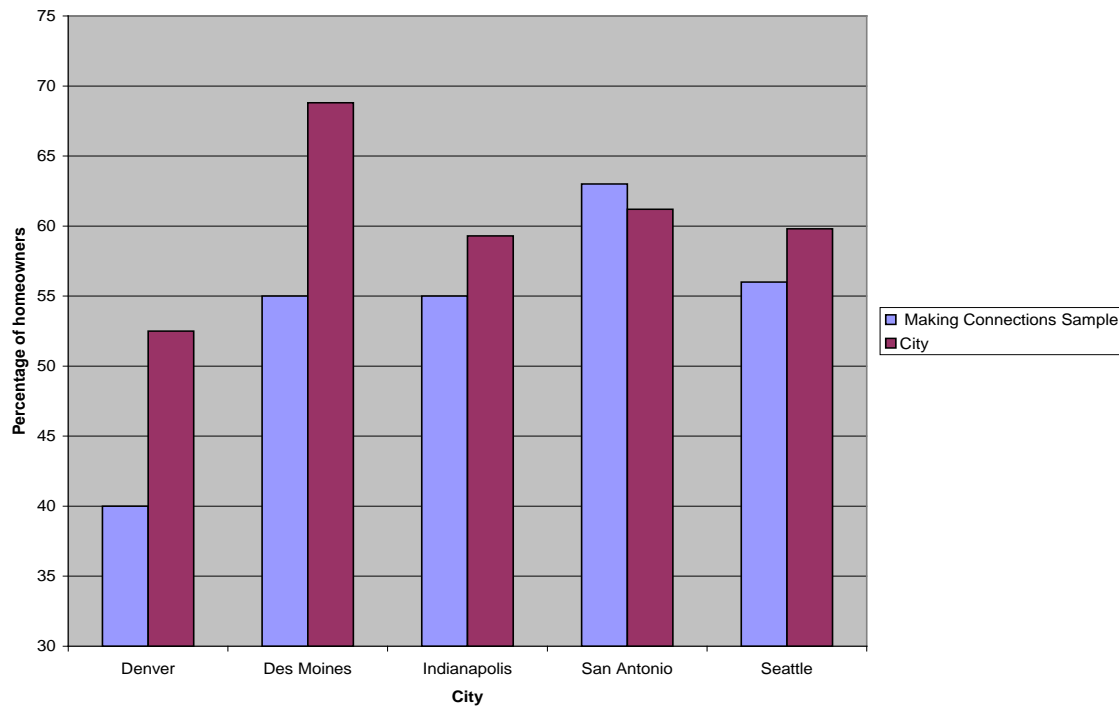


Figure 4. Comparing homeownership in the *Making Connections* sample to the city

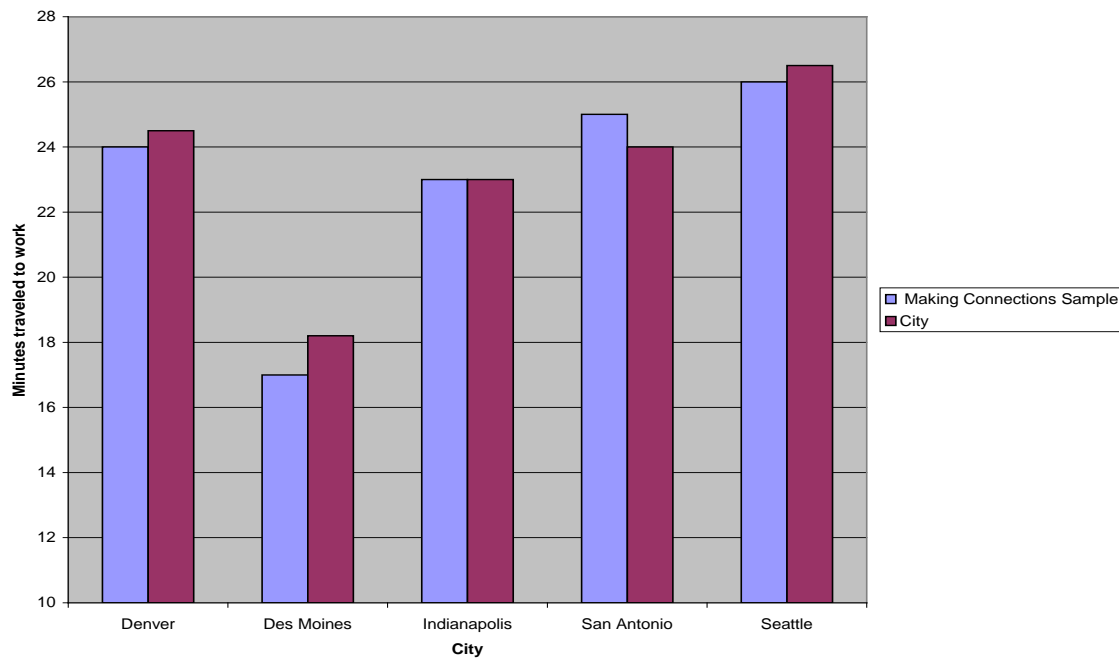


Figure 5. Comparing travel time to work in the *Making Connections* sample to the city

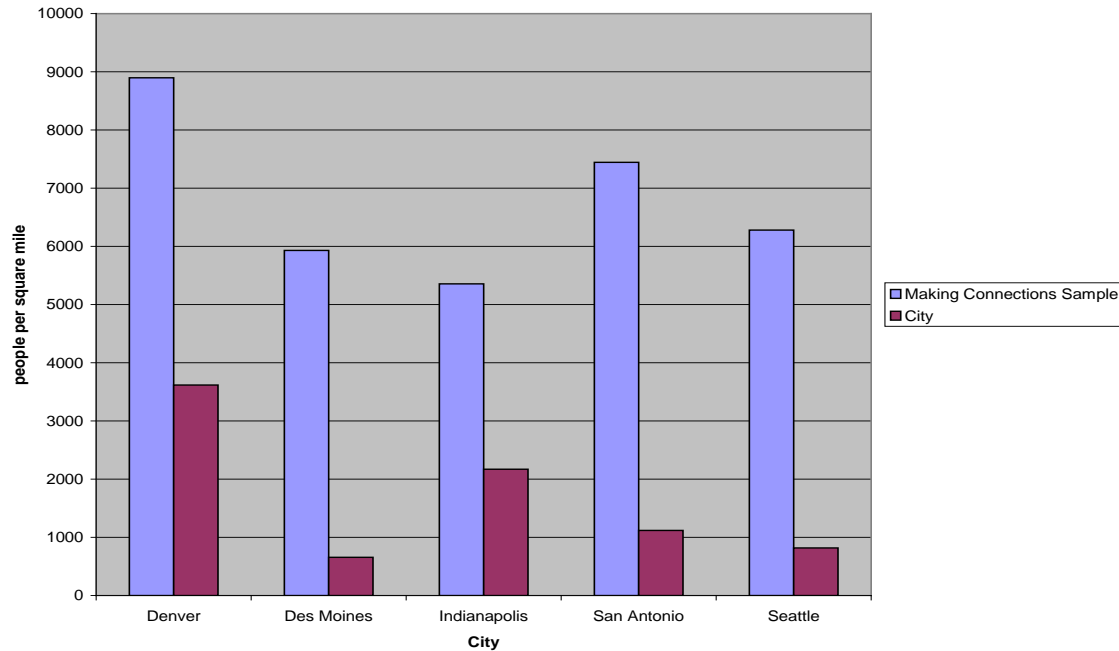


Figure 6. Comparing population density in the *Making Connections* sample to the city

Figure 7 is a comparison of median neighborhood income for neighborhoods in the sample. In Figure 7, each bar on the graph represents a Making Connections neighborhood. Figure 7 is further stratified by *Making Connections* cities. Illustrated in Figure 7, there is a noticeable difference in median neighborhood income for neighborhoods in the sample. However, nearly all neighborhoods in the sample fall below the median neighborhood income for their respective cities. Comparisons of education, homeownership rates, travel time to work, and population density of the neighborhoods in the sample are presented in Figures A1-A4 in the Appendix.

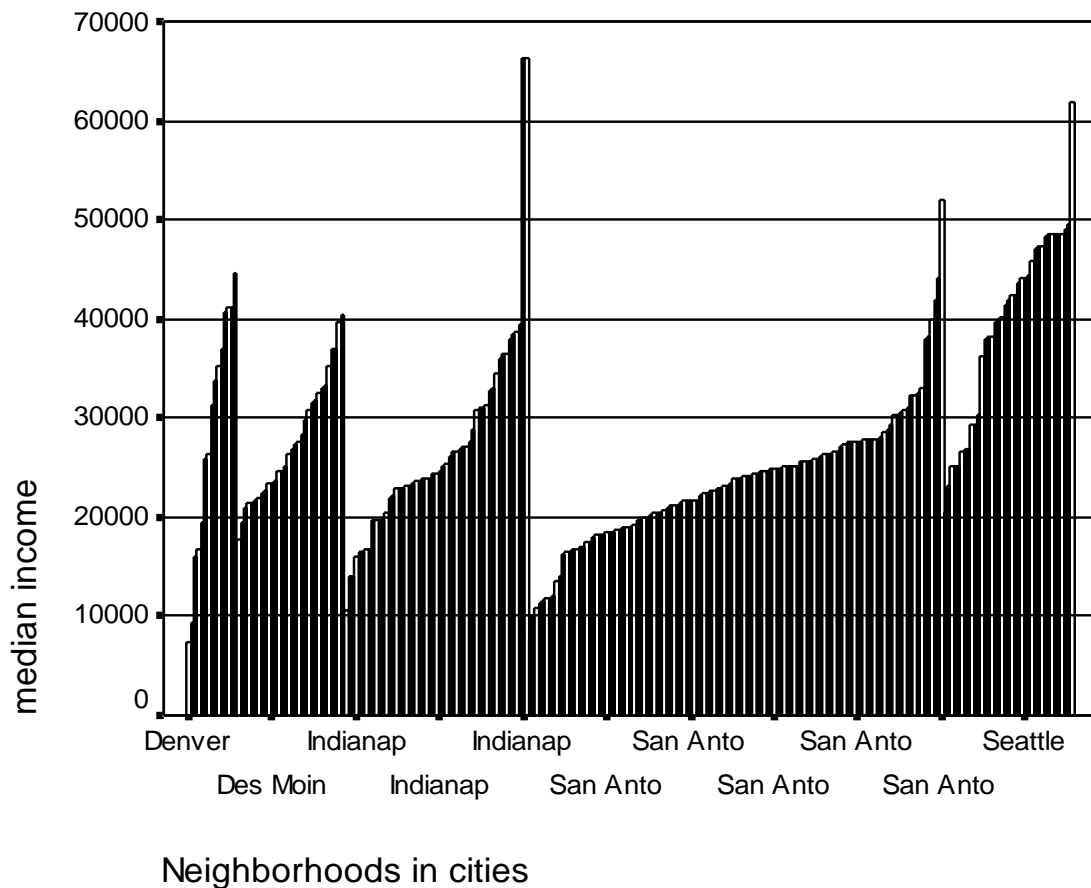


Figure 7. Median neighborhood income for neighborhoods in the sample sorted by city

Conclusion

The *Making Connections* data presents a unique opportunity to test research questions using sample data exclusively from low-income urban neighborhoods. The *Making Connections* survey provides details on wide-ranging connections for residents of low-income urban neighborhoods. However, some caution must be taken in generalizing the findings from this sample to low-income urban neighborhoods in general. In fact, the probability sample from *Making Connections* represents a random sample of residents from neighborhoods chosen by the AECF to participate in the *Making Connections* initiative. Regardless, the descriptive statistics presented in this chapter and the appendix

clearly demonstrate that the *Making Connections* neighborhoods represent a classification of neighborhood commonly understood to be urban and low-income. Also, within this classification of urban low-income neighborhoods, wide ranges of neighborhood types are represented in the *Making Connections* data.

In many ways, the *Making Connections* sample directs this research to be interpreted as a pilot study of the relationship between social capital and low-income urban neighborhoods. Although broad generalizations about the relationship between social capital and low-income urban neighborhoods will be restricted, data from this study will provide a baseline concerning this relationship. This baseline information will provide practitioners and researchers a clear direction regarding the popular notions of social capital's effects in low-income urban neighborhoods.

CHAPTER 4

MEASURING BONDING AND BRIDGING SOCIAL CAPITAL

To test the application of social capital theory to low-income urban neighborhoods, two major points related to methodology must be considered. First, the constructs of bonding and bridging social capital are not directly observable social phenomenon. Instead, they are latent constructs, or unobservable social phenomenon. To provide robust tests of these constructs, careful consideration must be given to their measurement. One means to provide an accurate measure of a latent construct is through Confirmatory Factor Analysis (CFA). Second, when testing social phenomenon where the unit of analysis can be either the individual or an aggregate of individuals, researchers must clearly specify the unit of analysis. Methodologically, the phenomenon where an individual unit of analysis is embedded in a group is known as “nesting”. In the present case, individuals, with some level of bonding and bridging social capital, are nested within low-income neighborhoods, with some level of bonding and bridging social capital. The present analysis will use HLM to test both individual and neighborhood-levels of bonding and bridging social capital. The methods and results of the measurement using CFA will be presented here, in chapter 4. The methods and results of the HLM will be presented in chapter 5.

Measurement Models

Factor Analysis

Often in the social sciences, researchers are concerned with a hypothesized variable that is not directly observable. Some examples include the variables justice, discrimination, or depression. These unobserved variables are referred to as latent variables or factors, and they require special attention in statistical analysis. As they have been defined in this study, both bonding and bridging social capital are latent variables and therefore require special attention.

When a variable is directly observed, its measurement can be captured through a single indicator. What is an individual's gender or annual income? How many hours did someone sleep? However, the measurement of latent variables is not this simple because they are not directly observable. Instead, latent variables require multiple indicators to capture their multidimensional qualities.

Unfortunately, researchers often fail to account for all measurement components when testing latent constructs. Instead, single proxy indicators are often used in an attempt to capture key aspects of the construct without accounting for the measurement error that such an approach inevitably entails (Goldberger, 1972). Without properly accounting for the measurement error in a latent variable, results can be biased causing either an over-estimation or an under-estimation of the strength of hypothesized relationships (Blalock, 1982). The interpretation of these biased results are then left up to the researcher who may believe that the bias under-represented the hypothesized relationships (Blalock, 1982).

The goal in working with latent variables is to achieve both measurement reliability and validity. Reliability refers to measurement that is consistent over repeated applications—validity refers to measurement that accurately captures the multi-dimensions of a concept. Validity is more complex, and can be split into four types: content validity, criterion-related validity, convergent validity, and construct validity (Kline, 1998). Content validity is the most straight-forward type of validity simply addressing the congruence between an expert’s opinion of the domains of a construct, and the items used to measure that construct (Kline, 1998). Criterion-related validity is the degree to which a construct relates to some external standard of the construct (Kline, 1998). This measure of validity can be assessed by testing the relationship between the variable of interest and the established external standards. Convergent validity refers to the degree to which indicators of a construct are related to each other (Kline, 1998). This measure of validity can be assessed by testing the inter-relationship among proposed indicators of the construct of interest. Last, construct validity is the most general type of validity and is concerned with the overall agreement between a hypothesized construct and the indicators used to measure that construct (Kline, 1998). Construct validity subsumes the other three types of validity as well as the concept of reliability – without reliability, content validity, criterion-related validity, and convergent validity a construct can not have construct validity. Fortunately, factor analysis allows researchers to address the validity of latent constructs.

Factor analysis is a method of reducing the information from a number of indicators into a single factor. This analytic method was first developed by psychologists in the beginning of the twentieth century to test the measurement of the highly debated

construct intelligence (Everitt, 1984). Factor analysis is split into two methods: exploratory factor analysis, generally referred to as factor analysis; and confirmatory factor analysis (CFA). In exploratory factor analysis all the possible indicators of any number of factors are analyzed. Through this analysis the indicators that most closely covary on a similar factor are grouped together, and the number of factors that are needed to explain the covariation among the indicators is extracted. In exploratory factor analysis the following assumptions are made: all indicators are affected by all factors; the measurement errors of all the indicators are uncorrelated, and uncorrelated with the factors (Long, 1983).

