SUBJECTIVE AND OBJECTIVE RATINGS OF NEIGHBORHOOD CONDITIONS: DO NEIGHBORHOODS MATTER TO CHILDREN'S HEALTH?

by

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Abstract

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by

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Neighborhood research, the body of work exploring the link between the neighborhood context and residents' behaviors, has received growing attention in recent years. Although this literature is rapidly expanding, there is currently no consensus on how researchers should measure the neighborhood space. Many researchers rely on census data that have been shown to be problematic, while others conduct independent observations of neighborhoods and interview residents about their perceptions of neighborhood conditions. Unfortunately, the few studies that incorporate residents' perceptions of neighborhoods generally rely on adult ratings even if the outcome of interest is concerned with children.

As this poses a potentially serious methodological issue in neighborhood research, this dissertation gave voice to children using a mixed methods design. First, ten preadolescent children enrolled in after-school programs in two New York City neighborhoods participated in open-ended interviews and walking tours of their neighborhoods. Qualitative findings revealed that children frequently discussed the following elements: neighborhood quality, safety, social, and physical disorder.

These findings informed the design of a survey assessing children's and parents' perceptions of their neighborhoods and children's mental and physical health. 126 children, aged nine to 13, enrolled in after-school programs in three neighborhoods and 117 parents completed this survey. The children also listed five blocks around their home that constituted their neighborhoods. These blocks were observed by two outside raters and census data were collected at the block group level of aggregation.

Results from the quantitative study phase suggest that children and parents showed some overlap in their perceptions of neighborhood conditions but these subjective ratings did not relate to the neighborhood observations and census data. Subjective ratings of neighborhood safety mediated the relationship between neighborhood disorder and neighborhood quality and child-rated perceptions of neighborhood conditions predicted their ratings of mental health. Neither parents' neighborhood perceptions, neighborhood observations, nor the census data directly related to children's mental health. On the other hand, observed physical disorder and child-rated neighborhood safety predicted physical health. The dissertation supports the hypothesis that subjective perceptions of neighborhood conditions related best to children's health and that children should be actively recognized in research concerning them.

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"Ein Mensch ist das Produkt seines Umfelds" (A person is the product of his environment). I cannot recall the first time I heard this phrase when I was growing up in Germany but it was not until many years later when I was living in another country that I came to understand the implications of this statement. This dissertation allowed me to think more deeply about this phrase but there are many people who helped me think along the way.

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Chapter 1: Introduction

Do neighborhood social and physical conditions affect children and their well-being? Bronfenbrenner's (1979; 1989) theoretical contributions have highlighted the need for social scientists to recognize our everyday environments, particularly our neighborhoods, in exploring human development. Neighborhood research, that body of work examining how the built environment affects residents, has been actively pursued in many social science disciplines particularly since Wilson's (1990; 1997) discussion of poor neighborhood conditions as they affect neighborhood crime. Wilson's contributions changed sociology's focus from the individual to the neighborhood level and sparked a new interest in social disorganization theory and neighborhoods, specifically in relation to crime and juvenile delinquency (Leventhal & Brooks-Gunn, 2000). As much of this literature has focused on adults and adolescents in neighborhoods, this dissertation explored how neighborhoods affect younger children and their well-being.

The Neighborhood as a Context

Social scientists generally credit Urie Bronfenbrenner with turning our attention to studying human development in context (Moen, Elder, & Lüscher, 1995). By suggesting that behavior is "embedded in the larger social structures of community, society, economics, and politics" (Moen, 1995, p. 1), Bronfenbrenner noted that we live in a system of interconnected settings. Further, he asserted that each setting has specific rules and norms and we must recognize the impact and

interaction of all these settings in order to understand human development and behavior. Bronfenbrenner (1979; 1989) especially emphasized the following four contexts or settings: *Microsystems* refer to settings of which a person is a part such as the home or school and with which the person comes into regular, direct contact. *Mesosystems* refer to the connections and interactions of the major settings of which a person is a part (e.g., the connection between the school and home). As this setting examines how microsystems work together, it is often viewed as a connection of a person's microsystems. *Exosystems* are an extension of the mesosystem and refer to the larger formal and informal structures that do not include the person directly but nevertheless have an influence on a person. Examples for this context include a parent's workplace, the government, and the welfare system. Lastly, *macrosystems* refer to the larger socio-cultural beliefs, values, laws, and practices of a community of which a person is a part.

