It Takes A Village? Neighborhoods and Children's Readiness for School

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Peter Jordan Wruck

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Dedication

This dissertation is dedicated to my family.

Abstract

From classical theorists like Durkheim, to the Chicago School's Park and Burgess (1916) and Shaw and McKay (1942), to today's work in criminology, sociologists have demonstrated clear relationships between residential context and a variety of outcomes. We also know that children vary in their school readiness. A variety of social forces push and pull on preschool age children and impact their overall school readiness, including family, health, institutions, and neighborhood. This research bridges the neighborhood and early education research literatures to answer three questions: first, is there an association between neighborhoods and school readiness in the United States? Second, which social disorganization-theory informed neighborhood characteristics are most salient in describing this observed association? Finally, do families act as a mediator of this relationship?

Given the literature and theory, I hypothesized that these relationships would be substantial and endure across a variety of definitions of neighborhood and school readiness. My results, however, paint a different picture: while neighborhoods appear to be associated with school readiness, the importance of this association is perhaps best described as mild. This has important implications for neighborhood and social capital theories, as well as future research into neighborhood effects on individuals and families.

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CHAPTER 1: BACKGROUND

Introduction

From classical theorists like Durkheim, to the Chicago School's Park and Burgess (1916) and Shaw and McKay (1942), to today's work in criminology, sociologists have demonstrated clear relationships between residential context and a variety of outcomes. We also know that children vary in their school readiness. A variety of social forces push and pull on preschool age children and impact their overall school readiness, including family, health, institutions, and neighborhood. This dissertation bridges the neighborhood and early education research literatures to answer three questions: first, is there an association between neighborhoods and school readiness in the United States? Second, which social disorganization-theory informed neighborhood characteristics are most salient in describing this observed association? Finally, do families act as a mediator of this relationship?

Given the literature and theory, I hypothesized that these relationships would be substantial and endure across a variety of definitions of neighborhood and school readiness. My results, however, paint a different picture: while neighborhoods appear to be associated with school readiness, the importance of this association is perhaps best described as slight.

The past two decades have seen an explosion in empirical and theoretical work tackling the relationship between neighborhoods and children of various ages. The literature has also made attempts to elucidate the mechanisms and pathways that explain the observed relationships (Furstenburg and Hughes 1997; Sampson et al 2002; Small et al 2001). A smaller subset has focused on the relationship of neighborhood

characteristics / facets of geography and various child development outcomes (Holloway & Valentine 2000; Kohen et al 2009; Oliver et al 2007; Sampson et al 1999; Small & Newman 2001). Robert Sampson, one of the most prominent researchers in this area, points out in his 1999 article that the fundamental basis for claiming that any relationship between neighborhoods and some outcome exists is the belief that people together in a neighborhood collectively create a social reality within which children and families operate. The weight of evidence thus far suggests that there are geographic locations for problem-related behaviors and that multiple forms of disadvantage characterize such locations. In the following chapter, I outline the theoretical and empirical foundations underlying my research.

Theoretical Background

Sparked in large part by Wilson's (1987) book *The Truly Disadvantaged,* modern neighborhood research has largely focused on structural dimensions of neighborhood disadvantage, especially the geographic isolation of poor, racial minorities and single parent families coupled with high levels of unemployment (Sampson et al 2002; Small et al 2001). Such neighborhoods also tend to be areas where the mechanisms of social control are weakened or absent. There are a wide variety of theories regarding the mechanisms behind these observed effects. Researchers have suggested that residents of affluent neighborhoods are more successful at bringing together resources and social networks to create supportive environments for children (Aber et al 1997; Jencks & Mayer 1990; Kohen et al 2009; Oliver et al 2007). This type of social capital encompasses several different aspects of broader neighborhood collective efficacy:

establishing shared norms regarding childrearing among adults and behavior among children and adolescents, establishing a willingness among residents to intervene on the behalf of others or for the common good, establishing adult support networks that have resources such as time and money to organize community and institutionally based organizations, and to effectively utilize and advocate for effective schools, libraries, parks, and other child-development relevant features (Jencks & Mayer 1990; Oliver et al 2007; Sampson 1999; Sampson et al 1999; Sampson et al 2002; Small et al 2001; Wilson 1987). Neighborhood poverty, in contrast, turns all of these desirable factors on their head, producing outcomes that are undesirable for children due to their lack of resources required to establish an environment conducive to effective child development (Sampson et al 2002).

Jencks and Mayer (1990) identified three types of models that might explain why neighborhood context negatively influences child and adolescent outcomes. First, Jenks and Mayer identify "epidemic models": those that attempt to demonstrate the ways in which neighborhood residents influence one another. For example, children in affluent neighborhoods may engage in constructive and positive activities as part of their routine activities. Interacting with adults and peers with stronger language and cognitive abilities then "rubs off" on the child. Second, Jenks and Mayer identify "socialization models" which suggest the obvious: non-parental adults nonetheless influence the development and socialization processes of neighborhood children through their actions. This takes place through two mechanisms: a willingness to intervene and engage in informal social control, and act as role-models more generally. Finally, Jenks and Mayer identify

"institutional resource models" which focus on the advantage that affluent neighborhoods have (or, by the same token, disadvantage that poor neighborhoods have) in accessing, advocating for and drawing in, and utilizing various forms of institutions that play a role in the community. These effective institutions – schools, libraries, parks, social service organizations – thus confer differing levels of advantage on residents. They theorize that affluent areas attract affluent and qualified individuals to work in their local institutions while poor areas are not able to do so. This, in turn, undermines child outcomes through less effective institutional support (Oliver et al 2007). Therefore, any research conducted in this area should attempt to account for these three distinct modes of operation – institutions, informal social control, and the effect of family and peers.

While acknowledging Jencks and Mayer's widely cited basis for neighborhood research, Sampson, Morenoff, and Gannon-Rowley (2002) have developed their own four-part theory to explain the effects of residential context – summed up best as a modern social disorganization theory owing its origins to the Chicago School of old. First, the social ties and interpersonal interactions with other residents in a neighborhood provide different opportunities to accumulate social capital, or "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu 1983:249). Children living in poor neighborhoods may have diminished access to well-educated adults to help them with homework or act as pro-academic role models (Wilson 1987, 1996). Parents in poor neighborhoods may also be less involved in their children's development, preschool, and schools and less able to activate the social capital necessary

to advocate for neighborhood or school improvement, while primary caregivers in wealthier neighborhoods are more able to do so (Coleman 1991; Kaushal, Magnuson, & Waldfogel 2011; Sampson et al 2002). Peers, who are often from the same neighborhoods, also affect adolescent outcomes to a large extent, and child outcomes to some extent (Sampson et al 2002).

Second, neighborhoods may influence school outcomes not through the direct ties of the residents, but through social norms and capacity for informal social control (Sampson, Morenoff, and Earls 1999). In other words, it may not be who the local children know directly, but rather the general levels of trust and expectations for behavior that prevail in the neighborhoods. For example, children may be less likely to get in trouble that would interfere with school when their neighbors are willing to intervene and keep an eye out for them. High expectations about overall educational attainment and achievement may also lead students to be more willing to work hard in school (Burdick-Will 2010).

Third, the quantity and quality of neighborhood institutional resources matters. When it comes to early childhood outcomes, families are the salient institution, followed by neighborhoods. Resources ranging from adequate medical care facilities, child-care and preschool programming, parental employment opportunities, and social and academic organizations all influence a child's academic performance and/or development before school age (Jencks and Meyer 1990; Brooks-Gunn et al 1993).

Finally, children's routine activities and those of their neighbors are shaped by the geography of neighborhoods, which may influence a variety of child outcomes. Land

use, such as the presence of bars, parks, or high-rises versus single-family homes, may shape the type of people that children interact with and the types of places in which they can interact with their peers (Sampson, Sharkey, and Raudenbush 2008). These ecological factors may also have a direct impact on the safety level of the neighborhood. For example, the degree to which police or community residents can more easily monitor public spaces is influenced by these factors (Jacobs 1997); however, a sense of ownership and control on the part of residents is still key in reducing crime (Newman 1972). Furthermore, the patterns of adult activity that children experience on a daily basis may also affect their school readiness or achievement outcomes. For example, children who observe their primary caregivers and neighbors coming and going regularly to work and attend formally organized activities during the standard workday may more quickly learn the value of routine and punctuality needed to be ready for and excel in school (Lareau 2003; Gates Jr. 2002). They may also learn how to navigate the world of formal interactions and organizations, such as schools, better than children who spend their time playing informally in the street (Lareau 2003, Sampson et al 2002; Gates Jr. 2002).

The assumption in Sampson's four theories above is that better (i.e. less poor or otherwise disadvantaged) neighborhoods should always lead to improvements in the outcome of interest. There are limitations to this assertion, however. For example, poor neighborhoods may be better able to cater to low-income urban families with some services, such as free clinics, reduced-cost childcare, and/or preschooling opportunities (Small and Stark 2005).

Since the mid-1980s, social disorganization theory has garnered much interest (Reiss & Tonry 1986; Bursik 1988; Stark 1987; Sampson & Groves 1989; Taylor 2001; Bellair 1997,2000; Elliott et al 1996; Kubrin 2000; Markowitz et al 2001; Sampson 1997; Warner & Rountree 1997). With new and improved statistical methods as well as the rich data sets of today (e.g. Sampson's Project on Human Development in Chicago Neighborhoods, the General Social Survey, various education data sets, and others), social disorganization theory has been largely supported in the literature with respect to certain outcomes – criminality and to a somewhat lesser extent labor market outcomes and educational attainment (c.f. Ananat et al 2011; Kubrin, Stucky, & Krohn 2009; Levine 2011; Sampson et al 2002). Sampson and Groves (1989) argued that the theory itself had never actually been tested despite its basis in early Chicago School sociology. Previous research had only considered the front and back ends of the theory (e.g. community attributes and the outcomes of interest) but had failed to consider the middle: indicators of how much social disorganization is actually occurring in a neighborhood. Sampson and Groves were able to test this theory using data from the United Kingdom and concluded that the theory is sound, given that the indicators of social disorganization did have strong relationships with the outcomes of interest (Kubrin, Stucky & Krohn 2009). For example, an experiment conducted in Ireland, Scotland, and the Netherlands and reported in the journal *Science* showed that graffiti and litter concentrations in a given area may produce more crime in that area, due to a perception of social disorder (Keizer 2008; Peterson et al 2000). Sampson's own article in *Science* showed that indeed

the social disorganization theory principles covered here are very strongly related to
criminality (Sampson et al 1997).

Social disorganization theory continues to be modified and developed. Bursik
and Grasmick (1993) identified three components of the theory's concept of social
control that must be measured in some way and considered in an analysis: first, private,
intimate relationships, friendships, and kin networks; second, less intimate relationships
such as neighbors, coworkers, and other acquaintances; and third, public linkages to
groups and institutions both inside and outside the neighborhood. Sampson, Raudenbush,
and Earls (1997) proposed modifying the "middle" conditions by adding a concept of
collective efficacy that, absent in the classic theory, captures the trust and intervention for
the common good of residents. A study of Chicago neighborhoods supported their new
proposition (Sampson & Raudenbush 1999). In their original proposal to revive the
theory, Sampson and Groves (1989:783) presented the following diagram (Figure 1):

Figure 1: Sampson's Originally Proposed Social Disorganization Theory [1]

• Low socioeconomic status • Ethnic Heterogeneity • Residential mobility • Family disruption • Urbanization	• Sparse local friendship networks • Unsupervised teenage peer groups • Low organizational participation	Crime and delinquency
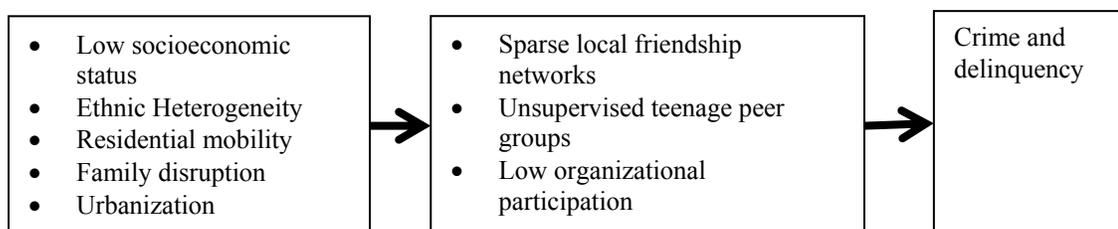
A wide range of empirical research has been conducted that largely supports
social disorganization theory. In the following section, I review the various literatures
related to this dissertation.

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[1] In the existing neighborhood effects literature, socioeconomic status, or SES, is typically defined as a
combined total measure comprising information about one's income, education, and occupational status
relative to others.

Empirical Background

Since *The Truly Disadvantaged* (1987), the existing empirical literature regarding neighborhood characteristics has focused almost entirely upon outcomes for older children (Oliver et al 2007). These include outcomes such as completion of high school (Farkas 2011; Kubrin et al 2009; Brooks-Gunn et al 1993; Halpern-Felsher et al 1997), academic achievement (Duncan & Magnuson 2011; Farkas 2011; Kubrin et al 2009; Entwisle et al 1994; Garner & Raudenbush 1991), behavioral problems or criminal activity (Duncan & Magnuson 2011; Kubrin et al 2009; Ennett et al 1997; Peeples & Loeber 1994; Sampson 1999; Sampson et al 1997,1999,2002), sexuality or teenage pregnancy (Billy & Moore 1992; Billy et al 1994; Brewster 1994ab; Ku et al 1993), and smoking (Billy & Moore 1992; Briggs 1997ab). All of this research demonstrates that greater neighborhood disadvantage and disorganization is associated with an increase in problem behaviors among children to varying yet significant degrees. This body of literature suggests a strong relationship between physical and demographic neighborhood characteristics and health outcomes (Brooks-Gunn et al 1993; Chase-Lansdale & Gordon 1996; Chase-Lansdale et al; 1997; Duncan et al 1994; Gidding et al 1996; Klebanov et al 1998; McCulloch & Joshi 2001; Norton & Han 2007; Oliver et al 2007) and behavioral / emotional outcomes (Brooks-Gunn et al 1993; Chase-Lansdale & Gordon 1996; Chase-Lansdale et al 1997; Duncan & Magnuson 2011; Duncan et al 1994; Kalff et al 2001; Kohen et al 2002, 2009; Oliver et al 2007; Sampson et al 2002,2008; Small et al 2001). Both of these areas of research demonstrate that living in a poorer or more disorganized neighborhood is associated with poorer development outcomes even after one controls

for family and individual characteristics (Oliver et al 2007) and in some studies even after attempting to control for unobserved variable bias (McColloch 2000; Sampson et al 1997).

In this body of literature, nationally representative longitudinal data are typically used. Most work in the United States has used the Children of National Longitudinal Survey of Youth (CNLSY) (Chase-Lansdale & Gordon 1996; Chase-Lansdale et al 1997) and the Infant Health and Development Program (IHDP) (Brooks-Gunn et al 1993; Duncan et al 1994; Klebanov et al 1998). The National Child Development Study (BNCDS) has been used in Britain (McCulloch & Joshi, 2001) and the National Longitudinal Survey of Children and Youth (NLSCY) in Canada (Boyle & Lipman 2002; Kohen et al 1998ab,2002).

Not all of the work has focused on older children, however. A positive relationship has also been found between neighborhood socioeconomic status and the behavior and emotional development of young children in several studies. Kalff et al (2001), in a study of 5 - 7 year old children found more child-behavior problems in families living in poor neighborhoods. Using data from the IHDP, Brooks-Gunn et al (1993) found a negative association between number of individuals employed as professionals in a neighborhood and behavior problems of 3 year olds. Using the CNLSY, Chase-Lansdale et al (1997) found a negative association between high neighborhood socioeconomic status and internalizing behavior of 5 and 6 year old girls. Work has also been done on the relationship of residential context with the health of preschool age children (Olds & Kitzman 1993; Olds et al 1999; Oliver et al 2007).

Using preschool age children in the NLSCY, neighborhoods with more affluent adults were shown to produce lower rates of behavioral problems in preschoolers (Kohen et al, 2002). Using these data, several studies have found a relationship between poor neighborhood quality and reduced cognitive outcomes for children, even when controlling for other factors. McCulloch and Joshi (2001) found such a relationship among children aged four to five years using the BNCDS. Using data from the IHDP, studies have shown that neighborhood affluence is positively associated with the IQ of children aged 5 years (Duncan et al 1994) and aged 3 years (Burdick-Will et al 2011; Brooks-Gunn et al 1993). Chase-Lansdale et al (1997) have found that high neighborhood socioeconomic status is positively associated with reading achievement and PPVT-R (Peabody Picture Vocabulary Test-Revised) while yet another study demonstrated a positive association between neighborhood socioeconomic status and verbal IQ of 5 year olds (Burdick-Will et al 2011; Chase-Lansdale & Gordon 1996). Examining toddlers in the NLSCY, Kohen et al (1998a) found a positive relationship between neighborhood affluence and toddlers' PPVT-R scores. The findings of these studies, using different neighborhood units, datasets, child-outcome measures, and neighborhood characteristics, have consistently demonstrated that neighborhood socioeconomic status can be influential upon young-children's emotional and behavioral outcomes, independent of their family background (Burdick-Will et al 2011; Oliver et al 2007).

Building upon this evidence, a small and growing literature has attempted to directly evaluate the relationship between neighborhood and school readiness of children.

This conversation is largely the product of the work of a small group of authors (Carpiano et al 2009; Kohen et al 2009; McCulloch & Joshi 2001; Oliver et al 2007) and addresses a timeframe critical to child development (Hertzman & Wiens 1994,1996; Keating & Hertzman 1999). Similar to the aforementioned areas of inquiry, this body of research suggests a strong relationship between physical and demographic neighborhood characteristics and school readiness outcomes in children when examined using standard and multilevel models. These effects are seen in a variety of areas – speech and communication skills development (Oliver et al 2007), behavior and cognitive ability outcomes (Capriano et al 2009), and Kindergarten teacher evaluations of student readiness (Kohen et al 2009). There is some evidence to suggest a curvilinear relationship between neighborhood socioeconomic status and school readiness (Carpiano et al 2009). Building upon these findings, epidemiologists and sociologists alike demonstrate the effect of neighborhood on child health and birth weight, which are both strongly associated cognitive development and later achievement (Burdick-Will et al 2011; Ransom and Pope 1995; Chay & Greenstoe 2003; Currie & Neidell 2005; Currie et al 2012; Currie & Schmeider 2009).

This body of research largely draws on restricted-use Canadian data. These papers model school readiness in strikingly similar ways: most make use of variations on the "EDI": The Early Development Index. Similar to the measures included in the United States Institute of Education Sciences' Early Childhood Longitudinal Study – Birth Cohort (ECLS-B), the EDI is an assessment administered by trained evaluators to measure a given child's cognitive development, communications skills, objective skills

(such as reading and identifying colors, etc.), and behavioral development (such as accepting instruction, working with others, etc.). The outcomes in the EDI are coded and reported categorically and are strikingly similar to ECLS-B. In an article published in *Child Development*, Kohen et al (2002) evaluate the relationship between signs of physical disorder and poor social cohesion in a neighborhood with various psychometric measures among preschool age children in Canada. Their work demonstrates a strong relationship above and beyond family and individual characteristics suggesting a relationship between neighborhood characteristics (both disorder and cohesion) and cognitive outcomes in preschool age children.

Nearly all of the work reviewed thus far has been descriptive. With a strong observational and theoretical model they make compelling claims, if for no other reason than the consistency and strength of the relationships demonstrated. However, effects in an experimental environment were elusive. For experimental evidence on the effects of neighborhood, researchers largely turn to the U.S. Department of Housing and Urban Development's (HUD) Moving to Opportunity for Fair Housing program (MTO). The program was a unique randomized controlled experiment originally designed to shed light on whether moving from a high-poverty neighborhood to a lower-poverty community improves the economic prospects of low-income families.

Authorized by the U.S. Congress in 1992, MTO made use of rental assistance vouchers, in combination with intensive housing search and counseling services, to assist low-income families to move from some of America's most distressed high-rise public housing projects to lower-poverty communities. The idea is rather straightforward: by

moving the family out of an area with concentrated poverty, the opportunity to link to jobs in areas with economic opportunity increases, leading to better labor market prospects for those who moved (HUD 2011). Because of the existing nonexperimental literature regarding neighborhood effects, researchers extended their lines of inquiry to include areas such as health and education.

A total of 4,600 low-income families with children, the vast majority of them headed by African American or Latino single mothers, were recruited from high-poverty public housing projects in five participating cities (Boston, Chicago, Baltimore, New York City, and Los Angeles) between 1994 and 1998. These families were assigned by lottery to one of three research groups: a traditional voucher group, a low-poverty voucher group (defined as a census tract with a poverty rate of lower than 10% as reported in the 1990 census) and a control group. Because of the random assignment design, the MTO study generates comparable groups of adults and children living in different types of neighborhoods so that a comparison across groups is possible. As the original goal of MTO was to evaluate labor market outcomes, the only services provided to subjects who moved were initial housing placement and job related – there were no post-placement supplementary housing services or counseling offered for education or health.

While MTO had no significant effect on labor market outcomes of adults as originally intended (Ludwig et al 2008; Orr et al 2003, Kling, Liebman, & Katz 2007), other evaluated areas experienced largely positive results. Among the areas studied, resident health improved the most in the long term. Low-poverty voucher adults enjoyed

significantly improved mental health, increased feelings of safety, and increased

satisfaction with the quality of their housing (Burdick-Will et al 2011; Buron, Hayes, &

Hailey 2013; Kling, Liebman, & Katz 2007; Orr et al 2003; Popkin & Davies 2013).

Low-poverty voucher adults also realized significant declines in obesity and other

comorbidities. Young females realized some of the same benefits of improvement in

mental health in addition to a few others (e.g. reductions in depression, increases in

sociability, improvements in behavior in and out of class; decreases in obesity rates), but

while some young males also enjoyed these benefits, as a group they may have been

slightly more likely to become delinquent as they became adolescents (Burdick-Will et al

2011; Clampet-Lundquist, Edin, Kling, & Duncan 2005; Kling, Liebman, & Katz 2007;

Kling, Ludwig, & Katz 2005; Ludwig, Duncan, & Hirschfiled 2001; Leaventhal &

Brooks-Gunn 2004).