The benefits of exploratory factor analysis are that, first, the number of factors from a group of indicators is extracted, second, the direct effects of the factors on the indicators are analyzed, and third, that the measurement errors of the indicators is accounted for. However, the most serious limitation of exploratory factor analysis is that constraints that follow from theory on the hypothesized constructs can not be placed on the relationships between the factors, indicators, and measurement errors. In order to address this limitation, researchers must move from exploratory factor analysis to CFA.

From previous research on a latent variable of interest, and through the findings from exploratory factor analysis, a researcher should have enough information to impose constraints on the chosen indicators to confirm the hypothesized relationship between a latent construct and a number of indicators. CFA allows a researcher to impose these constraints. Through the analytic procedures of CFA, a researcher can assess the construct validity of the tested latent variable. In this analysis, both exploratory factor

analysis and CFA will be used to measure the latent constructs bonding and bridging social capital.

The discussion thus far has attempted to create a fundamentally secure bridge linking theory to analytical methods—a bridge that is too often ignored. Social capital theory suggests that there are latent constructs, bonding and bridging social capital, that exist both at the individual and neighborhood-level. These latent constructs are effected by and have some effect on neighborhood residents and the neighborhood itself. This discussion on factor analysis has provided a rationale, and analytic tool, to reliably and validly measure bonding and bridging social capital. Once established, this measurement can be used to provide a composite score, or index, that allows for model testing of the hypothesized relationships among variables.

Model One: Bonding Social Capital

Model one will be used to test the first research question: Can indicators of the concepts social cohesion and trust provide a reliable and valid measure of bonding social capital in low-income urban neighborhoods?

The following survey questions will be used to capture the concept bonding social capital in a low-income urban neighborhood.ⁱⁱ

clsehood: I live in a close knit neighborhood (2.7a)

helphood: People in my neighborhood are willing to help their neighbors (2.7b)

rlshoodr: People in my neighborhood generally don't get along with each other (2.7c)

valhoodr: People in my neighborhood do not share the same values (2.7d)

trsthood: People in my neighborhood can be trusted (2.7e)

Responses to these items were recorded as:

- 1 = strongly disagree
- 2 = disagree
- 3 = neither agree nor disagree
- 4 = agree
- 5 = strongly agree

However, to obtain correlation coefficients for which a positive coefficient indicated stronger bonding social capital, responses to the third and fourth items were reverse coded for the analysis. Less than one percent of the data for these items was missing and missing data were deleted listwise. If there is support for the specified measurement model, this scaling will allow for the creation of one composite score of bonding social capital. This composite score will be calculated as the mean score on all five bonding social capital items for each individual in the survey.

A model for bonding social capital will be tested using the five indicators specified in Figure 8. These are the same five indicators used in the PHDCN study to measure social cohesion and trust (Sampson, Raudenbush & Earls, 1997). While these indicators have been used in previous studies to measure social capital, their measurement has never been tested specifically on a low-income urban population. This is problematic because a concept may have valid and reliable measurement properties when tested in one population, but this same concept may not have valid and reliable measurement properties when tested in a subpopulation, or a different population all together. Further, the items have never been specified to measure the more specific construct bonding social capital. For these reasons, it is appropriate to test the extent to

which the five items specified in Figure 8 provide a valid and reliable measure of bonding social capital in low-income urban neighborhoods.

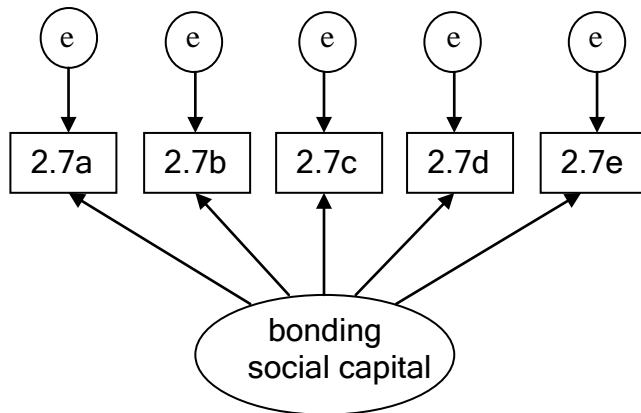


Figure 8. Five indicator model of bonding social capital

CFA, an analytic approach to estimate latent or unobserved variables, will be used to test the measurement model of bonding social capital. In CFA, parameter estimates are obtained from the implied covariance matrix of the observed indicators. These observed indicators are used to capture information about latent or unobserved constructs.

However, it is often unrealistic to assume that all of the variability in an observed indicator contributes to the measurement of a latent variable. Therefore, the observed indicators of these latent constructs are usually assumed to be measured with error.

Further, in a CFA, the parameters to be estimated include the variance of the latent variable, the regression paths from the observed indicators to the latent variable, the paths from the measurement errors to each of their indicators, and the variance of each of the measurement errors. However, because the primary interest when testing measurement error of indicators of latent constructs is in the variance of the measurement errors, and not the regression weight, typically the regression weight of measurement errors to their

indicators is constrained to a value of one. Also, to establish a metric for the latent variable, the regression weight of one indicator of each latent variable is constrained to one.

One complication to the CFA of bonding social capital is that the indicators specified are not continuous variables. Items 2.7a through 2.7e are ordinal variables measured on a five point Likert scale ranging from 1 (indicating strong disagreement) through 5 (indicating strong agreement).

The complication presented by the ordinal variables is that their measurement is assumed to represent a continuous variable indicating the propensity of moving from one category to the next. For example, indicator 2.7a, indicating the respondents' perceptions of whether they live in a close knit neighborhood, is meant to represent the continuous propensity of an individual to disagree or agree with this statement, and this continuous propensity contributes to the measurement of the latent variable bonding social capital. If the measurement of the indicator does not account for this continuous propensity, the certainty that the parameter estimates are an accurate representation of the measurement of bonding social capital is questionable, even if the model is specified correctly.

To account for the underlying continuous propensity of an ordinal variable in a CFA, the ordinal indicators are used to estimate a latent variable that is the propensity of the indicator. This estimate of the latent propensity of the indicator is then used to estimate the parameters in the model. To obtain the latent propensity of the indicators, a maximum likelihood estimation technique is used to estimate the predicted means and variances from the observed values. These predicted values are then used to obtain a polychoric correlation matrix, or the correlation matrix of the propensities of the

respective indicators. The polychoric correlation matrix is then used to estimate the unobserved parameters in the model.

Figure 9 illustrates the relationship between the observed indicators, the estimated propensity of the observed indicators, and the latent variable for the bonding social capital model. Figure 9 illustrates the five indicator model of bonding social capital. Each of these indicators measures a latent indicator that is illustrated as the indicator with an asterisk. The bent arrow leading from the latent indicator to the observed indicator represents the estimate of the continuous propensity of the observed indicator. Each latent indicator is measured with error. Finally the latent variable of interest, bonding social capital, is measured by the estimates of the continuous latent indicators.ⁱⁱⁱ

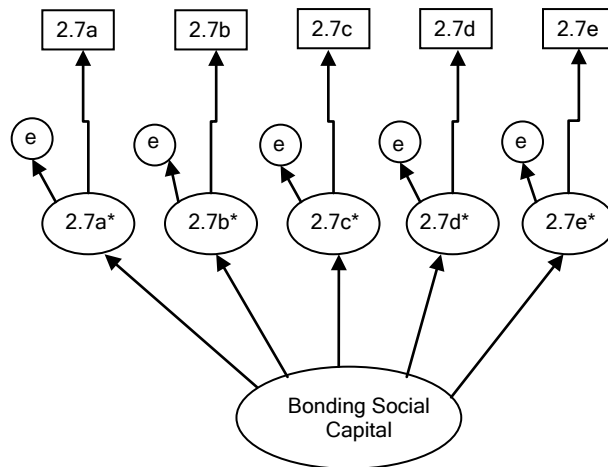


Figure 9. The bonding social capital model with continuous latent indicators

The equation for the CFA of the bonding social capital structure is as follows:

$$X = \Lambda_x \xi + \delta. \quad (1)$$

Where X is a vector of the observed indicators 2.7a, 2.7b, 2.7c, 2.7d and 2.7e, Λ_x is a matrix of coefficients relating the observed indicators to the ξ 's, the latent variables, and δ is a vector of measurement errors from the observed indicators.

Equation 2 expands the matrix notation of equation 1 for the bonding social capital structure.

$$\begin{bmatrix} X_{2.7a} \\ X_{2.7b} \\ X_{2.7c} \\ X_{2.7d} \\ X_{2.7e} \end{bmatrix} = \begin{bmatrix} \Lambda_1 \\ \Lambda_2 \\ \Lambda_3 \\ \Lambda_4 \\ \Lambda_5 \end{bmatrix} \left[\xi_{\text{bondingsocialcapital}} \right] + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \\ \delta_5 \end{bmatrix} \quad (2)$$

The assumptions of these equations are $E(\xi) = 0$, $E(\delta) = 0$, and δ uncorrelated with ξ . The expected values of ξ 's and δ 's are zero. The δ 's are uncorrelated with the ξ 's.

Model Two: Bridging Social Capital

Model 2 will be used to test research question two: Can indicators of access to organizational resources and political influence provide a reliable and valid measure of bridging social capital in low-income neighborhoods?

The following questions seek to capture information about respondents' access to various organizational resources, and will be used as proxy indicators for the latent construct bridging social capital.

spkpoltl: Have you (or any member of your household) spoken with a local political official like a school board member or city council person about a neighborhood problem or improvement? (3.1)

spkrelgs: Have you (or any member of your household) talked to a local religious leader or minister to help with a neighborhood problem or neighborhood improvement? (3.2)

officer: In the past twelve months, have you served as an officer on a committee of any local club or organization or religious organization? (5.5)

Responses of “yes” or “no” were solicited, with a “yes” indicating some access to the resources of such organizations.

Access to services and amenities items. The following question captures information about access to services and amenities in a resource-scarce urban neighborhood:

museserv: Have you (or any member of your household) used the following in the last 12 months: a supermarket, drug-store, bank or credit union, ATM not in a bank, basic medical care and services, after school programs, park or playground, a recreation or community center, a library, child care services and preschool programs, or used community college or other adult education in the last three years? (4.3)

Responses of “yes” or “no” were solicited. The sum of “yes” responses indicates each respondent’s access to services and amenities. Then the median access to services score was calculated. Survey respondents falling below the median access to services were categorized as having low access to services, and survey respondents landing above the median access to services were categorized as having high access to services. Less than one percent of the data for this indicator was missing. Any case with missing data was omitted from the analysis.

Note that all four items used to measure bridging social capital are measured as dichotomous variables. If there is support for the specified measurement model, this scaling will allow for the creation of one composite score of bridging social capital. This composite score will be calculated as the mean score on all four bridging social capital items for each individual in the survey.

A scale of bridging social capital will also be created using indicators from the AECF *Making Connections* survey. Unlike the items being modeled in the scale of

bonding social capital, there was no empirical support to assist in choosing items to measure bridging social capital. Further, the questions from the survey used to measure bridging social capital are proxy measures for the concepts embedded in bridging social capital. In the context of this study, bridging social capital refers to the trusting network of relationships that exist between residents of a low-income urban neighborhood and individuals who provide services, amenities, political influence, and organizational resources. The survey items do not capture this trusting network of relationships, but instead capture access to the resources provided by these groups.

The method used to measure bridging social capital will be similar to the method used to measure bonding social capital. The specification for the model of bridging social capital is presented in Figure 10. Figure 10 depicts bridging social capital as a latent variable that is measured by four observed variables or indicators. The indicators for bridging social capital, items 3.1, 3.2, 4.3, and 5.5, are all measured as dichotomous variables. Therefore, the technique for estimating the unobserved parameters in the model using the polychoric correlation matrix will also be used in this analysis. Figure 10 depicts the relationship between the observed indicators, the continuous propensity underlying the observed indicators, and the latent variable bridging social capital.

The language used to describe the measurement properties of categorical or ordinal observed indicators quickly becomes confusing and cumbersome. Therefore, to keep the discussion as simple as possible, when estimates from the observed dichotomous indicators are mentioned in the analysis, they are referring to estimates made from the estimated propensity of the indicators.

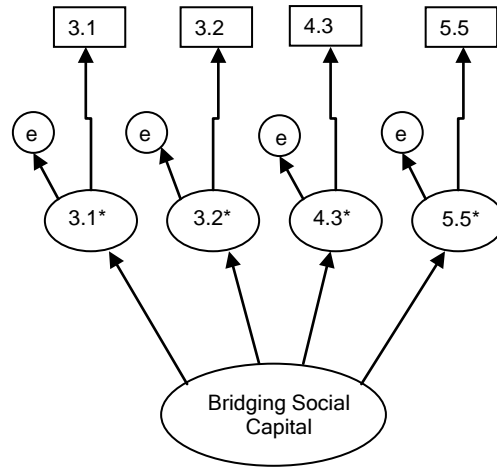


Figure 10. The bridging social capital model with continuous latent indicators

The equation for the confirmatory factor analysis of bridging social capital is presented in equation 4.

$$X = \Lambda_x \xi + \delta. \quad (4)$$

Where X is a vector of the observed indicators 3.1, 3.2, 4.3, and 5.5, Λ_x is a matrix of coefficients relating the observed indicators to the ξ , the latent variable bridging social capital, and δ is a vector of measurement errors from the observed indicators.

Equation 5 is an expansion of the matrix presentation in equation 4.

$$\begin{bmatrix} X_{4.3} \\ X_{3.1} \\ X_{3.2} \\ X_{5.5} \end{bmatrix} = \begin{bmatrix} \Lambda_1 \\ \Lambda_2 \\ \Lambda_3 \\ \Lambda_4 \end{bmatrix} [\xi_{bridgingsocialcapital}] + \begin{bmatrix} \delta_1 \\ \delta_2 \\ \delta_3 \\ \delta_4 \end{bmatrix} \quad (5)$$

The assumptions for the bridging social capital model are the same as those for the bonding social capital model.

Estimation

The use of the polychoric correlation matrix also affects our choice of estimation techniques. Maximum-likelihood estimation is the standard technique for estimating CFA parameters. However, Dolan (1994) has demonstrated that weighted least squares is a more robust technique when making estimates based on a polychoric correlation matrix with samples over 200. For this reason, weighted least squares is used to estimate the parameters in the CFA. The fitting functions used to test overall model fit are the chi-square test statistic, the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), and the Tucker Lewis Index (TLI).

The null hypothesis for a chi-square statistic of the overall model fit is that the estimated covariance matrix is equal to the population covariance matrix. Therefore, a non-significant chi-square statistic implies a good overall model fit. However, the chi-square statistic is sensitive to large samples. The sample size for the models is 1453. This large sample size must be taken into consideration, thus dictating use of the RMSEA, which is a rescaling of the chi-square statistic that takes into account the large samples. As a rule of thumb, researchers consider an RMSEA of .10 or lower to be an acceptable fit, but prefer an RMSEA between zero and .08.

The TLI and CFI are incremental fit indexes that compare the specified model to a baseline or independence model (a baseline model assumes no correlation between the observed variables). These measures of model fit provide a proportion that is equal to the proportion improvement from the baseline model to the specified model. A TLI of .90 would indicate that the specified model provides a 90% better model fit than the baseline model. Compared to other incremental fit indexes, the TLI provides a correction for

model complexity and the CFI is considered less susceptible to changes in sample size (Kline, 1998). Researchers often consider models with a TLI or CFI over .90 to indicate good model fit but prefer for the TLI or CFI to be between .95 and 1.00.

Results

Descriptive Statistics

Univariate descriptives for these indicators are presented in Tables 4 and 5. An (r) indicates that the descriptive values for that survey question are calculated after the item had been reverse scored.