While Bronfenbrenner (1977) originally suggested that neighborhoods function as an exosystem, current neighborhood researchers argue that neighborhoods can be considered a microsystem since residents come into direct contact with it on a daily basis (Brooks-Gunn, Duncan, & Aber, 1997). This is particularly true for children and young people who spend a significant time outside exploring their neighborhoods (Chawla, 2002; Hart, 1979; Lynch, 1977; Proshansky & Fabian, 1987). After all, children are the primary consumers of the neighborhood (Holaday, Swan, & Turner-Henson, 1997) and it is more or less their "turf" (Burton & Price-Spratlen, 1999, p. 78) where they can get together and interact with other children. Child researchers particularly highlight the fact that the neighborhood is of primary

importance for children in middle childhood (aged six to 12, see DeBorg, 1996; Vasta, Haith, & Miller, 1995) due to their increased mobility and autonomy at this time of development (Moore, 1986; Nicotera, 2002; Spilsbury, 2002).

Even before Bronfenbrenner's ecological systems theory stimulated a new interest in recognizing neighborhoods as contexts for understanding behavior, Shaw and McKay (1942) introduced the "community social disorganization" theory to explain how the neighborhood context relates to juveniles' delinquent behaviors.

Their theory posits that structural features of neighborhoods such as poverty, ethnic heterogeneity, and residential instability either promote or prohibit neighborhood organization. According to their theory, neighborhood organization maintains public order which in turn relates to residents' criminal behaviors. For example, residents in poor neighborhoods with high residential turn-over and great ethnic heterogeneity are likely to be disorganized and thus more likely to contain delinquent youth. Building on this theory, scholars have recently highlighted the importance of studying a neighborhood's "collective efficacy" or shared norms and values and its relationship to residents' behavior (Sampson, Raudenbush, & Earls, 1997; Sampson, 2003).

Wilson and Kelling (1982) also explored criminal and delinquent behaviors in neighborhoods. Their "broken windows" theory suggests that physical disorder in urban neighborhoods leads residents to behave in a disorderly manner. After observing many neighborhoods, Wilson and Kelling found that residents' behaviors can be explained by physical characteristics of the neighborhood. For example, if a building has a broken window that is not repaired, vandals are likely to break a few

more windows. If these also remain broken, vandals will be more likely to break into the building and damage it even further. In other words, small physical disorder leads to larger neighborhood disorder since residents appear to be indifferent to the disorder (Kelling & Coles, 1996).

In terms of the relationship between neighborhoods and children's overall development, Jencks and Mayer (1990) were the first to review the published literature on neighborhood and school effects on children. Realizing that none of the published studies on children and neighborhoods explained how the neighborhood context affects children's development (Furstenberg & Hughes, 1997), Jencks and Mayer proposed five theoretical mechanisms of how the neighborhood context influences children and their development: 1) the *contagion (epidemic) model* stresses the role of peers; 2) the *collective socialization model* highlights the importance of positive adult role models; 3) the *neighborhood institutional resource* model focuses on neighborhood resources such as the presence of an active police force, parks, libraries, and community centers; 4) the *competition model* focuses on the scarcity of opportunities in poor neighborhoods; and 5) the *relative deprivation model* posits that people judge their own success relative to their neighbors' circumstances.

Jencks and Mayer originally argued that the first three mechanisms stress that neighbors and neighborhoods have positive effects on children, or that they "encourage children to do what adults want them to do: learn a lot in school, stay out of trouble, and get good jobs when they grow up" (Jencks & Mayer, 1990, p. 116). However, whether positive outcomes, such as academic achievement, are achieved because of the presence of positive adult role models, peers, or quality neighborhood

resources, it is noteworthy to highlight that in effect, these mechanisms can have potentially negative consequences for children as well. For example, peers can have negative influences on other children and encourage academic damaging behaviors such as skipping school, which would then lead to negative academic outcomes.