In education the results are more mixed. Positive overall effects in the first four

years tended to be powered by two of the five cities, the reasons for which the authors of

various studies claim are not clear (Burdick-Will et al 2011; Leaventhal 2004; Ludwig et

al 2008; Mendenhall, Deluca & Duncan 2005; Orr 2003; Rosenbaum 1995, Popkin &

Davies 2013; Rosenbaum & Kaufman 1991; Rubinowitz & Rosenbaum 2000;

Sanbonmatsu et al 2006). Sanbonmatsu et al (2006) went as far as to claim that there is

no connection between MTO and education, but their findings are only in the medium

and long term (greater than four years since random assignment) and not the short term

(four years since random assignment or less). Based upon their analysis of the data and

given the widely varied effects depending on the city, the authors decided that there was

no evidence of a neighborhood effect overall. Others were not so quick to broadly
dismiss the connection – during the first four years of random assignment, there were
significant gains in math and vocabulary scores (Burdick-Will et al 2011; Ludwig, Ladd,
& Duncan 2001), indicating the possibility of a diminishing return but one that is
nonetheless most important at early ages or in the early years of relocation. As some
MTO students had not yet enrolled in school when their family moved, the possibility for
changes in school readiness as a result of neighborhood exists but is not evaluated in the
MTO literature.

Ancillary quasi-experimental support for the latter conclusion effect can be found
in the Chicago Housing Authority Choice (CHAC) voucher program. The CHAC
program is a quasi-experiment involving a randomized voucher wait-list. Analysis of the
program using the Iowa Test of Basic Skills and MAT7 assessment showed that being in
a family receiving a housing voucher is associated with a 0.1 standard deviation gain in
reading skills and a 0.16 standard deviation increase in math skills, regardless of age in
school (Jacob et al 2008). Using a factor analysis of the Wechsler Intelligence Scale in
vocabulary and Wide Range Achievement test in reading showed that moving to a
"better" neighborhood is associated with a 0.25 standard deviation increase in verbal
ability (Sampson 2002).

Our reliance on these experimental results must be tempered for a few reasons,
some of which are already explicitly acknowledged in the existing literature. First, and
perhaps most notably, compliance rates are low among the groups. Low-poverty voucher
recipients had a compliance rate of only 47%. Further confounding this low compliance

rate is the fact that those 47% averaged about one year in their new neighborhood before returning to a high-poverty census tract (Clampet-Lundquist & Massey 2008; Mathews 2007; HUD 2011; Popkin et al 2013). Traditional voucher recipients had a compliance rate of only 59%. This indicates a heavy amount of self-selection taking place within the two treatment groups. Thus, the longer one gets from the time of random assignment, the less reliable the results as a significant amount of self-selection takes place.[2]

Beyond these problems, an additional complication arises among the control group: between 1994 and 1998, a great deal of HOPE VI grant funds were being used to demolish high-rise public housing. This resulted in a number of control group families being relocated to low-rise housing projects (which tend to be much safer, more sanitary, and better managed with many more on-site services) or to the scattered site public housing (resulting in relocation patterns among these control group families that are strikingly similar to the traditional voucher group) (HUD 2011; Hunt 2008). Given this set of realities, I am inclined to put more weight on short- and medium-term findings such as Ludwig, Ladd, and Duncan (2001) versus the more recent long-term findings such as Sonbonmatsu et al (2006). Indeed, many of the low-poverty voucher families that did not move very far from their public housing projects did not even change schools (Burdick-Will et al 2011) even though they were counted as having complied. All of these issues of selection and mobility have led some notable researchers to criticize MTO

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[2] While low compliance rates undermine the ability of researchers to make causal claims based upon neighborhood exposure, they do not undermine the ability of researchers to make claims about intervention effectiveness, as considering compliance rates is a necessary part of estimating the effect of a real-world intervention

as a fundamentally weak intervention overall, and to question many of the claims made

about its effects (Clampet-Lundquist & Massey 2008).

The rebuttal to this criticism, most notably made by Ludwig et al (2008), is that

the effect is still identifiable given proper statistical techniques. Consider the following

passage:

> Roughly speaking, the MTO intent-to-treat (ITT) effect on a given outcome is the simple
> difference between the outcome for *all* individuals assigned at random to MTO's
> experimental condition, regardless of whether they "complied" by actually moving
> through MTO to a low-poverty neighborhood, and the outcome for all individuals
> assigned to the control group. In contrast, the treatment-on-the-treated (TOT) estimates
> are of outcome differences for families actually moving in conjunction with the program.
> We show that neither ITT nor TOT estimates are biased by the fact that only some
> families moved through MTO or by the fact that not all movers stayed in low-poverty
> areas. Both estimators are informative about the existence of neighborhood effects on
> behavior (Ludwig et al 2008:146)

It is clear that there is some misunderstanding about the power of ITT and TOT effects in

statistical analysis among some researchers as Ludwig points out. This makes making

claims much more plausible. However, this debate remains unsettled in the broader

MTO literature – thus, an appropriately tempered conclusion is to not put all of our eggs

in one experimental basket while still giving considerable weight to the experimental

evidence of MTO (c.f. Burdick-Will et al 2011).

More broadly, part of what researchers like Clampet-Lundquist and Massey are

dissatisfied with, and which Ludwig does not directly dispute, is the inherent limitations

of making claims about the effects of impoverished neighborhoods using the MTO

population as a basis for such claims. Much of the MTO literature fails to explicitly

acknowledge – regardless of ITT/TOT analysis – that the findings are only generalizable

to an extremely small and already heavily manipulated subset of the population. Even

before MTO, public housing residents were already so heavily manipulated as to almost

be classifiable as institutionalized (c.f. Bloom 2009; HUD 2011; Hunt 2008). As a

population, public housing residents in the United States are not only extremely

disadvantaged but are often even more so than their peers because of artificially created

conditions and carefully administratively selected cohorts of individuals that reside in

public housing projects. The upshot is that making claims about the nature of

neighborhood effects as a whole based solely on the MTO populations is a tenuous

proposition (c.f. Clampet-Lundquist & Massey 2008).

Despite issues with the broader baseline population, most MTO studies only

account for the different city sites themselves – little consideration is made for the unique

conditions of the individual housing projects. This is despite the fact that public housing

populations in these cities (and indeed individual projects or even specific high-rises

within a project) are heavily manipulated by law and by administrative practices. The

problem begins with an exceptionally extreme amount of self- and administrative-

selection. Most public housing residents are on waiting lists for years or in some cases

decades before being placed in a project (Bloom 2009; Hunt 2008). During this period,

those on the waiting list often must continue to prove eligibility (e.g. meeting income

requirements, passing drug tests, passing home cleanliness inspections, and other widely

varied qualifications) and not leave a given city – both of which serve to at least

somewhat weed out those on the waiting list who are even slightly upwardly mobile

(Bloom 2009; Hunt 2008; HUD 2011).

Administrative manipulation results in widely varied populations between cities in MTO. For example, the Chicago Housing Authority ranked prospective residents in a manner nearly opposite of some housing authorities, giving higher degrees of preference to larger and larger single-parent households and to those receiving public assistance (Bloom 2009; Hunt 2008). Residents of New York City Housing Authority projects are not only far more likely to live within walking distance of wealthy areas of the city, they also lived in projects wherein by standard administrative policy no more than 30% of residents were recipients of public assistance and no more than two-thirds were single parent households. This stands in stark contrast to Chicago, where 95% of residents received public assistance and 95% were single-parent households. The child-to-adult ratio (a key factor in social control) ran as high as 6:1 in some Chicago housing projects, while as low as 1.2:1 in some New York City housing projects (Bloom 2009; Hunt 2008). Even within the same city, the differences among individual housing projects – or even buildings within a project – are huge: some projects in Chicago housed three and four times as many families with four or more children versus families with two or fewer (Bloom 2009; Hunt 2008).

The ultimate result of heavy handed administrative manipulation and self-selection is a unique population of individuals that would likely never have coalesced in such concentration in larger society – thus largely compounding social ills that exist in impoverished neighborhoods (Bloom 2009; Buron, Hayes, and Hailey 2013; Hailey & Gallagher 2013; Hunt 2008; Popkin 2013; Popkin & Davies 2013; Popkin et al 2013; Wood 1944; HUD 2011). Residents had an extremely different lived experience, sense

of social control and collective efficacy, and access to social capital both between and within the cities studied (Buron, Hayes, and Hailey 2013; Hailey & Gallagher 2013; Popkin 2013; Popkin & Davies 2013; Popkin et al 2013). Ultimately, residents in certain cities and projects were far more isolated than others. Thus, it may not be that there is no general effect on education because only two cities realizing positive effects on educational outcomes – it may simply be a reflection of the significant differences in populations.

Second, the design for neighborhood quality was based on a rather arbitrarily set threshold: low-poverty voucher subjects could move to any place within an entire census tract having a poverty rate lower than 10%. However, as pointed out later in this document when discussing the drawbacks of administrative neighborhood data, there is huge variation within census tracts, including depressed or declining areas that can often be found adjacent to quite affluent areas. This is further compounded by the fact that the 1990 census was used even though most of the moves took place seven to ten years later. Indeed, a significant number of those who moved to low poverty census tracts in fact moved to the highest poverty or declining neighborhoods within those tracts, thus to some extent challenging the validity of the low-poverty voucher group (Burdick-Will et al 2011; Clampet-Lundquist & Massey 2008; Sanbonmatsu et al 2006; HUD 2011). In some larger cities where very impoverished and very wealthy tracts are nearby or even adjacent, it is entirely possible for a depressed isolated poor neighborhood to exist within a comparatively wealthy tract. Thus, despite the fact that a low-poverty voucher family moving to such an area is counted as a complier, they nonetheless moved into similarly

poor and isolated surroundings that are not adequately measured by MTO – potentially

showing no effect of moving to a low poverty census tract when in fact there may well

have been an effect had the family actually moved to a low poverty neighborhood.

Finally, the aforementioned studies use census tract data to account for

neighborhood characteristics. As discussed later in this document when contrasting self-

reports from administrative neighborhood data, this is a limitation of the MTO research

(c.f. Burdick-Will et al 2011).

Taken in total, MTO offers excellent opportunities for research and given its

experimental design offers some of the strongest evidence for neighborhood effects

available because of the attempt to minimize confounding effects present in non-

randomized studies.   The opportunity to study a group of families randomly assigned to

neighborhoods is tremendous. Even with its drawbacks, it is the closest researchers have

come to being able to analyze neighborhood effects while utilizing randomization of

treatment subjects.

Unfortunately, the experimental MTO and the quasi-experimental CHAC do not

provide us with evidence regarding school readiness. Specifically testing school

readiness is important for two broad reasons: first, because school readiness is heavily

predictive of later achievement (Duncan et al 2007). Second, because development of the

child around the kindergarten ages is occurring so rapidly that testing at another time

point would produce fundamentally different results capturing different levels of

cognitive development and different family and school effects (c.f. Woolfolk 2012).

A variety of research suggests that school readiness is predictive of math and reading achievement later in school. Perhaps one of the most exhaustive works in this area demonstrated that school-entry math, reading, and attention skills have the greatest predictive power in early math skills in school, followed by reading skills (Duncan et al 2007; Duncan & Magnuson 2011). Effects persist even when accounting for a variety of family and other factors (Duncan et al 2007; Duncan & Magnuson 2011); and is in keeping with a variety of other research on math and reading skills (NICHD Early Child Care Research Network 2005; Scarborough 2001; Snow et al 1998; Storch & Whitehurst 2002; Whitehurst & Lonigan 1998; Baroody 2003; Ferrari & Sternberg 1998; Hiebert & Wearne 1996) and attention (Olson et al 1999; Posner & Rothbart 2000; Alexander et al 1993; Raver et al 2005) even when demonstrated to be independent of cognitive ability (McClelland et al 2000; Yen et al 2004; Howse et al 2003). By influencing both the child and the social environment, early academic and socioemotional behaviors are linked to academic achievement because they provide the foundation for positive classroom adaptation, producing lasting achievement effects (Cunha, Heckman, Lochner, & Masterov 2005; Duncan & Magnuson 2011; Entwistle, Alexander, & Olson 2005). Forces that shape these early factors, such as parental investment in the child (c.f. Cunha & Heckman 2008; Phillips 2011), neighborhood and household environment, and interaction with others become important for positive achievement effects. (Carpiano et al 2009; Hertzman & Wiens 1994,1996; Keating & Hertzman 1999; Kohen et al 2009; McCulloch & Joshi 2001; Oliver et al 2007; Salmon 2008; Pettit, Badtes, & Dudge 2000)

while anti-social behavior brought on through these environmental factors can be detrimental (Patterson, DeBaryshe, & Ramsey 2000).

After about age two, children begin to experience a great deal of both socioemotional and cognitive development (Field 2007; Flavell et al 2002). Both classical and contemporary research shows that these developmental factors are shaped in part by observations the child makes about their environment and the relationship of people to it, the relationships among the people in their environment, and the childrearing practices of their primary caregivers (Field 2007; Flavell et al 2002; Siegler & Alibali 2005; Piaget 1929; Rogoff 2003; Salmon 2008; Vygotsky 1934).

Making sense of these of these relationships is aided by language – which also has an impact on the success of formal preschool-age educational programming. Living in a home or neighborhood environment where language development is not adequately fostered can have negative consequences – potentially delaying stages in reading development that can have profound impacts later in school (Chall 1983; Commission on Behavioral and Social Sciences and Education 2000).

A child's vocabulary and ability to adequately access it develops and changes rapidly through the early years, from only 450 words at age two to about 1,500 by kindergarten matriculation, exploding to 10,000 by completion of first grade, with sentence structure and conjugation developing equally rapidly (Roberson, Davidoff, Davies, & Shapiro 2004). Some research even indicates that after beginning formal schooling children may learn an average of 20 words a day (Bloom 2002). Thus, evaluating a child at age four can be hugely different than five, and again dramatically

different than age six. It is equally important to keep in mind that due to the exponential

nature of vocabulary and grammar usage, even a comparatively short lag in development

can put children at a substantial disadvantage, with long-term consequences (Price &

Crapo 2002).

As a result, deficiencies in language and the ability to communicate have been

demonstrated to be a negative factor in later school readiness and school achievement

primarily because mastery of basic oral skills is critical for understanding texts and

instructors (Pinker 1994; Lieberman 2006). Due to the exponential rate at which

language acquisition occurs, such effects can be compounded the longer deficiencies

persist (Woolfolk 2012). This can be further compounded if a child develops a dialect

that is different from that which can be found in the child's school, classroom, and

textbooks, or if the child is an English language learner, both of which are related in part

to neighborhood environment (Borman & Overman 2004; Espinosa 2007; Garcia 2002).

Socioemotional development proceeds equally apace, including abilities like

making sense of and controlling one's emotions, responding well to authority, working

well with others, and behaving appropriately in a wide variety of situations. Inadequate

socioemotional skills have been demonstrated to promote conflict between students and

teachers which harms later achievement in school (Newcomb et al 1993; Parker & Asher

1986; Ladd et al 1999; Pianta & Stuhlman 2004; Pettit, Bates, & Dodge 2000; Salmon

2008; Bagwell et al 2000; Ladd, Kochenderfer, & Coleman 2000). Much of the

socioemotional development of young children takes place in the home through the

childrearing practices of primary caregivers, including engaging in enriching activities

and applying consistent discipline (Phillips, 2011; Woolfolk 2012).

The singular importance of family cannot be understated. In general in this vein

of research, family is defined as the basic unit of individuals with whom a child lives

including siblings or other children, while primary caregivers are the older individuals

who are primarily responsible for the care and supervision of the child[3]. However, these

terms are sometimes used interchangeably (and perhaps inappropriately) as family is

sometimes used as shorthand for primary caregivers. Children from families that are

socioeconomically advantaged tend to have a variety of benefits available to them very

early on, throughout school age, and beyond (Aschaffenburg & Maas 1997; Becker &

Tomes 1979, 1986; Blau & Duncan 1967; Featherman & Hauser 1978; Gottfredson 1981;

Kaushal et al 2011; Ma & Klinger 2000; Marini 1978; Mayer 2001; Orr 2003; Reardon

2011; Sewell, Haller, & Ohlendorf 1970). They also tend to achieve high socioeconomic

status themselves (Aschaffenburg & Maas 1997, Blanden & Gregg, 2004, Blau &

Duncan 1967, Chenoweth & Galliher, 2004, Featherman & Hauser 1978).

These school readiness boosting benefits include, but are not limited to, greater

parental investments in creating an educationally conducive and supportive home

environment (Amato & Fowler 2002; Bell, Allen, Hauser, & O'Connor 1996; Crosnoe

2004; Hair et al 2005; Hossler, Schmit, & Vesper 1999; Kaushal et al 2011; Kenny,

Blustein et al 2003; Kenny et al 2007; Orr 2003; Phillips 2011; Rossi & Rossi 1990), a

lower overall number of children per family (Downey 1995, Fomby & Cherlin 2007),

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[3] Including but not limited to biological or step parents, foster parents, grandparents, older minor siblings, etc.

transmission of values regarding the importance of education (Davis-Jacob & Linkow 2011; Keane 2005; Melby et al 2008; Kim & Schneider 2005), taking more active roles in preschool age learning opportunities including more effectively utilizing resources to aid in successful participation in preschool and childcare settings (Cabrera & LaNasa 2001; Duncan et al 2010; Phillips 2011), and instilling a sense of self-efficacy (Bandura 1994, 1997, 2001; Bandura & Locke 2003; Maddux 2002; Schwean & Sklofske, 1999; Miller & Brickman 2004; Ryan & Decci 2000). The importance of institutional participation (and the effective use of institutions by families) is equally critical: while benefits may diminish over time, participation in preschool or educationally structured childcare settings boosts social and cognitive school readiness outcomes (Bierman 2009; Deming 2009; Domitrovich et la 2010; Duncan et al 2010; Hindman et al 2010; Ludwig & Miller 2007; Ludwig & Phillips 2007; Garces, Thomas, & Currie 2002; Morrison & Bratton 2010; Piker 2008).

While literature exploring the neighborhood effect on early childrearing practices of primary caregivers with young children is underdeveloped, some evidence nonetheless exists to suggest that socioemotional development is affected by neighborhood vis-à-vis family. Net of socioeconomic status and other factors, primary caregivers in poor neighborhoods are more likely to use physical discipline, less likely to engage in enriching activities with their kids, and more likely to physically abuse their or other people's children, while children in such families are less likely to have been encouraged and more likely to have had low expectations set for them by primary caregivers (Evans 2004; Kim & Guryan 2010; Woolfolk & Perry 2012). Children in these families are also

more likely to be exposed to violence both in the home and the neighborhood, both of

which are connected to lower levels of academic achievement (Siegel 2011). In addition,

primary caregivers in such neighborhoods are less likely to be willing to help a stranger

and less likely to defer or intervene on behalf of children other than their own and more

likely to be permissive, which results in a particular set of perceived norms of non-

familial social interaction and authority in the child that are subsequently not conducive

to transitioning into formal schooling (Berger 2012, 2006; Durbin, Darling, & Steinberg

1993; Hoffman 2001; Kagan & Herschokowitz 2005; Spera 2005). The effect of

neighborhood is thus potentially mediated by primary caregivers.

The culmination of all of these neighborhood and family-related factors of

development is a unique state of cognitive development and skill set possessed by the

preschool age who is about to enter formal schooling (Gray 2011; Kohler 2008).

Experiences early in life affect the quality of the brain's architecture, creating a firm or

weak foundation for all learning that comes later. All of these studies of early

development show the achievement gap is in place long before children reach school –

driven in no small part by both neighborhood environment and family (Burdick-Will et al

2011; Gunnar 2012, Woolfolk 2012). These factors play a significant role in the resulting

preschool age achievement gap: estimated at 20% – 25% in vocabulary scores between

white and African American children by age four (Burdick-Will et al 2011; Brooks-

Gunn, Rouse, & McLanahan 2007; Jencks & Phillips 1998; Gunnar 2012; Woolfolk

2012; Brooks-Gunn, Rouse, & McLanahan 2007; Jencks & Phillips 1998; Duncan &

Magnuson 2005; Magnuson & Waldfogel 2005). Put another way, 84% of white children

will perform better than the average minority child on reading and math school readiness

assessments, while only 16% of minority children will perform better than the average

white child (Burdick-Will et al 2011; Rock & Stenner 2005).

Studying school readiness and neighborhood is thus a critical and distinct concept

reflecting an equally critical and distinct phase in a child's development with important

implications for later achievement – all while discretely separate from the effect of

formal schooling while demonstrating the critical importance of neighborhood, family,

and social environment for young children (Burdick-Will et al 2011; Dodge 2011;

Lerner, Theokas, & Bobek 2005).

Findings can be summarized as follows (c.f. Sampson et al 2002): First, there is

strong evidence of the connection between multiple measures of disadvantage and

neighborhood quality. Second, a variety of factors come into play at the neighborhood

level, and these often occur with one another, including, but not limited to, crime,

adolescent delinquency, social disorder (i.e. the deterioration of mechanisms of social

control, c.f. Burdick-Will et al 2011; Kelly 2000), physical disorder (e.g. deteriorating

and unkempt properties, graffiti, abandoned buildings, etc.) low birth weight, infant

mortality, school dropout, and child maltreatment. Third, these factors are related. A

variety of predictors, including concentration of poverty, racial isolation, single-parent

families, rates of home ownership, length of tenure, and broader collective efficacy and

social cohesion are associated with the aforementioned outcomes to varying degrees.

Fourth, empirical results have not varied much with the operational unit of analysis. The

stratification of local communities by factors such as social class, race, and family status

is relatively stable across a variety of levels, whether local community areas, census

tracts, or other neighborhood units. However, as will be discussed in the following

chapter, this does not mean that administrative lines are in and of themselves valid

measures of spatial disadvantage, and respondents often reliably define their own

neighborhoods anyway. Finally, neighborhoods appear to have an effect on the cognitive

and school readiness outcomes of young children, predicted by many of the same

mechanisms identified above.

In the following chapter, I lay out a critique of this existing work and lay the

foundational requirements for a good analysis strategy, discussed in a subsequent chapter.

CHAPTER 2: CRITIQUE AND MOVING FORWARD

Critique

The neighborhoods / school readiness literature fails in a few places. First, there is little evidence from the United States – perhaps largely a function of the data available, but also perhaps a function of a trend in the literature. The prevailing tendency among American neighborhood research of late has been to focus on labor market and criminological outcomes, which by extension excludes young children – this is part of the reason literature directly related to the topic of this project is comparatively difficult to find. This is further exacerbated by a lack of good data sets covering both school readiness outcomes in particular and neighborhood characteristics beyond administrative data collected by the Census Bureau within the United States. After reviewing a myriad of data sources, I was only able to find the needed information in one source based in the United States. Good data including reliable and valid measures of neighborhood constructs based upon non-administrative data is extremely expensive given the manpower and time required collecting it, and those data sets that have been grant-funded thus far have focused on the aforementioned criminological or adolescent outcomes (e.g. Sampson's Project on Human Development in Chicago Neighborhoods, PHDCN).