Table 4
Univariate Descriptives of Social Capital Indicators Measured on a Five Point Likert Scale

Survey Question	N	Mean (S.D.)
<i>Clsehood</i> I live in a close knit neighborhood	1,453	3.31 (1.103)
<i>Helphood</i> People in my neighborhood are willing to help their neighbors	1,453	3.55 (.999)
<i>Rlshoodr(r)</i> People in my neighborhood generally don't get along with each other	1,453	3.43 (.978)
<i>Valhoodr(r)</i> People in my neighborhood do not share the same values	1,453	2.91 (.999)
<i>Trusthood</i> People in my neighborhood can be trusted	1,453	3.15 (1.084)

Table 5
Univariate Descriptives of Social Capital Items Measured as Dichotomous Variables

Survey Question	N	Frequency of yes (or high use of services) response
<i>Spkpolitl(r)</i> Spoken with a political official	1,453	17.8%
<i>Spkreigs(r)</i> Talked to a local religious leader or minister	1,453	13.6%
<i>Officer</i> served as an officer on a committee	1,453	12.3%
<i>Museserv</i> Used the following services: supermarket, drug store, bank, ATM, medical care, after school programs, playground, community center, library, child care, community college	1453	49.8%

Tables 6 and 7 provide the correlation coefficients and covariances of the indicators. As can be seen from Table 2, all the indicators in the bonding social capital model are significantly correlated at the .05 level. However, the reverse-scored Likert scale questions have lower correlations compared to the other questions. Similarly, Table 7 shows that all the indicators in the bridging social capital model are significantly correlated at the .05 level, but the correlations appear lower than the correlations for the bonding social capital items.

Table 6
Correlation Matrix of Bonding Social Capital Indicators with Covariance in Parentheses

	clsehood	helphood	rlshoodr	trsthood	valhoodr
clsehood	1 (1.216)				
helphood	.506* (.557)	1 (.997)			
rlshoodr	.227* (.245)	.344* (.336)	1 (.956)		
trsthood	.421* (.503)	.469* (.507)	.322* (.341)	1 (1.174)	
valhoodr	.226* (.250)	.271* (.270)	.362* (.354)	.296* (.321)	1 (.999)

*Significant at the .05 level

Table 7
Correlation Matrix of Bridging Social Capital Indicators with Covariance in Parentheses

	officer	spkpoltl	spkrelgs	museserv
officer	1 (.108)			
spkpoltl	.165* (.021)	1 (.147)		
spkrelgs	.188* (.021)	.351* (.046)	1 (.117)	
museserv	.134* (.022)	.08* (.015)	.104* (.018)	1 (.250)

*Significant at the .05 level

Exploratory Factor Analysis

Exploratory factor analysis was employed to confirm the factor structure and assess the factor loadings for the two latent constructs in this study. The nine items from

the two constructs were all used in an exploratory factor analysis of the full sample. The first estimation method used in the exploratory factor analysis was principal components analysis with no rotation. The findings from this analysis are presented in Table 8.

Table 8.
Exploratory Factor Analysis of Bonding and Bridging Social Capital

Variable	Factor 1	Factor 2
Eigenvalue	2.32	1.55
<i>Clsehood</i>	.675	-.125
<i>helphood</i>	.763	-.060
<i>rlshoodr</i>	.618	-.051
<i>valhoodr</i>	.731	-.088
<i>trsthoo</i>	.569	-.013
<i>spkpottl</i>	.071	.702
<i>spkrelgs</i>	.112	.733
<i>officer</i>	.149	.583
<i>museserv</i>	.039	.385

The eigenvalue for the third component was 1.02 and therefore was not retained in the analysis. The two factor structure explains 43% of the variation in these nine items. As can be seen, the five items from the bonding social capital measure all loaded above .50 on the first factor, and had small loadings on the second factor. The four items from

the bridging social capital measure had low loadings on the first factor; however, the loadings on the second factor were less clear. Three of the four indicators had loadings above .50, but the indicator *museserv* had a low loading of .385 on the second factor. While the factor loadings provide support for both a two factor structure from these nine indicators and the specification of the five indicators of bonding social capital, the factor loadings leave a question as to the appropriateness of a four indicator model of bridging social capital using the items specified.

Two additional exploratory factor analyses were computed using a promax and a varimax rotation. Results from these two rotated factor structures were comparable to the results presented in Table 9 and therefore not presented here. However, it should be noted that all bonding social capital items were measured using a five point Likert scale, while the four bridging social capital items were measured on a dichotomy. The distinction in scaling between the bonding and bridging social capital items is likely to have a strong influence on the direction and magnitude of the factor loadings.

Next, the reliability coefficient alpha was computed for the five indicator model of bonding social capital, and the four indicator model of bridging social capital. The reliability coefficient alpha is a measure of the internal consistency of the items used to measure a single latent construct (Devellis, 2003). Typically, researchers find an alpha statistic above .65 to be a reasonable indicator of a scale's reliability (Devellis, 2003). The alpha statistic for the bonding social capital indicators is .70 indicating that the five indicators of bonding social capital have internal consistency. The alpha statistic for the bridging social capital indicators is .43 indicating that there is not strong internal consistency among these items, and that these items would not serve as a reliable

measure of the latent construct. Both the low factor loading on the item *museserv* and the low reliability coefficient alpha statistic indicate that the specified indicators can not be used together to create a composite score for bridging social capital.

A reasonable explanation for the poor results regarding the bridging social capital model could be the choice of indicators. Unlike the items being modeled in the measure of bonding social capital, no empirical evidence exists to assist in choosing items to measure bridging social capital. Further, the questions from the survey used to measure bridging social capital are proxy measures for the concepts embedded in bridging social capital. In the context of this study, bridging social capital refers to the trusting network of relationships that exist between residents of a low-income urban neighborhood and individuals who provide services, amenities, political influence, and organizational resources. The survey items do not capture the interactions comprising this trusting network of relationships, but instead capture access to the resources provided by these groups.

As a result of the findings from these descriptive statistics, CFA will only be conducted on the five indicator model of bonding social capital.

Confirmatory Factor Analysis

The software package *Mplus*, using a weighted least squares estimation method, was employed to calculate all model estimates and model fit statistics. To set the metric of the latent variable when conducting a CFA, the regression weight of one indicator for each latent variable must be fixed at a value of one. In the bonding social capital model *clsehood* is fixed at one as the metric. Table 9 provides the results from the tests of the

bonding social capital model. The estimates for this first model are labeled bonding social capital first sample.

Examining the statistics for the bonding social capital model, all of the indicators have a significant relationship with the latent variable. However, the model fit statistics indicate that the model specification is not a good fit to the data. The poor fit of this model specification is surprising as the indicators in this model had been tested in an influential study by Sampson, Raudenbush, and Earls (1997), and in a number of additional studies. From the r-squared statistic for each of the variables, it is apparent that the variation in the two reverse scored Likert scale items are used less in explaining the latent variable bonding social capital than the other indicators in the model.

One possible explanation for the poor fitting model is that previous studies modeled these indicators in neighborhoods of varying socio-economic status. The present study is testing the validity of these concepts in low-income urban neighborhoods. It is possible that the concept of bonding social capital is not consistent with the social processes that occur in low-income urban neighborhoods. However, this idea seems highly unlikely as many researchers have studied the importance of the strong, trusting network of relationships that exist in low-income urban neighborhoods (Edin & Lein; 1997; Medoff & Sklar, 1994; Wilson, 1987).

Another possibility is that some characteristic of the model specification is not consistent in the present sample. A more careful examination of the reverse scored Likert scale survey items makes it clear how a respondent may have difficulty responding to these survey questions. The item *rlshoodr* asks the respondent at what level they agree or disagree with the following statement: People in my neighborhood generally don't get

along with each other. If a respondent agrees with this statement, the response seems to be straightforward—I agree that people don't get along well in the neighborhood. However, if a respondent disagrees with this statement, the response is complicated by a double negative—I disagree that people don't get along well in this neighborhood.

The identical problem occurs with the item *valhoodr*, except the double negative is even more confusing. The item *valhoodr* asks the respondent at what level they agree or disagree with the following statement: People in my neighborhood do not share the same values. If a respondent disagrees with this statement, then the respondent disagrees that people do not share the same values.

To further explore the possibility of error in the responses to these two items, cross-tabulations were run between the two reverse scored items and the remaining items in the scale. From these descriptive statistics, it is clear that respondents often provided apparently contradictory responses on reverse scored items. For example, of 298 respondents who disagreed with the statement I live in a close knit neighborhood, 116 (39%) also disagreed with the statement people in my neighborhood generally don't get along with each other. It would seem more intuitive that if a respondent did not feel that they lived in a close knit neighborhood that they would also agree that people in the neighborhood generally don't get along. For these reasons, a respecification of the bonding social capital model will be tested, accounting for possible response errors on the reverse scored Likert scale items.

Respecification

To correct for response errors in the bonding social capital model, the model will be respecified with the error terms for the two reverse scored Likert items co-varying. The covariance between the two items should account for response errors that occurred in both items due to a misinterpretation of the negative presentation of the survey items.

Figure 11 illustrates the respecification for the model of bonding social capital.

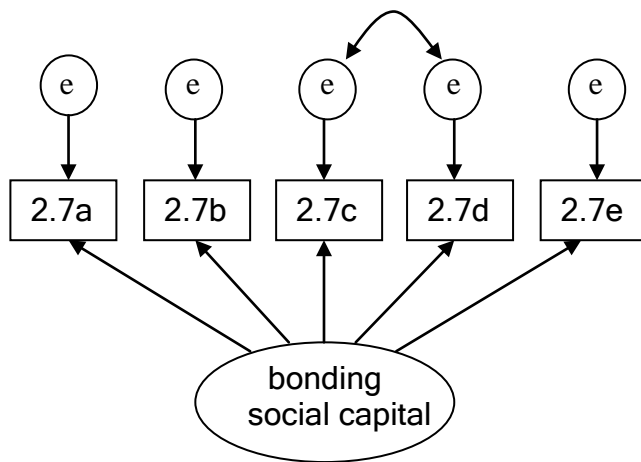


Figure 11. Respecification of the bonding social capital model

Results from the respecified model are presented in Table 9 labeled respecified model first sample. The results show that the estimates for the models remained stable and are still significant. However, the model fit for the models was improved. The model fit indices for the bonding social capital model now show a good fit between the model specification and the sample data. From the results in Table 9 we can thus conclude that the specification is a good measurement model of the latent concept of bonding social capital in low-income urban neighborhoods.

Split Sampling

Finally, split sampling is used to further test the reliability of this analysis. Initially, the sample used for this study was randomly split into two halves. The first half was used to conduct the initial analyses and the subsequent respecification. After the best model was confirmed, the second sample was used to provide further support for the reliability of the findings. The estimates labeled respecified model second sample in Table 9 are a presentation of the findings when re-testing the model of bonding social capital with correlated errors on the reverse-scored Likert scale items. As seen in Table 9, comparable results were obtained from the first sample and the second sample. Model fit statistics and the alpha coefficient went down slightly for the bonding social capital model. Parameter estimates for the indicators of the latent variable bonding social capital remained consistent across the split sample estimates. From the evidence in Table 9 we can conclude that our results are not based on sampling fluctuations, but instead the model is a reliable measure of bonding social capital from our sample in low-income urban neighborhoods.

Reliability and Validity of the Measurement Model of Bonding Social Capital

The CFA has demonstrated that the model specifications, based on strong theoretical support, support the measures of bonding social capital. Further, the reliability coefficient alpha provides support that the chosen five indicators are a reliable measure of the latent construct bonding social capital. This result supports the earlier research done by Sampson, Raudenbush and Earls (1997), which measures the concepts of social cohesion and trust. With this theoretical and statistical support a single composite score

of bonding social capital can now be calculated to test the relationship between this latent construct and other variables. Further, this composite score will allow researchers to look more closely at the validity of the bonding social capital construct.

The first measure of validity is content validity. Content validity measures how well the universe of possible measurement of the latent construct is captured in the composite score (Devellis, 2003). In the case of the bonding social capital score, the prior work done by Sampson, Raudenbush and Earls (1997), as well as the thorough theoretical assessment of bonding social capital in low-income neighborhoods provides a strong argument for the content validity of this measure of bonding social capital measured by the five indicators of social cohesion and trust in a neighborhood. The next measure of validity is criterion validity. Criterion-related validity or predictive validity is an assessment of how well a measure predicts or is associated with universally accepted standards of the latent variable (Devellis, 2003). Previous studies, using these indicators, demonstrate the criterion-relation validity of these items. The final measure of validity is construct validity. Construct validity assesses how well a measure, related to other measures, behaves according to accepted theoretical principals. In the present context, the theoretical and empirical work on bonding social capital is still being developed, and therefore a case for the construct validity of these items is still being built. However, the findings from this study provide an additional measure to support the construct validity of these five items as a measure of bonding social capital in low-income urban neighborhoods.

Table 9
Estimates of the Bonding Social Capital Measurement Model

Model	Bonding social capital first sample	Respecified model first sample	Respecified model second sample
<i>Clsehood</i> estimate (standard error) (R-square)	1 (0) (.476)	1 (0) (.494)	1 (0) (.396)
<i>helphood</i> estimate (standard error) (R-square)	1.130* (.039) (.608)	1.130* (.040) (.631)	1.252* (.053) (.621)
<i>rlshoodr</i> estimate (standard error) (R-square)	.828* (.038) (.326)	.697* (.037) (.240)	.690* (.042) (.189)
<i>valhoodr</i> estimate (standard error) (R-square)	.763* (.037) (.277)	.604* (.038) (.180)	.555* (.045) (.122)
<i>trsthood</i> estimate (standard error) (R-square)	.965* (.035) (.443)	.948* (.034) (.444)	1.072* (.045) (.455)
Bonding social capital variance (standard error)	.476* (.026)	.494* (.026)	.396* (.025)
<i>Rlshoodr</i> and <i>valhoodr</i> error covariance (standard error)		.188* (.021)	.211* (.021)
N	1,453	1,453	1456
Chi Square (degrees of freedom)	108 (5)	35 (4)	51 (4)
RMSEA	.119	.074	.09
CFI	.936	.981	.968
TLI	.872	.951	.921

* indicates significance at the .05 level

Discussion

Two important findings can be gleaned from this analysis. First, the theoretical and empirical analysis coupled with the evidence of previous studies strongly supports the measurement model of bonding social capital. From the measurement model, a composite score of bonding social capital can be computed for each survey respondent. This composite score is simply the average of the score on the five indicators of bonding social capital. Once this composite score is calculated, it can be used to test the multiple theoretical models concerning the causes and effects of bonding social capital in low-income urban neighborhoods.

The second finding concerns bridging social capital. While the low alpha statistic for the bridging social capital score indicates that a reliable scale of bridging social capital has not yet been attained, there are two reasons this result is not altogether surprising. First, no empirical work exists on the measurement of this latent concept in low-income neighborhoods. The empirical work in this study provides a starting point for further research into the measurement of this important latent variable. Second, proxy measures of bridging social capital were utilized in the measurement of bridging social capital. Ideally, indicators of bridging social capital in a low-income neighborhood would capture information about the trusting network of relationships that exists between neighborhood residents, and individuals in organizations that can provide resources to the neighborhood. Instead of capturing information about the existence of a trusting relationship, indicators in this study captured information about neighborhood residents' access to resources. Using a similar scale to the one used to measure bonding social

capital, examples of bridging social capital indicators could read: I trust local political officials to make decisions that benefit my neighborhood; people in my neighborhood trust local political officials; my neighborhood has a strong relationship with the local business community; people in my neighborhood have many business contacts; religious organizations are active in my neighborhood; people in my neighborhood trust organizations outside of the neighborhood.

Unfortunately without a valid and reliable measure of bridging social capital, the single indicators of this concept will have to be used as proxy measures to test the relationship between bridging social capital and other variables as specified by theory. To test the causes and effects of bridging social capital two indicators of the concept will be used. The two indicators that will be used as proxies for bridging social capital are *spkpoltl*, which indicates whether a respondent has spoken with a political official about a neighborhood problem or improvement, and *spkrelgs*, which indicates whether a respondent has spoken with a religious leader about a neighborhood problem or improvement.

CHAPTER 5

NEIGHBORHOOD CAUSES AND ECONOMIC CONSEQUENCES RELATED TO BONDING AND BRIDGING SOCIAL CAPITAL

Three models are specified to test the relationships depicted in the conceptual framework in Chapter 2. The first model tests how resident participation and neighborhood conditions affect the development of bonding social capital in a low-income neighborhood. Figure 12 is an illustration of the variables tested in this model. The second model tests how resident participation, bonding social capital, bridging social capital, and neighborhood conditions affect economic support. Figure 13 is an illustration of the variables tested in Model two. The third model tests how resident participation, bonding social capital, bridging social capital, economic support, and neighborhood conditions affect FES. Figure 14 is an illustration of the variables tested in Model three.