Jencks and Mayer (1990) also originally suggested that the competition model and the relative deprivation model lead to undesirable outcomes in neighborhoods for example, by forcing residents to judge their own limited success by comparing it to that of their wealthy neighbors. However, these mechanisms can also contribute to positive outcomes, for example, by motivating children to work harder so that they can achieve the same successes as their neighbors.

Over the years and with the increase of research on children and neighborhoods, other scholars have built on Jencks and Mayer's (1990) initial theory by offering new or highlighting particular mechanisms to explain how neighborhoods shape children and their development. For example, Leventhal and Brooks-Gunn (2000) focus on the importance of institutional resources, relationships, and norms or collective efficacy in the neighborhood to explain children's behaviors. Pebley and Sastry (2004), on the other hand, highlight the presence of child and family institutions and the neighborhood's social organization, labor market, and normative environment.

Neighborhood Research

These theories have sparked a growing interest in neighborhood research over the past few decades. Even though the majority of neighborhood research has focused on investigating how neighborhoods and place of residence affect adult residents (cf.

Boardman, 2004; Boardman, Finch, Ellison, Williams, & Jackson, 2001; Cutrona, Russell, Hessling, Brown, & Murry, 2000; Cutrona et al., 2005; Fauth, Leventhal, & Brooks-Gunn, 2004; Franzini, Caughy, Spears, & Esquer, 2005; Latkin, Williams, Wang, & Curry, 2005), Table 1 illustrates that since the early 1990s researchers have begun to explore how neighborhoods affect children and youth.

Table 1. Neighborhood Research with Young People and Measured Outcomes.

	Children's Age	Verbal Ability[1]	Educational Achievement	Sexual Activity	Health[2]	Behavior Problems[3]
Brooks-Gunn, Duncan, Klebanov, & Sealand (1993)	3 & 14-19 years	X	X	X		
Mason, Cauce, Gonzales, Hiraga, & Grove (1994)	12-14 years				X	
Aneshensel & Sucoff (1996)	12-17 years				X	
Simons, Johnson, Beaman, Conger, & Whitbeck (1998)	13-15 years					X
Clampet-Lundquist (1998)	12-18 years		X	X		
Paschall & Hubbard (1998)	12-16 years					X
Caspi, Taylor, Moffitt, & Plomin (2000)	2 years				X	
Plybon & Kliewer (2001)	8-12 years					X
Ainsworth (2002)	15-16 years		X			
Kohen, Brooks-Gunn, Leventhal, & Hertzman (2002)	4-5 years	X				X

[1] Includes intelligence.
[2] Includes physical and mental health.
[3] Includes risky behavior.

Table 1 continued.	*Children's Age*	Verbal Ability	Educational Achievement	Sexual Activity	Health	Behavior Problems
Crowder & South (2003)	14-19 years		X			
Drukker, Kaplan, Freron, & van Os (2003)	11 years				X	
Goering, Feins, & Richardson (2003)	6-15 years		X			X
Leventhal & Brooks-Gunn (2003a)	8-18 years				X	
López Turley (2003)	13 years		X			X
O'Brien Caughy, O'Campo, & Muntaner (2003)	3-5 years				X	
Schneiders, Drukker, Ende, van Os, & Nicolson (2003)	10-14 years					X
Curtis, Dooley, & Phipps (2004)	4-11 years				X	
Kling & Liebman (2004)	15-20 years		X		X	X
Meyers & Miller (2004)	14-17 years		X		X	
Silk, Sessa, Morris, Steinberg, & Avenevoli (2004)	6-8 years				X	
Boardman & Saint Onge (2005)	12-18 years		X		X	X
Chapman (2005)	12-18 years				X	
Roosa et al. (2005)	9-12 years				X	
Wilson, Syme, Boyce, Battistich, & Selvin (2005)	12-14 years					X

In this body of research, Brooks-Gunn, Duncan, Klebanov, and Sealand (1993) found that the presence of affluent neighbors had positive effects on childhood intelligence and prevented adolescents from dropping out of school. Also, neighborhoods characterized by high socioeconomic status (SES, containing wealthy residents) had lower instances of teenage births compared to poor neighborhoods. In another study, Aneshensel and Sucoff (1996) explored the relationship between neighborhoods and adolescents' mental health in Los Angeles. They found that youth living in low SES neighborhoods reported a greater awareness and perception of hazards in their immediate surroundings such as crime, violence, and drug use compared to young people in wealthy neighborhoods. They also found that these perceptions influenced respondents' mental health: the more threatening the neighborhood was described, the more common were the occurrences of depression, anxiety, and conduct disorder. Further, neighborhoods described as having low social cohesion among residents were associated with an increase in depressive symptoms among adolescents.