While there may be little reason to believe the neighborhood characteristics themselves would differ in the three most widely studied nations given their similarities (Britain, Canada, and the United States), there may be reason to believe that the relative importance of any given mechanism does vary between these countries (c.f. Sampson et al 1997). The United States tends to concentrate a few forms of neighborhood disorganization and disadvantage to a much higher degree than do Britain or Canada. For

example, as mentioned earlier, exposure to violence is quite important for a variety of outcomes at a various ages. Handguns are illegal in both Canada and Britain, and are very difficult to obtain illegally – the same is not true in the United States. Partly as a result, urban crime rates are much higher in central cities in the United States than they are even in our neighbor to the north (Federal Bureau of Investigation 2011; Royal Canadian Mounted Police 2011; Metropolitan Police Service 2010). Free access to healthcare (including free door to door transportation for the indigent in many cases) is guaranteed in Canada and Britain, but many poor Americans living in central cities and rural areas have little access to quality healthcare institutions. In these two examples, while the neighborhood characteristics themselves are unchanged – i.e. exposure to violence in the neighborhood is still important – the magnitude of the importance of the various neighborhood characteristics may differ from country to country.

More broadly, according to both the Canadian and United States census bureaus, Canada has much lower economic inequality and significantly less racial diversity even in its largest cities or most remote rural areas. Canadians also enjoy a much more robust welfare state and do not have a widespread history of restrictive racial residential covenants as does the United States, thus further changing the makeup of neighborhoods between the two countries (Pietila 2010). Thus, even though the Canadian research that is most similar to this project describes the nature of the relationship between neighborhoods and school readiness, there are far too many legal, demographic, and practical differences to simply rely upon Canadian research to explain the same relationship in the United States. While these potential cross-national differences are not

a primary motivation of this research, it is important nonetheless to point out that research from other nations even as similar to the United States as Canada are insufficient in explaining American processes for the reasons discussed.

Second, the literature on neighborhoods and school readiness almost always reduces at least one and typically both concepts into single artificial scores, which glosses over the potential for examining the characteristics that underlie the observed relationship. Building off of the extant literature reviewed in chapter 1, this is problematic for two main reasons. (1) Recent research on school-age children (ages 6 – 13) demonstrates that primary caregiver investments in cognitive development and noncognitive skills have an effect on later achievement, particularly if emphasized at certain ages (Cunha & Heckman 2008; Phillips 2011). Building upon this foundation, we know that primary caregiver investments in cognitive development are most beneficial if made while the child is 0 to 4 years old, while noncognitive investments are more beneficial between the ages of 5 to 14 years (Cunha, Heckman, & Schennach 2010). To reduce school readiness to one single composite score covering both broad areas of outcomes loses this rich detail that the child development literatures value, particularly given the relative importance of certain areas over others at varying ages. (2) Reducing neighborhood characteristics to a single construct ignores potentially valuable neighborhood characteristics demonstrated to be of importance in the literature. For example, certain outcomes, like criminality, are more strongly associated with neighborhood collective efficacy and social cohesion than other factors like neighborhood demographics or access to institutions. Educational attainment, on the

other hand, is more related to neighborhood institutional support than criminality (c.f.

Sampson et al 2002). This is thought to be the result of the differing importance each has

on effecting behaviors and development of individuals.

To make a parallel example directly related to this dissertation, residing in a

neighborhood with a high degree of informal social control may positively affect the

ability of students to accept instruction and behave in class more than some non-social

component of school readiness[4]. Likewise, children engaging in a good deal of reading

as part of routine activities may realize improvements in cognitive skill outcomes while

not realizing gains in social outcomes. In short, different neighborhood characteristics

may affect different aspects of school readiness in ways that we do not yet know – but

based upon the links observed in other areas of the neighborhood and child development

literatures, we can theorize that these links may exist. This dissertation is able to speak to

this shortcoming of the existing literature by demonstrating (1) the relationship of certain

neighborhood characteristics to certain components of school readiness and (2)

demonstrating relative magnitude of those relationships.

Third, school readiness outcomes are rather ill-defined in most of the reviewed

work. No single agreed upon definition of is used in any of the work reviewed. This

conflict in the literature is indicative of a broader issue: the term school readiness is one

of the most frequently used labels in discussions of early childhood education and school

outcomes even though there is virtually no standard definition for the term (Meisels

1999). School readiness can be used to describe cognitive development (typically

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[4] In this example, this would take place through the child gaining first-hand and observational experience with non-familial persons engaging in informal social control in their neighborhood, thus affecting the child's understanding of behavioral norms and expectations with non-familial actors.

evaluated with a standardized assessment and/or discretely observable cognitive tasks

like being able to count), or it can be used to describe behavioral, health, or social

characteristics and abilities. This makes comparing results problematic as fundamentally

different research designs all advertise themselves in terms of "school readiness" when in

fact they are evaluating distinctly different dependent variables. This research helps to

close the gap between these differing definitions of school readiness by using a definition

of school readiness that encompasses both general areas within the same study, allowing

for better comparison between different conceptualizations of school readiness.

Even as many sociological and urban planning researchers use the presence or

absence of objectively observable social skills to define school readiness (hereafter

"interpersonal skill outcomes"), the metrics used more often in child development,

economics, and policy-related work are standardized cognitive development assessments

or discretely quantifiable abilities reported as continuous scores (hereafter "cognitive skill

outcomes") (Almlund et al 2011). Given that interpersonal skill outcomes appear to be

affected by neighborhood and environment (Kohen et al 2002), it is reasonable to suspect

that there may be an effect on cognitive skill outcomes evaluated from standardized

metrics as well (c.f. Almlund et al 2011).

Only a handful of studies (notably Kohen et al 2002) do not reduce the several

skill outcomes into a single score. While a step in the right direction, Kohen et al fail to

critically engage the varied readiness outcomes across neighborhoods. Rather, even

though each outcome is predicted by neighborhood to varying degrees, there is no

theorizing about why these differing degrees of relationships are observed – and which

neighborhood mechanism may be affecting which school readiness outcome to a greater or lesser extent. Instead, their conclusion is a broad one: neighborhoods affect school readiness – but no deeper. As mentioned earlier, it is reasonable to hypothesize that some neighborhood characteristics may be more predictive of various readiness outcomes than others.

Kohen et al (2002) suffers from an additional shortcoming – neighborhood characteristics are included as a single variable defined by a log measure of urban neighborhood disorder and cohesion. As stated earlier, this decision is perplexing, as both of these constructs were compiled from rich categorical survey and interview inputs from Canadian data that are virtually identical to those in the data I use in this research (although ECLS-B includes suburban and rural areas as well). Unfortunately, this leaves us without a picture of the effects of actual neighborhood characteristics in play – instead, we simply know that a theoretically-informed relationship between broadly and simply defined neighborhood characteristics and school readiness exists. Knowledge regarding the specific nature of the relationship remains elusive.

In shifting our attention from specifics of the school readiness and neighborhood literature to some broader issues, it is clear that some shortcomings exist in the data choices used by a variety of the studies reviewed in this document. Census tracts or other administrative boundaries (e.g. school districts or attendance areas) are often used – even when not necessary or particularly advisable (Duncan & Raudenbush 1999). As with school readiness, this again speaks to a broader discrepancy in the literature: no single definition of neighborhood exists. Park and Burgess (1916) defined neighborhoods as a

collection of both people and institutions occupying a spatially defined area influenced by ecological and cultural forces. Galster defines neighborhoods as a "bundle of spatially based attributes associated with residences, sometimes in conjunction with other land uses" (2001:2113) while still another definition proposes that neighborhoods are local social contexts in which individuals and families interact and engage with local institutions (Aber et al 1997). Even once a definition is utilized (Galster's 2001 definition is the most often cited in the studies covered in this document), one of the biggest issues facing the researcher becomes how to define such an area. No single method has been settled upon that best conforms to actual patterns of social interaction for analysis (Sampson et al 2002).

In evaluating neighborhood effects on school readiness, administrative data regarding neighborhoods is only important and useful given two conditions (Duncan & Raudenbush 1999): first, the administrative data are collected over time so as to paint a picture of cumulative exposure for the child, and second if the researcher solely aims to use "standard" definitions of neighborhood characteristics. With increasing frequency as one moves temporally back through the literature, the vast majority of studies use census tracts or other administratively defined boundaries as neighborhood units – with the obvious downside being that these may not actually map onto what residents define as their neighborhood (Diez-Roux 2001) potentially producing invalid results (this is one of the major criticisms of MTO, as mentioned earlier). Second, administrative data does not allow for the evaluation of lower level characteristics as in this research – only broad demographic data are available. For detailed characteristics, researchers should use data

like the PHDCN or similarly rich survey, interview, and observational data upon which to base analyses.

When administrative data are either not available or potentially not valid (in this case either by capturing areas that are not actual neighborhoods or by inappropriately trying to evaluate social disorganization theory characteristics using such data), self-reports of neighborhood conditions present an alternative. Non-administrative data of this type are expensive but particularly valuable and useful – and may argue for more heavily clustered samples while correcting statistically where possible (Duncan & Raudenbush 1999). The data I use for this dissertation contains these types of neighborhood characteristic self-reports. Duncan and Raudenbush express concern that self-reports of neighborhood climate are biased, but their 1999 list of recommendations was published before more recent work suggesting such self-reports of neighborhood conceptualizations, boundaries, and characteristics are surprisingly reliable and valid instruments (Echeverria, Diez-Roux, & Link 2004).

A variety of researchers have tried to correct or account for the problem of administrative boundaries not mapping onto real neighborhoods by using self-reported neighborhood data based upon residents own conceptualizations of what makes up their neighborhood boundaries and characteristics (Coulton et al 2001; Duncan & Raudenbush 1999; Hume et al 2005; Sampson et al 2002), yielding surprisingly reliable and valid instruments (Echeverria, Diez-Roux, & Link 2004). Trained interviewer and observer ratings (such as those in ECLS-B regarding childcare arrangements, family characteristics and behaviors, etc.) are "underutilized and especially promising" (Duncan

& Raudenbush 1999:39), and even more so when coupled with strong self-reported neighborhood characteristics (Galster 2001; Grannis 1998, 2001).

An obvious critique of this approach would be that the metric each resident might utilize for evaluating each quality of neighborhood is inherently fluid. Fortunately, epidemiological research strongly suggests that neighborhood self-reports of the type contained in ECLS-B are highly reliable and valid (Echeverria, Diez-Roux, & Link 2004). When asked to rate their neighborhood on several metrics including safety and social cohesion, residents of given areas tended to self-report neighborhood characteristics in the same way, with Cronbach's α ranging from .77 to .94. Test-retest reliability is also high – interclass correlation coefficients were mostly grouped between .88 and .91. Perceptions of safety were also highly correlated with actual police statistics of given neighborhoods; perceptions of the availability of social services were similarly correlated with actual availability. This indicates that self-reports like those in the ECLS-B are appropriate for this research. The same paper points out that residents surprisingly uniformly identify the boundaries of their neighborhood even when given no formal criteria with which to do so – and points out that these definitions do not often match with administrative boundaries. The obvious drawback is that there could be causal mechanisms at work beyond residents' mental map of their neighborhood (Oliver et al 2007) which would not be captured in such a model.

In two widely cited chapters from epidemiology, both Raudenbush (2003) and Sampson (2003) criticize the overuse of demographic and administrative data such as census tracts. Both scholars point out that we have excellent individual-level data from

decades of psychometric research, but for neighborhoods we rely on relatively imprecise and poorly motivated demographic characteristics. Both suggest that the new way forward in neighborhood research will be relying upon contextual characteristics, particularly those that can be gathered through survey and interview instruments with residents (Raudenbush 2003; Sampson 2003; Berkman & Kawachi 2003). Unfortunately, with the notable exception of some of Sampson's work, virtually all of the studies reviewed in this document use a standard framework for modeling neighborhood – typically either a single or multilevel regression model (c.f. Duncan & Raudenbush 1999) incorporating various administratively defined characteristics – census tracts, GIS maps, and various demographic characteristics of neighborhood residents such as residential mobility statistics, poverty, neighborhood median income, and so forth. Only one study related to this research (Kohen et al 2002) tried to use lower level characteristics in their neighborhood measurements – signs of physical and social disorganization – but as I mentioned this was boiled down to a single composite score. Thus, my research adds to this promising newer vein of research.

Moving Forward

The logical next step in neighborhood / school readiness research is threefold. First, is there an association between neighborhoods and school readiness in the United States? Second, which social disorganization-theory informed neighborhood characteristics are most salient in describing this observed association? Finally, do families act as a mediator of this relationship? The literature and subsequent critique offer several lessons regarding definitions, data, and method.

The literature spends a good deal of time ruminating about issues of causality, theory, and separating constructs that are inherently difficult to measure. In this sense, the literature offers a few rather consistent lessons. First, there is a clear relationship between neighborhood and a variety of outcomes germane to school readiness, including health, family and childrearing practices, and direct links to social development. Second, it is clear from experimental evidence that neighborhood effects on a variety of outcomes for residents of a variety of ages are real and in some cases quite strong. Third, it is clear from existing work bridging neighborhood and child development that the potential for a link between school readiness and neighborhoods already exists and that primary caregiver characteristics and practices are highly predictive of child school readiness. Fourth, this link has been demonstrated in the literature and reviewed here. Fifth, school readiness is of critical importance and itself warrants investigation as a unique stage of development. Finally, it is reasonable to suspect that certain aspects of neighborhoods have a larger bearing on certain aspects of school readiness than other areas. All of these lessons culminate to provide a strong footing for this dissertation, both because of the theoretical and existing descriptive and quasi-experimental literatures and the demonstrated effects of neighborhoods on a variety of child-related outcomes in the experimental MTO program.

With regards to causality, virtually none of the studies mentioned make an explicit casual claim. Rather, they make claims about causality by interpreting observed findings through theory. This is a common feature of neighborhood research and has been the subject of several annual review pieces (most notably Small & Newman 2001).

Small and Newman argue that most neighborhood studies cannot (and do not) make strong causal claims based on methodology and observation alone – and thus they must rely on a strong theoretical grounding to make sense of a strong observational model showing significant results. This seems to be the prevailing wisdom among neighborhood researchers. Neither Small & Newman (2001), Sampson, Morenoff, and Gannon-Rowley (2002), Kubrin, Stucky, and Krohn (2009), nor Burdick-Will, Ludwig, Raudenbush, Sampson, Sanbonmatsu, and Sharkey (2011) see this as a fault of research design or a methodologically fatal flaw, but rather a reality of the inherent difficulty in differentiating the various contexts.

The gold standard for causal inference in neighborhood research among a segment of notable researchers has been MTO, yet an equally substantial number of notable researchers question the validity and generalizability of its findings. One way to add weight to their non-experimental findings is to employ a modern variation on classic sensitivity analysis, which was first popularized by Cornfield et al (1959), to consider the magnitude of the omitted variable relationship that accounts for the observed neighborhood effects. Further investigation reveals that methods of this type have been used to bolster causal claims in only a few (yet nonetheless notable) articles: McCulloch (2000) considers this relationship using multilevel modeling and nonetheless finds significant neighborhood effects; Sampson, Raudenbush, and Earls' (1997) article in *Science* uses a somewhat similar idea.[5]

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[5] While I originally considered using such an approach in conjunction with my own analyses, I ultimately decided that usefulness was negligible due to the small effect sizes observed in my results. Moreover, I do not make causal claims in this dissertation. See Chapter 5 for further details on my results.

Operating within these constraints, one of the challenges of this dissertation is making a causal claim based upon nonexperimental data utilizing a strategy similar to the framework Small and Newman suggest. The literature typically navigates this issue by using a strong and complex theoretical framework within which to interpret the observed relationships – this seems to be the accepted standard (Small & Newman 2001; Sampson et al 2002). From this point, researchers are then able to theorize about the causal relationships at work. In evaluating the theories mentioned in the previous section, some of these characteristics are measurable through proxies (e.g. kin networks and willingness to intervene as a means of evaluating informal social control) while others are not (e.g. subtle changes in social norms within the individual). Others are directly measurable, such as quantity, quality, and utilization of institutions.

Definitions and Guiding Theoretical Framework

In order to gain the most possible new knowledge, a definition of school readiness that encompasses both prevailing conceptualizations (interpersonal skill and cognitive skill) is required. I define school readiness as the set of cognitive and interpersonal skills which facilitate the successful integration into and completion of Kindergarten. A single yet practical definition of neighborhood is also required. Borrowing from social disorganization theory, I define neighborhoods as local social contexts in which individuals and families interact and engage with local institutions (Aber et al 1997). Utilizing both of these conceptualizations, I presently identify my own theoretical framework and the ideal data to address my research questions.

A central guiding theory is that proposed by Sampson, Morenoff, and Gannon-Rowley (2002):

1. The social ties and interpersonal interactions with other residents in a neighborhood provide different opportunities to accumulate social capital,

2. Neighborhoods may influence school outcomes not through the direct ties of the residents, but through social norms and capacity for informal social control, [6]

3. The quantity and quality of neighborhood institutional resources matters, and

4. Children's routine activities and those of their neighbors are shaped by the geography of neighborhoods, which may influence a variety of child outcomes.

While informative, Sampson's existing theory is not entirely sufficient for this research – it ignores a few issues germane specifically to school readiness, such as family acting as mediators of neighborhood effects. This is not altogether surprising: as Sampson and others point out (Sampson et al 2002), by the time individuals reach older childhood and adolescence, peers, school and physical environment are the driving force of socialization (Kubrin Stucky & Krohn 2009). Given the existing neighborhood evidence and the bridge work to child development, I theorize that neighborhood characteristics operate through two avenues in shaping school readiness outcomes for children – those that directly affect the child as would be supported by Sampson's aforementioned theory and those that are mediated through primary caregivers. Thus, given the relative importance of primary caregivers in the socialization and development

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[6] However, the number of direct ties of residents are often used as a measure of the capacity of residents to engage in informal social control (Small & Newman 2001).

processes, the behavioral changes we know neighborhoods produce in the childrearing and other behaviors of caregivers, and direct lines of interaction between child and neighborhood, I largely utilize Sampson's aforementioned theory. However, my theory includes more detail specific to the relationship between neighborhoods and school readiness and it includes primary caregivers as a mediator of neighborhood effects. Given the reviewed literature, and drawing heavily on Sampson's earlier theory for a strong foundation, the following list comprises my own theory that is more illustrative for the unique case of neighborhoods and school readiness.

Table 1: Guiding Theoretical Constructs

#	Construct
I	Neighborhoods influence interpersonal skill outcomes through a sense of collective efficacy and informal social control – for children, this produces different norms of behavior affecting behavioral abilities, particularly for non-familial actors (a direct neighborhood effect; the top arrow in Figure 2)
II	Neighborhoods influence cognitive and interpersonal skill school readiness outcomes by producing changes in the preschool age child's routine activities (structured play, early education participation, being read to, etc.) – these are shaped both directly by family and indirectly by the neighborhood with family acting as a mediator (a mediated neighborhood effect; the straight arrows in Figure 2)
III	Tying constructs I and II together, specific neighborhood characteristics are more or less related to specific school readiness outcomes: for example, witnessing violence in the neighborhood or experiencing a high degree of non-familial informal social

	control is more reasonably associated with interpersonal skills than it is cognitive skills
IV	The quantity and quality of neighborhood institutional resources matters: for example, neighborhoods without quality, accessible early childhood programming will produce children less prepared for school (while not a focus of this research and thus not discussed in great detail, this already empirically established relationship is accounted for in the modeling strategy outlined later on)

A visual representation of Table 1:

Figure 2: A Graphical Representation of Guiding Theoretical Constructs
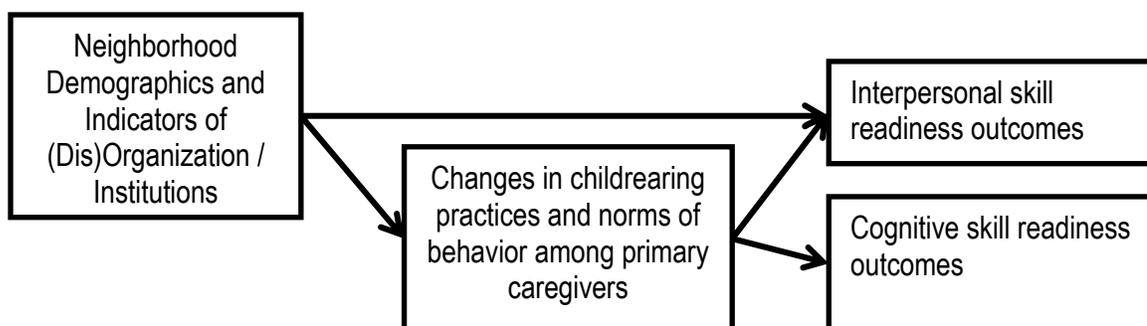
Based upon this theoretical and empirical foundation, I am able to make several hypotheses. First, drawing on all four constructs, I hypothesize that neighborhood characteristics are associated with school readiness in the United States and that this observed relationship endures across various definitions of school readiness and various neighborhood characteristics. Hypothesis one will either confirm or deny the existing observed relationship between neighborhoods and school readiness in the United States (as has previously been observed in Canada), while accounting for far more detail about neighborhoods than existing work on this topic. Further, it will justify the project

continuing to subsequent hypotheses. Second, drawing on construct III, I hypothesize

that certain neighborhood characteristics are more salient in describing the neighborhood-

school readiness association than others and that these salient neighborhood

characteristics vary across school readiness definitions. This hypothesis stands to

contribute both to the existing literature by identifying which neighborhood characteristic

/ school readiness combinations are most powerful and to policy makers who seek to

combat the negative effects on young children produced by living in distressed

neighborhoods. Finally, drawing on construct II, I hypothesize that the relationship

between neighborhood characteristics and school readiness is mediated by family

characteristics and practices. By establishing a mediation baseline, hypothesis three

stands to lay the groundwork for further investigation of how various neighborhood

characteristics may impact differently on different kinds of families.

Given this theory for the mechanisms underlying the effect of one's neighborhood

effect on school readiness, specific needs in the data come into focus. To adequately

address these theoretical relationships while using my neighborhood definition, the data

should ideally include information regarding:

a. social contacts between residents and families
b. formal and informal social control
c. utilization of neighborhood institutions
d. neighborhood safety
e. family and kin networks in the neighborhood
f. the degree to which residents know one another and socially gather regularly as a proxy of informal social control (originally defined by Hanifan 1916,1920)

- Survey instruments of this type produce reliable and valid results (Sampson et al 2002)

g. rely upon self-reports or trained rater estimations of these characteristics as opposed to administrative data, if possible

h. administrative data for comparison with self-reports and to evaluate more objective aspects of spatial disadvantage, if possible, such as residential mobility

To adequately address the school readiness component and speak to a broader audience in the literature, the data should ideally include information regarding:

a. social skills (interpersonal skills)

b. behavioral characteristics (interpersonal skills)

c. discretely identifiable cognitive task abilities (cognitive skills)

d. standardized assessments regarding cognitive development (cognitive skills)

To cover potential confounders and mediators that may influence the neighborhood effect, the data should ideally include:

a. family characteristics including background information as well as critical information regarding the childrearing practices of caregivers that may be influenced by neighborhood characteristics

b. child-care center and early education program status and characteristics, preferably by trained independent raters for greater validity and reliability

c. child routine activities such as being read to, structured play, etc.

d. child health and background characteristics including race, gender, etc.

e. child exposure to violence

In the following chapter, I lay out the details of my data and an analysis strategy.