The initial model developed to test the relationship of resident participation, bonding social capital, and neighborhood contextual effects on bridging social capital was predicated on constructing a reliable and valid measure of bridging social capital. As discussed in Chapter 4, a reliable and valid measure of bridging social capital could not be constructed, therefore, testing the individual and neighborhood-level effects on bridging social capital would prove unproductive. Although models cannot be presented that test the effects of individual and neighborhood-level conditions on bridging social capital, proxy indicators of bridging social capital remain in the subsequent models to

assess how access to resources from political and religious organizations influence economic outcomes for individuals living in low-income urban neighborhoods.

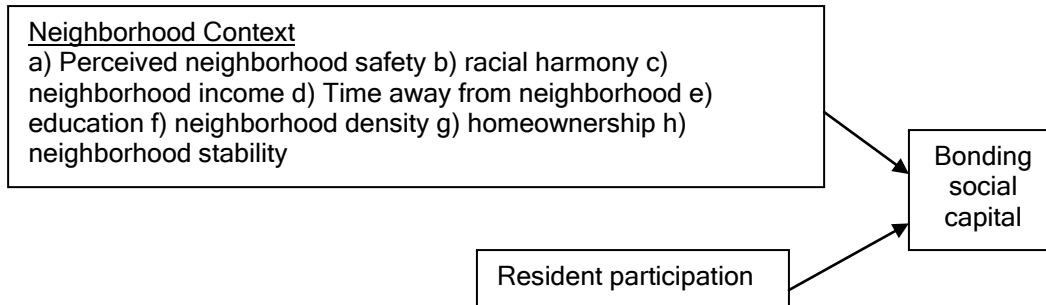


Figure 12. A model of bonding social capital in low-income urban neighborhoods

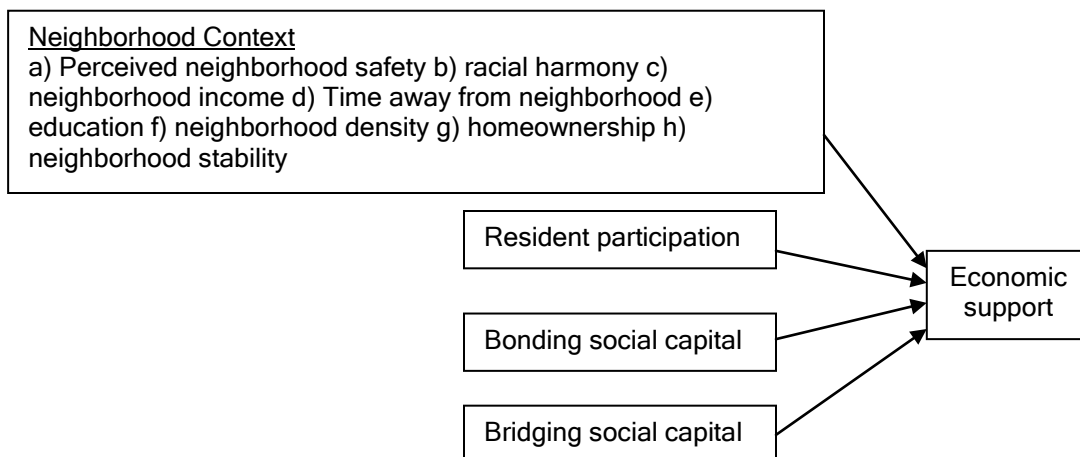


Figure 13. A model of economic support in low-income urban neighborhoods.

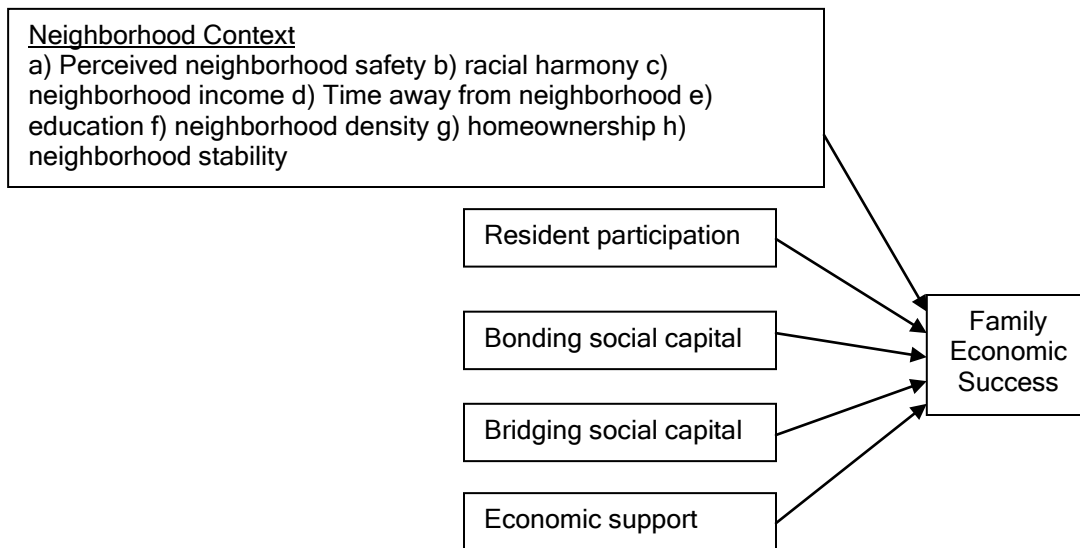


Figure 14. A model of FES in low-income urban neighborhoods

Hierarchical Linear Modeling (HLM)

Implied in the concept of social capital applied to low-income neighborhoods is that individuals are influenced by the place in which they live. Specifically, this study is premised on the hypothesis that social capital exists as an individual-level, as well as a neighborhood-level resource. The nested structure of social capital at both levels has interesting analytic consequences that must be addressed through HLM.

HLM has only become available for social scientists within the last 25 years (Snijders and Boskers, 1999). The dilemma faced by researchers with hierarchical data is dependence among the nested variables, which is a violation of the regression assumption of independent observations. In a nested design, sampling units are dependent upon the higher level variable. For example, in the present study individuals are nested within neighborhoods. Every individual in the sampling frame was chosen because they belong to a particular neighborhood of interest. Therefore, individuals were not chosen entirely

independently, but in part because of their residence in a particular neighborhood. Further, because the research concerns the effects of neighborhoods on individuals, an assumption is made that individuals are not independent of their neighborhoods, but instead influenced by the neighborhood in which they reside.

Researchers have a number of options to deal with the dependence of variables in a nested model. One method for dealing with nested models is to aggregate all the variables to the highest level (in this case neighborhoods). Unfortunately, research has shown that misleading findings can result from aggregated data (Snijders & Boskers, 1999). When using aggregation methods, therefore, researchers must limit inferences about the higher level unit of analysis and avoid making inferences about individuals in a sample. Problems also can arise by ignoring higher level unit(s) of analysis and analyzing data only at the individual-level. A design effect is inherent in multi-stage samples due to clustering (Snijders & Boskers, 1999). Depending on the magnitude of the design effect, a researcher will draw erroneous conclusions about the true effects at the individual-level by ignoring higher level unit(s) of analyses.

To overcome these problems, HLM disentangles the dependence of the nested variables by accounting for both in the same equation. In their book, Raudenbush and Bryk (2002) explain how HLM is used to improve the estimation of individual-level effects, to model effects between individuals and the higher level unit of analysis, and to disentangle the effects attributable to individuals from those attributable to the higher level unit of analysis. HLM improves the estimation of individual-level effects by taking account of all the data, and basing inferences about individual-level effects not only on

individual differences, but also controlling for differences based on the higher level unit of analysis.

HLM takes advantage of equations that disentangle the covariance of individual-level differences from the covariance of neighborhood-level differences. The resulting statistic is known as the intra-class correlation (ICC), and although it is not necessary to use HLM to calculate the ICC, this statistic provides a strong complement to this type of analysis.

In the present study, bonding and bridging social capital are the variables of central interest. Because these variables are meaningful at both the individual and neighborhood-levels, HLM is an essential analytic tool. It makes it possible to assess which neighborhood conditions affect the development of bonding social capital. The method also allows for testing the neighborhood-level effects of bonding and bridging social capital on individual outcomes. Finally, the ICC will provide a statistic which disentangles and describes how much variation in our dependent variables can be attributed to individual versus neighborhood-level differences.

Operational Definitions

Variables in the three analytic models are extracted directly from the conceptual framework. To control for the possible effects of gender and race, these variables have also been included in the analyses. Operational definitions, and an explanation of the construction of each of the variables are presented in Table A1 of the Appendix.

Model Testing

Model One: Bonding Social Capital

Model one is used to answer the third research question: How do neighborhood contextual factors and resident participation affect bonding social capital?

As Figure 12 depicts, eight variables measured at the neighborhood-level, and resident participation, measured at the individual-level, is used to predict bonding social capital. An explanation of the indicators used to measure these variables can be found in Table A1 of the Appendix.

A random intercepts model is used to test neighborhood effects, and resident participation on bonding social capital. In addition to testing individual-level effects, this type of model tests the effect of neighborhood on the dependent variable bonding social capital. It yields an estimate of the intercept as well as a number of individual-level predictors that can be used to predict individuals' bonding social capital scores. However, a second neighborhood-level equation is used to predict the coefficient representing the intercept. What this means is that neighborhood-level variation will be used to predict bonding social capital, controlling for individual-level characteristics.

This approach to model testing provides a number of important statistics pertinent to the questions in this study. First, a random intercepts model makes it possible simultaneously to account for variation in bonding social capital at both the individual and neighborhood-levels. By simultaneously calculating the individual and neighborhood-level variation, it is possible to estimate the percentage of variation in bonding social capital that can be attributed to neighborhood differences (i.e., the ICC).

Second, a random intercepts model provides parameter estimates for neighborhood-level predictors on individual-level outcomes. This makes it possible to estimate the specific neighborhood conditions that affect individuals' bonding social capital. Third, by estimating variation of bonding social capital attributable to neighborhoods while controlling for neighborhood predictors, a statistic can be calculated that estimates the neighborhood-level variance explained by the neighborhood-level predictors.

The first step in performing a random intercepts model is to test an unconditional model. All of the estimates from a random intercepts model combine equations for individual effects (level 1) and neighborhood effects (level 2) into one model. Equations 6 and 7 are the equations that will be used to test the unconditional model of bonding social capital, where Bonding social capital_{ij} is an individual's bonding social capital score, β_{0j} is the mean bonding social capital score for a neighborhood, ε_{ij} is the random effect associated with an individual's bonding social capital score, γ_{00} is the grand mean or the mean of the mean bonding social capital scores for all neighborhoods, and ν_{0j} is the random effect of a neighborhood.

Level 1

$$\text{Bonding social capital}_{ij} = \beta_{0j} + \varepsilon_{ij} \quad (6)$$

Level 2

$$B_{0j} = \gamma_{00} + \nu_{0j} \quad (7)$$

The next step is to test the model of interest or the random intercept model, which includes neighborhood contextual variables and resident

participation. Equations 8, 9 and 10 are the equations that will be used to test the random intercept model of bonding social capital.

Level 1

$$\text{Bonding social capital}_{ij} = \beta_{0j} + \beta_{1j}(\text{resident participation})_{ij} + \varepsilon_{ij} \quad (8)$$

Level 2

$$B0j = \gamma_{00} + \gamma_{01}(\text{perceived neighborhood safety})_j + \gamma_{02}(\text{racial harmony})_j + \gamma_{03}(\text{neighborhood income})_j + \gamma_{04}(\text{time away from neighborhood})_j + \gamma_{05}(\text{education})_j + \gamma_{06}(\text{neighborhood density})_j + \gamma_{07}(\text{homeownership})_j + \gamma_{08}(\text{neighborhood stability})_j + v_{0j} \quad (9)$$

$$B1j = \gamma_{10} \quad (10)$$

Descriptive Statistics

The initial data set consisted of 3,963 respondents. However, a number of variables had missing responses, and responses to other variables were not in a form conducive to the present analysis. To create a data set that would be most effective for the present analysis, respondents with missing data for the variables of interest were assumed to be missing at random and deleted listwise. In the initial data set, there were seven classifications of race. Due to small sample sizes, the classifications of Native American, Asian, Pacific Islander, and no response were collapsed into the category “other response”. A dichotomous variable was then created for each of the remaining four classifications of race. After cleaning the data set in this manner, a total of 3,489 respondents, from five cities and 265 neighborhoods were used in the analysis.

Census block groups represent neighborhoods in this analysis. The number of respondents from each neighborhood varied significantly. Nine neighborhoods include only one respondent while one neighborhood included 215 respondents. The median

number of respondents for a neighborhood is nine, and the 25th and 75th percentiles of the number of respondents per neighborhood are six and 17 respectively.^{iv} Descriptive statistics for the variables in model one are presented in Tables 10-12.

Table 10
Descriptive Statistics of Bonding Social Capital for Model One

	<u>N</u>	Mean	S.D.
Bonding	3,489	3.30	.69

Table 11
Descriptive Statistics for Individual-level Covariates for Model One

	<u>N</u>	Frequency	Percent of respondents
Resident participation (true condition)	3,489	1,673	48
Race			
White	3,489	1,539	44
Black	3,489	760	22
Latino	3,489	830	24
Other response	3,489	360	10
Gender			
Male	3,489	1,211	35

The grand mean of bonding social capital is 3.30, and by plotting a histogram of bonding social capital scores is assumed to be approximately normally distributed. Additionally, almost half the respondents identified themselves as “White”, while nearly one-fourth identified themselves as “Black or African American”, and another quarter

identified as “Hispanic, Latino, or Spanish Origin or descent”. Approximately one third of the sample identified as male.

Table 12
Descriptive Statistics for Neighborhood-level Covariates for Model One

	<u>N</u>	Mean	S.D.	Skew	Kurtosis
Mean % with a high school degree or higher	265	54%	.17	.21	-.52
Mean neighborhood density	265	6,885 psm ^a	3,607	.94	1.93
Mean % homeowners	265	57%	.19	-.48	.371
Mean income	265	\$27,388	9,869	1.02	1.54
Racial incidents coefficient of variation	265	1.23	.64	.03	.34
Safety coefficient of variation	265	.37	.17	.21	1.62
Median years in the neighborhood	265	8.90	6.31	-1.25	.98
Mean time traveling to work daily (minutes)	265	23.56	5.92	.89	2.68

^apeople per square mile

Regarding neighborhood-level covariates, the mean neighborhood-level income was \$27,388. On average, more than half of the residents in the sample neighborhoods were homeowners. A similar proportion of neighborhood residents had education at least through the high school level.

Results

Table 13 provides the results of testing resident participation and neighborhood contextual effects on bonding social capital. Additionally race and gender variables,

although not included in the equations for the HLM model, are included as control variables in the analysis. The software package HLM version 5 was used for the analysis (Raudenbush, Bryk & Congdon, 2000). Parameter estimates were made using robust standard errors. The racial category “white” has been excluded from the analyses and serves as the reference category for the remaining categories of race.

Table 13
Predictors of Bonding Social Capital

Individual Predictors	Coefficient	SE
Resident participation	.13*	.02
Race ^a (other)	.09	.05
(black)	.09*	.03
(Latino)	.03	.03
Gender (male)	-.04*	.02
<u>Neighborhood Predictors</u>		
Intercept	3.51*	.14
Safety	-1.02*	.11
Racial harmony	.05*	.02
Income	.00	.00
Education(HS)	-.10	.13
Density	.00	.00
Time away from the neighborhood	.00	.00
Homeownership	.11	.10

Stability	.006*	.003
<u>Random Effects</u>		
individual-level error variance	.4253	
neighborhood-level error variance	.0100	
Proportion of level 2 variance explained by level 2 predictors	78%	
ICC	7%	
<u>N</u> (individuals)	3,489	
<u>N</u> (neighborhoods)	265	

^aThe reference category for the race variables is “white”

*significance at the .05 level

The ICC for bonding social capital was seven percent, which means that seven percent of the variation in bonding social capital can be attributed to neighborhood-level differences. This ICC is much lower than expected and indicates minimal differences in bonding social capital at the neighborhood-level. This low ICC for bonding social capital will have ramifications for the analysis of models two and three. Although it was originally proposed that the effect of neighborhood bonding social capital would be tested on economic outcomes, the low ICC of bonding social capital indicates that this would not be appropriate. Instead, a more parsimonious random intercept model will be used to test how neighborhood conditions affect economic outcomes. In models two and three, bonding social capital will only be tested at the individual-level.