Curtis, Dooley, and Phipps (2004) found, after controlling for family level characteristics, that better neighborhoods measured through parental report of neighborhood quality were associated with higher levels of child well-being as rated by the parents. Specifically, neighborhoods perceived to be of poor quality were associated with worse overall health outcomes for children. Additionally, more cohesive neighborhoods were linked to all aspects of child well-being except for non-sport injuries. Neighborhood safety was not linked to injuries but to emotional

disorders so that safer neighborhoods were associated with children having fewer conduct disorders.

Leventhal and Brooks-Gunn (2000) reviewed this body of neighborhood research and came to the conclusion that the most consistent finding in the literature suggests a positive relationship between affluent neighbors and children's school readiness and achievement. A less consistent finding suggests an adverse effect of low SES status on mental health; in some studies but not all, children in poor neighborhoods are more likely to report mental health problems. The few studies that have explored the association between neighborhoods and sexual activity in youth have generally found a relationship between low neighborhood SES and increases in teenage sexual activity and pregnancies even after controlling for family characteristics. Interestingly, these findings were more pronounced for African American girls and for girls living in the inner city.

Experimental Research

While the results of cross-sectional neighborhood studies repeatedly suggest that neighborhood effects are associated with a number of outcomes, the lack of randomization and neighborhood assignment makes it difficult to establish a cause-and-effect relationship. One of the first experimental neighborhood studies took place in Chicago where public housing residents were moved to more affluent neighborhoods after they filed a lawsuit against the Chicago Housing Authority claiming residential segregation (this became known as the Gautreaux program). Based on the promising results of this real-life experiment, the U.S. Department of Housing and Urban Development (HUD) created the Moving to Opportunity (MTO)

program in 1994. MTO randomly moved public housing residents to more affluent neighborhoods in the following five American cities: Baltimore, Boston, Chicago, Los Angeles, and New York City (Goering, Feins, & Richardson, 2003; Orr et al., 2003).

Families were recruited between 1994 and 1998 from low-income neighborhoods in the five major cities. Eligible families had to reside in public housing or private assisted housing in neighborhoods with poverty rates 40% or higher, have low household incomes, have at least one child under the age of 18 living at home, be up to date on rental payments, and have no criminal history. Participating families were randomly assigned into a MTO treatment (experimental), Section 8 control, or in-place control group. Families in the experimental condition received Section 8 housing vouchers useable only for neighborhoods where less than 10% of the residents lived in poverty. Experimental families also received counseling from non-profit agencies to help them find private rental units. Section 8 control families also received Section 8 housing vouchers but had no spatial restriction on areas to which they could move. Lastly, in-place control families received no additional assistance (Goering, Feins, & Richardson, 2003; Orr et al., 2003).

MTO findings reveal strong neighborhood effects for children. Specifically, at the three-year follow up in Boston, experimental children had higher reading and math test scores compared to both control groups. Moreover, experimental boys aged six to 15 exhibited significantly fewer behavioral problems than in-place control boys and experimental boys and girls in this age group demonstrated significantly fewer physical health problems than children in both control groups (Goering, Feins, &

Richardson, 2003; Katz, Kling, & Liebman, 2003). In Baltimore, experimental children in the 11 to 16 year age range showed a significant reduction in the number of arrests for violent crime than in-place control children. Baltimore's experimental children also had better elementary test scores than in-place control children in addition to reporting fewer depressive symptoms (Goering, Feins, & Richardson, 2003; Katz, Kling, & Liebman, 2003). At the three-year follow-up in New York City, experimental children who were moved to more affluent neighborhoods had fewer mental health problems than those who stayed behind. These findings were particularly strong for boys (Leventhal & Brooks-Gunn, 2003a; 2003b).