CHAPTER 3: DATA

To conduct my analyses, I make use of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), a nationally representative data set collected by the United States Department of Education's National Center for Education Statistics (NCES) beginning in 2001. According to NCES, these data were originally collected with the intent to provide key information about early childhood experiences so as to be most useful for researchers engaged in policy work. The focus of the ECLS-B is on child health, development, care arrangements, and educational opportunities from birth until kindergarten enrollment. The data were collected in four waves: when the children were 9-months old (2001-02), when the children were 2 years old in (2003-04), when the children were of preschool age (2005-06), and kindergarten (2006-07).

Data collection used variety of means – paper questionnaires, in person and telephone interviews, and health and cognitive assessments. The completed instrument response rates were lowest among the parent interview instruments, but are nonetheless high overall. In ECLS-B overall, the 9-month weighted overall unit response rate for the completed parent interview was 74.1 percent; this rate dropped to 69.0 percent when the 2-year parent interview was taken into account, to 63.1 percent when the preschool parent interview was taken into account, to 58.0 percent when the kindergarten 2006 parent interview was taken into account, and to 53.7 percent when the kindergarten 2007 parent interview was taken into account[7]. Other instruments, including childcare worker and educational program providers had much higher response rates overall. About 82% of

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[7] Further investigation of the data reveals these percentages to be heavily driven by the failure of non-resident fathers to complete an interview. While unfortunate, this is nonetheless irrelevant for this proposed research as none of the data from the non-resident father instruments are to be used.

the children in the original sample are tracked throughout the study with at least some

information available about them at all data collection waves – even if one component,

like a fully completed parent survey, may be missing at certain waves. The distribution

of cases across race and socioeconomic stats (SES)[8] did not vary by more than three

percentage points between the first and final waves – with most categories registering

shifts of less than one percentage point. A χ^2 test reveals that none of these changes are

statistically significant.

Data were collected for a variety of sources – children, their parents, child care

providers, and early education providers. Teachers provided information on children's

cognitive, social, emotional, and physical development across multiple settings.

Information on the child's kindergarten school is also available by linking ECLS-B to

Common Core of Data (CCD) and Private School Survey (PSS) information. Data were

collected in a variety of settings, typically involving interviews with subjects in their

place of residence or employment. 10,700[9] children were selected for the study, with

appropriate oversamples of smaller minority groups in ensure generalizability to the

national population of children in these age groups. Sample and panel weights are

included in the data to ensure proper analysis design given oversampling of various

groups. I make use of the NCES recommended weight for samples including data drawn

primarily from the parental instruments in the preschool and kindergarten waves.

Children with disabilities are included in ECLS-B, and are identified as such in the data.

ECLS-B subjects were 9 months old at the initial time of data collection in 2001-2002, 2

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[8] In ECLS-B, SES composite scores are a maximum likelihood scale score comprising information about occupation, income, and education.
[9] Per NCES guidelines for the ECLS-B data set, all Ns are rounded to the nearest 50.

years old during the second wave of data collection in 2003-2004, and about 4 years old

during the "preschool" wave of data collection in 2005-2006. In 2006-2007 another

wave of data were collected from the 75% of subjects who entered kindergarten in fall of

2006. The final wave of data was collected in 2007-2008 on the remaining 25% of

children who entered kindergarten in fall of 2007. As is common in the United States,

the children in ECLS-B entered kindergarten in two different years due to varying

birthdate cutoffs for enrollment.

According to NCES, in every round of data collection, children participated in

assessment activities and parent respondents (usually a given child's mother) were asked

about themselves, their families, and their children. Resident fathers were asked about

themselves and their role in the ECLS-B children's lives in the 9-month, 2-year, and

preschool waves. Similar information was collected from nonresident biological fathers.

In addition, beginning when the children were 2 years old, their child care and early

education providers were asked to provide information about their own experience and

training and their setting's learning environment. At 2 years and preschool, a subsample

of children in regular non-parental care and education arrangements had their

arrangements observed to obtain information on the quality of those arrangements. When

the subjects were in kindergarten, their teachers were asked to provide information about

a given child's early learning experiences and the school and classroom environments.

Also, the before- and after-school care and education providers of children enrolled in

kindergarten were asked to provide information about their own experience, their

training, and their setting's learning environment.

Data regarding the key independent and dependent variables will be drawn from the preschool and kindergarten waves, respectively. A few fairly straightforward reasons explain these choices. Using neighborhood data from waves other than preschool would either (1) draw upon data that are not especially relevant given the degree of socialization taking place inside the home at very early ages or (2) draw on data that are not especially relevant given the child is already matriculating in kindergarten – and some exposure to their neighborhood is logically necessary in order to make the case. Using school readiness data from the preschool wave would negate the development that takes place between preschool matriculation and kindergarten matriculation, including that which occurs in and because of the neighborhood. Data regarding other covariates are drawn from various data collection waves. For example, some simple and basic information, such as gender, race, and birth order are only recorded in the 9-month and 2-year waves; this is not a problem because such characteristics are unlikely to change within the study period.

After limiting the data to include only those subjects upon which all of the relevant information is present, a total of 5,950[10] unweighted cases are present in the analysis sample, or about 56% of the initial ECLS-B sample of 10,700. Minor variations in completion rates exist among various demographic groups. Only one of these differences proves significant and even then only slightly: those children with a non-resident father. In my analysis sample, children with non-resident fathers were approximately 3.6% less likely to persist through all waves of data collection as compared to children with a resident father, unknown father, or deceased father. While

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[10] Per NCES guidelines for the ECLS-B data set, all Ns are rounded to the nearest 50.

unfortunate, I believe this to be a manageable risk because (1) the increase in likelihood of premature separation from the study is very slight and (2) broken home status is one of the covariates included in my models. This, data imputation is unnecessary.

Finally, I attempted to incorporate some external census data by way of comparison to the data in my analyses drawn from ECLS-B; however, this proved impossible. Not only would this have presented licensing issues with NCES, it would have proved rather fruitless because ECLS-B lacks residential ZIP code or census tract information. The closest proxy would have been ZIP code of child care center; however, this proves problematic for a myriad of reasons. Thus, external administrative data are excluded from my analyses.

Conceptualizing Neighborhood in the ECLS-B

Even given the comparatively limited neighborhood information contained in the ECLS-B data, it nonetheless satisfies the prerequisites for idea data that I outlined earlier – making a *prima facie* case for their appropriate use. Earlier I defined neighborhoods as a set of local social contexts in which individuals and families interact and engage with local institutions (Aber et al 1997). In order to adequately address this definition while addressing the reviewed theoretical and empirical literatures, I proposed that several ideal types of data would be required:

a. social contacts between residents and families
b. formal and informal social control
c. utilization of neighborhood institutions
d. neighborhood safety
e. family and kin networks in the neighborhood

f.   the degree to which residents know one another and socially gather regularly as a proxy of informal social control (originally defined by Hanifan 1916,1920)

g.   rely upon self-reports or trained rater estimations of these characteristics as opposed to administrative data, if possible

h.   administrative data for comparison with self-reports and to evaluate more objective aspects of spatial disadvantage, if possible, such residential mobility

Table 2 comprises the neighborhood variables of interest in ECLS-B, as well as their respective waves of data collection and rationale for why each variable listed satisfies one or more of the neighborhood elements above.

Table 2: Neighborhoods in ECLS-B [11]

#	Category	Content in Parental Instrument	2-year Wave	Pre-school Wave	Satisfies Ideal Type
1	Community and Social Support	Support by quality accessible community agencies / church [12]	-	X	b, c
2		Support in case of emergency (formal and informal)	-	X	b, c
3	Parent self-identified characteristics	Residential stability – moved to new neighborhood since last interview [13]	X	X	f, h
4		Neighborhood quality for raising children	X	-	g, h
5		Neighborhood is safe / violence in neighborhood	X	X	d
6		Number of relatives in the neighborhood	-	X	a, e

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[11] All of the variables in this table were collected as part of the resident primary caregiver questionnaire and interview instruments

[12] An indicator of informal social control (Sampson et al 2002; Small & Newman 2001)

[13] These data are also available in the kindergarten wave, allowing for comparison of movers to non-movers in the final analysis. No significant differences were observed, and thus these results are omitted.

#	Category	Content in Parental Instrument	2-year Wave	Pre-school Wave	Satisfies Ideal Type
7		Measures of social cohesiveness (know neighbors by name, see neighbors, interact with neighbors regularly, would help a neighbor, etc.) [14]	-	X	a, b, e, f

Measures such as knowing your neighbors by name and regularly socializing with them and / or having a large number of relatives in the neighborhood are all measures of collective efficacy as defined by social disorganization theory (Small & Newman 2001; Sampson et al 2002). The measure of available emergency support that is both formal (e.g. police actually show up when called, formal social service agencies active in area) and informal (e.g. neighbors would help in an emergency) is also critical as it addresses the collective efficacy and social bonds in a given area. These data also have the advantage of being almost exclusively from self-reports, thus meeting the preference for this type of data in new neighborhood research (Coulton et al 2001; Duncan & Raudenbush 1999; Echeverria, Diez-Roux, & Link 2004; Galster 2001; Grannis 1998, 2001; Hume et al 2005; Sampson et al 2002). All of these specific mechanisms culminate in a sufficiently complete picture of the level of social (dis)organization of the neighborhood in which a given subject resides for this analysis.

Several variables were considered for inclusion as neighborhood characteristics but were ultimately rejected. These include child health and birth weight (some children certainly had these characteristics affected by residential environment, but many certainly did not – there is no dependable way to know given that ECLS-B contains no information

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[14] Each of these points is an individual variable in the data set, which cumulatively create a picture of the social cohesiveness of a neighborhood (c.f. Sampson et al 1997, 2002).

on environmental factors such as lead concentrations, etc.), childcare setting (ultimately

there is no way to know whether the provider is in the neighborhood or not – and indeed

many families choose care near their employers rather than their homes due to pick-up

times and costs, among other confounders), and primary household language. Living in a

neighborhood that is largely non-English speaking certainly may make it much easier to

continue to speak a non-English language, but the ECLS-B interview question

specifically asked respondents about their primary language used *inside* the home; thus,

there is no way to know if the family lives in a largely non-English speaking area or even

speaks English everywhere else – just not inside the home. As a result, this variable

remains as a family characteristic.

Conceptualizing School Readiness in the ECLS-B

Recall my earlier definition of school readiness as the set of cognitive and

interpersonal skills which facilitate the successful integration into and completion of

Kindergarten. In keeping with the original goals of ECLS-B, rich information on these

characteristics is contained in the data. Similar to the division discussed in the existing

school readiness literature, my definition of school readiness may be divided into two

broad categories –interpersonal skill and cognitive skill outcomes. Based on the review

of the empirical and theoretical literature, earlier in this document I proposed several

ideal types of school readiness data:

a.   social skills (interpersonal skills)
b.   behavioral characteristics (interpersonal skills)
c.   discretely identifiable cognitive task abilities (cognitive skills)
d.   standardized assessments regarding cognitive development (cognitive skills)

ECLS-B satisfies all of these conditions (see table 3 below).

The measurement of both interpersonal skill and cognitive skill outcomes in ECLS-B presents advantages and obstacles to this research. ECLS-B measures cognitive skills in two ways. The first method of measurement makes use of a cognitive standardized assessments use an instrument designed specifically for ECLS-B – the Early Reading and Math Assessment Batteries (ERMA). In constructing the ERMA assessment, ECLS-B researchers took elements from a variety of standardized assessments to create their own unique battery designed to adequately span the range of knowledge and cognitive skill necessary to succeed in school. The preschool and kindergarten cognitive assessment batteries both begin with two sections from the PreLAS 2000 and Peabody Picture Vocabulary Test (PPVT). All children, regardless of home language, were administered the same form of the assessment. Those children who were unable to respond to any questions were either excluded on the basis of language deficiency or were evaluated in Spanish where appropriate – while unfortunate, only about 2% of subjects were excluded on the basis of language deficiency. Batteries covering reading and math were administered while paying special attention to Item Response Theory (IRT) coding. IRT modeling was used to estimate the early reading and math scale scores from performance on the set of items a child was administered – these scores were ultimately used to generate standardized T-scores of the scale scores. All of these reading and math scores, along with the standard error of the scale scores, are included in the data set.

Selecting appropriate scores presents a host of considerations. Scale scores, or true scores, represent a given child's performance – they are useful in identifying cross-sectional differences among subgroups in overall cognitive development. The standardized T-scores are useful only insofar as they allow comparison to peers – they are not an objective assessment of knowledge. In terms of this study, the latter would be useful in demonstrating widening gaps among subgroups over time, but this falls outside the scope of this research and would make for an interesting follow-up project. Thus, I use the "raw" scale scores.

The second method of measurement makes use of questionnaires given to childcare center representatives and parents as well as trained interviewers who evaluated each child individually. These items cover discretely observable cognitive skill tasks, such as the ability to read, write, count to 20, and identify colors, and concentrate on and finish tasks. The same instruments also evaluated interpersonal skill outcomes, such as evaluations of the child's ability to make friends, not annoy classmates, and not cause trouble in class, and appropriately expressing and controlling emotion. Obviously the parental / childcare center worker instruments present challenges of inter-rater reliability, but the trained interviewer / evaluator instrument attempts to account for this by utilizing in-depth training of evaluators and testing their results for inter-rater reliability as data collection proceeded. NCES points out in their description of the data set that this potential source of bias is "likely not of major consequence" but offers no evidence as to why this is besides simply stating it. NCES' reasoning may simply be that there are relatively few ways that different raters could classify discretely identifiable skill tasks

like being able to read, but again their reasoning is nonetheless unclear. Thus,

conclusions must be tempered, especially if relying upon the subjective claims of

childcare providers and parents.

Table 3 lists school readiness outcomes of interest in the ECLS-B and their

corresponding points of collection. The first group of variables is directly taken from

educator and child-care provider evaluations of the skills necessary to be ready for

school. The second group comprises standardized achievement scores from assessments

administered by trained evaluators.

Table 3: School Readiness in ECLS-B[15]

#	Category	Content	Kinder-garten Wave	Satisfies Ideal Type
1	Cognitive Skills	Kindergarten math scale score (ERMA)	X	d
2		Kindergarten reading scale score (ERMA)	X	d
3		Child can read book alone	X	c
4		Child can count to at least 50	X	c
5		Child knows most of alphabet	X	c
6		Child can hold pencil	X	c
7	Interpersonal Skills	Child volunteers to help other children	X	a
8		Child accepts ideas of friends when playing	X	a
9		Child comforts other children when distressed	X	a
10		Child uses words to express feelings	X	b
11		Child pays attention well	X	b
12		Child works on tasks independently	X	b

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[15] See text for description regarding how and by whom these data were collected

#	Category	Content	Kinder-garten Wave	Satisfies Ideal Type
13		Child finishes tasks s/he starts	X	b
14		Child tries to understand others	X	a

With these data in hand, the four ideal types of skill- and cognitive skill outcomes are sufficiently represented.

Other Major Variables of Interest

The number of possible variables from ECLS-B that could be entered into the models is quite vast. Earlier in this document, I proposed the following list of ideal classes of data based upon the theoretical and empirical groundwork:

a. family characteristics including background information as well as information regarding the childrearing practices of caregivers that may be influenced by neighborhood characteristics

b. child-care center and early education program status and characteristics, preferably by trained independent raters for greater validity and reliability

c. child routine activities such as being read to, structured play, etc.

d. child health and background characteristics including race, gender, etc.

e. child exposure to violence

Fortunately, ECLS-B includes detailed information that will help to satisfy all of these conditions. Table 4 represents a list of key control variables that will be critical for consideration in the models explained later in this document.

Table 4: Other Major Variables of Interest in ECLS-B[16]

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[16] All measures in this table were collected as part of the primary caregiver and childhood center instruments

#	Category	Content	9-mo. Wave [17]	Pre-school Wave	Kinder-garten Wave	Satisfies Ideal Class
1	Parent / resident caregiver info	Highest education completed	X	X	X	a
2		Household income	X	X	X	a
3		SES quintile[18]	X	X	X	a
4		SES composite[19]	X	X	X	a
5		Age	X	X	X	a
6		Language & literacy status of parents and child	X	X	X	a, d
7		Broken home status	X	X	X	a
8		# of individuals in the household	X	X	X	a
9		Race of parent / primary caregiver[20]	X	X	X	a
10	Other family / child characteristics	Child read to at home	X	X	X	a, c
11		Child engaged in structured play at home	X	X	X	a, c
12		Child health composite[21]	X	X	X	d
13		Type / frequency of child discipline[22]	-	X	X	a, c, e
14		Race of child	X	-	-	d
15		Gender of child	X	-	-	d

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[17] The 9-month wave is included in this table because race, gender, and birth order are only available in this wave

[18] These data are used in the models. SES composite, household income, and highest education are thus omitted.

[19] In ECLS-B, SES composite scores are a maximum likelihood scale score comprising information about occupation, income, and education.

[20] These data are very highly correlated with child race. Thus, they are omitted from the models.

[21] In ECLS-B, health composite scores are a maximum likelihood scale score representing various health conditions, birth defects, gestation length, and other characteristics.

[22] Types of discipline measured include physical, time-outs, grounding, lectures, removal of toys or activities, etc. The frequency of application of all of these types of discipline is individually measured.

#	Category	Content	9-mo. Wave [17]	Pre-school Wave	Kinder-garten Wave	Satisfies Ideal Class
16		Family institutional / community organization participation; Family religious service attendance[23]	-	X	X	a, c
17	Childcare / Early Education	Child care / early education program participation status	-	X	X	b
18		Child care / early education program type	-	X	X	b

A variety of family characteristics are included in the data, including socioeconomic status, age, language and literacy, broken home status, household size, and race. Information regarding childcare center type, programming, and staffing qualifications are also included. Finally, a variety of information regarding child routine activities, parental discipline practices, health background, and exposure to violence is likewise included. With these data in hand, the five aforementioned ideal types of data are sufficiently satisfied.

Some of the aforementioned variables may seem to straddle the line between neighborhood and family characteristics. These include regular religious service attendance, moving between data collection waves, and participation in community service projects. However, these are specifically included in the family characteristics for several reasons.

In ECLS-B, religious service attendance is merely quantified according to a likert scale representing frequency of attendance. The data make no allowance for whether respondents attend religious services with neighbors or even whether the religious institution is in the neighborhood itself. Indeed, many families attend services outside of

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[23] A measure of routine family activities and civic engagement, all of which require social skill development of the child

their own neighborhood. However, it is conceivable that living in a largely religious area or having neighbors who recommend a church may increase the likelihood that one does attend religious services. Even so, this is not in and of itself a neighborhood characteristic, but perhaps a characteristic that might be influenced by a neighborhood. Thus, it would seem that these data are more suitable as a measure of parent-child routine activities than anything else.

Moving between data collection waves is not considered a neighborhood characteristic as there are indeed a myriad of reasons families move besides simply the quality of the neighborhood and it is virtually impossible to tell if a family moved solely because of the neighborhood. This does, however, present an interesting avenue for investigation in future research.

Finally, family participation in community service projects is not considered a neighborhood variable as there is no way to discern whether the family participates in projects either their neighborhood or because of their neighborhood, even though many no doubt do. Similar to religious service attendance, it is certainly conceivable that living in a civically engaged neighborhood (for example, one with a shared community garden) may increase the likelihood of community service participation. However, it too is not in and of itself a neighborhood characteristic, but rather something that might be influenced by neighborhood. This logically would seem to be more of a measure of parent child routine activities, family engagement, and civic-mindedness rather than a neighborhood effect in and of itself.

CHAPTER 4: METHODS

With data and hypotheses in hand, I proceed with designing a modeling strategy. Recall my earlier list of hypotheses: First, neighborhood characteristics are associated with school readiness in the United States and that this observed relationship endures across various definitions of school readiness and various neighborhood characteristics. Second, that certain neighborhood characteristics are more salient in describing the neighborhood-school readiness association than others and that these salient neighborhood characteristics vary across school readiness definitions. Finally, that the relationship between neighborhood characteristics and school readiness is mediated by family characteristics and practices. The following section offers more detail on how each hypothesis will be tested including the types of models to be used and their potential challenges, criteria for rejection of hypotheses, and various attendant circumstances.

When considering the best design for these models, some practical problems emerge. Those respondents that move from neighborhood to neighborhood between the preschool and kindergarten waves present the first problem – in this case, about 20%. Obviously, exposure to a specific neighborhood changes as subjects move from one neighborhood to another. The literature suggests framing this problem in two ways. First, as demonstrated from the myriad of work on the Moving to Opportunity program and similar residential mobility studies, when given the option individuals tend to move to neighborhoods very similar to those from which they came, typically in overwhelming numbers – thus supporting this assumption (Leaventhal 2004; Ludwig et al 2008; Mendenhall Deluca & Duncan 2005; Orr 2003; Rosenbaum 1995, Rosenbaum &

Kaufman 1991; Rubinowitz & Rosenbaum 2000; Sanbonmatsu et al 2006). Moreover, I

do not deal with individuals moving from or to specific neighborhoods. Rather, I am

comparing neighborhood types. Thus, even if large numbers of participants moved from

the preschool wave to the kindergarten wave, the fact that most moved between

neighborhoods of the same type (and thus continued to be exposed to similar

neighborhood conditions) makes the movers much less problematic in terms of the

theory. After conducting the analyses separately for those who moved between data

collection waves and those who did not, no significant differences were found.

Another related problem is that families from certain neighborhood types may be

more likely to move than others. As mentioned earlier examination of the kindergarten-

wave data showed that about 20% of the sample moved between the preschool and

kindergarten waves. However, moving status is not strongly associated with

neighborhood characteristics in these data.[24] SES, race, childcare status, and other factors

from the variable lists in this document are also not so strongly associated as to present a

methodological problem in the analyses.[25] While the effect of moving may be significant

in a child's development, there appear to be few demographic characteristics that are

substantially correlated with who is moving in the data set.