Although the ICC indicates that neighborhood accounts for only seven percent of the variation in an individual's bonding social capital score, this is not necessarily

evidence that bonding social capital is unaffected by the conditions of low-income urban neighborhoods. The neighborhoods included in the survey likely represent a homogenous group of low-income urban neighborhoods, and this homogenous group of low-income urban neighborhoods may not show variations in bonding social capital at the neighborhood-level. Perhaps, as the *Making Connections* initiative matures, neighborhoods will build varying levels of bonding social capital, depending on the effectiveness of the intervention. This hypothesis could be tested with longitudinal data that ultimately will be produced by the survey.

The model results suggest that, at the individual-level, being active in neighborhood activities is associated with an improvement in bonding social capital of .13 units. Also, identifying as black, compared to identifying as white, is associated with an increase of .09 on the bonding social capital scale. Similarly, compared to those identifying as female, being male is associated with a lower bonding social capital score.

At the neighborhood-level, an increase in the homogeneity of perceptions of neighborhood safety is associated with an increase in bonding social capital. Surprisingly, an increase in the heterogeneity of perceptions of racial incidents in a neighborhood also predicts an increase in bonding social capital. Also, challenging a finding by Sampson, Raudenbush and Earls (1997) in neighborhoods of varying incomes, an increase in the median number of years residents have lived in the neighborhood is associated with an increase in an individual's bonding social capital score. This finding may suggest that the effect of neighborhood context on bonding social capital may be different in low-income neighborhoods compared to mixed-income neighborhoods. The neighborhood-level

variables in model one account for 78% of the variation in bonding social capital at the neighborhood-level.

Summary of Model One: Bonding Social Capital

At the individual-level, our conceptual framework concerns how resident participation is related to the development of bonding social capital. This study measures resident participation as being active in the neighborhood. The stated hypothesis is supported in that resident participation is positively associated with bonding social capital in low-income urban neighborhoods.

Additionally, when examining bonding social capital as a dependent variable, our conceptual framework focuses on how a number of neighborhood contextual conditions affect the development of bonding social capital. Despite the fact that neighborhood only accounted for seven percent of the variation in bonding social capital in this analysis, the neighborhood-level predictors were able to explain 78% of this variance at the neighborhood-level. This indicates that the specified neighborhood-level predictors account for over three quarters of neighborhood differences' association with bonding social capital. This model supports the hypotheses that neighborhood stability or tenure, measured as the mean years residents have lived in a neighborhood, is related to the development of bonding social capital. This model also supports the hypotheses that residents' perception of a safe neighborhood is related to higher bonding social capital scores. However, a number of hypotheses about neighborhood effects are not supported by the analysis presented above.

The level of education of neighborhood residents was not significantly related to bonding social capital. It should be noted that education was measured as the percent of residents with a high school degree or higher. It is certainly possible that a different measure of neighborhood education, such as the percent of residents with a bachelor's degree or higher, or perhaps an education variable that measured the median highest grade completed, would show a significant relationship with the development of bonding social capital.

Neighborhood home ownership, measured as the percent of neighborhood residents who own their home, also was not related to bonding social capital. However, home ownership did appear to have some relationship with both bonding social capital and neighborhood stability. When neighborhood stability was removed from the model, home ownership did have a positive and significant effect on bonding social capital. This suggests that some of the effect of home ownership on bonding social capital is mediated through neighborhood stability. Additional testing would need to be conducted to more fully understand the relationship between these three variables.

Model Two: Economic Support

Model two tests research question five: How do neighborhood contextual factors, resident participation, bonding social capital, and bridging social capital affect economic support? In this model, economic support has been operationally defined as both support that a family gives to friends and family, and support that a family receives from friends and family. Two models will be tested, one that tests the economic support a family gives to others and another that tests the economic support a family receives from others.

Similar to model one, the second model is tested with a random intercepts model to examine relationships among neighborhood context, resident participation, gender, race, bonding social capital, and bridging social capital on economic support; indicators of these variables can be found in Table A1 of the Appendix. Figure 13 represents the variables that will be tested in model three.

Equations 11 and 12 will be used to test the unconditional model of economic support.

Level 1

$$\text{Economic support}_{ij} = \beta_{0j} + \varepsilon_{ij} \quad (11)$$

Level 2

$$B_{0j} = \gamma_{00} + v_{0j} \quad (12)$$

Equations 13 through 17 will be used to test a random intercepts specification of model two.

Level 1

$$\begin{aligned} \text{Economic support}_{ij} = & \beta_{0j} + \beta_{1j}(\text{bonding social capital})_{ij} + \beta_{2j}(\text{bridging social capital})_{ij} \\ & + \beta_{3j}(\text{resident participation})_{ij} + \varepsilon_{ij} \end{aligned} \quad (13)$$

Level 2

$$\begin{aligned} B_{0j} = & \gamma_{00} + \gamma_{01}(\text{perceived neighborhood safety})_j + \gamma_{02}(\text{racial harmony})_j + \gamma_{03}(\text{neighborhood} \\ & \text{income})_j + \gamma_{04}(\text{time away from neighborhood})_j + \\ & \gamma_{05}(\text{education})_j + \gamma_{06}(\text{neighborhood density})_j + \gamma_{07}(\text{homeownership})_j + \\ & \gamma_{08}(\text{neighborhood stability})_j + v_{0j} \end{aligned} \quad (14)$$

$$B_{1j} = \gamma_{10} \quad (15)$$

$$B_{2j} = \gamma_{20} \quad (16)$$

$$B_{3j} = \gamma_{30} \quad (17)$$

Interpretation of model two will follow the same process as the interpretation of model one.

Descriptive Statistics

Due to missing data, 92 cases are omitted from the analysis used to calculate estimates for model two. Descriptive statistics for the individual-level variables in model two have changed slightly and can be found in Tables A3-A5 of the Appendix. The descriptive statistics for neighborhood-level variables are the same for model two as they were for model one, and can be found in Table 12. For the two dependent variables, approximately 39% of residents in the sample reported giving some kind of economic support in the previous 12 months; approximately 24% of residents reported getting some kind of economic support in the previous 12 months.

Results

Table 14 provides results for the estimates of economic support. Again, the software HLM version 5 was used to calculate estimates, and all reported estimates use robust standard errors. Because the dependent variables in model two have a dichotomous outcome, a non-linear approach using a Bernoulli distribution and a logit link function was used to calculate the estimates (Raudenbush & Bryk, 2002). When using this approach, parameter estimates represent the log odds of the occurrence given the dichotomous outcome. To interpret parameter estimates in such models, the exponential value of each parameter estimate must be calculated. The parameter

estimates in the tables in this analysis represent the exponentiated estimate and can be interpreted as odds ratios.

Dichotomous outcome variables also present a special circumstance for calculating the ICC. When using a dichotomous outcome variable, the residual variance for the level one predictors is assumed to be constant. When the logit link function is used to calculate the parameter estimates, the residual variance is assumed to be $\pi^2/3$ or 3.29 (Snijders & Bosker, 1999). This value of 3.29 is then used to calculate the ICC when using the logit link function (Snijders and Bosker, 1999).

Table 14
Odds Ratios for Economic Support Variables

Individual Predictors	<u>Givehelp</u>		<u>Gethelp</u>	
	Coefficient	SE	Coefficient	SE
Resident participation	1.44*	.08	1.01	.08
Race ^a (other)	.90	.13	.71*	.17
(black)	1.28*	.10	1.42*	.11
(Latino)	1.05	.11	.91	.11
Gender (male)	.87	.08	1.42*	.09
Bonding	1	.05	.86*	.07
Bridging (spoke with a political official)	1.22*	.09	.76*	.11
(spoke with a religious leader)	1.36*	.11	1.26	.12
<u>Neighborhood Predictors</u>				
Intercept	.24*	.43	.53	.55
Safety	1.63	.31	1.11	.46

Racial harmony	1.09	.01	1.12	.10
Income	1.00002*	.000006	1	.00
Education(HS)	1.62	.35	.84	.47
Density	1	.00	1	.00
Time away from the neighborhood	.99	.01	.99	.01
Homeownership	1.08	.34	.54	.37
Stability	1	.01	1.01	.01
<u>Random Effects</u>				
Neighborhood-level error variance	.0595		.1005	
Proportion of level 2 variance explained by level 2 predictors	54%		13%	
ICC	4%		5%	
<u>N</u> (individuals)	3,397		3,397	
<u>N</u> (neighborhoods)	265		265	

^aThe reference category for the race variables is “white”

*significance at the .05 level

The ICCs for the economic support variables *givehelp* and *gethelp* are four and five percent respectively. This indicates that only four percent of the variation in respondents giving financial support to friends and family and five percent of the variation in respondents getting financial support from friends and family is attributable to neighborhood differences.

The estimates in Table 14 for giving help and getting help are very different. Individuals who are active in the neighborhood are 44% more likely to give economic support to their neighbors than respondents who are not active. Also, those individuals who have spoken with a religious leader and spoken with a political official are more likely to give economic support than respondents who had not had such contacts. Those identifying as black are 28% more likely to give economic support than those identifying as white.

For the economic support variable *get help*, those identifying themselves as black are 42% more likely to receive economic support than those identifying as white. However, those identifying some race other than Latino or black are less likely to receive economic support than those identifying as white. Compared to females, males are 42% more likely to have received some kind of economic support. A unit increase in bonding social capital is associated with a 14% decrease in the likelihood of getting financial help, and speaking with a political official is associated with a 24% decrease in the odds that a respondent receives economic support.

At the neighborhood-level, every additional \$10,000 increase in a neighborhood mean income is associated with a 20% greater chance that residents of the neighborhood will provide financial help. Neighborhood-level predictors explain 54% of the variation at the neighborhood-level of giving financial help. In contrast, there were no significant neighborhood-level predictors of someone receiving financial support from family or friends.

Summary of Model Two: Economic Support

The conceptual framework depicted economic support as a variable that would have reciprocal effects. Individuals with higher levels of bonding and bridging social capital would take part in a mutual exchange of resources with others in their network of trusting relationships. However, the empirical results suggest something different. The analysis suggests that some individual and neighborhood-level characteristics are significantly related to individuals who provide financial support to others. Different and distinct individual level characteristics are significantly related to receipt of financial support.

In regard to giving financial support, individuals who have spoken with a religious leader and those that have spoken with a political official were more likely to give financial support. This finding seems to support the idea that bridging social capital is related to economic support. At the neighborhood-level, only the hypotheses linking neighborhood income to financial assistance was confirmed. Considering the distinctly different processes for giving and receiving financial support, this may suggest that even in neighborhoods with scarce resources, individuals who have more financial resources are called on to assist others.

The analysis produced some surprising findings about the receipt of financial support. Both the bonding social capital variable and the bridging social capital indicator concerning speaking with a political official had a significant and negative relationship with receiving financial support. As has been noted, evidence suggests that giving and receiving financial support is not a reciprocal process. With this in mind, the findings

regarding bonding and bridging social capital may suggest that individuals most in need of economic support are not connected to trusting networks of relationships, neither within the neighborhood nor from extra-neighborhood organizations such as local political officials. Unfortunately, the process of building social capital cannot be precisely extracted from this cross-sectional analysis. A more accurate description of the process of accruing social capital will only be possible with the collection of longitudinal data on these same variables.

Although this study does not focus on race and ethnicity, a number of the variables used to assess the impact of race on economic support were significant. The role of race and ethnicity would be a meaningful avenue for further study regarding the process of economic support in low-income urban neighborhoods.

Further evidence supporting the notion that giving and receiving financial support are distinctly different processes is revealed when looking at the neighborhood-level predictors of these two outcome variables. The neighborhood-level predictors of giving financial support were able to explain 51% of the variance of this outcome at the neighborhood-level. No significant neighborhood-level predictors of receiving financial support were identified, and in total, these neighborhood-level predictors were only able to explain 10% of the variance in receiving financial help at the neighborhood-level.

Model Three: FES

Model three tests research question six: How are neighborhood contextual factors, resident participation, bonding and bridging social capital, and economic support related to FES? Figure 14 illustrates the relationship among the variables in model three.

A random intercepts model is used to test the effects of neighborhood context, resident participation, bonding and bridging social capital and economic supports' on FES. As discussed in Chapter 2, FES is not a single outcome, but instead an outcomes framework derived from work done by the AECF. The FES framework consists of three components: workforce development, family economic support, and community investment (Annie E. Casey Foundation, 2003b). Each of these components can be measured using an array of indicators. In this analysis, workforce development is measured using indicators of employment, full-time employment, work benefits, and income. Family economic support is measured with indicators of home ownership and bank use. Community investment is indicated by satisfaction with police and other public services.

Equations 18 and 19 will be used to test the unconditional models of FES.

Level 1

$$FES_{ij} = \beta_{0j} + \varepsilon_{ij} \quad (18)$$

Level 2

$$B0_j = \gamma_{00} + v_{0j} \quad (19)$$

Equations 20 through 25 will be used to test a random intercepts specification of model two.

Level 1

$$FES_{ij} = \beta_{0j} + \beta_{1j}(\text{bonding social capital})_{ij} + \beta_{2j}(\text{bridging social capital})_{ij} + \beta_{3j}(\text{resident participation})_{ij} + \beta_{4j}(\text{economic support})_{ij} + \varepsilon_{ij} \quad (20)$$

Level 2

$$\begin{aligned}
B0j = & \gamma_{00} + \gamma_{01}(\text{perceived neighborhood safety})_j + \gamma_{02}(\text{racial harmony})_j \\
& + \gamma_{03}(\text{neighborhood income})_j + \gamma_{04}(\text{time away from neighborhood})_j \\
& + \gamma_{05}(\text{education})_j + \gamma_{06}(\text{neighborhood density})_j + \gamma_{07}(\text{homeownership})_j \\
& + \gamma_{08}(\text{neighborhood stability})_j + v_{0j}
\end{aligned} \tag{21}$$

$$B1j = \gamma_{10} \tag{22}$$

$$B2j = \gamma_{20} \tag{23}$$

$$B3j = \gamma_{30} \tag{24}$$

$$B4j = \gamma_{40} \tag{24}$$

Descriptive statistics

Due to missing data, a number of cases have been deleted from the analysis for model three. Descriptive statistics for the FES models can be found in Tables A6-A10 in the Appendix. For the workforce development variables, 65% of respondents were living in households where at least one adult was employed, 15% of respondents were employed in a job that provided full benefits, and 57% of respondents were employed full time, and 50% of respondents reported a household income over \$20,000. For the family economic support variables, 71% of respondents reported that someone in the household had a checking or savings account, and 46% of respondents resided in households that owned their own home.

Community investment variables are more difficult to capture using single indicators. As a result, an exploratory factor analysis was conducted using the full array of indicators of community investment. Results of the exploratory factor analysis are presented in Table A11 in the appendix. From the exploratory factor analysis, four scales emerged that could provide reliable measures of community investment: satisfaction with

police, satisfaction with public services, satisfaction with public programs and recreational services, and satisfaction with emergency services. However, when examining the descriptive statistics for the public programs and recreational services scale and the satisfaction with emergency services scale, it became apparent that there was little variation in responses to these scales. Most respondents simply stated that they were very satisfied with the service. Rating items on a seven point Likert scale, 48% of respondents indicated a score of seven, or very satisfied, with both items on the emergency services scale. Similarly, 49% of respondents indicated a score of seven, or very satisfied, with all four items on the public programs and recreational services scale. Without variation in the scores on these scales, it is not possible to test how covariates are related to these variables. Therefore, only the scales of police and public service were used in model testing of community investment. Descriptive statistics for these scales are presented in Table 15.

Table 15
Descriptive Statistics for Satisfaction with Police and Satisfaction with Public Services Scales

	<u>N</u>	Min	Max	Mean	S.D.
Satisfaction with police	3,314	1	5	3.79	.77
Satisfaction with public services	3,397	1	7	4.76	1.41

Results

The software package HLM version 5 was used to calculate parameter estimates. For all dichotomous outcome variables a non-linear model using a Bernoulli distribution was used to calculate parameter estimates. All parameter estimates for dichotomous

outcomes are reported after being exponentiated. Therefore, estimates are to be interpreted as odds ratios. The ICCs for the null model of each dependent variable are also reported. Three separate tables are provided. Table 16 provides estimates of the workforce development variables. Table 17 provides estimates of the family economic support variables, and Table 18 provides estimates of the community investment variables.