Kling and Liebman (2004) examined the MTO effect for all children and adolescents across the five sites on educational outcomes, risky behavior, mental, and physical health four years following random assignment. Their findings revealed contradictory findings to those of Leventhal and Brooks-Gunn's (2003a; 2003b) results in New York City and suggested that girls in the experimental condition had vast academic and mental health improvements and were much less likely to engage in risky behavior compared to girls in the control conditions. Girls in the Section 8 condition also demonstrated improvements in their mental health. Interestingly, boys in the experimental and Section 8 control groups were found to be *more* likely to engage in risky behaviors and report physical health problems. Urging more research, Kling and Liebman offered a number of possible reasons why girls seem to fare better from moving into more affluent neighborhoods. For example, they posited that boys might have a harder time adjusting to the culture of the new neighborhood (i.e. getting accustomed to a new language, style of dress), may have continuing ties to

their old neighborhoods, or suffer from the absence of positive adult male role models (most of the families were headed by single mothers).

Clampet-Lundquist, Edin, Kling, and Duncan (2006) examined this phenomenon in greater detail through a refined analysis of the quantitative data and through in-depth qualitative interviews with 86 adolescents aged 14 to 19 in Baltimore and Chicago. Their conclusions support Kling and Liebman's (2004) assumptions and found that girls' everyday activities were more in line with everyday proceedings in wealthier neighborhoods but that boys' behaviors (such as congregating or hanging out outdoors) would cause neighbors to be suspicious of the male youth and foster other negative reactions. The researchers also found that boys lacked male adult role models and subsequently suggested that this exacerbated male adolescents' behavioral and mental health problems when they are moved to more affluent neighborhoods.

While initial findings from the MTO experiment appeared positive for children and youth for a number of outcomes, Leventhal, Fauth, and Brooks-Gunn (2005) found that five years after residential relocation, boys in New York City no longer showed positive academic improvement as they had at the 2.5 year follow-up. In fact, both girls and boys in the 14 to 20 year age range who were moved to lower poverty neighborhoods had lower school grades and lower scores on school engagement than young people in the same age group who stayed in or moved to higher poverty neighborhoods. These results suggest that favorable school outcomes occur immediately following residential relocation to wealthier neighborhoods but that, over time, these favorable effects diminish. Similar to findings from the

Gautreaux project (Rosenbaum, 1991), it is possible as Orr and colleagues (2003) suggest, that children who were moved to wealthier neighborhoods need a longer time to catch up to the new school's standards and to overcome educational deficits. Future research on the effectiveness of the MTO intervention is necessary to fully explore this phenomenon.

To summarize, neighborhood research with children and young people has been gaining increasing popularity across the social sciences. While most of the literature has focused on cross-sectional neighborhood studies, there is a movement towards costly longitudinal and experimental designs in which families are randomly moved out of poor neighborhoods. Findings from neighborhood research oftentimes suggest that the presence of affluent neighbors is associated with increases in intelligence, academic performance, and health. Residing in lower SES neighborhoods, on the other hand, has been linked to mental health problems as well as increased instances of teenage sexual activity and pregnancies. Generally, neighborhood effects have been found to be statistically smaller than family effects and to be more pronounced during a developmental transition (Brooks-Gunn, Duncan, Leventhal, & Aber, 1997). Neighborhood effects are also strongest when children have lived in the neighborhood for a substantial period of time (López Turley, 2003).

Measuring the Neighborhood

Even though research on neighborhoods has been increasing steadily in the past decade, there are a number of inconsistencies in how the neighborhood has been measured. As some scholars believe this area of research to still be in its

methodological infancy (Brooks-Gunn, Duncan, Leventhal, & Aber, 1997; Raudenbush, 2003), this section explores the different approaches to the measurements of the neighborhood in the literature.

As Table 2 suggests, there are two major sources from which neighborhood information is typically collected. Subjective sources refer to residents' report or perceptions of their neighborhoods while objective sources rely either on governmental reports and statistics or outsiders' (such as interviewers') perceptions of neighborhood conditions.