Based upon the existing literature, this is not entirely surprising. In examining

these relationships in neighborhood research, Sampson and Sharkey (2008) attempted to

answer the question: "how do individual mobility decisions of families combine to create

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[24] The values of the measures of association were in the following ranges: Yule's Q / γ < |0.3|, φ / λ /
Goodman & Kruskal's τ < |0.1|
[25] The values of the measures of association were in the following ranges: Yule's Q / γ < |0.3|, φ / λ /
Goodman & Kruskal's τ < |0.1|

spatial flows that define the ecological structure of inequality?" By analyzing trajectories of Chicago residents no matter where they moved in the United States, Sampson and Sharkey found important implications for understanding neighborhood change and, thereby, neighborhood effects. A number of previously unobserved factors that represent hypothesized sources of selection bias in studies of neighborhood effects were of surprisingly minimal importance in actual or predicted neighborhood selection decisions. After careful analysis, the only factors left that explained any significant share of the variance were SES and race – precisely those that are more highly associated than other variables in ECLS-B.[26] Even after Sharkey and Sampson introduced a variety of theoretically motivated covariates that captured largely unstudied aspects of locational attainment, such as depression, criminality, social support, and measures similar to those that I have outlined in ECLS-B, the substantive picture of the results remained unchanged. Given the low values of measures of association and the fact that these are precisely those that were more highly correlated in my own data, this does not present a problem for my analyses.

With respect to the relationship of families and neighborhoods, my theoretical framework presumes a rather specific pathway – neighborhoods have an effect and the effect is relatively homogenous across all family types. As will be seen in the results section, perceptions of neighborhood safety is the single neighborhood characteristic most consistently associated with school readiness. The item on the survey instrument simply asked parents to rate the safety of their neighborhood. As discussed in preceding

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[26] The values of the measures of association were in the following ranges: Yule's Q / γ < |0.44|, φ / λ / Goodman & Kruskal's τ < |0.225|.

chapters, perceptions of neighborhood safety tend to be accurate across neighborhood and family types (as well as other factors), and regardless of accuracy people tend to take relatively consistent safety steps based upon these perceptions within these types of neighborhoods.

As a result, coping mechanisms that a family may utilize to keep children safe based on perceptions of poor neighborhood safety are relatively limited regardless of whether these perceptions are accurate in and of themselves and regardless of family type, and many of those options draw on social capital (e.g. ensure adequate supervision, keep children inside, build and utilize social control mechanisms, etc.). By the same token, families who fail to insulate or protect children from neighborhood dangers face a similarly limited set of choices to achieve this outcome, much of which involves utilization of social capital as well (e.g. allow child to do as the child will without supervision, allow children to play outside in the neighborhood, failure to build or utilize social control mechanisms, etc.). As I point out in chapter 6, this relationship to social capital turns out to be quite helpful in situating my findings in social theory.

During the design phase for this research, I created subgroups by dividing observations into several sub-groups based upon family socioeconomic status and single parenthood – low SES (quintiles 1 and 2), high SES (quintiles 3, 4, and 5), and single parent status combined with "bad" and "good" neighborhoods as defined by responses to the neighborhood quality self-report in the data set and tested those subgroups with the neighborhood characteristics. However, after conducting these subgroup analyses I found little evidence to suggest that persons from different SES quintiles living in

specific neighborhood types are differently affected by the specific neighborhood

characteristics under study than those belonging to other SES quintiles within the same

neighborhood type. Moreover, I found little evidence to suggest that persons from

different SES quintiles are differently affected by the specific neighborhood

characteristics under study regardless of neighborhood type. However, these data have

limited power to speak to these associations as some of the subgroup sample sizes were

quite small and I lack sufficiently detailed information on routine activities within

neighborhoods. While this is in keeping with the existing literature on this topic, later I

propose that future research should focus on routine activities themselves to in part

evaluate this family type / neighborhood characteristic association in greater detail with

particular attention to families within "average" and "good" neighborhoods given the

overwhelming tendency of neighborhood research to focus on families within "bad"

neighborhoods.

On the flip side of the same coin, families also directly affect their neighborhoods

through a variety of means, including collective efficacy and community action. While

there is a huge debate in the literature as to whether these in and of themselves are

neighborhood effects and not confounders (c.f. Sampson 2012; Wilson 2012), the

question is not entirely applicable to this research as I examine families living within

broad neighborhood types and not any isolated or cluster of families living within a single

neighborhood. Thus, while these are undoubtedly salient factors within specific

neighborhoods, this research examines broader social responses to perceptions of

neighborhood conditions (i.e. many families in various neighborhood types), not specific

reactions of many families within the same single neighborhood with its own unique conditions and population (i.e. many families in a specific neighborhood). Thus, the pattern of social capital accumulation and utilization may be broadly generalizable, but specific ways in which a family does so in a specific neighborhood is beyond the scope of my research (though it is a promising avenue to build upon this project – I discuss these issues in greater detail in chapter 6).

Race conceptually confounds the analysis as well. For example, there is good evidence to suggest that the specific neighborhood one selects is heavily dependent upon race (e.g. Pietila 2010; Massey and Denton 1993; Massey and Fong 1990; Hunt 2009). This is not entirely surprising – all of us can think of poor predominantly black and poor predominantly white neighborhoods, for example. The basis for residential racial segregation has historical legal roots in *de jure* redlining. Today, such redlining continues informally. Families choose either through free will or because of limited options, to live in neighborhoods with those who are of the same race (Mooney 2011; Marger 2011; Pietila 2010; Massey and Denton 1993, 1988, 1987; Massey 1996; Venkatesh 2002, 2009; Massey and Fong 1990; Hunt 2009). This is an inherent drawback of much of the data that exists today, as it often oversamples or is exclusive to racially segregated neighborhoods. However, the data contained in ECLS-B, while clustered across 96 primary sampling units (PSUs) defined by counties nationwide, is not neighborhood specific – the most detailed PSUs are county-wide areas. In other words, ECLS-B captures a variety of individuals living in all neighborhood types; conversely, it does not draw any portion of its sample from any single otherwise racially or

economically segregated neighborhood. Given this, it is appropriate to control for race.

As ECLS-B is only concerned with neighborhood type and not people nested in specific

neighborhoods, it captures all of these varieties. Child race and any of the neighborhood

characteristics were not strongly associated.[27]

Another potential confounder that may come to mind is SES. However, while

certainly SES has a role to play in predicting neighborhood of residence, neighborhoods

tend to not be segregated by and dependent upon SES to the extent that they are by race.[28]

Across the nation, it is not uncommon to have families of differing SES living in

relatively close proximity even within neighborhood units (Pietila 2010; Massey and

Denton 1993; Massey 1996; Venkatesh 2002; Hunt 2009; Mooney 2011; Marger 2011).

Again, this is not entirely surprising – we can all think of neighborhoods that contain both

stately residences and relatively inexpensive apartment buildings. Altogether and where

appropriate, no measures of association exceeded Yule's Q / γ < |0.47|, φ / λ / Goodman

& Kruskal's τ < |0.18|, or R^2 < |0.225|.

Finally, the last major potential confounder is that the dependent variables may

simply be multiple measures of the same underlying construct. Thus, I conduct a factor

analysis of the dependent variables[29] in hopes that final factors mirror the cognitive and

interpersonal skill outcomes covered in depth in chapters 1 and 2. The factor analysis

produced three factors which I have termed "cognitive skills", "interpersonal skills," and

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[27] The values of the measures of association were in the following ranges: Yule's Q / γ < |0.45|, φ / λ / Goodman & Kruskal's τ < |0.16|

[28] The values of the measures of association were in the following ranges: Yule's Q / γ < |0.46|, φ / λ / Goodman & Kruskal's τ < |0.16|

[29] I conducted a similar factor analysis on the neighborhood characteristics which revealed interesting associations between those measures that I have termed part of formal/informal social control and routine activities/social capital; however, the alpha reliabilities of these factors proved too low for them to be validly used in the final analyses.

an third minor category "attention span" (see table 5). I created indices of these

constructs, standardized them, and tested alpha reliability among the variables with factor

loadings of over 0.3.

Results from the factor analysis prove particularly useful. Table 5 summarizes

these findings. The model reduces the school readiness measures into three factors,

which I have called "cognitive skills," "interpersonal skills," and "attention span."

Standard measures used to evaluate the appropriateness of the factor analysis are

unremarkable (KMO statistic 0.76,[30] Bartlett's test p-value < .000[31]). Only three of the

original variables reproduced correlations have residuals greater than |0.05|. While the

first two factors are particularly elucidating in that they map very well onto the

definitions of school readiness already present in the literature, the "attention span" factor

is somewhat less useful. The factor significantly loads onto very few variables, and even

then the factor loadings are small and the alpha reliability somewhat low. In discussing

the results of the hypotheses in chapter 5, I thus focus most of my energies on the first

two factors which make a much clearer contribution to the literature. The attention span

factor is discussed, but not in as great of detail.

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[30] Kaiser-Meyer-Olkin Measure of Sampling Adequacy. A value of 0.6 or above is generally
recommended.
[31] Bartlett's Test of Sphericity. The goal is to reject the null hypothesis, which occurs in this case.

Table 5: Factor Analysis of Originally Defined Variables

N (All Variables) = 5,950 [a b c d]	Factor		
	Cognitive	Interpersonal	Attention
KINDERGARTEN MATH SCALE SCORE	0.83 *	-0.01	0.04
KINDERGARTEN READING SCALE SCORE	0.95 *	-0.09	-0.04
CHILD CAN READ BOOK ALONE	0.44 *	0.02	0.00
CHILD CAN TELL COLORS	-0.38 *	-0.08	-0.03
CHILD CAN HOLD PENCIL	0.07	0.15	0.10
CHILD KNOWS AT LEAST MOST OF ALPHABET	0.08	0.07	0.03
CHILD CAN COUNT TO AT LEAST 50	0.43 *	0.11	0.10
CHILD VOLUNTEERS TO HELP OTHER CHILDREN	0.17	0.54 *	-0.08
CHILD ACCEPTS IDEAS OF FRIENDS WHEN PLAYING	0.09	0.39 *	0.13
CHILD COMFORTS OTHER CHILDREN WHEN DISTRESSED	0.07	0.59 *	-0.38 *
CHILD USES WORDS TO EXPRESS FEELINGS	0.20	0.31 *	-0.05
CHILD PAYS ATTENTION WELL	0.24	0.42 *	0.41 *
CHILD WORKS ON TASKS INDEPENDENTLY	0.15	0.28	0.16
CHILD FINISHES TASKS S/HE STARTS	0.21	0.39 *	0.37 *
CHILD TRIES TO UNDERSTAND OTHERS	0.10	0.51 *	-0.23
Alpha reliability coefficient of starred factor loadings	0.76	0.67	0.53

[a] Data are weighted by WKR0 / mean of WKR0. See text for full details of variable construction and definitions.
[b] Starred factor loadings are > |.3|
[c] Per NCES reporting requirements for the ECLS-B data set, all Ns are rounded to the nearest 50.
[d] The abstract items in the table were measured using Likert scales

Using this conceptualization and standardization of the dependent variables provides a few advantages: first, it greatly simplifies both the analysis and the interpretation of the results between and within models in a way that would not have been possible with the original analysis plan. Due to standardized and normally distributed data, OLS models are appropriate. Second, it allows for a clearer contribution to the literature. As covered in chapter 2, one of the original goals of this research is to elucidate the effect of neighborhood on different facets of school readiness rather than reducing school readiness into one scale score as previous researchers had done. The three indices that I have created still accomplish this goal all while simplifying interpretation. Finally, it simplifies comparing model fit where necessary, as I can now simply rely on the statistical significance of the change in R^2.

Let *y* represent the test scores of children, one measure of school readiness. Then:

$$Y_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_K X_{Ki} + \varepsilon_i$$

where α is a constant, β_j is the regression coefficient showing the effect of independent variable Xj on dependent variable Y, and ε_i is the error term for the *i*th case. This type of model is appropriate for several reasons. First and foremost, the dependent variable is normally distributed and continuous. The data are also assumed to be homoscedastic. A check of the kindergarten and preschool waves of data reveals this assumption to be satisfied. This type of model also assumes uncorrelated disturbances and a normally distributed error term. Each model will use one of the continuous, normally distributed dependent variables from ECLS-B as the outcome: cognitive skills, interpersonal skills, and attention span.

The vast majority of the independent variables used in the analysis are dichotomous variables by design. Table 6 represents which category in the data will be utilized for reference and the rationale for the choice.

Table 6: Dichotomous Variable Reference Categories

Dichotomous Variable	Reference Category	Rationale
Emergency Services Contacts	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Library in neighborhood	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition
Neighborhood is of poor quality for raising a child	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Neighborhood is unsafe	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition

Child witnessed neighborhood violence	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition
Family gets together with neighbors at least 2x/month	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Child plays outside in neighborhood at least once a week	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Family SES	3rd quintile	Allows for data to show the effect of being significantly advantaged or disadvantaged relative to the median
Family has been food insecure	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Broken home status	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Household primary language	English	Allows for analysis of the effect of living in a non-English speaking household
Household location type	City	Most neighborhood research analyzes city neighborhoods, this allows comparison to other spatially advantaged areas like suburbs
Family attends religious services a few times a month	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition
Family moved between data collection waves	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition
Family participates in community service projects	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Child is read to by parent regularly (3-6x/week)	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Child engages in structured play w/parent at least 1x/week	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Parent uses spanking	No	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Child race	White	Most common in social science research
Child is female	No	Most common in social science research
Childcare center type	No care	Allows for comparison of those who possess a condition to a baseline of those who lack the condition
Child has IEP or IFSP	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition

Child has low or very low birth weight	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition
Child is in poor health	No	No is the modal category, allows for comparison of those who possess a condition to a baseline of those who lack the condition

Table 7 presents descriptive statistics of all variables used in the analyses.

Table 7: Descriptive Statistics of Key Dependent and Independent Variables

N (Analysis Sample, All Variables) = 5,950 [a] [b]	Min.	Max.	# Yes [b]	Mean	(SD)
School Readiness Outcome [c]					
COGNITIVE SKILLS INDEX	-2.64	2.75	—	0.00	1.00
INTERPERSONAL SKILLS INDEX	-2.73	2.06	—	0.00	1.00
ATTENTION SPAN INDEX	-2.69	2.62	—	0.00	1.00
Neighborhood Characteristics [d]					
EMERGENCY CALL-FRIEND/NEIGHBOR	0	1	2,000	0.34	—
EMERGENCY CALL-MEMBER CHURCH	0	1	100	0.02	—
EMERGENCY CALL-DR/EMER SERVICES	0	1	700	0.12	—
NO LIBRARY IN NEIGHBORHOOD (LESS THAN 1 MILE)	0	1	4,400	0.74	—
NEIGHBORHOOD IS OF POOR QUALITY FOR RAISING A CHILD	0	1	850	0.14	—
NEIGHBORHOOD IS UNSAFE	0	1	300	0.05	—
CHILD WITNESS VIOLENT ACT IN NEIGHBORHOOD OR HOME IN LAST YEAR	0	1	350	0.06	—
GET TOGETHER WITH NEIGHBORS AT LEAST 2x/MONTH	0	1	4,150	0.70	—
CHILD PLAYS OUTSIDE IN NEIGHBORHOOD REGULARLY (1x+/WEEK)	0	1	5,050	0.85	—
# OF RELATIVES IN NEIGHBORHOOD	0	100	—	2.10	6.59
# OF NEIGHBORS KNOWN BY NAME	0	100	—	11.77	16.25
# OF FRIENDS CHILD PLAYS WITH IN THE NEIGHBORHOOD (2x+/WEEK)	0	50	—	2.97	3.02
Family Characteristics [d]					
FAMILY SES IS IN FIRST QUINTILE	0	1	1,100	0.19	—
FAMILY SES IS IN SECOND QUINTILE	0	1	1,200	0.21	—
FAMILY SES IS IN THIRD QUINTILE (REFERENCE GROUP)	0	1	1,250	0.21	—
FAMILY SES IS IN FOURTH QUINTILE	0	1	1,200	0.20	—
FAMILY SES IS IN FIFTH QUINTILE	0	1	1,200	0.20	—

FAMILY HAS BEEN FOOD INSECURE BETWEEN DATA COLLECTION WAVES	0	1	700	0.12	—
CHILD IN HOME WITH OTHER THAN A BIOLOGICAL PARENT	0	1	1,700	0.29	—
PRIMARY HOUSEHOLD LANGUAGE IS NOT ENGLISH	0	1	1,000	0.17	—
CHILD'S HOUSEHOLD IS IN A CITY (REFERENCE GROUP)	0	1	1,750	0.29	—
CHILD'S HOUSEHOLD IS IN A SUBURB	0	1	2,450	0.41	—
CHILD'S HOUSEHOLD IS IN A TOWN	0	1	700	0.12	—
CHILD'S HOUSEHOLD IS IN A RURAL AREA	0	1	1,000	0.17	—
ATTENDS RELIGIOUS SERVICES AT LEAST FEW TIMES/MONTH	0	1	2,750	0.46	—
MOVED BETWEEN DATA COLLECTION WAVES	0	1	2,000	0.33	—
FAMILY PARTICIPATES IN COMMUNITY SERVICE PROJECTS	0	1	2,250	0.38	—
AGE OF PRIMARY RESIDENT CAREGIVER	17	82	—	31.96	7.35
TOTAL NUMBER OF HOUSEHOLD MEMBERS	2	15	—	4.56	1.40

Parenting Practices [d]

CHILD READ TO BY PARENT REGULARLY (3-6 TIMES/WEEK)	0	1	4,250	0.72	—
CHILD STRUCTURED PLAY W/PARENT REGULARLY (1x+/WEEK)	0	1	4,000	0.67	—
PARENT DOES NOT USE SPANKING	0	1	3,900	0.66	—

Child's Race

WHITE NON-HISPANIC (REFERENCE GROUP)	0	1	3,050	0.52	—
CHILD - BLACK	0	1	1,050	0.18	—
CHILD - HISPANIC	0	1	1,450	0.24	—
CHILD - ASIAN / PACIFIC ISLANDER	0	1	150	0.02	—
CHILD - MULTIRACIAL, AMERICAN INDIAN, & OTHER	0	1	250	0.05	—

Child's Sex [d]

MALE (REFERENCE GROUP)	0	1	3,050	0.51	—
CHILD IS FEMALE	0	1	2,900	0.49	—

Childcare / Preschool Setting

NO NONPARENTAL CHILDCARE (REFERENCE GROUP)	0	1	1,150	0.20	—

CHILDCARE BY CENTER BASED PROGRAM	0	1	2,700	0.45	—
CHILDCARE BY HEAD START PROGRAM	0	1	800	0.13	—
CHILDCARE PERFORMED BY RELATIVE	0	1	800	0.13	—
CHILDCARE PERFORMED BY NONRELATIVE	0	1	500	0.08	—
Other Child Characteristics [d]					
CHILD HAS IEP OR IFSP	0	1	300	0.05	—
LOW OR VERY LOW BIRTH WEIGHT	0	1	450	0.08	—
CHILD IS IN POOR HEALTH	0	1	750	0.13	—

[a] Data are weighted by WKR0 / mean of WKR0. See text for full details of variable construction and definitions.

[b] Per NCES reporting requirements for the ECLS-B data set, all Ns are rounded to the nearest 50.

[c] Variables are standardized

[d] Reference categories for dummy variables are omitted. See text for full details.

The next sections describe in detail how each hypothesis will be tested.

Hypothesis 1: Neighborhoods & School Readiness

My first hypothesis is that neighborhood characteristics are associated with school readiness in the United States and that this observed relationship endures across various definitions of school readiness and various neighborhood characteristics. This hypothesis is tested by a series of models utilizing a variety of neighborhood characteristics and the two broad categories of school readiness outcomes: (1) cognitive skill outcomes and (2) interpersonal skill outcomes as well as a third resulting from the factor analysis, called (3) attention span. Table 8 summarizes these models.

Table 8: Hypothesis 1 Modeling Strategy[32]

Model	Dependent Variable	Independent Variables and Controls[33]
A	Baseline OLS regression (neighborhood variables excluded) — Cognitive skills	• SES quintile (dummy) • Parent age • Broken home status • Residential stability of family (dummy)
B	Full OLS regression (neighborhood variables included) — Cognitive skills	• Race of parent (dummy) • Child read to at home (dummy) • Child engaged in structured play at home (dummy)
C	Baseline OLS regression (neighborhood variables excluded) — Interpersonal skills	• Composite score of child health • Child exposed to violence in home (dummy)
D	Full OLS regression (neighborhood variables included) — Interpersonal skills	• Birth order of child (dummy) • Parental discipline type (dummy) • Community institution participation (dummy)

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[32] A total of six OLS models are represented in this table.

[33] Parent is shorthand for primary resident caregiver, which may or may not be the biological parent(s).

Model	Dependent Variable	Independent Variables and Controls[33]
E	Baseline OLS regression (neighborhood variables excluded)	Attention span	• Race of child (dummy) • Childcare / Early Education Enrollment (dummy) • Program type (dummy) • Support by community agencies / church (dummy)
F	Full OLS regression (neighborhood variables included)	Attention span	• Support in case of emergency, formal and informal (dummy) • Involved in community activities (dummy) • Residential stability of neighborhood (dummy) • Neighborhood is safe (dummy) • Number of relatives in neighborhood • Social cohesiveness of neighborhood (dummy)

Models A, C, and E represents baseline models including no neighborhood characteristics. Rows B, D, and F represent full models including all neighborhood characteristics. To test hypothesis 1, model fit statistics between models A and B, C and D, and E and F will be compared using R^2 and calculating whether the change in R^2 is statistically significant.

Hypothesis 1 is confirmed if a demonstrable gain in fit statistics is observed in the series of proposed models. Hypothesis 1 is rejected if no gain is found, thus demonstrating that once a sufficient level of detail is accounted for which was lacking in earlier research on this topic, neighborhood characteristics are not a factor in school readiness. A rejection of hypothesis 1, however unlikely based upon the existing literature, would effectively demonstrate that when a sufficient amount of detail regarding caregiver childrearing practices and neighborhood characteristics are added to a

model of school readiness, and not boiled down to a single construct as in the extant

literature, any observed neighborhood effect on school readiness is essentially nullified.

If hypothesis one is rejected, no further analysis will be required. If I confirm hypothesis

one, the next step is testing hypothesis two.

Hypothesis 2: Neighborhood characteristics & School Readiness

My second hypothesis is that certain neighborhood characteristics are more salient

in describing the neighborhood-school readiness association than others and that these

salient neighborhood characteristics vary across school readiness definitions. Drawing

on an earlier example from the literature, having non-familial adults in the neighborhood

who interact with and intervene on the behalf of the child (e.g. by applying discipline)

may be more important for developing interpersonal skills than it might for cognitive

development. Hypothesis two makes use of the three full OLS models conducted to test

hypothesis one. Table 9 summarizes these models:

Table 9: Hypothesis 2 Modeling Strategy[34][35]

Model	Dependent Variable	Independent Variables and Controls[36]

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[34] A total of three OLS models are represented in this table.
[35] Models B, D, and F in this table are identical to models B, D, and F in table 6.
[36] Parent is shorthand for primary resident caregiver, which may or may not be the biological parent(s).