Workforce development

A number of conclusions can be gleaned from Table 16 about workforce development in low-income urban neighborhoods, however interpretation of causal relationships are tenuous when using cross-sectional data. At the individual-level, being an active member of the neighborhood is associated with a greater likelihood of having employee benefits. Bonding social capital is significantly related to being employed, having a full time job, and having income above \$20,000 annually. However, this relationship is in the opposite direction of that implied in the conceptual framework. One explanation may be that those without a job are more dependent on the informal economy of bonding social capital. For every unit increase on the bonding social capital scale, a respondent is 14% less likely to be employed, 14% less likely have a full time job, and 11% less likely to have a household income above \$20,000 annually. One interpretation of these results is that an informal economy is an important part of life for residents of low-income urban neighborhoods.

The individual predictors of bridging social capital are not consistent across indicators of workforce development. In fact only one indicator of bridging social capital

has a significant relationship with the indicators of work force development. Compared to respondents who had not spoken with a political official, those who had spoken to a political official were 34% more likely to have benefits from their job.

Table 16
Odds Ratios for Workforce Development Variables

Individual Predictors ^a	Employed	Benefits	FT job	Income
Resident participation	.96 (.08)	1.23* (.10)	1.03 (.08)	1.16 (.09)
Race ^b (other)	1.58* (.15)	1.01 (.18)	1.36* (.14)	.58* (.15)
(black)	.75* (.11)	.78 (.13)	.59* (.11)	.54* (.12)
(Latino)	1.23* (.10)	.67* (.15)	1.01 (.10)	.68* (.11)
Gender (male)	1.19* (.08)	1.08 (.11)	1.09 (.08)	.85 (.09)
Bonding	.86* (.06)	.91 (.07)	.86* (.05)	.89* (.06)
Bridging (spoke with a political official)	.86 (.10)	1.34* (.13)	.88 (.10)	1.13 (.12)
(spoke with a religious leader)	.91 (.12)	.86 (.16)	.85 (.11)	.78 (.14)
Economic support (give help)	1.99* (.09)	1.77* (.09)	2.10* (.08)	2.61* (.08)
(get help)	.96 (.09)	.60* (.12)	.84 (.09)	.51* (.09)
<u>Neighborhood Predictors</u>				
Intercept	1.39 (.49)	.04* (.66)	.81 (.48)	.33* (.57)
Safety	.89 (.36)	.65 (.53)	.95 (.35)	.93 (.41)
Racial harmony	.01 (.09)	.82 (.11)	1.08 (.09)	.79* (.10)
Income	1 (.00)	1 (.00)	1.00002* (.000007)	1.00004* (.000007)

Education(HS)	.70 (.41)	3.74* (.52)	.83 (.40)	3.32* (.43)
Density	1 (.00)	1 (.00)	1 (.00)	1 (.00)
Time away from the neighborhood	1 (.00)	1.01 (.01)	.99 (.01)	1 (.01)
Homeownership	2.56* (.35)	3.49* (.46)	3.22* (.35)	1.65 (.35)
Stability	.99 (.01)	1 (.02)	.97* (.01)	1.01 (.01)
<u>Random Effects</u>				
neighborhood-level error variance	.1198	.1424	.1296	.1279
Proportion of level 2 variance explained by level 2 predictors	24%	42%	42%	70%
ICC	4%	8%	8%	14%
<u>N</u> (individuals)	3,397	3,397	3,397	3,078
<u>N</u> (neighborhoods)	265	265	265	265

^aFor each individual predictor, the initial figure represents the odds ratio and the number below in parentheses represents the standard error.

^bThe reference category for the race variables is “white”

*significance at the .05 level

The predictive strength of race variables varies across indicators of workforce development. Identifying as black, compared to identifying as white, is associated with 25% lower odds of being employed, 41% lower odds of having a full-time job, and 56% lower odds of having a household income above \$20,000 annually. Identifying as Latino, compared to identifying as white, increases the odds of being employed, but is also associated with 33% lower odds of having employee benefits, and 32% lower odds of

having a household income above \$20,000. While being white, compared to all other categories of ethnicity, decreased the odds by 38% that someone in the respondent's household was employed, being white also increased the odds by 65% that the annual income of a household would be over \$20,000.

The most consistent predictor of workforce development indicators was if someone gave financial support to friends and family. Compared to those who did not give financial support, those who gave financial support were 99% more likely to be in a household in which someone was employed, 77% more likely to have benefits from their employment, 110% more likely that they, or their spouse had a full time job, and 161% more likely that their household income was above \$20,000. Not altogether surprisingly, the economic support variable get help had the opposite relationship with indicators of workforce development. A respondent who had received some financial help from friends or family was 40% less likely to have benefits from work, and 49% less likely to be in a household with income over \$20,000 per year.

At the neighborhood-level, some predictors seem more consistently to predict successful workforce development outcomes, while other predictors are inconsistent or show no effect on workforce development. For a \$10,000 increase in mean neighborhood income, it is 20% more likely that the respondent or their spouse has a full-time job, and 40% more likely that the household income is above \$20,000. A 10% increase in the percent of home owners in a neighborhood is associated with a 25% increase in the likelihood that someone in the household will be employed, a 35% increase in the likelihood that the respondent will receive benefits from their job, and a 32% increase in

the likelihood that the respondent or their spouse will have a full-time job. However, the consistency of these estimates may be tenuous as evidenced by large standard errors.

A number of neighborhood-level variables performed less consistently. A ten percent increase in the percentage of adults in the neighborhood with a high school education or higher is associated with a 37% increase in the likelihood that the respondent would have benefits from the job and a 33% increase in the likelihood that the respondent's household income would be above \$20,000 annually. Neighborhood density was significantly related to the likelihood that someone would receive benefits from their job. The number of years in the neighborhood was a significant predictor of the respondent or their spouse having a full-time job, and the average time neighborhood residents take to travel to work was not a significant predictor of any of the workforce development variables.

Family economic support

From Table 17, we see that race, and more specifically identifying as white, is strongly associated with family economic support indicators. Identifying as white increases the likelihood of having a bank account by 63% and 39% over those identifying as black and Latino respectively. Also, identifying as white is associated with 63% greater odds of being a homeowner compared to identifying as black, and 36% greater odds of being a homeowner compared to identifying as Latino.

Being active in the neighborhood, bonding social capital, speaking with a political official, and giving economic support all have a positive and significant impact on family economic support outcomes. Being active in the community predicts that a respondent is

27% more likely to have a bank account and 17% more likely to own a home. Speaking with a political official predicts that a respondent is 35% more likely to have a bank account and 93% more likely to own their home. Respondents who gave financial help to friends and family were 172% more likely to have a bank account and 38% more likely to own their home. Finally, for each unit increase on the bonding social capital scale, a respondent was 31% more likely to be a home owner.

Table 17
Odds Ratios for Family Economic Support Variables

Individual Predictors ^a	Bank acct	Homeownership
Resident participation	1.27* (.09)	1.17* (.08)
Race ^b (other)	.75* (.13)	.66* (.14)
(black)	.57* (.11)	.43* (.13)
(Latino)	.61* (.12)	.64* (.11)
Gender (male)	.85 (.08)	.85* (.08)
Bonding	1.03 (.06)	1.31* (.06)
Bridging (spoke with a political official)	1.35* (.13)	1.93* (.11)
(spoke with a religious leader)	1.04 (.12)	1.17 (.12)
Economic support (give help)	2.72* (.09)	1.38* (.07)
(get help)	.63* (.10)	.43* (.10)
<u>Neighborhood Predictors</u>		
Intercept	.85 (.47)	.18* (.56)
	.54	.38*

Safety	(.41)	(.38)
Racial harmony	.96 (.09)	1 (.09)
Income	1.000033* (.000007)	1 (.00)
Education(HS)	4.22* (.38)	.81 (.42)
Density	1 (.00)	1 (.00)
Time away from the neighborhood	.98* (.01)	.99 (.01)
Homeownership	.64 (.34)	22.87* (.43)
Stability	1.03* (.01)	1 (.01)
<u>Random Effects</u>		
Neighborhood-level error variance	.0720	.1504
Proportion of level 2 variance explained by level 2 predictors	75%	70%
ICC	10%	13%
<u>N</u> (individuals)	3,397	3,397
<u>N</u> (neighborhoods)	265	265

^aFor each individual predictor, the initial figure represents the odds ratio and the number below in parentheses represents the standard error.

^bThe reference category for the race variables is “white”

*significance at the .05 level

Similar to other findings, those respondents that received financial help from friends and family were less likely to have a bank account or own their own home. Compared to respondents who had not received financial help from friends and family,

those who had were 37% less likely to have a bank account, and 57% less likely to own their home.

Moving to the neighborhood-level variables, median neighborhood income was a significant predictor of respondents having a bank account. For each additional \$10,000 increase in the mean neighborhood income, individuals were 33% more likely to have a bank account. The mean number of years residents lived in a neighborhood also predicted respondents having a bank account. For each additional mean year residents live in the neighborhood the likelihood that respondents would have a bank account increased by three percent. The only neighborhood-level predictor of homeownership, as might be expected, was the mean percent of homeowners in the neighborhood. The neighborhood-level variables predicted 75% of the neighborhood-level variation of the indicator bank account, and 70% of the neighborhood-level variation in the indicator homeownership.

Community investment

Table 18 indicates that bonding social capital is associated with individuals' perceptions of community investment. A unit increase on the bonding social capital score predicts a .25 unit increase in the satisfaction with police scale, and a .48 unit increase in the satisfaction with public services scale. One of the indicators of bridging social capital has a negative relationship with community investment scores. Compared to someone who has not spoken with a political official, someone who has spoken with a political official scores .17 points lower on the satisfaction public services scale.

Race is consistently associated with a respondent's satisfaction with police. Identifying as white is associated with a higher score on the satisfaction with police scale

compared to those identifying as black, Latino, or any other race. Also, a respondent who has received financial help scores .12 points lower on the satisfaction with police scale.

Table 18
Predictors of Community Investment

Individual Predictors ^a	Satisfaction with police	Satisfaction with public services
Resident participation	-.01 (.03)	-.05 (.05)
Race ^b (other)	-.22* (.04)	.11 (.09)
(black)	-.19* (.04)	-.02 (.08)
(Latino)	-.15* (.03)	.08 (.06)
Gender (male)	.05 (.03)	-.09 (.05)
Bonding	.25* (.02)	.48* (.03)
Bridging (spoke with a political official)	-.07 (.04)	-.17* (.06)
(spoke with a religious leader)	.00 (.04)	-.05 (.08)
Economic support (give help)	-.05 (.03)	.04 (.05)
(get help)	-.12* (.03)	-.19 (.06)
<u>Neighborhood Predictors</u>		
Intercept	2.96* (.16)	4.00* (.31)
Safety	-.28* (.14)	-.54* (.24)
Racial harmony	.05 (.03)	.00 (.07)
	.00	.00

Income	(.00)	(.00)
Education(HS)	.13 (.13)	-.04 (.29)
Density	.00 (.00)	.00 (.00)
Time away from the neighborhood	.00 (.00)	-.01 (.01)
Homeownership	.08 (.11)	-.63* (.22)
Stability	.00 (.00)	.01 (.01)
<u>Random Effects</u>		
Individual-level error variance	.5382	1.8293
Neighborhood-level error variance	.0080	.0272
Proportion of level 2 variance explained by level 2 predictors	29%	29%
ICC	4%	2%
<u>N</u> (individuals)	3,314	3,397
<u>N</u> (neighborhoods)	265	265

^aFor each individual predictor, the initial figure represents the parameter estimate and the number below in parentheses represents the standard error.

^bThe reference category for the race variables is “white”

*significance at the .05 level

At the neighborhood-level, an increase in the mean percentage of home owners in a neighborhood of 10% is associated with scores .06 points higher on the satisfaction with public services scale. Also, an increase in the homogeneity of neighborhood perceptions of safety predicted an increase on the satisfaction with police scale, and an increase in the satisfaction with public services scale. The neighborhood-level predictors explained 29%

of the variance of neighborhood-level differences for both the satisfaction with police and the satisfaction with public services scores.

Summary of Model Three: FES

FES is an outcomes framework developed by AECF as an alternative to measuring economic outcomes simply as income (Annie E. Casey Foundation, 2003b). It is meant to capture the multitude of outcomes, and the more intimate processes, necessary for a low-income family to achieve economic success. Because of the multiple characteristics necessary to achieve FES, it was necessary to test a range of FES outcomes. However, the empirical findings suggest that the multiple characteristics that make-up FES can paint a complicated picture of success. Whereas some predictor variables may point to success for one FES outcome, they may have a negative impact on another FES outcome. A safe conclusion is that FES is a complex process in low-income urban neighborhoods and that considerably more measurement and testing needs to be done to fully understand this process.

That being said, the results of analysis presented here seem to suggest that bonding social capital has a significant predictive relationship with FES indicators. Bonding social capital was a positive and significant predictor of homeownership, as well as perceptions of community investment. Surprisingly, the hypothesis that bonding social capital would have a significant relationship with workforce development outcomes was not supported. This is surprising as often in the theoretical and conceptual literature

scholars use workforce development as an example of how bonding social capital can have a positive impact on an individual's economic well-being. However, an alternative explanation may be that those residents who do not have a job, benefits, or other forms of income may have a greater need for bonding social capital. These residents may be more heavily invested in an informal economy, and social capital, because it is their only means of getting by.

Another general finding is that race has a significant and complex relationship with indicators of FES. Identifying as white is associated with significantly greater odds of having an income over \$20,000, owning a home, having a savings account, and being satisfied with police services. Identifying as black is associated with significantly lower odds of having at least one adult in the household being employed, having a full-time job, and owning a home. Finally, identifying as Latino was a significant predictor of having lower odds of receiving benefits from a job. What these varied results suggest is that race and ethnicity play an important role in FES, and although the emphasis of this study has not been to extract conclusions regarding race and ethnicity, this is clearly an important variable to study when examining economic outcomes in low-income urban neighborhoods.

The empirical evidence of FES also shed light on the informal economy regarding economic support in low-income neighborhoods. The data does not suggest that giving and receiving economic support happens in a reciprocal fashion among residents of a low-income neighborhood, but instead, individuals who give help have different characteristics, and experience different outcomes than those who receive help. More to the point, it seems that those who give help have more resources, while those who get

help are in a more dire economic situation. Although this point may seem obvious, social scientists frequently construct a low-income category for their research, and assume that members of this low-income category all behave the same. It is important to remember, as this data suggests, that the economic behavior of those often identified as low-income, varies greatly. Further, this may provide support for a hypotheses suggested by Amartya Sen (1983), that although low-income individuals are often aggregated as one group, there is great variation between different strata of low-income groups. For example, as suggested by this study, individuals at the upper end of the low-income group may be more likely to give financial help, and individuals at the lower end of the low-income group may be more likely to receive financial help.

Finally, the effects of the bridging social capital indicators show variation in effects across FES indicators. Speaking with a political official is positively associated with workforce development and family economic support outcomes, but is also associated with lower perceptions of community investment. Speaking with a religious leader was not significantly associated with any of the FES indicators. This is certainly a surprising finding, and warrants further investigation.

At the neighborhood-level, income, education, and homeownership appear to be the most consistent predictors of FES. However, these variables also strongly inter-correlate with each other and the effects associated with these variables may be partially explained by multi-collinearity. Again, it is important to note that one limitation of the cross-sectional data is that the direction of the relationship between these neighborhood-level variables and FES is left to theory. Therefore, FES could, in fact, be predicting neighborhood-level income, education, and homeownership. Or, more likely, there is a

complex reciprocal relationship that is difficult to test using generalized linear techniques.

Discussion

Model testing on the neighborhood effects and economic outcomes related to social capital provides a broad and much needed empirical perspective on the role of bonding and bridging social capital in low-income urban neighborhoods. Two strengths of this study are, first, that a measurement model was tested in order to assure a reliable and valid measure of the latent constructs of interest. Second, HLM was used to capture variation in the dependent variables that can be attributed to neighborhood or individual differences.

A surprising finding of this study is how small the ICC is across all the dependent variables. In the context of this study, the ICC is an estimate of the variation in the dependent variable that is attributable to neighborhood-level differences. One of the major objectives of this study was to examine these differences across low-income neighborhoods. Typically, researchers studying hierarchical linear models only deem an ICC of .20 or above to be worth pursuing. In this study, the ICC fell between .03 and .14, considerably below the typical standard.