Table 2. Common Sources for Measuring the Neighborhood.

	Subjective	***Objective***	
Source	**Residents**	**Census**	**Outside Raters**
Sample Measures	Physical disorder	Income	Physical disorder
	Social disorder	Ethnic composition	Social disorder
	Neighborhood problems	Residential stability	
	Neighborhood cohesion	% Below poverty line	
	Neighborhood quality	% Professionals	
	Neighborhood safety	% Unemployed	
		% Female-headed families	
		% Receiving assistance	
		% Renter/owner	

Most of the objective neighborhood data in neighborhood research come from large-scale measures such as the Census Report in the United States or similar government reports in other countries. For example, O'Brien Caughy, O'Campo, and Muntaner (2003) used census data for their neighborhood study in Baltimore to measure neighborhood SES which they defined in terms of the neighborhood poverty level, vacant housing rate, and the proportion of households with children under the age of five that were headed by a single mother with a single income. Others (e.g., Kohen, Brooks-Gunn, Leventhal, & Hertzman, 2002) used the following census measures to characterize neighborhood SES: percentage of households in the neighborhood that are poor, affluent, and in the middle; percentage of households that are female-headed; and neighborhood unemployment rate compared to the national average. Aneshensel and Sucoff's (1996) SES classification utilized median household income, the percentage of households below the poverty line, percentage of residents in professional jobs, and percentage of residents of Black or Hispanic ethnic status.

Relying on government reports to measure neighborhood characteristics is also prevalent in Europe where McCulloch (2003) used the 1991 British Census to obtain the following neighborhood SES categorizations: concentrated affluence, residential instability, and ethnic heterogeneity. In a study of the many neighborhoods of Maastricht, the Netherlands, Drukker, Kaplan, Freron, and van Os (2003) as well as van der Linden, Drukker, Gunther, Freron, van Os (2003) used data from the Dutch National Statistics Institute to characterize the neighborhoods. They measured neighborhood socioeconomic deprivation in terms of percent single parent families,

ethnicity (Dutch vs. not Dutch), unemployment status, social welfare status, and mean income level. Further, the Dutch report supplied information on the residential stability of the neighborhoods measured in terms of the number of single residents and overall residential mobility of the neighborhood.

Due to the relatively easy and free access to census data, these data have become a favorite method of defining and measuring neighborhood characteristics as their use in neighborhood research has increased tremendously in the past few years (see Ainsworth, 2002; Boardman & Saint Onge, 2005; Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993; Kling & Liebman, 2004; Kohen, Brooks-Gunn, Leventhal, & Hertzman; 2002; Leventhal & Brooks-Gunn; 2003a; 2003b; López Turley, 2003; Plybon & Kliewer, 2002; O'Brien Caughy, O'Campo, & Muntaner, 2003; Ross & Mirowsky, 2001; Sampson, Morenoff, Earls, 1999; Sheidow, Gorman-Smith, Tolan, & Henry, 2001).

Unfortunately, there are a number of problems with census data. First, census tracts are commonly used to define the neighborhood space despite the fact that residents are not necessarily aware of the census tract or block group boundaries or have a different subjective definition of what constitutes "their" neighborhood (Coulton, Korbin, Chan, & Su, 2001). Second, census data are only collected every ten years and thus do not account for changes that are likely to occur in urban and other quickly changing neighborhoods such as changes to the demographic make-up of residents or economic conditions in between assessments (Barnes McGuire, 1997). Third, census data only provide information about a neighborhood's economic and housing conditions. They do not explore the social life of the neighborhood or

examine physical characteristics and neighborhood conditions such as cleanliness, abandonment, and safety. Census data provide thus information on the neighborhood as an environment and not as a place (Nicotera, 2002). Due to these problems, some researchers argue that using census data to measure neighborhood conditions is likely to produce biased and unreliable results (Coulton, Korbin, Chan, & Su, 2001).