Model	Dependent Variable	Independent Variables and Controls[36]
B	Full OLS regression (neighborhood variables included)	Cognitive skills	• SES quintile (dummy) • Parent age • Broken home status • Residential stability of family (dummy) • Race of parent (dummy) • Child read to at home (dummy) • Child engaged in structured play at home (dummy)
D	Full OLS regression (neighborhood variables included)	Interpersonal skills	• Composite score of child health • Child exposed to violence in home (dummy) • Birth order of child (dummy) • Parental discipline type (dummy) • Community institution participation (dummy) • Race of child (dummy)
F	Full OLS regression (neighborhood variables included)	Attention span	• Childcare / Early Education Enrollment (dummy) • Program type (dummy) • Support by community agencies / church (dummy) • Support in case of emergency, formal and informal (dummy) • Involved in community activities (dummy) • Residential stability of neighborhood (dummy) • Neighborhood is safe (dummy) • Number of relatives in neighborhood • Social cohesiveness of neighborhood (dummy)

Hypothesis two is confirmed if there are significant differences in the neighborhood coefficients across models B, D, and F. Whether the differences are significant can be evaluated by determining if the changes in the coefficient estimates fall outside their respective confidence intervals. However, I will also consider changes that are within their respective confidence intervals as even these changes may still of importance, especially if trends appear (Cumming & Finch 2005). Hypothesis two is rejected if no differences the neighborhood coefficients exist across the three models.

Hypothesis 3: Family Mediation

My third hypothesis is that the relationship between neighborhood characteristics and school readiness is mediated by family characteristics and practices. Recall figure 2. The theoretical model calls for both direct neighborhood effects on children (for interpersonal skill outcomes) and indirect effects mediated by family (for both cognitive and interpersonal skill outcomes). Baron and Kenny (1986) provide guidance on how to test this hypothesis. They suggest that the appropriate way to model an independent variable that is theorized to have both a direct effect upon the outcome as well as an indirect effect though a mediator is by modeling each separately and then interpreting the change in coefficients. Table 10 summarizes these models.

Table 10: Hypothesis 3 Modeling Strategy[3738]

Model		Dependent Variable	Family Mediation Variables[39 40]
G	Comparative OLS regression (family mediation variables excluded)	Cognitive skills	
H	Full OLS regression (family mediation variables included)	Cognitive skills	• Primary household language is not English • Family participates in community service projects • Family attends religious services at least a few times a month • Child is read to by parent regularly • Child engages in structured play with parent regularly • Parent does not use spanking
I	Comparative OLS regression (family mediation variables excluded)	Interpersonal skills	
J	Full OLS regression (family mediation variables included)	Interpersonal skills	
K	Comparative OLS regression (family mediation variables excluded)	Attention span	
L	Full OLS regression (family mediation variables included)	Attention span	

Baron and Kenny suggest that if the neighborhood coefficients decrease from the

comparative model (G, I, and K) to the full model (H, J, and L), the theoretical

association I have proposed is valid. Hypothesis three is confirmed if the neighborhood

coefficients decrease from the comparative model (G, I, and K) to the full model (H, J,

and L). Hypothesis three is rejected if the coefficients do not decrease from the

comparative model (G, I, and K) to the full model (H, J, and L), indicating that there is no

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[37] A total of six OLS models are represented in this table. The full unabridged models will be included as an appendix, but results will be summarized in the written dissertation document.

[38] Baseline Models include all variables in the full models EXCEPT those noted in the "family mediation variables" column.

[39] Parent is shorthand for primary resident caregiver, which may or may not be the biological parent(s).

[40] Each of these variables was selected due to their possibility of being affected by neighborhood. For example, neighbors may share parenting advice or may harmonize parenting strategies particularly when children interact regularly. Other potential avenues of neighborhood influence were outlined in chapter 2.

mediation effect. Whether the differences are significant can be evaluated by determining if the changes in the coefficient estimates fall outside their respective confidence intervals. However, I will also consider changes that are within their respective confidence intervals as even these changes may still of importance, especially if trends appear (Cumming & Finch 2005).

      In the following chapter, I discuss results of the outlined models.

CHAPTER 5: RESULTS

Hypothesis 1

Hypothesis one states that neighborhood characteristics are associated with school readiness in the United States and that this observed relationship endures across various definitions of school readiness and various neighborhood characteristics. The results of testing hypothesis one are mixed– while an association clearly exists, it is not consistent or particularly large across readiness indices and neighborhood characteristics.

Table 11: Testing Hypotheses 1 & 2: Nested Neighborhoods and School Readiness Models

SEE NOTES AT END OF TABLE [a b c d]

	Model A			Model B		
	Cognitive Skills w/o N'hoods [c]			Cognitive Skills Full Model [c]		
	B		95% C.I.	B		95% C.I.
Controls							
MOVED BETWEEN DATA COLLECTION WAVES	-.002		-.052 .049	.006		-.046 .057
FAMILY SES IS IN FIRST QUINTILE	-.402	***	-.481 -.322	-.388	***	-.468 -.307
FAMILY SES IS IN SECOND QUINTILE	-.087	*	-.158 -.015	-.078	*	-.150 -.006
FAMILY SES IS IN FOURTH QUINTILE	.226	***	.154 .299	.227	***	.155 .299
FAMILY SES IS IN FIFTH QUINTILE	.457	***	.381 .533	.453	***	.377 .530
AGE OF PRIMARY RESIDENT CAREGIVER	.001		-.002 .004	.001		-.002 .005
CHILD IN HOME WITH OTHER THAN A BIOLOGICAL PARENT	-.115	***	-.173 -.056	-.112	***	-.171 -.054
PRIMARY HOUSEHOLD LANGUAGE IS NOT ENGLISH	.006		-.077 .089	.004		-.080 .087
TOTAL NUMBER OF HOUSEHOLD MEMBERS	-.078	***	-.095 -.061	-.076	***	-.093 -.059
CHILD READ TO BY PARENT REGULARLY (3-6 TIMES/WEEK)	.174	***	.119 .229	.176	***	.121 .231
CHILD STRUCTURED PLAY W/PARENT REGULARLY (1x+/WEEK)	.001		-.048 .050	.001		-.049 .051
CHILD IS IN POOR HEALTH	-.194	***	-.265 -.124	-.194	***	-.264 -.123
PARENT DOES NOT USE SPANKING	-.016		-.066 .033	-.014		-.064 .035
CHILD - BLACK	.008		-.060 .077	.020		-.049 .090
CHILD - HISPANIC	-.152	***	-.223 -.081	-.148	***	-.220 -.077
CHILD - ASIAN / PACIFIC ISLANDER	.215	**	.051 .379	.219	**	.056 .383
CHILD - MULTIRACIAL, AMERICAN INDIAN, & OTHER	-.085		-.195 .025	-.083		-.193 .027
CHILD IS FEMALE	.133	***	.087 .179	.132	***	.086 .178
CHILDCARE BY CENTER BASED PROGRAM	.095	**	.029 .160	.090	**	.025 .155
CHILDCARE BY HEAD START PROGRAM	.042		-.039 .124	.043		-.039 .125
CHILDCARE PERFORMED BY RELATIVE	-.029		-.110 .052	-.034		-.115 .047
CHILDCARE PERFORMED BY NONRELATIVE	.099	*	.004 .194	.091	†	-.005 .186

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CHILD HAS IEP OR IFSP	-.460	***	-.564	-.355	-.448	***	-.553	-.342
LOW OR VERY LOW BIRTHWEIGHT	-.119	**	-.205	-.032	-.111	*	-.198	-.025
CHILD'S HOUSEHOLD IS IN A SUBURB	.130	***	.074	.185	.123	***	.067	.178
CHILD'S HOUSEHOLD IS IN A TOWN	.003		-.076	.082	-.003		-.082	.076
CHILD'S HOUSEHOLD IS IN A RURAL AREA	.060		-.012	.132	.055		-.018	.127
FAMILY HAS BEEN FOOD INSECURE BETWEEN DATA COLLECTION WAVES	-.075	*	-.150	-.001	-.063		-.138	.012
FAMILY PARTICIPATES IN COMMUNITY SERVICE PROJECTS	.057	*	.006	.108	.051	†	.000	.103
ATTENDS RELIGIOUS SERVICES AT LEAST FEW TIMES/MONTH	.058	**	.011	.105	.047	†	-.001	.094

Key Independent Variables

EMERGENCY CALL-FRIEND/NEIGHBOR					.008		-.043	.059
EMERGENCY CALL-MEMBER CHURCH					.096		-.085	.278
EMERGENCY CALL-DR/EMER SERVICES					-.055		-.127	.017
NO LIBRARY IN NEIGHBORHOOD (LESS THAN 1 MILE)					.023		-.030	.075
NEIGHBORHOOD IS OF POOR QUALITY FOR RAISING A CHILD					-.080	*	-.147	-.012
NEIGHBORHOOD IS UNSAFE					-.183	***	-.295	-.071
CHILD WITNESS VIOLENT ACT IN NEIGHBORHOOD OR HOME IN LAST YEAR					.066		-.033	.165
# OF RELATIVES IN NEIGHBORHOOD					-.001		-.004	.003
# OF NEIGHBORS KNOWN BY NAME					-.001		-.002	.001
GET TOGETHER WITH NEIGHBORS AT LEAST 2x/MONTH					.039		-.011	.090
CHILD PLAYS OUTSIDE IN NEIGHBORHOOD REGULARLY (1x+/WEEK)					-.065	†	-.131	.001
# OF FRIENDS CHILD PLAYS WITH IN THE NEIGHBORHOOD (2x+/WEEK)					.008	*	.001	.016
Constant	.063		-.109	.234	.057		-.132	.245
_N_ [d]	5,950				5,950			
_R_[2]	0.228				0.232			
_R_[2] **_Change Significant?_**					YES			

[a] * = p < 0.05, ** = p < 0.01, *** = p < 0.001, † = p < 0.1

Data are weighted by WKR0 / mean of WKR0. See text for description of sample, measures, and modeling strategy.

[b] This table represents six models.

[c] The dependent variables are standardized indices of multiple measures. See text for details.
[d] Per NCES reporting requirements for the ECLS-B data set, all Ns are rounded to the nearest 50.

	Model C			Model D		
	Interpersonal Skills w/o N'hoods [c]			Interpersonal Skills Full Model [c]		
	B	95% C.I.		B	95% C.I.	
Controls						
MOVED BETWEEN DATA COLLECTION WAVES	-.022	-.077	.033	-.028	-.084	.027
FAMILY SES IS IN FIRST QUINTILE	-.021	-.108	.066	-.044	-.131	.044
FAMILY SES IS IN SECOND QUINTILE	-.047	-.125	.030	-.059	-.136	.019
FAMILY SES IS IN FOURTH QUINTILE	.041	-.037	.120	.048	-.031	.126
FAMILY SES IS IN FIFTH QUINTILE	-.087 *	-.170	-.004	-.091 *	-.174	-.007
AGE OF PRIMARY RESIDENT CAREGIVER	-.001	-.005	.003	.000	-.004	.004
CHILD IN HOME WITH OTHER THAN A BIOLOGICAL PARENT	.001	-.062	.065	-.005	-.069	.059
PRIMARY HOUSEHOLD LANGUAGE IS NOT ENGLISH	-.205 ***	-.295	-.114	-.195 ***	-.286	-.104
TOTAL NUMBER OF HOUSEHOLD MEMBERS	-.023 *	-.042	-.005	-.023 *	-.042	-.005
CHILD READ TO BY PARENT REGULARLY (3-6 TIMES/WEEK)	.190 ***	.130	.250	.184 ***	.124	.244
CHILD STRUCTURED PLAY W/PARENT REGULARLY (1x+/WEEK)	.143 ***	.090	.197	.115 ***	.061	.169
CHILD IS IN POOR HEALTH	-.160 ***	-.236	-.083	-.153 ***	-.230	-.077
PARENT DOES NOT USE SPANKING	.129 ***	.075	.183	.124 ***	.071	.178
CHILD - BLACK	.071 †	-.004	.146	.063	-.012	.139
CHILD - HISPANIC	.123	.045	.200	.124 **	.046	.202
CHILD - ASIAN / PACIFIC ISLANDER	-.066	-.244	.113	-.057	-.235	.121
CHILD - MULTIRACIAL, AMERICAN INDIAN, & OTHER	-.170 **	-.290	-.050	-.168 **	-.287	-.048
CHILD IS FEMALE	.344 ***	.294	.394	.346 ***	.297	.396
CHILDCARE BY CENTER BASED PROGRAM	-.062 †	-.133	.009	-.046	-.117	.025
CHILDCARE BY HEAD START PROGRAM	-.042	-.131	.047	-.044	-.134	.045
CHILDCARE PERFORMED BY RELATIVE	-.043	-.131	.046	-.035	-.124	.053
CHILDCARE PERFORMED BY NONRELATIVE	-.088 †	-.192	.016	-.075	-.179	.029
CHILD HAS IEP OR IFSP	-.407 ***	-.521	-.293	-.391 ***	-.505	-.277
LOW OR VERY LOW BIRTHWEIGHT	-.085 †	-.179	.010	-.084 †	-.177	.010
CHILD'S HOUSEHOLD IS IN A SUBURB	-.041	-.101	.020	-.038	-.098	.023

	Coef.		CI		Coef.		CI	
CHILD'S HOUSEHOLD IS IN A TOWN	-.108	*	-.194	-.022	-.105	*	-.191	-.020
CHILD'S HOUSEHOLD IS IN A RURAL AREA	.032		-.047	.110	.028		-.051	.106
FAMILY HAS BEEN FOOD INSECURE BETWEEN DATA COLLECTION WAVES	-.120	**	-.201	-.039	-.125	**	-.207	-.044
FAMILY PARTICIPATES IN COMMUNITY SERVICE PROJECTS	.081	**	.025	.136	.058	*	.002	.115
ATTENDS RELIGIOUS SERVICES AT LEAST FEW TIMES/MONTH	.033		-.019	.084	.017		-.035	.069

Key Independent Variables

					Coef.		CI	
EMERGENCY CALL-FRIEND/NEIGHBOR					-.057	*	-.112	-.002
EMERGENCY CALL-MEMBER CHURCH					.140		-.057	.337
EMERGENCY CALL-DR/EMER SERVICES					.037		-.041	.115
NO LIBRARY IN NEIGHBORHOOD (LESS THAN 1 MILE)					.008		-.049	.065
NEIGHBORHOOD IS OF POOR QUALITY FOR RAISING A CHILD					.014		-.060	.088
NEIGHBORHOOD IS UNSAFE					-.152	*	-.031	-.274
CHILD WITNESS VIOLENT ACT IN NEIGHBORHOOD OR HOME IN LAST YEAR					-.020		-.128	.088
# OF RELATIVES IN NEIGHBORHOOD					.002		-.002	.006
# OF NEIGHBORS KNOWN BY NAME					.002	†	.000	.003
GET TOGETHER WITH NEIGHBORS AT LEAST 2x/MONTH					.067	*	.012	.122
CHILD PLAYS OUTSIDE IN NEIGHBORHOOD REGULARLY (1x+/WEEK)					.128	***	.057	.199
# OF FRIENDS CHILD PLAYS WITH IN THE NEIGHBORHOOD (2x+/WEEK)					.018	***	.010	.026
Constant	-.224	*	-.411	-.037	-.451	***	-.656	-.246
_N_ [d]	5,950				5,950			
_R²_	0.084				0.093			
R² Change Significant?					YES			

[a] * = p < 0.05, ** = p < 0.01, *** = p < 0.001, † = p < 0.1

Data are weighted by WKR0 / mean of WKR0. See text for description of sample, measures, and modeling strategy.

[b] This table represents six models.

[c] The dependent variables are standardized indices of multiple measures. See text for details.

[d] Per NCES reporting requirements for the ECLS-B data set, all Ns are rounded to the nearest 50.

	Model E Attention Span w/o N'hoods [a c]			Model F Attention Span Full Model [c]		
	B		95% C.I.	B		95% C.I.
Controls						
MOVED BETWEEN DATA COLLECTION WAVES	-.053	†	-.110 .003	-.063	*	-.120 -.006
FAMILY SES IS IN FIRST QUINTILE	.128	**	.039 .217	.121	**	.032 .211
FAMILY SES IS IN SECOND QUINTILE	.071	†	-.009 .150	.067		-.013 .146
FAMILY SES IS IN FOURTH QUINTILE	.014		-.066 .094	.009		-.071 .089
FAMILY SES IS IN FIFTH QUINTILE	.084	†	-.001 .168	.069		-.016 .155
AGE OF PRIMARY RESIDENT CAREGIVER	.008	***	.004 .012	.008	***	.004 .011
CHILD IN HOME WITH OTHER THAN A BIOLOGICAL PARENT	-.113	***	-.178 -.048	-.116	***	-.181 -.050
PRIMARY HOUSEHOLD LANGUAGE IS NOT ENGLISH	.091	†	-.001 .183	.097	*	.004 .190
TOTAL NUMBER OF HOUSEHOLD MEMBERS	.070	***	.051 .089	.071	***	.052 .090
CHILD READ TO BY PARENT REGULARLY (3-6 TIMES/WEEK)	-.053	†	-.114 .008	-.052	†	-.113 .009
CHILD STRUCTURED PLAY W/PARENT REGULARLY (1x+/WEEK)	.016		-.039 .070	.010		-.046 .065
CHILD IS IN POOR HEALTH	-.119	**	-.197 -.041	-.120	**	-.198 -.042
PARENT DOES NOT USE SPANKING	.093	***	.038 .148	.097	***	.042 .152
CHILD - BLACK	.030		-.047 .106	.041		-.037 .118
CHILD - HISPANIC	.087	*	.008 .166	.087	*	.007 .166
CHILD - ASIAN / PACIFIC ISLANDER	-.025		-.207 .157	-.017		-.199 .165
CHILD - MULTIRACIAL, AMERICAN INDIAN, & OTHER	-.184	**	-.306 -.062	-.185	***	-.307 -.063
CHILD IS FEMALE	-.032		-.083 .018	-.035		-.086 .016
CHILDCARE BY CENTER BASED PROGRAM	.075	*	.003 .148	.075	*	.002 .148
CHILDCARE BY HEAD START PROGRAM	-.009		-.100 .082	-.006		-.098 .085
CHILDCARE PERFORMED BY RELATIVE	.023		-.067 .114	.029		-.061 .119
CHILDCARE PERFORMED BY NONRELATIVE	-.120	*	-.226 -.014	-.120	*	-.226 -.014
CHILD HAS IEP OR IFSP	-.220	***	-.336 -.103	-.214	***	-.331 -.097
LOW OR VERY LOW BIRTHWEIGHT	-.104	*	-.200 -.008	-.102	*	-.198 -.006
CHILD'S HOUSEHOLD IS IN A SUBURB	.042		-.020 .103	.044		-.017 .106
CHILD'S HOUSEHOLD IS IN A TOWN	.028		-.059 .116	.030		-.058 .117

CHILD'S HOUSEHOLD IS IN A RURAL AREA	.008		-.072	.088	.018		-.063	.099
FAMILY HAS BEEN FOOD INSECURE BETWEEN DATA COLLECTION WAVES	-.061		-.144	.022	-.072	†	-.155	.012
FAMILY PARTICIPATES IN COMMUNITY SERVICE PROJECTS	.047		-.010	.103	.040		-.018	.097
ATTENDS RELIGIOUS SERVICES AT LEAST FEW TIMES/MONTH	.031		-.021	.084	.026		-.027	.079

Key Independent Variables

EMERGENCY CALL-FRIEND/NEIGHBOR					.043		-.013	.099
EMERGENCY CALL-MEMBER CHURCH					.124		-.077	.326
EMERGENCY CALL-DR/EMER SERVICES					-.072	†	-.152	.007
NO LIBRARY IN NEIGHBORHOOD (LESS THAN 1 MILE)					-.006		-.064	.052
NEIGHBORHOOD IS OF POOR QUALITY FOR RAISING A CHILD					-.041		-.116	.035
NEIGHBORHOOD IS UNSAFE					-.156	*	-.032	-.280
CHILD WITNESS VIOLENT ACT IN NEIGHBORHOOD OR HOME IN LAST YEAR					.040		-.071	.150
# OF RELATIVES IN NEIGHBORHOOD					-.004	†	-.008	.000
# OF NEIGHBORS KNOWN BY NAME					.000		-.001	.002
GET TOGETHER WITH NEIGHBORS AT LEAST 2x/MONTH					.037		-.019	.093
CHILD PLAYS OUTSIDE IN NEIGHBORHOOD REGULARLY (1x+/WEEK)					.014		-.059	.087
# OF FRIENDS CHILD PLAYS WITH IN THE NEIGHBORHOOD (2x+/WEEK)					-.004		-.012	.005

Constant	-.674	***	-.865	-.484	-.681	***	-.890	-.472
_N_ [d]	5,950				5,950			
_R²_	0.048				0.052			
R² Change Significant?					NO			

[a] * = p < 0.05, ** = p < 0.01, *** = p < 0.001, † = p < 0.1

   Data are weighted by WKR0 / mean of WKR0. See text for description of sample, measures, and modeling strategy.

[b] This table represents six models.

[c] The dependent variables are standardized indices of multiple measures. See text for details.

[d] Per NCES reporting requirements for the ECLS-B data set, all Ns are rounded to the nearest 50.

As can be seen in table 11, a few patterns emerge from the models. First, neighborhood characteristics are associated with a statistically significant improvement in R^2 in the nested models of cognitive and interpersonal skills, but not in models of attention span, indicating that adding in neighborhood characteristics increases the share of the variance explained by the models for the two main definitions of school readiness. While the magnitude of the gain is small, it is nonetheless consistent across these two models. It is important to note, however, that the values of R^2 in each model are fairly small - in the case of cognitive skills it above 0.2, while in the case of interpersonal skills and attention span it is just below 0.1.

Patterns also emerge in the neighborhood characteristics with respect to the coefficients themselves. In general, children who play in the neighborhood regularly and who come from social families tend to have higher scores across the cognitive and interpersonal outcomes. Attention spans appear to be relatively unassociated to those activities. In addition, an association exists between the self-reports of neighborhood quality and all three school readiness outcomes, as children whose parents rate their neighborhoods as of poor quality and unsafe tend to have lower scores on all three outcomes. Even so, the associations are relatively small – maxing out at slightly over 0.17 of a standard deviation. More traditional measures of formal social control do not appear to be particularly important. For all three outcomes, comfort with calling for assistance, getting together with neighbors, and relatives in the neighborhood had little association with school readiness. One of the most salient issues in the literature – childhood exposure to violence – appears unassociated as well. This is particularly

surprising in light of the literature suggesting that even school-age children experience

drops in academic performance as a result of witnessing violence in their neighborhood

as reviewed in chapter one. This may indicate that there is a minimum age at which

exposure to violence does not greatly impact these types of outcomes; however, further

research would be required before such conclusions could be supported.