So why was the intra-class correlation so low? And, why were neighborhood-level variables included in a model with such a low intra-class correlation? In relation to the first question, the initial conclusion, and the most straightforward interpretation of the ICC might be that the ICC was low because the variables under study--bonding social

capital and FES—are not heavily influenced by neighborhoods. However, this conclusion is probably erroneous. Theory, as well as prior empirical research indicates that bonding social capital and economic outcomes are affected by neighborhoods. A more reasonable explanation of why the ICCs were so low has to do with the stratified sample from which parameter estimates were calculated.

In phase I of the *Making Connections* initiative, the AECF worked with low-income neighborhoods in 22 cities. Of these 22 cities, five were initially moved into phase II. The AECF team determined that the neighborhoods in these five cities had the organizational infrastructure to proceed with a large-scale community change initiative. The data for this study was obtained from a probability sample of residents of selected low-income neighborhoods in these five cities. Given that AECF chose these neighborhoods because of their presumed ability to succeed in the *Making Connections* initiative, these low-income neighborhoods may be more similar on the same key characteristics, bonding social capital and economic outcomes, than a random sample of low-income neighborhoods. This selection issue may provide an explanation for the low ICC among neighborhoods, but it also suggests a limitation to the generalizability of the results to *all* low-income neighborhoods.

In regard to the second part of the question, despite the low ICC, the most appropriate analysis for addressing a research question that is hypothesized to involve nested effects at different levels is HLM. Given that the results of this study provide some baseline data for an evaluation of the *Making Connections* initiative, the neighborhoods that were surveyed may change as a result of the intervention. Depending on the strength and variability of the impact from the initiative, variation across neighborhoods (the ICC)

also may change over time. These changes in the ICC, and the subsequent neighborhood-level parameter estimates, will be an important part of evaluating the effectiveness of each site, as well as capturing changes in the cross-site evaluation of *Making Connections*.

In addition to assessing the variation of key variables across low-income urban neighborhoods, this study sought to address two overarching questions. First, how do low-income urban neighborhood characteristics affect bonding social capital? And second, how do bonding and bridging social capital affect economic outcomes for residents of low-income urban neighborhoods?

The findings of this analysis suggest that neighborhood contextual factors play an important role in the development of bonding social capital. More specifically, safe and stable neighborhoods are important for the development of bonding social capital. Unfortunately, due to the lack of prior empirical research about the role of neighborhood context in the development of bonding social capital in low-income urban neighborhoods, this study was limited to testing broad hypotheses about this critical relationship. Subsequent studies, with more specific hypotheses, will need to be conducted to more fully understand the relationship between neighborhood contextual factors and the development of individual-level bonding social capital.

The effects of bonding and bridging social capital on economic outcomes are less straightforward. First, the indicators of bridging social capital available from the *Making Connections* survey are less than precise. This lack of precision serves to muddy the findings related to bridging social capital. Also, using FES to measure economic outcomes adds a level of complexity to an already complex equation. Despite these

challenges, the results presented here suggest that bonding and bridging social capital are important variables for improving the economic trajectories of families in low-income neighborhoods.

Table A12 in the Appendix presents the estimates of the bonding and bridging social capital variables for each of the indicators of FES. From the perspective of results presented there, it appears that bonding social capital is a good predictor of family economic support and community investment. While speaking to a religious leader does not appear to be predictive of FES, speaking with a political official appears to predict both workforce development and family economic support. Although speaking with a political official predicts a negative perception of community investment this may be indicative of those with bridging relationships being aware that there should be a greater public investment in the community.

While this study establishes a basic foundation from which to further test hypotheses about bonding and bridging social capital in low-income urban neighborhoods, it has a number of limitations. First, the stratified random sample allows for generalizability within *Making Connections* neighborhoods, however, generalizability to low-income urban neighborhoods not involved with *Making Connections* is more tenuous. Second, although some important measurement work was done to provide a reliable and valid measure of bonding social capital, this same level of measurement rigor needs to be applied to the concepts of bridging social capital and FES. Unfortunately, even fewer efforts have been made to measure bridging social capital and FES. To draw more definitive conclusions about the relationships between the concepts bonding social capital, bridging social capital and FES, considerable work needs to be undertaken to

provide valid and reliable measures of the latter two concepts. Finally, the data used for this study is cross-sectional – it is a slice in time. From this perspective, it is impossible to determine, with any statistical certainty, the direction of relationships among the variables under study. While theory guides research in hypothesizing the direction of the relationship, our statistics simply tell us that relationships exist among these variables. To provide more certainty about the direction of the relationship will require the longitudinal data that will be forthcoming from future waves of the *Making Connections* survey.

The Casey Foundation's long-term commitment to neighborhoods in the *Making Connections* initiative will allow for the collection of longitudinal data so that these questions can be addressed over time. Additionally, this commitment will permit researchers to refine their measurement of key variables such as bridging social capital and FES so that subsequent analysis might take these measurement refinements into consideration.

CHAPTER 6

CONCLUSION

Social Capital and Low-income Urban Neighborhoods

The clustering of low-income individuals into urban neighborhoods is pervasive throughout our country. By itself, this clustering effect is not a problem. However, research clearly shows that the environment of these neighborhoods, above and beyond the effects attributable to individuals, contributes to negative outcomes. These negative outcomes have been in the areas of education, health, crime and safety, poverty, and others (Booth & Crouter, 2001; Brooks-Gunn, Duncan & Aber, 1997; Jencks, 1992; Wilson, 1987). Despite these challenges, there is also evidence to suggest that individuals and families from low-income neighborhoods can work together to overcome these obstacles and make their community thrive (Medoff & Sklar, 1994).

The issues facing low-income urban neighborhoods have drawn growing scholarly attention. One of the most popular and widely used emerging theoretical frameworks to address neighborhood and community effects is social capital. Social capital, largely popularized by Robert Putnam's best-selling book *Bowling Alone*, is broadly defined as the resource that is embedded within a trusting network of relationships. This resource can come in many forms. It may come in the form of money and other assistance that can be loaned or given to members of the group, it may come in the form of time that is saved due to the trust that exists among group members or, it may

come in the form of borrowed human capital. Although this resource sometimes lies dormant, membership in the group translates into access to the group's stock of social capital.

Over the last decade, social capital has been applied to issues spanning social science disciplines. Broad application of the concept has, to some degree, diffused its meaning. However, diligent scholars have attempted to pull the wide ranging uses of the concept together to create the foundation of a potentially powerful theory (Portes, 1998; Woolcock & Narayan, 2000). This emerging theoretical work allows scholars in varied disciplines to match their line of inquiry to the most appropriate application of the concept. In the case of social work practice, the networks view of social capital, which identifies bonding social capital as social capital within a group and bridging social capital as social capital that traverses group membership, is an appropriate application of broader social capital theory.

This dissertation relied on the networks view of social capital in searching for and assessing evidence of the impact of social capital in low-income urban neighborhoods. This literature review led to a conceptual framework that identifies a number of neighborhood level factors that contribute to the development of social capital, and to the relationship between social capital and FES.

In addition to the conceptual framework, this literature review uncovers a number of limitations of current research on social capital. Despite frequent and varied use of the social capital concept, scholars often omit a clear conceptualization as it applies to their particular line of directed inquiry. Due to the potentially broad implications of this concept in the social sciences, it is imperative for scholars to clearly identify how social

capital is being applied and tested in a particular study. Also, although it is clear that social capital is a latent concept, or social phenomenon that is not directly observable, much of the research does not provide the careful empirical basis necessary to measure it and test its effects. Third, neighborhood is a somewhat ambiguous concept and social capital exists at both the individual and neighborhood level. While social capital may exist as a neighborhood-level resource, members of a neighborhood have different levels of attachment and trust within their perceived neighborhood. This relationship between individual and neighborhood demands that analysis of social capital be done within a multilevel analytic framework that simultaneously captures variation at the individual and neighborhood levels. Finally, scant research examines social capital specifically in low-income urban neighborhoods.

The conceptual framework as well as the limitations of prior research led to a series of research questions, and an analytic strategy, that is grounded specifically in an understanding of social capital as it applies to low-income urban neighborhoods. The research questions addressed three broad lines of inquiry. First, utilizing existing measures, can a valid and reliable indicator of social capital applied to low-income urban neighborhoods be identified? Second, how do neighborhood contextual variables affect the development of social capital in a low-income urban neighborhood? And third, how does social capital affect economic outcomes for residents of low-income urban neighborhoods?

The first question was addressed by testing the measurement properties of a scale of bonding social capital and a scale of bridging social capital. The scale of bonding social capital relied on the work of Sampson, Raudenbush and Earls (1997). Guided by

this research, a valid and reliable scale of bonding social capital for low-income urban neighborhoods was identified. Unfortunately, the bridging social capital scale could not be based on previous research, as none was available. Attempts to develop a scale of bridging social capital from *Making Connections* survey data did not yield a reliable measure of this latent concept. Although the findings on the bridging social capital scale are disappointing, they provide a starting point for future research.

Results regarding the second line of inquiry supported the hypothesis that neighborhood conditions affect the development of bonding social capital. Neighborhoods with similar attitudes about neighborhood safety, and neighborhoods in which residents have longer tenure are significantly associated with higher levels of bonding social capital.

Finally, results regarding the final line of inquiry were also supported, although the effects of social capital on FES proved to be more complicated than the conceptual framework suggested. The findings presented in this study support the hypothesis that bonding and bridging social capital have a positive and differential relationship with indicators of FES.

Implications for Social Work

Social work practice has focused on work with low-income urban neighborhoods since its formal beginnings in the settlement house movement. Since that time social workers have continued to address issues related to low-income urban neighborhoods. Some social workers have worked directly with these neighborhoods through community organizing, urban development, social and economic development, and program

development, just to name a few. Others have worked indirectly with communities through more clinical approaches. Some examples include school social workers who work with children from disadvantaged neighborhoods, substance abuse workers who may find their clients connected to low-income urban neighborhoods, or child protection workers who find themselves in low-income urban neighborhoods on home visits. Regardless of a specific area of practice, almost all social workers must confront the issues facing low-income neighborhoods and recognize both the challenges such neighborhoods create, but also resources on which they may draw.

Social capital theory has recently drawn the attention, not only of social workers working with diverse populations, but social scientists from a variety of disciplines. Although the idea of social capital has swirled in academic circles since as far back as Karl Marx's time, the concept has only recently gained widespread popularity and attracted scholarly attention. As a result, practice developments related to social capital are only loosely supported by empirical evidence. This is even more true for the application of social capital to low-income urban neighborhoods.

Despite the meager evidence supporting social capital's role in low-income urban neighborhoods, the implications of this theory for social work are substantial. Social capital theory explains how relationships matter – a central tenet of social work practice. By building relationships and trust, individuals can improve outcomes of education, poverty, safety, and health. Social capital represents a mediating variable that can be accessed to overcome problems of access, discrimination, and exploitation that stand as barriers to well-being. To overcome these obstacles, systemic change needs to take place, and this systemic change can occur through relationship building and trust.

The networks view of social capital is a theoretical framework that addresses the need for relationship building and trust, not only between members of similar neighborhoods through bonding social capital, but also across system boundaries through bridging social capital. Bonding and bridging social capital represent intermediate outcomes that must be realized prior to working toward the more concrete goals of improved education or safety. In fact, in their widely cited article, Sampson, Raudenbush and Earls (1997) demonstrated that a combination of neighborhood social cohesion, trust, and social control, which they label collective efficacy, is a significant mediating factor for a number of crime and delinquency outcomes.

The present research provides some further evidence that social capital can have a positive impact for families in low-income urban neighborhoods, but also uncovered an assortment of research questions that should be pursued in more detail. Specifically, more work needs to be done to construct a reliable and valid measure of bridging social capital. Researchers must more closely examine the neighborhood predictors of bonding social capital to reveal optimal conditions for the development of bonding social capital. More specific research should be pursued to uncover the complex relationship that exists between social capital and FES.

All of the research questions addressed in this study will be pursued through the use of longitudinal data that will soon become available from the *Making Connections* survey. Data from this and other surveys will provide researchers the means to address questions concerning the temporal relationships between these variables, thereby enabling them to address issues of cause and effect. Also, while differences in social capital between neighborhoods were minimal in this cross-sectional data set, over time

and with the maturation of *Making Connections*, these differences may become more substantial. If this is the case, the more heterogeneous neighborhood level data may reveal that neighborhood indicators have a stronger effect on social capital than revealed in this cross-sectional study, and in turn, that bonding social capital may have a stronger effect on economic outcomes than was revealed in this study. In addition, longitudinal data may more definitively support the hypothesis that social capital is a key intermediary outcome for the development of FES for residents of low-income urban neighborhoods.

The potential of social capital for social work practice cannot be ignored. However, scholars and practitioners must avoid applying this theory to social work in ways that are not conceptually clear and empirically supported. Although a substantial amount of work needs to be undertaken before social workers fully understand the role of social capital in low-income urban neighborhoods – this is an endeavor with the potential to yield great returns to our field.

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APPENDIX

Tables and Figures

Table A2
Frequency Table for the Number of Respondents per Block Group

Number of respondents surveyed from a block group	Frequency of block groups	%	Cumulative %
1	9	3.4	3.4
2	11	4.2	7.5
3	15	5.7	13.2
4	17	6.4	19.6
5	14	5.3	24.9
6	22	8.3	33.2
7	16	6	39.2
8	18	6.8	46
9	14	5.3	51.3
10	16	6	57.4
11	12	4.5	61.9
12	6	2.3	64.2
13	8	3	67.2
14	7	2.6	69.8
15	6	2.3	72.1
16	5	1.9	74
17	7	2.6	76.6
18	1	0.4	77
19	4	1.5	78.5
20	5	1.9	80.4
21	1	0.4	80.8
22	3	1.1	81.9
23	3	1.1	83
24	6	2.3	85.3
25	1	0.4	85.7
26	3	1.1	86.8
27	3	1.1	87.9
28	2	0.8	88.7
30	4	1.5	90.2
31	2	0.8	90.9
33	2	0.8	91.7
34	2	0.8	92.5
35	5	1.9	94.3

37	1	0.4	94.7
38	1	0.4	95.1
39	2	0.8	95.8
42	1	0.4	96.2
43	1	0.4	96.6
47	2	0.8	97.4
51	1	0.4	97.7
53	1	0.4	98.1
61	1	0.4	98.5
65	1	0.4	98.9
67	1	0.4	99.2
78	1	0.4	99.6
215	1	0.4	100
Total	265	100	

Table A3
Descriptive Statistics for Economic Support Variables in Model Two

	<u>N</u>	Frequency	% of respondents
Givehelp (true condition)	3,397	1,340	39
Gethelp (true condition)	3,397	818	24

Table A4
Descriptive Statistics for Individual-level Covariates in Model Two

		<u>N</u>	Frequency	% of respondents
Active (true condition)		3,397	1,631	48
Bridging(true condition)	Spoke with a political leader	3,397	595	18
	Spoke with a religious leader	3,397	463	14
Race	White	3,397	1,512	46
	Black	3,397	737	22
	Latino	3,397	802	24
	Other response	3,397	346	10
Gender	Male	3,397	1,176	35

Table A5
Descriptive Statistics for Bonding Social Capital in Model Two

	<u>N</u>	Mean	S.D.
Bonding	3,397	3.30	.69

Table A6
Descriptive Statistics for FES Variables

	<u>N</u>	Frequency	% of respondents
Adult employed (true condition)	3,397	2,209	65
Full benefits (true condition)	3,397	495	15
Full time job (true condition)	3,397	1,918	57
Bank account (true condition)	3,397	2,401	71
Home owner (true condition)	3,397	1,554	46

Table A7
Descriptive Statistics for the Bivariate Outcome Variable Income

	<u>N</u>	Frequency	% of respondents
Bivariate income (over \$20,000)	3,078	1,534	50

Table A8
Descriptive Statistics for Individual-level Covariates for the Bivariate Outcome Variable
Income

		<u>N</u>	Frequency	% of respondents
Active (true condition)		3,078	1,503	49
Bridging(true condition)	Spoke with a political leader	3,078	546	18
	Spoke with a religious leader	3,078	426	14
Economic support	Give help (true condition)	3,078	1,237	40
	Get help (true condition)	3,078	770	25
Race	White	3,078	1,384	45
	Black	3,078	658	21
	Latino	3,078	724	24
	Other response	3,078	312	10
Gender	Male	3,078	1,087	35