Taken in sum, these models indicate that neighborhood characteristics are

associated with school readiness, but ultimately the association is small when accounting

for the various types of school readiness and each individual component of

neighborhood. Given that an association has been observed, hypothesis two is evaluated

next.

Hypothesis 2

Hypothesis two is that certain neighborhood characteristics are more salient in

describing the neighborhood-school readiness association than others and that these

salient neighborhood characteristics vary across school readiness definitions.

With respect to specific neighborhood characteristics, cognitive skills were

positively associated with social factors including the number of neighborhood friends

the child has, but were negatively associated with lower neighborhood quality and safety

as well as regular neighborhood play (see table 11). On average, living in an unsafe

neighborhood and living in a neighborhood of poor quality for raising a child were

associated with a .183 and .08 of a standard deviation decrease in the cognitive skills

index, respectively. While the confidence intervals of these estimates overlap, the

number of friends the child plays with in the neighborhood regularly does not. However,

on average each additional friend that the child plays with is only associated with a .008

of a standard deviation increase in the cognitive skills index – making this estimate of questionable importance.

Relative to cognitive skills, interpersonal skills were even more positively associated with a variety of social factors including socializing with neighbors, the number of neighborhood friends the child has, and whether the child plays out in the neighborhood once a week or more. Similar to cognitive skills, interpersonal skills were negatively associated with neighborhood safety. Comfort calling a friend or neighbor in an emergency and living in an unsafe neighborhood were on average associated with a .057 and .152 of a standard deviation decrease in the interpersonal skills index, respectively. Conversely, getting together with neighbors at least two times a month and having the child play in the neighborhood at least once a week were on average associated with a .067 and .128 of a standard deviation increase in the interpersonal skills index, respectively. Similarly, on average each additional friend results in a .018 of a standard deviation increase in the interpersonal skills index. As with the cognitive skills index all of these estimates are small save perhaps neighborhood safety. While more social neighborhood characteristics are significantly associated with the interpersonal skill index than the cognitive skill index, those neighborhood characteristics that are significant in both the cognitive and interpersonal models all have confidence intervals that overlap to varying degrees.

Attention span only has one significant association. It is negatively associated with neighborhood safety – on average, living in an unsafe neighborhood results in a .156 of a standard deviation decrease in the attention span index. This is in keeping with research demonstrating a connection between children's attention span in elementary

school with neighborhood violence. However, given the insignificance of actually witnessing a violent act, there may simply be too many unknowns to draw conclusions based upon this duality. For example, this item relies on parent self-reports about what their children have seen or been exposed to, which may not accurately reflect the child's exposure. Moreover, the item includes children who have conceivably been exposed to violence in the home and who have not been exposed to violence in the neighborhood (the item makes no distinction), and thus may conflate results.

Using the estimates in table 11, predicted values are estimated for children in families from varying backgrounds. The family's SES quintile and neighborhood quality self-reports are considered. Social capital is also considered: "low" social capital is defined as being a standard deviation below the mean on three interpersonal metrics including number of family members in the neighborhood, and number of known neighbors, frequency of socialization with neighbors, and not being comfortable calling a friend/neighbor and/or church member in an emergency; conversely, "high" social capital is defined as being a standard deviation above the mean on three interpersonal metrics and being comfortable calling the aforementioned parties. These are the best variables available in the data to operationalize my earlier definition of social capital in chapter one.

As can be seen in table 12 and figure 3, several interesting patterns emerge. In general, higher social capital is positively associated with children's school readiness outcomes regardless of neighborhood quality – in some cases by more than 0.2 of a standard deviation. Despite the relatively small differences seen, the trend is consistent across all conditions. Neighborhood quality also emerges as a particularly important

facet. Variations exist across socioeconomic quintiles, but in general children from families in low quality neighborhoods have lower scores across the three school readiness indices, while those in high quality neighborhoods have higher scores across the indices. Perhaps most compellingly, the difference between school readiness of children of families in the lowest SES quintile living in poor quality neighborhoods and their counterparts in good quality neighborhoods was virtually eliminated once high social capital was entered into the calculation. However, it is extremely important to note that practically none of the coefficients for the variables used to operationalize social capital here were themselves statistically significant in the full regression model. Thus, these preliminary findings suggest a promising avenue for future research on this topic but should not be used to justify such an association in and of themselves without additional evidence.

Table 12: Predicted Values of Various Family / Neighborhood / Social Capital Conditions

	Cognitive	Interpersonal	Attention Span
1st SES Quintile, BAD Neighborhood	-0.322	0.026	0.170
1st SES Quintile, GOOD Neighborhood	-0.243	0.012	0.211
5th SES Quintile, BAD Neighborhood	0.519	-0.021	0.118
5th SES Quintile, GOOD Neighborhood	0.598	-0.035	0.158
1st SES Quintile, BAD Neighborhood, LOW Social Capital	-0.348	-0.078	0.150
1st SES Quintile, BAD Neighborhood, HIGH Social Capital	-0.232	0.146	0.320
1st SES Quintile, GOOD Neighborhood, LOW Social Capital	-0.268	-0.092	0.190
1st SES Quintile, GOOD Neighborhood, HIGH Social Capital	-0.152	0.132	0.361
3rd SES Quintile, BAD Neighborhood, LOW Social Capital	0.040	-0.034	0.028
3rd SES Quintile, BAD Neighborhood, HIGH Social Capital	0.156	0.189	0.199
3rd SES Quintile, GOOD Neighborhood, LOW Social Capital	0.119	-0.048	0.069
3rd SES Quintile, GOOD Neighborhood, HIGH Social Capital	0.235	0.175	0.240
5th SES Quintile, BAD Neighborhood, LOW Social Capital	0.493	-0.125	0.098
5th SES Quintile, BAD Neighborhood, HIGH Social Capital	0.609	0.099	0.268
5th SES Quintile, GOOD Neighborhood, LOW Social Capital	0.573	-0.139	0.138
5th SES Quintile, GOOD Neighborhood, HIGH Social Capital	0.689	0.085	0.309

[a] "Average" family is a 3rd SES quintile family that satisfies the mean / modal condition on all variables but those in column 2

[b] Neighborhood conditions vary by the self-report of neighborhood

quality for raising a child used in previous models

[c] Social Capital is defined by the three conditions from the full models:
   # of relatives in the neighborhood, # of neighbors known by name,
   frequency of "get togethers" with neighbors, and comfort calling a friend
   and/or neighbor and/or a church member in an emergency
   A "LOW" social capital family is defined as having one standard deviation
   below the mean for the aforementioned variables
   and lacking the comfort to call the aforementioned parties
   A "HIGH" social capital family is defined as having one standard deviation
   above the mean for the aforementioned variables
   and having the comfort to call the aforementioned parties

**Figure 3: Predicted Values of Various Family /
Neighborhood / Social Capital Conditions**
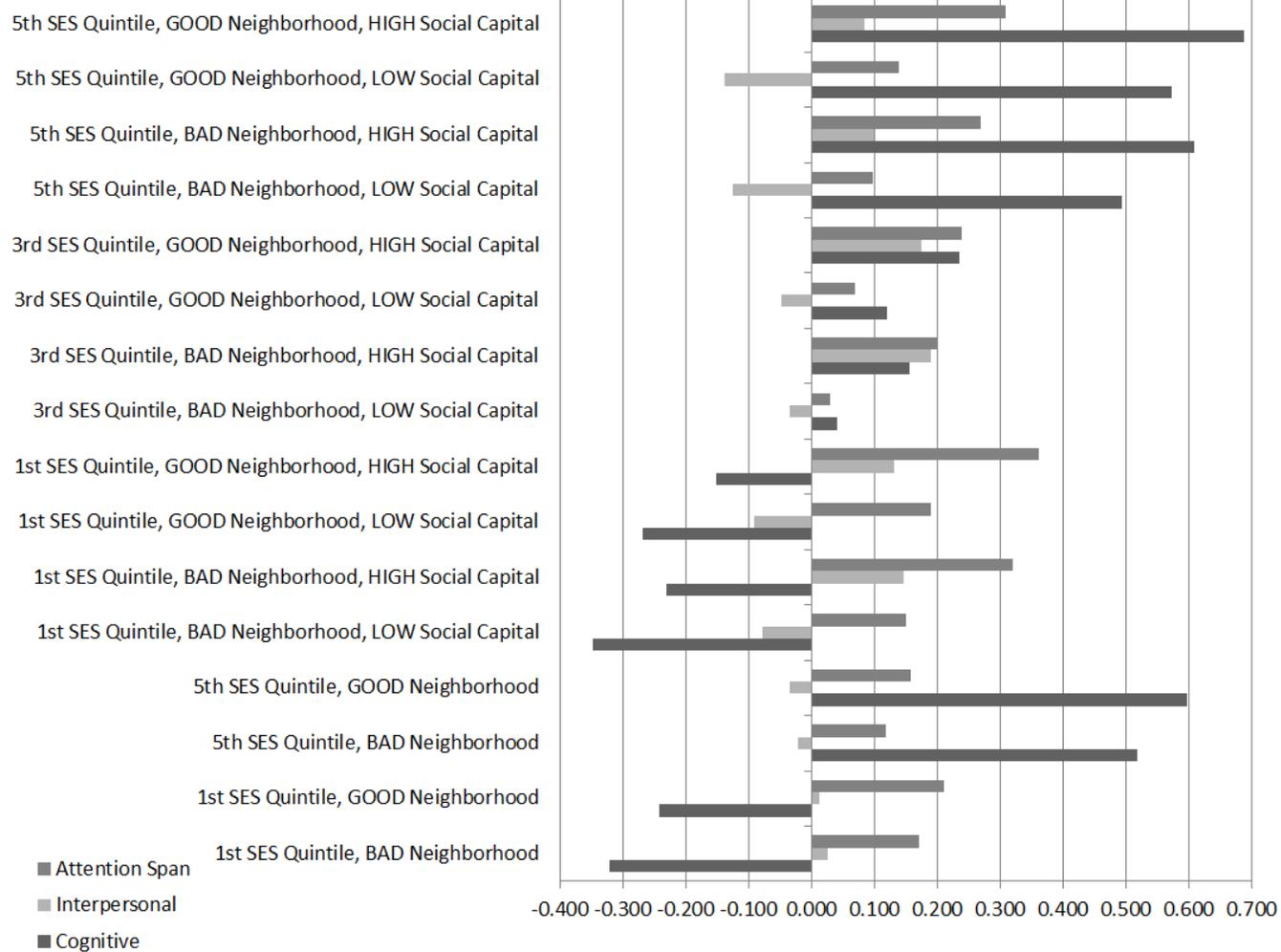
Hypothesis 3

Hypothesis three states that the relationship between neighborhood characteristics and school readiness is mediated by family characteristics and practices. To test this hypothesis, three sets of models were constructed – one for each school readiness outcome. Each set includes a pair of nested models: one including all variables except six covering parental behavior and childrearing practices and one full model including all variables. As described earlier when discussing methods, one can examine potential mediation by comparing the changes in neighborhood coefficients after adding family behavior as a part of the model.

Table 13: Testing Hypothesis 3: Parenting Behaviors as a Mediator of Neighborhood Effects
SEE NOTES AT END OF TABLE [a b c d e]

	Model G			Model H		
	Cognitive Skills w/o Family [d]			Cognitive Skills Full Model [d]		
	B		95% C.I.	B		95% C.I.
Neighborhood Variables						
EMERGENCY CALL-FRIEND/NEIGHBOR	.017		-.033 .068	.008		-.043 .059
EMERGENCY CALL-MEMBER CHURCH	.138		-.043 .319	.096		-.085 .278
EMERGENCY CALL-DR/EMER SERVICES	-.060	†	-.132 .011	-.055		-.127 .017
NO LIBRARY IN NEIGHBORHOOD (LESS THAN 1 MILE)	.032		-.020 .085	.023		-.030 .075
NEIGHBORHOOD IS OF POOR QUALITY FOR RAISING A CHILD	-.084	*	-.153 -.016	-.080	*	-.147 -.012
NEIGHBORHOOD IS UNSAFE	-.187	***	-.299 -.075	-.183	***	-.295 -.071
CHILD WITNESS VIOLENT ACT IN NEIGHBORHOOD OR HOME IN LAST YEAR	.062		-.038 .161	.066		-.033 .165
# OF RELATIVES IN NEIGHBORHOOD	-.001		-.004 .003	-.001		-.004 .003
# OF NEIGHBORS KNOWN BY NAME	.000		-.002 .001	-.001		-.002 .001
GET TOGETHER WITH NEIGHBORS AT LEAST 2x/MONTH	.043	†	-.007 .094	.039		-.011 .090
CHILD PLAYS OUTSIDE IN NEIGHBORHOOD REGULARLY (1x+/WEEK)	-.036		-.100 .029	-.065	†	-.131 .001
# OF FRIENDS CHILD PLAYS WITH IN THE NEIGHBORHOOD (2x+/WEEK)	.010	**	.002 .018	.008	*	.001 .016
Family Mediation Variables						
PRIMARY HOUSEHOLD LANGUAGE IS NOT ENGLISH				.004		-.080 .087
FAMILY PARTICIPATES IN COMMUNITY SERVICE PROJECTS				.051	†	.000 .103
ATTENDS RELIGIOUS SERVICES AT LEAST FEW TIMES/MONTH				.047	†	-.001 .094
CHILD READ TO BY PARENT REGULARLY (3-6x/WEEK)				.176	***	.121 .231
CHILD STRUCTURED PLAY W/PARENT REGULARLY (1x+/WEEK)				.001		-.049 .051
PARENT DOES NOT USE SPANKING				-.014		-.064 .035
Constant	.190	*	.009 .371	.057		-.132 .245
N [e]	5,950			5,950		
R²	0.225			0.232		

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	Model I			Model J		
	Interpersonal Skills w/o Family [d]			Interpsonal Skills Full Model [d]		
	B		95% C.I.	B		95% C.I.
Neighborhood Variables						
EMERGENCY CALL-FRIEND/NEIGHBOR	-.054	†	-.109 .002	-.057	*	-.112 -.002
EMERGENCY CALL-MEMBER CHURCH	.154		-.043 .352	.140		-.057 .337
EMERGENCY CALL-DR/EMER SERVICES	.023		-.056 .101	.037		-.041 .115
NO LIBRARY IN NEIGHBORHOOD (LESS THAN 1 MILE)	.021		-.037 .078	.008		-.049 .065
NEIGHBORHOOD IS OF POOR QUALITY FOR RAISING A CHILD	.001		-.073 .076	.014		-.060 .088
NEIGHBORHOOD IS UNSAFE	-.155	*	.033 .277	-.152	*	.031 .274
CHILD WITNESS VIOLENT ACT IN NEIGHBORHOOD OR HOME IN LAST YEAR	-.014		-.123 .095	-.020		-.128 .088
# OF RELATIVES IN NEIGHBORHOOD	.002		-.001 .006	.002		-.002 .006
# OF NEIGHBORS KNOWN BY NAME	.002	*	.000 .004	.002	†	.000 .003
GET TOGETHER WITH NEIGHBORS AT LEAST 2x/MONTH	.070	*	.015 .125	.067	*	.012 .122
CHILD PLAYS OUTSIDE IN NEIGHBORHOOD REGULARLY (1x+/WEEK)	.195	***	.125 .266	.128	***	.057 .199
# OF FRIENDS CHILD PLAYS WITH IN THE NEIGHBORHOOD (2x+/WEEK)	.020	***	.012 .028	.018	***	.010 .026
Family Mediation Variables						
PRIMARY HOUSEHOLD LANGUAGE IS NOT ENGLISH				-.195	***	-.286 -.104
FAMILY PARTICIPATES IN COMMUNITY SERVICE PROJECTS				.058	*	.002 .115
ATTENDS RELIGIOUS SERVICES AT LEAST FEW TIMES/MONTH				.017		-.035 .069
CHILD READ TO BY PARENT REGULARLY (3-6x/WEEK)				.184	***	.124 .244
CHILD STRUCTURED PLAY W/PARENT REGULARLY (1x+/WEEK)				.115	***	.061 .169
PARENT DOES NOT USE SPANKING				.124	***	.071 .178
Constant	-.190	†	-.387 .008	-.451	***	-.656 -.246
N [e]	5,950			5,950		

	R^2			0.076			0.093		
	R^2 **Change Significant?**						YES		

	Model K				Model L			
	Attention Span w/o Family [d]				Attention Span Full Model [d]			
	B		95% C.I.		B		95% C.I.	
Neighborhood Variables								
EMERGENCY CALL-FRIEND/NEIGHBOR	.044		-.013	.100	.043		-.013	.099
EMERGENCY CALL-MEMBER CHURCH	.135		-.065	.336	.124		-.077	.326
EMERGENCY CALL-DR/EMER SERVICES	-.067		-.146	.013	-.072	†	-.152	.007
NO LIBRARY IN NEIGHBORHOOD (LESS THAN 1 MILE)	-.008		-.066	.050	-.006		-.064	.052
NEIGHBORHOOD IS OF POOR QUALITY FOR RAISING A CHILD	-.038		-.113	.038	-.041		-.116	.035
NEIGHBORHOOD IS UNSAFE	-.142	*	.018	.266	-.156	*	.032	.280
CHILD WITNESS VIOLENT ACT IN NEIGHBORHOOD OR HOME IN LAST YEAR	.028		-.082	.139	.040		-.071	.150
# OF RELATIVES IN NEIGHBORHOOD	-.004	*	-.008	.000	-.004	†	-.008	.000
# OF NEIGHBORS KNOWN BY NAME	.001		-.001	.002	.000		-.001	.002
GET TOGETHER WITH NEIGHBORS AT LEAST 2x/MONTH	.044		-.012	.100	.037		-.019	.093
CHILD PLAYS OUTSIDE IN NEIGHBORHOOD REGULARLY (1x+/WEEK)	.017		-.054	.089	.014		-.059	.087
# OF FRIENDS CHILD PLAYS WITH IN THE NEIGHBORHOOD (2x+/WEEK)	-.003		-.012	.005	-.004		-.012	.005
Family Mediation Variables								
PRIMARY HOUSEHOLD LANGUAGE IS NOT ENGLISH					.097	*	.004	.190
FAMILY PARTICIPATES IN COMMUNITY SERVICE PROJECTS					.040		-.018	.097
ATTENDS RELIGIOUS SERVICES AT LEAST FEW TIMES/MONTH					.026		-.027	.079
CHILD READ TO BY PARENT REGULARLY (3-6x/WEEK)					-.052	†	-.113	.009
CHILD STRUCTURED PLAY W/PARENT REGULARLY (1x+/WEEK)					.010		-.046	.065
PARENT DOES NOT USE SPANKING					.097	***	.042	.152
Constant	-.669	***	-.869	-.468	-.681	***	-.890	-.472

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N [e]	5,950	5,950
R^2	0.048	0.052
R^2 *Change Significant?*		YES

[a] * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$, † = $p < 0.1$

    Data are weighted by WKR0 / mean of WKR0. See text for description of sample, measures, and modeling strategy.

[b] This table represents six models.

[c] Each model includes the full battery of non-family mediator controls as shown in table 11.

[d] The dependent variables are standardized indices of multiple measures. See text for details.

[e] Per NCES reporting requirements for the ECLS-B data set, all Ns are rounded to the nearest 50.

The general pattern is for the neighborhood coefficients to trend closer to zero once family behavior and childrearing practices are included in the model. This association is observed in seven of the eight statistically significant neighborhood coefficients pairs (see table 13). Some of the largest differences in the association between neighborhood characteristics and cognitive skills are for neighborhood quality and safety. Some of the largest differences in the association between neighborhood characteristics and interpersonal skills are for measures of child play and family sociability. In all of these cases, the difference in coefficients between nested models is larger than their associated standard errors, but in all cases are within their respective confidence intervals. Thus, there is some evidence to suggest that in general parenting behavior and/or childrearing practices do act as a mediator of neighborhood effects on school readiness given the overall trend observed. However, despite the overall trend, the changes in the associations are generally quite small and are not statistically significant given the overlap of the confidence intervals. While hypothesis three may best be described as inconclusive, but based upon the data and trend in the models, I lean towards confirming the hypothesis. However, future research is required to determine whether different types of families may have different mediation effects.

In the following chapter, I situate these results into the existing literature and theory on the subject, while suggesting some further avenues of investigation.

CHAPTER 6: DISCUSSION: SIGNIFICANCE & LIMITATIONS

Taken together, the results presented in the preceding chapter are important in a number of ways. Similar to the existing literature, I have established that an association exists between neighborhood and school readiness. However, the tests of hypothesis one demonstrated, when adequate detail is taken into account the association between neighborhood and school readiness becomes far more complicated than previous research has indicated.

Tests of hypothesis two bolstered this conclusion by demonstrating that certain neighborhood characteristics are more strongly associated with certain school readiness outcomes than are others, but only in a couple of instances. Predicted values based upon the coefficients in the models indicate that social capital among families from a variety of SES groups and neighborhood types is an important consideration – this is a promising area for future research.

Hypothesis three considered an important dimension of the socialization process for children – family mediation of neighborhood characteristics. While at best the mediation is slight, hypothesis three informs the literature in that family factors are not merely a control when studying neighborhoods and school readiness, but perhaps a slight mediator of those associations. As such, future research should investigate this association further to determine which components of family behavior are the most effective at mitigating or encouraging the effects of neighborhood on school readiness. In this chapter, I first situate these broad findings into their respective literatures, I then

discuss theoretical implications, and I finish by commenting on specific areas for future study.

School Readiness

Much of the existing school readiness literature has focused on issues of family (c.f. Kaushal, Magnuson, & Waldfogel 2011; Orr 2003), parenting (c.f. Phillips 2011), preschool educational opportunities and childcare settings (c.f. Duncan, Ludwig, & Magnuson 2010; Waldfogel 2002), and health & healthcare (c.f. Shore-Shepard 2010). Little has focused on neighborhoods directly (Carpiano et al 2009; Kohen et al 2009; McCulloch & Joshi 2001; Oliver et al 2007). While the former areas are investigated using a myriad of methods, data, and conceptualizations of school readiness, the latter boils down readiness into a single score. Even more confounding, much of the research done in economics and other areas tends to use an index of several standardized outcomes while sociological research tends to focus on observable skills (Almlund et al 2011; Meisels 1999). Thus, this dissertation helps to bridge the conceptualization gap by introducing both conceptualizations into a single study, greatly increasing our opportunity to compare the magnitude and strength of the observed relationship of neighborhood characteristics and school readiness outcomes. Indeed, this proved fruitful: I have demonstrated a substantive difference in which neighborhood characteristics are most associated with which school readiness outcomes.

This differentiation is the second main contribution of this dissertation to the existing literature. By separating school readiness and neighborhood simultaneously into component parts, I have demonstrated that much of what previous neighborhood / school

readiness researchers have found is actually a more interesting relationship: that while

broad self-reports of neighborhood quality and safety are associated with declines in

cognitive skills, interpersonal skills, and attention span, it is the sociability characteristics

of the child and family that are most strongly associated with interpersonal skills. Given

the improvement in R^2 observed in this particular neighborhood / readiness outcome, it is

likely that previous researchers' findings of a broad but undetailed neighborhood / school

readiness association were driven at least in large part by this important (and until now

not observed) relationship in this age group. Thus, I extend previous work on primary

school age children and interpersonal skill outcomes (Kalff et al 2001) into the preschool

age realm.

These findings are further bolstered by the predicted values (table 13) calculated

using the regression coefficients from the models (table 11). Taken together, these

findings indicate that social capital may be behind a good deal of the observed

association and suggest a promising avenue for future research (both are discussed in

further detail later in this chapter).

Finally, these findings add to the school readiness literature in that they further

demonstrate the tremendous importance of family in predicting such outcomes – beyond

simply the coefficients in my models again demonstrating these long-established

relationships. As I demonstrate in testing hypothesis three, family mediation of aspects

of a given neighborhood is critical to consider even given the relatively limited evidence I

am able to demonstrate. As reviewed earlier, we already know a good deal about the

importance of parting practices on school readiness (c.f. Cabrera & LaNasa 2001; Davis-

Keane 2005; Melby et al 2008; Phillips 2011), and the importance of key investments at

particular ages (c.f. Cunha & Heckman 2008; Phillips 2011).   The idea that changes in

parenting practices may mediate a hypothesized negative neighborhood effect on school

readiness suggests that future policy be shaped around parenting practices and not

necessarily simply removing otherwise disadvantaged families from disadvantaged

neighborhoods, thus eliminating two areas of disadvantage through one parent education

program. This should be considered in conjunction with efforts to improve the

neighborhoods themselves to create an initiative operating on multiple fronts. Indeed,

such parent education initiatives have been demonstrated to mitigate a variety of

circumstances (Brooks-Gunn et al 2000; Collins et al 2000; Miller & Prinz 2003; Prinz &

Miller 1994; Scarr 1992; Webster-Stratton 1996; Webster-Stratton & Hammond 1990).

However, in the absence of experimental leverage, further investigation is advisable

before any policy is implemented (Furstenberg 2011).

　　　　The issue of experimental versus causal leverage is again a common feature of

neighborhood research and has been the subject of several annual review pieces (most

notably Small & Newman 2001). Small and Newman argue that most neighborhood

studies cannot (and do not) make strong causal claims based on methodology and

observation alone – and thus they must rely on a theoretical grounding to make sense of a

strong observational model showing significant results. This seems to be the prevailing

wisdom among neighborhood researchers. Neither Small & Newman (2001), Sampson,

Morenoff, and Gannon-Rowley (2002), Kubrin, Stucky, and Krohn (2009), nor Burdick-

Will, Ludwig, Raudenbush, Sampson, Sanbonmatsu, and Sharkey (2011) see this as a

fault of research design or a methodologically fatal flaw, but rather a reality of the inherent difficulty in differentiating the various contexts.

Neighborhood Effects

These findings also lend make a few empirical contributions to the neighborhood effects literature. Like the contributions to the school readiness literature, my findings lack experimental leverage. However, unlike in the school readiness literatures, very few neighborhood effects researchers make explicit causal claims due to the nature of the subject under study or the limitations of utilized methodology. Rather, most make a causal claim after interpreting results through complex neighborhood theory as I do here.

The main contributions of this research is to extend the small body of neighborhood / school readiness work (Carpiano et al 2009; Kohen et al 2009; McCulloch & Joshi 2001; Oliver et al 2007) and push it further by demonstrating that a variety of measures of neighborhood are important for consideration – not just a single reduced scale score[41]. Indeed, while previous researchers have hypothesized and demonstrated an association between some kind of scale score for neighborhood disadvantage school readiness, I have been able to demonstrate which social components of neighborhood are driving these observed associations. Informal social control in the form of being more socially integrated with other families and children in the neighborhood was particularly salient in terms of associations with interpersonal skills.

However, some of the other hypothesized characteristics that the aforementioned researchers have made were not present in my analyses. While self-reports of

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[41] Kohen et al 2002 is the notable exception, however, the focused solely on signs of physical disorder and not on any of the outcomes that I have used.

neighborhood quality were associated with readiness, other factors like library access, presence of formal social control like police, and witnessing violence in the neighborhood were not associated with school readiness in this dissertation. This helps to further bound future research into neighborhood characteristics and school readiness by pushing researchers into a direction that appears to be most promising: social capital, social connections, and routine neighborhood activities (discussed in more detail later in this chapter).

My findings also may suggest a point of increasing returns on neighborhood effects the later one moves in life. While my findings are consistent across outcomes and the observed associations are statistically and theoretically significant, they are not nearly of the same magnitude as are present for older individuals with regards to education (c.f. Burdick-Will et al 2011). Thus, this may indicate that there is age-related complexity in the neighborhood effect relationships (c.f. Harding et al 2011). This is in keeping with some of the basic theory surrounding socialization and the research demonstrating the importance of peers in educational performance (Coleman et al 1966; Altonji & Mansfield 2011).

Methodologically my research contributes to the newer vein of neighborhood research that has moved away from administrative data to define neighborhoods (c.f. Coulton et al 2001; Duncan & Raudenbush 1999; Galster 2001; Grannis 1998, 2001; Hume et al 2005; Raudenbush 2003; Sampson et al 2002; Sampson 2003). It is also the first such work to do so and specifically evaluate school readiness outcomes. By eschewing administrative data in favor of using data that allows residents to choose their

own conception and understanding of their neighborhood, I examine residents own

conclusions about their neighborhood quality and contextual characteristics. This would

likely affect decisions about their routine activities in their neighborhood in a way that

would not be possible using administratively defined boundaries. While still a relatively

new area in neighborhood research, it is one that is gaining popularity quickly (Burdick-

Will et al 2011). The obvious drawback which I am not able to overcome is that causal

processes may be outside of residents' own mental map of their neighborhood. Ideally,

future research in this area would make use of both types of data to draw comparisons,

but this proved impossible for my own research.

Informing Theory

The findings in chapter 5 largely support existing theoretical perspectives on the

observed associations with a few notable exceptions. In chapter 2, I proposed a four-part

theory for understanding the social processes involved in the relationship between

neighborhoods and school readiness (table 1) and I presented a graphical representation

of these processes (figure 2). In both instances, the associations observed in this

dissertation appear to largely support my own theoretical conceptualization, with a few

modifications. Based upon my findings, I am able to revise and draw a few conclusions

about these theoretical conceptualizations as follows (table 14):

Table 14: Guiding Theoretical Constructs, Revised and Revisited[42]

#	Construct
I	Neighborhoods influence interpersonal skill outcomes through a sense of collective efficacy and informal social control – for children, this produces different norms of behavior affecting behavioral abilities, particularly for non-familial actors (a direct neighborhood effect; the top arrow in Figure 4). *Supported, but the associations are small.*
II	Neighborhoods influence cognitive and interpersonal skill school readiness outcomes by producing changes in the preschool age child's routine activities (structured play, early education participation, being read to, etc.) – these are shaped both directly by family and indirectly by the neighborhood with family acting as a mediator (a mediated neighborhood effect; the mediated arrows in figure 4). *Supported, but evidence is limited*
III	Tying constructs I and II together, specific neighborhood characteristics are more or less related to specific school readiness outcomes: ~~for example, witnessing violence in the neighborhood or~~ experiencing a high degree of non-familial informal social control *via the interconnectedness of the neighborhood* is more reasonably associated with interpersonal skills than it is cognitive skills. *Supported.*
IV	The quantity and quality of neighborhood institutional resources matters: for example, neighborhoods without quality, accessible early childhood programming will produce children less prepared for school (while not a focus of this research and thus not discussed in great detail, this already empirically established relationship is accounted for in the modeling strategy outlined later on) *Not investigated by this research, but controlled for in the model.*

A visual representation of Table 14:

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[42] Additions appear in italics, deletions are struck-through

Figure 4: A Graphical Representation of Guiding Theoretical Constructs, Revised

Neighborhood Demographics and Indicators of (Dis)Organization / Institutions	Changes in childrearing practices and norms of behavior among primary caregivers	Interpersonal skill readiness outcomes
		Cognitive skill readiness outcomes
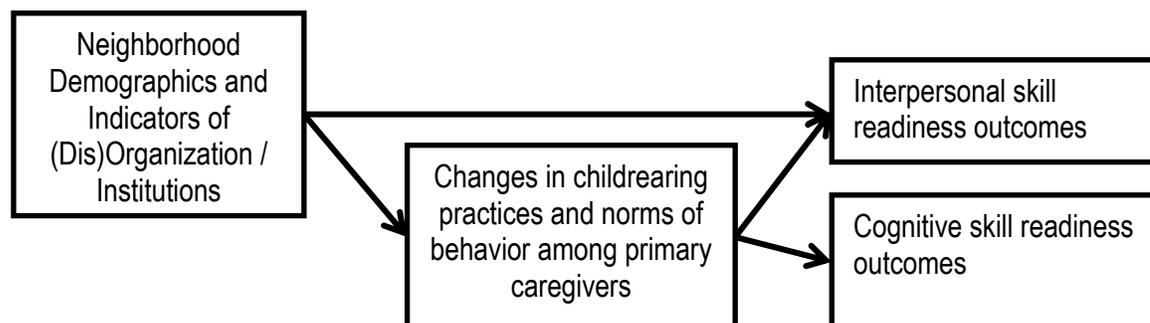
As mentioned in chapter 2, these guiding theoretical constructs are variations on several themes: social capital, social disorganization theory, and a few other earlier theories of neighborhoods. Fortunately, the findings of this dissertation inform these areas as well.

One of the early guiding ideas for this research is the idea of social disorganization theory. The theory may be summarized as follows (Sampson, Morenoff, & Gannon-Rowley 2002):

1. The social ties and interpersonal interactions with other residents in a neighborhood provide different opportunities to accumulate social capital,
2. Neighborhoods may influence school outcomes not through the direct ties of the residents, but through social norms and capacity for informal social control, [43]
3. The quantity and quality of neighborhood institutional resources matters, and
4. Children's routine activities and those of their neighbors are shaped by the geography of neighborhoods, which may influence a variety of child outcomes.

While my findings continue to largely support these social disorganization constructs as well, there are a few notable exceptions that should be made. First, one of the most often cited characteristics is the exposure of children to violence in the

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[43] However, the number of direct ties of residents is often used as a measure of the capacity of residents to engage in informal social control (Small & Newman 2001).

neighborhood affecting their behavioral outcomes (Kubrin, Stucky, & Krohn 2009). Using this theoretical construct and previous empirical evidence, one would presume the same to be true for preschool-age children interacting with their neighborhood environment. But, this was not the case. I found no evidence to suggest that witnessing violence in the neighborhood affected children's school readiness.

This relates to the second main point in which this research challenges social disorganization theory. As mentioned when reviewing empirical results in the preceding chapter, in general researchers using the theory make no allowance for variation in effects based upon age (this can easily be seen in any number of review pieces, e.g. Sampson et al 2002, Burdick-Will et al 2011). My research challenges that theoretical assumption: while many of the same characteristics are studied here, I did not find the large associations observed in studies using older children, adolescents, and adults. Assuming my results are not spurious, this may indicate one of two things. First, as mentioned before, it may indicate that users of social disorganization theory must add a concept of an age-related lower bound where neighborhood exposure is simply not terribly relevant. Indeed, my own findings continue to suggest that family and demographics are the biggest predictors of school readiness. The alternative is that neighborhood effects operate through a cumulative dosage effect. Small children have had little exposure to neighborhood characteristics, and thus the observed associations between neighborhood and school readiness outcomes are relatively small. As children age and accumulate neighborhood dosage, the effect builds and results in larger and larger disadvantage, culminating in many of the labor force, education, and criminality outcomes observed in

later years as reviewed in chapter 1. This is not an entirely new idea (c.f. Harding et al 2011) and it is one still in want of conclusive evidence. Either way, further research is required to evaluate this theoretical duality.

Social disorganization theory does offer a few ideas germane to explaining my results. The fourth point in the aforementioned list is especially pertinent. My findings show that routine activities of families and children in their neighborhood are associated with school readiness outcomes, again especially in the area of interpersonal skills. This is in keeping with social disorganization theory. Unfortunately, my conclusions based upon this construct are tempered by the fact that I have comparatively limited information on routine activities and very little information about routine interactions with institutions. Nonetheless, I am able to make claims about a causal pathway by utilizing my theoretical framework.

Social disorganization theory further provides explanatory power in that it states that neighborhoods may influence school (in my case, school readiness) outcomes not through direct ties of the residents but through the social norms and capacity for informal social control (point two from the aforementioned list). This is in keeping with previous work in the area and has been the subject of several large annual review pieces as discussed in chapter 2 and is supported by my own findings. However, this explanation sidesteps the accumulation and use of social capital, which may be more important for in terms of explanatory power for the findings presented in the models.

The concept of social capital has a vast variety of differing and sometimes contradictory definitions. I defined it in chapter 1 in more than one way. The first drew

on a concept of capital accumulation on behalf of preschool age children: that residents of affluent neighborhoods are more successful at bringing together resources and social networks to create supportive environments for children (Aber et al 1997; Jencks & Mayer 1990; Kohen et al 2009; Oliver et al 2007). This type of social capital typifies several different aspects of broader neighborhood collective efficacy: establishing shared norms regarding childrearing among adults and behavior among children and adolescents, establishing a willingness among residents to intervene on the behalf of others for the common good, establishing adult support networks that have resources such as time and money to organize community and institutionally based organizations, and to effectively utilize and advocate for effective schools, libraries, parks, and other child-development relevant features (Jencks & Mayer 1990; Oliver et al 2007; Sampson 1999; Sampson et al 1999; Sampson et al 2002; Small et al 2001; Wilson 1987). Neighborhood poverty, in contrast, turns all of these desirable factors on their head, producing outcomes that are undesirable for children due to their lack of resources required to establish an environment conducive to effective child development (Sampson et al 2002).

The second drew on more nuanced and broad social capital accumulation: that social ties and interpersonal interactions with other residents in a neighborhood provide different opportunities to accumulate social capital, or "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu 1983:249). Children living in poor neighborhoods may have diminished access to well-

educated adults to help them with homework or act as pro-academic role models (Wilson 1987, 1996). Parents in poor neighborhoods may also be less involved in their children's development, preschool, and schools and less able to activate the social capital necessary to advocate for neighborhood or school improvement, while primary caregivers in wealthier neighborhoods are more able to do so (Coleman 1991; Kaushal, Magnuson, & Waldfogel 2011; Sampson et al 2002). Peers, who are often from the same neighborhoods, also affect adolescent outcomes to a large extent, and child outcomes to some extent (Sampson et al 2002).

Perhaps the simplest reduction of social capital is proposed by Nan Lin (2001:19): "investment in social relations with the expected returns in the marketplace." As Lin discusses, this definition is broadly consistent with a variety of theorists working in this area (Bourdieu 1980,1983/1986; Burt 1992; Coleman 1988,1990; Erickson 1995,1996; Flap 1991,1994; Lin 1982,1995; Portes 1998; Putnam 1993,1995). However, even this definition gets lost in the milieu of mechanisms by which one accumulates social capital, which are sometimes themselves identified as social capital themselves (Coleman 1988; Portes 1998).

If one is to purely use the definition put forth by Lin (2001), this research would seem to support the idea that accumulation of social capital as measured by the strength and number of connections and ties to others in the community are associated with better school readiness outcomes, especially interpersonal skills. Children in families who were better connected to their neighbors and who played with friends in the neighborhood more often tended to have higher interpersonal skill scores. This is not unexpected when

used in conjunction with education-specific definitions of social capital and the empirical

findings related to it discussed in the preceding paragraphs. Moreover, as table 13 and

figure 3 suggest, accumulation of social capital on behalf of preschool-age children may

be a promising component in overcoming some of the negative aspects of living in unsafe

communities or being a member family with low socioeconomic status, with particular

emphasis in the interpersonal skills most often associated with sociological research into

school readiness. The prospect of future research into this area is provocative.

The second component of Jenks and Mayer's (1990) models of neighborhood

effects help situate my findings in the middle ground between accumulation of social

capital and social disorganization theory. In this component, Jenks and Mayer identify

"socialization models" which suggest the obvious: non-parental adults nonetheless

influence the development and socialization processes of neighborhood children through

their actions. This takes place through two mechanisms: a willingness to intervene and

engage in informal social control, and act as role-models more generally. In my own

research, this in itself is a return on a social capital investment understood through a

social disorganization framework. Consider the following example:

- Families get together with neighbors frequently, building social ties (social capital investment; social organization precondition)
- Families benefit from increased collective efficacy in the form of informal social control (return on social capital investment; social disorganization mechanism)
- Families then help engage in social control of neighborhood children (social capital investment; social disorganization mechanism)

- Children, in turn, are socialized to various norms of behavior that they then carry into the classroom through interacting with non-familial adults engaging in this form of control (return on social capital investment; social disorganization result)

In this example, families more broadly internalize a feeling of bounded solidarity with other families in similar circumstances as members of a given neighborhood, while learning and carrying on the norms of the neighborhood and neighbors (c.f. Portes 1998). After forming and utilizing an effective network of neighbors, families are able to secure benefits through the network thus resulting in norm observance, social control, and socialization of children. Children then carry these internalized norms of behavior into the classroom in the form of interpersonal skills, thus affecting their school readiness outcomes in that area. Figure 5 presents a graphical representation of these broader conceptualizations (c.f. Portes 1998).

Figure 5: Social Capital in Interpersonal Skill School Readiness Outcomes

| Value Introjection Bounded Solidarity | → | Ability to secure benefits through membership in network | → | Norm observance, social control, socialization, and family support |
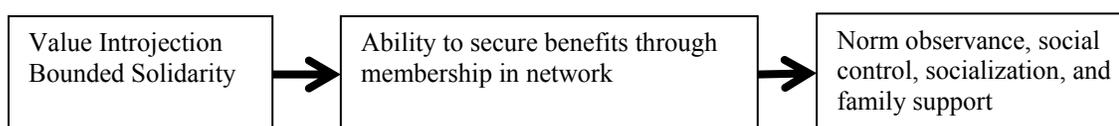
These findings should be tempered by the fact that I use self-reports and predicted values. This is a shortcoming faced by virtually all statistical analyses of social capital especially when made from non-personal network level (c.f. Mouw 2006). Future research is required.

Future Research

Future research into this area has wide potential. As the school readiness / neighborhood connection is still a relatively new avenue of investigation, possibilities

abound. This section will summarize some promising areas for future investigation based upon my findings.

As my findings show, the routine activities of children and their families in their neighborhood are associated with school readiness outcomes. This is based both on coefficients presented in tables 11 and 12 as well as predicted values shown in table 13 and figure 3. Future research should focus on this area in much greater detail to elucidate which activities are most associated with greater school readiness, particularly in the area of institutions, which is not examined in my analyses due to a lack of data. These suggestions are also made by several other scholars are a new and promising avenue for neighborhood effects research (c.f. Harding et al 2011).

Further work on social capital and the ties of residents presents another enticing avenue for exploration. While conclusions based upon my predicted values are by their nature limited, future work should concentrate on what aspects of social capital are most associated with school readiness and how families might go about building upon a social capital foundation as I have demonstrated here. It may very well be that social capital is a salient factor in a variety of other ways for preschool-age children, both in terms of utilizing institutions and gaining knowledge about good parenting practices and in the areas of structured and supervised play, recreational and educational activities, and early community educational opportunities. These are all promising areas for future inquiry.

Social disorganization scholars might also take up the mantle of dosage with greater vigor, especially in light of my findings relative to findings with older children and adolescents. This would require a rather enormous undertaking, and is likely best

accomplished by a long term longitudinal study that tracks subjects from the time their mothers are pregnant with them to their mid-twenties, allowing and controlling for changes in neighborhood context. Ideally, those subjects who stayed in the same neighborhood or alternatively who remained in similar neighborhoods during the entire period would be most useful for statisticians, but those who change their dosage to better or worse neighborhoods are of equal importance for evaluating the effects of changing context. Outcomes should cover equally broad areas: education, health, criminality, parenting, and labor market outcomes. In other words, both dosage and outcome should be as broadly construed as possible.

All of these areas for future inquiry are hampered by a severe lack of nuanced data required for large-scale generalizable neighborhood research. In the short term, smaller level qualitative investigations in single sites might be advisable. In the long term, however, more detailed data and data from more locations is critically necessary in order to keep this area of inquiry alive. Presently, most data and outcomes have been worked exhaustively and are limited to a few sites (Chicago being the most heavily studied). This is a serious shortcoming in that there are unique demographic and socio-historical factors at play in any major city, and conclusions based upon findings solely in one site, especially one as unique as Chicago, are not generalizable to the nation as a whole.

Ideally, any future data collection in this area should include information about the routine activities of families and children within a given neighborhood, information about parenting practices, childcare & preschool practices and locations, work, and

siblings, as well as neighborhood information like emergency service responsiveness, neighborhood associations, recreational, health, and shopping amenities, various measures of social capital, and other standard controls like family factors that are already widely measured/used.

Conclusions

This research contributes to multiple existing literatures by asking three questions: first, is there an association between neighborhoods and school readiness in the United States? Second, which social disorganization-theory informed neighborhood characteristics are most salient in describing this observed association? Finally, do families act as a mediator of this relationship? To answer these questions, I have used a four-part theory and a modeling strategy testing three hypotheses.

First, I add to the body of existing neighborhood / school readiness literature by (1) examining the specific characteristics at work by connecting various components and characteristics while accounting for potential mediators such as family, (2) strengthening the existing bridgework between the child development and neighborhood literatures, and (3) ensuring that a full picture of school readiness including both interpersonal skill and cognitive skill outcomes is included in a single research project allowing for better comparison of results. Second, this research adds to the neighborhood effects literature more broadly by (1) bringing parts of social disorganization theory of neighborhoods to bear on young children, adding to existing research on primarily older children and adolescents, and (2) further developing social disorganization theory to account for the conditions unique to young children, such as accounting for primary caregivers as a

potential mediator of neighborhood characteristics. Using theory as a guide for

interpretation, it seems clear that an association exists between neighborhoods and school

readiness outcomes, and that family mediates this association. Moreover, it is safe to say

that social capital, its accumulation, and its use are a major part of the associative puzzle.

Public policy implications for this research should be limited. This is still a

relatively new area of inquiry, and as such many methodological and data challenges

remain. Not all of the previous work is consistent. While neighborhoods certainly are a

factor for school age children, adolescents, and families, their association with preschool-

age children, while certainly present, is limited. If one wishes to improve school

readiness outcomes for children, neighborhood mitigation/intervention may not be the

best option especially in light of the fact that family helps to mediate neighborhood

factors. As such, efforts to increase school readiness should, for now, focus on already

established areas such as family, parenting, and early educational opportunities.

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