Table A9
Descriptive Statistics for Bonding Social Capital for the Bivariate Outcome Variable
Income

	<u>N</u>	Mean	S.D.
Bonding	3,078	3.30	.69

Table A10
Descriptive Statistics for Neighborhood-level Covariates for the Bivariate Outcome
Variable Income

	<u>N</u>	Mean	S.D.	Skew	Kurtosis
Mean percent with a high school degree or higher	263				
Mean neighborhood density	263	6,919 psm*	3,599	.94	1.93
Mean percent homeowners	263	57%	.19	-.48	.37
Mean income	263	\$27,486	9,837	1.02	1.54
Racial incidents coefficient of variation	263	1.23	.64	.03	.34
Safety coefficient of variation	263	.37	.17	.21	1.62
Median year moved into the neighborhood	263	1,991	6.23	-1.25	.98
Mean time traveling to work daily (minutes)	263	23.53	5.90	.89	2.68

*people per square mile

Table A11

Principal Component Analysis with Varimax Rotation of Community InvestmentVariables*

	Factor 1 ^a	Factor 2 ^b	Factor 3 ^c	Factor 4 ^d	Factor 5 ^e
Satisfied with street lights		.66			
Satisfied with street cleaning		.78			
Satisfied with trash collection		.61			
Satisfied with snow removal					
Satisfied with street repair		.67			
Satisfied with emergency medical services					.89
Satisfied with fire department					.89
Satisfied with supermarket				.58	
Satisfied with pharmacy				.72	
Satisfied with money transfer services					
Satisfied with check cashing facility					
Satisfied with ATM					
Satisfied with bank				.53	
Satisfied with community college					
Satisfied with after school programs			.54		
Satisfied with basic medical services				.62	
Satisfied with park or playgrounds			.67		
Satisfied with recreational center			.67		
Satisfied with library			.59		
Satisfied with childcare services					
Satisfied with job placement services					
Satisfied with family support services					
Satisfied with TANF offices					
Police in my neighborhood are fair	.84				
Police in my neighborhood are helpful	.87				
Police in my neighborhood are honest	.82				
Police in my neighborhood are polite	.86				
Police in my neighborhood are quick to respond	.69				
Police in my neighborhood speak my language	.59				
Eigenvalue	3.86	2.20	1.89	1.74	1.66
Percent of variation explained	13.31	7.58	6.52	6.02	5.72

Reliability coefficient alpha for items with factor loadings above .50	.88	.67	.56	.53	.85
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^aFactor 1 is labeled satisfaction with police

^bFactor 2 is labeled satisfaction with public services

^cFactor 3 is labeled satisfaction with public program and recreational services

^dFactor 4 was not labeled. An accurate description for the variables in factor 4 could not be determined.

^eFactor 5 is labeled satisfaction with emergency or crisis services

* only factor loadings of .50 or higher are included in this table

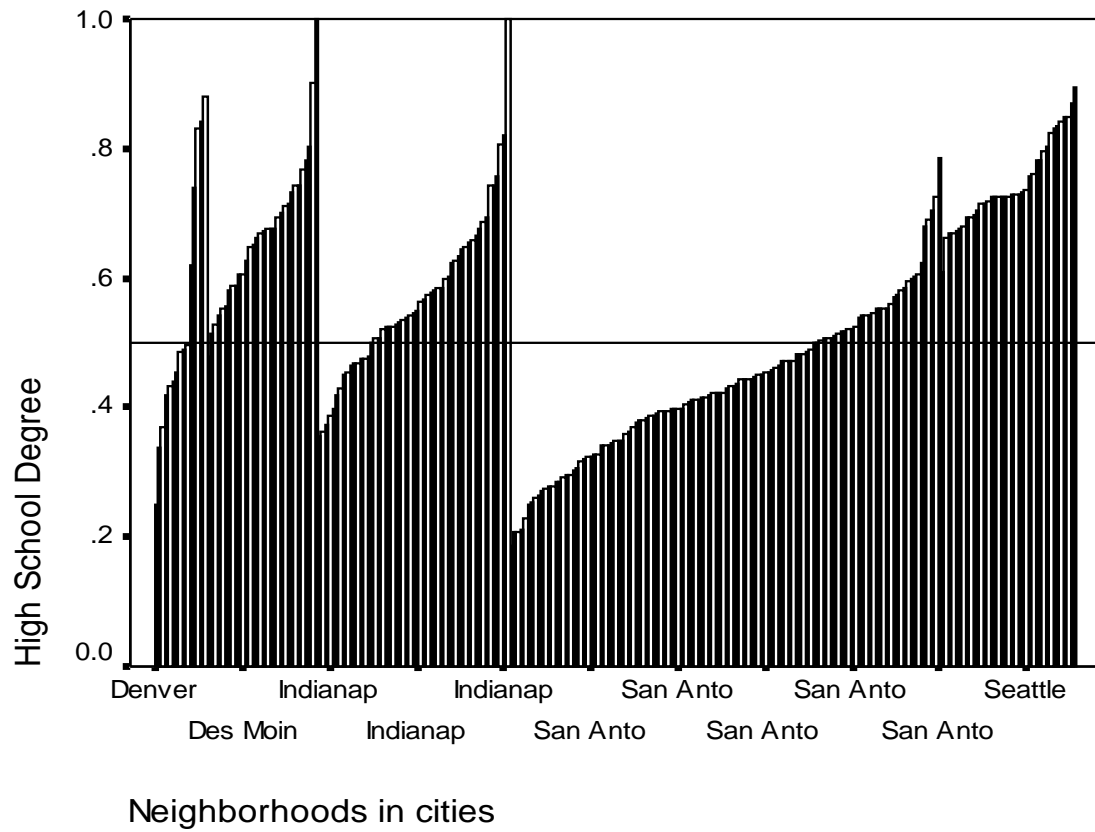


Figure A1. Percentage of residents in a neighborhood with a high school degree by city

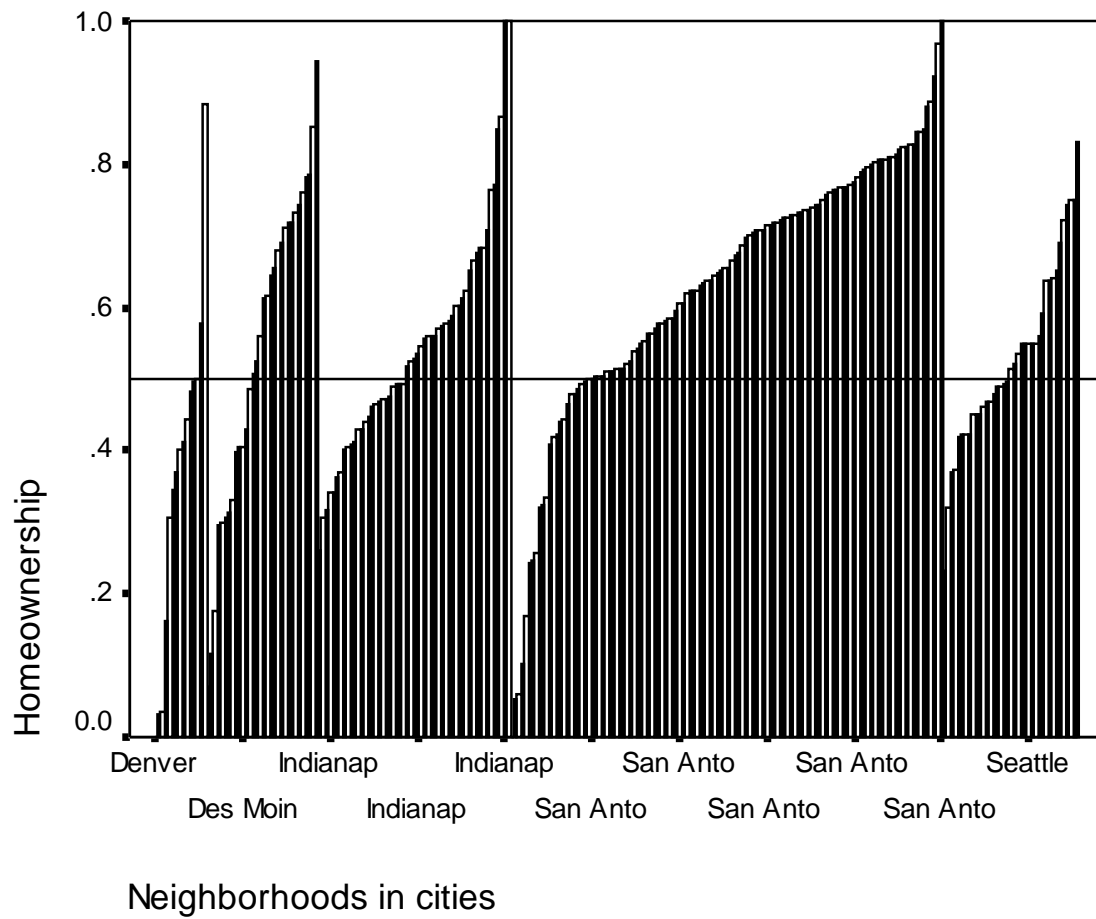


Figure A2. Percentage of homeowners in a neighborhood by city

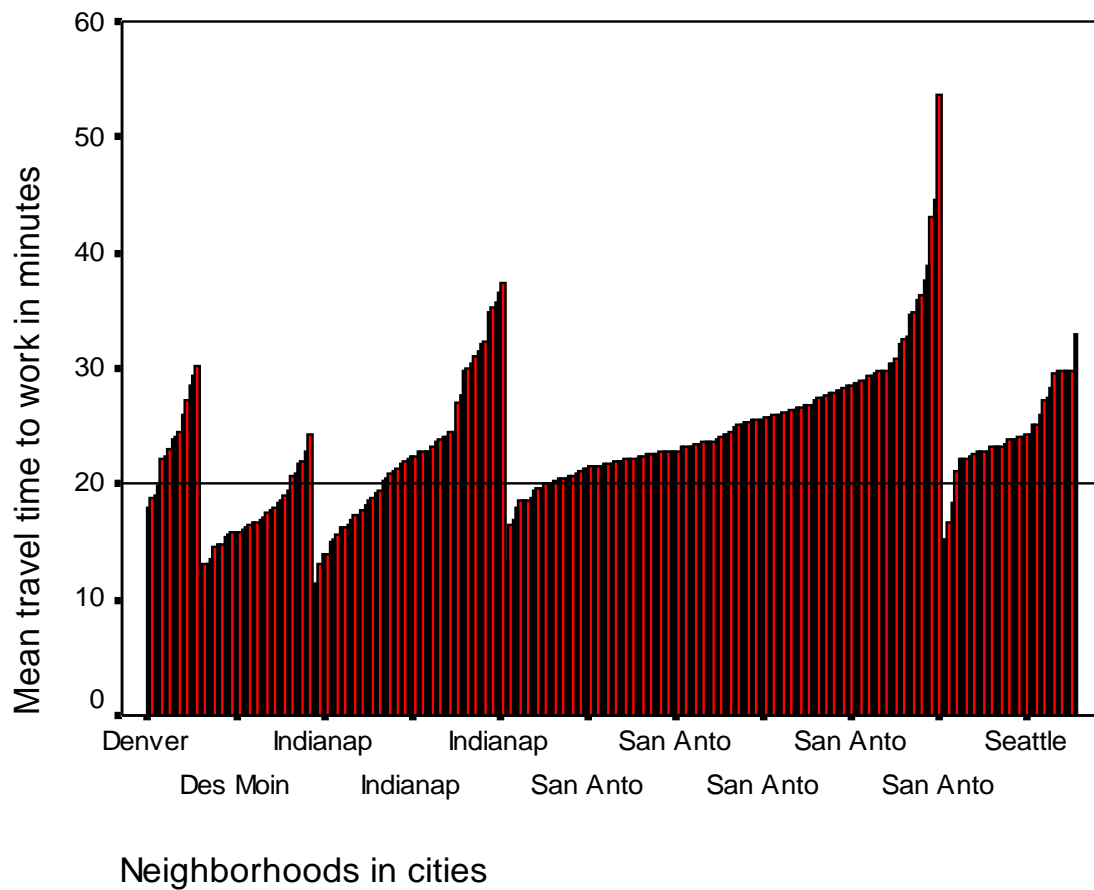


Figure A3. Mean travel time to work for neighborhood residents by city

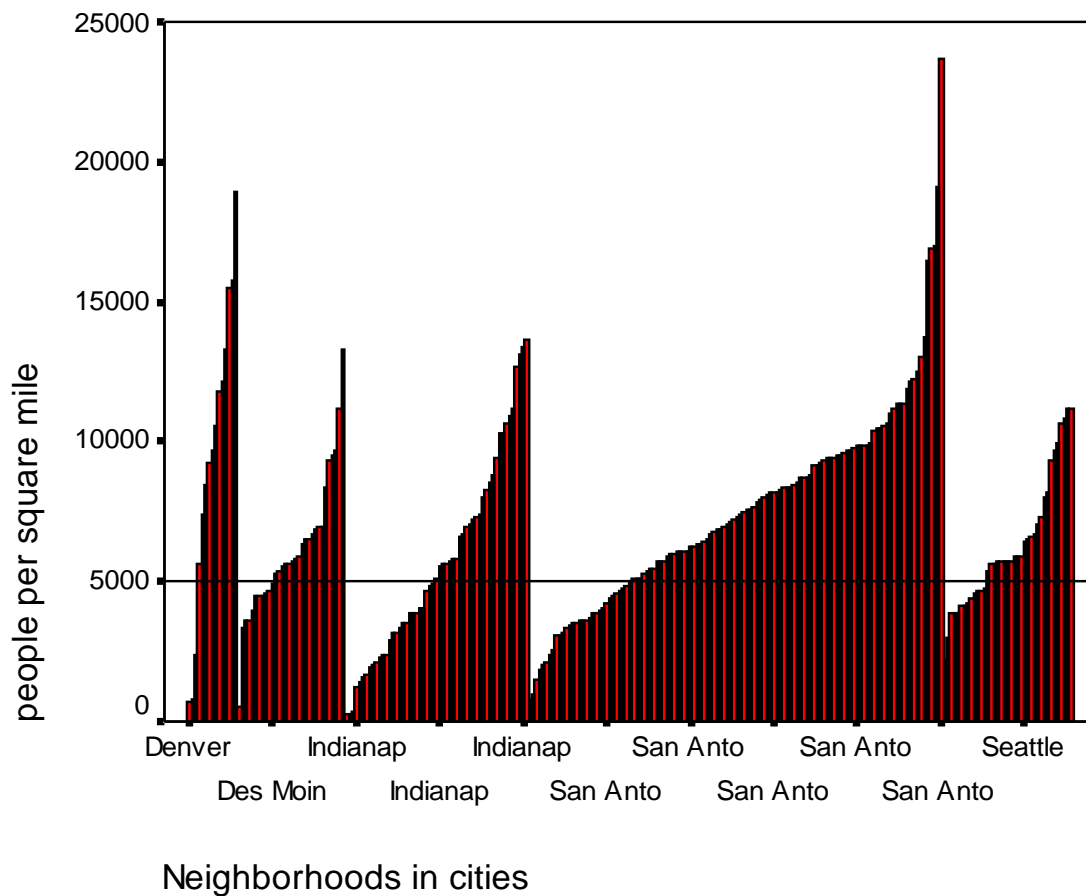


Figure A4. Population density of neighborhoods in cities

ENDNOTES

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- ⁱ Culture of poverty theory has been criticized for its inattention to institutional and power dynamics, as well as the negative stereotyping of individuals living in low-income neighborhoods (Brown, 1972; Leacock, 1971; Rainwater & Yancey, 1967)
- ⁱⁱ The labeled item is extracted from the *Making Connections* survey. The number in parenthesis following the item corresponds to the item number in the *Making Connections* survey protocol. Item names and item numbers will be used interchangeably in the text to represent the survey item.
- ⁱⁱⁱ The language used to describe the measurement properties of categorical or ordinal observed indicators quickly becomes confusing and cumbersome. Therefore, to keep the discussion as simple as possible, when estimates from the observed ordinal indicators are mentioned in the analysis, they refer to estimates made from the estimated propensity of the indicators.
- ^{iv} A frequency table of the number of respondents per neighborhood is provided in Table A2 of the appendix.