As researchers have become aware of the many problems with census data and acknowledged their limitations and overuse (Barnes McGuire, 1997; Beauvais & Jenson, 2003; Coulton, Korbin, & Su, 1996; Coulton, Korbin, Chan, & Su, 2001; Meersman, 2005; Rajaratnam, Burke, & O'Campo, 2006), some have called for a better definition and measurement of neighborhood conditions. For example, scholars are obtaining objective descriptions from outsiders of the neighborhood who rate the targeted neighborhood on a number of dimensions such as its appearance or disorder. Usually, these outside raters are research assistants who collect neighborhood data after conducting interviews with residents in the neighborhood. For example, interviewers in Kohen, Brooks-Gunn, Leventhal, and Hertzman's (2002) study of Canadian neighborhoods observed the area immediately surrounding the home of interviewees in terms of its physical and social disorder. Interviewers specifically rated the presence of garbage, litter, and broken glass; persons arguing or being hostile; people loitering or congregating in the neighborhood; and people being drunk or intoxicated. Interviewers also rated the general condition of buildings on the block. Curtis, Dooley, and Phipps (2004) used a similar interviewer measure in their research and some have even referred to this method as "windshield surveys" (Burton, Price-Spratlen, & Spencer, 1997; Spencer, McDermott, Burton, & Kochman,

1997). Others (Duncan & Raudenbush, 1999; Sampson, Morenoff, & Gannon-Rowley, 2002) have standardized this method and suggest conducting "Systematic Social Observations" to collect contextual information with the help of trained observers. This method has been used successfully in the Project on Human Development in Chicago Neighborhoods where neighborhood data were collected with a video camera attached to a van driving through the streets (Sampson & Raudenbush, 2004).

While outside raters' perceptions provide more meaningful information about neighborhoods as places to live than census data, some scholars suggest turning to residents and community leaders and their perceptions of the neighborhood (Leventhal & Brooks-Gunn, 2003a; Moren-Cross, Wright, LaGory, & Lanzi, 2006). Conducting surveys with residents would also reveal neighborhood social processes which have oftentimes been ignored in neighborhood research (Brooks-Gunn, Duncan, Leventhal, & Aber, 1997; Curtis, Dooley, & Phipps, 2004; Tienda, 1991). As Tienda (1991) noted, "as a theoretical construct, a neighborhood embraces both social and spatial dimensions, yet empirical measurement focuses primarily, if not exclusively, on the spatial to the neglect of the social foundations" (p. 247).

Conducting surveys with residents has been gaining some popularity. For example, Curtis, Dooley, and Phipps (2004) interviewed parents in targeted neighborhoods about the occurrence of a number of neighborhood problems such as the presence of garbage, drugs, or intoxicated people in addition to their perceptions of neighborhood safety. Adult residents have also completed surveys on the degree of neighborhood cohesion, neighborhood safety, access to healthy food, and overall

aesthetic environment (Echeverria, Diez-Roux, & Link, 2004; Kohen, Brooks-Gun, Leventhal, & Hertzman, 2002). While this method is promising in assessing neighborhood conditions, it remains troubled in terms of the definition of 'neighborhood.' Researchers typically do not offer residents a spatial definition of the neighborhood space (see Curtis, Dolley, & Phipps, 2004; Kohen, Brooks-Gun, Leventhal, & Hertzman, 2002) so it is quite possible that respondents utilize inconsistent definitions and boundaries of their neighborhood while responding to questions about the neighborhood (see Lee & Campbell, 1997). Echeverria, Diez-Roux, and Link (2004), on the other hand, defined the neighborhood as "the area within about a 20-minute walk from your home" (p. 687). However, the inconsistency of neighborhood definitions across these studies is a potential problem with this type of assessment.

This section discussed the multiple measurements of the neighborhood environment. Since census data are easily available and free of charge, many researchers rely on these data to define the neighborhood space. Unfortunately, researchers have identified many problems with this method and new approaches such as interviewing residents and obtaining objective data through outside raters are becoming more popular in this body of research. As neighborhood measurement is still in its methodological infancy (Raudenbush, 2003), scholars generally suggest using multiple methods and not relying exclusively on one approach (Brooks-Gunn, Duncan, Leventhal, & Aber, 1997; Ellen & Turner, 1997; Korbin & Coulton, 1997; Leventhal & Brooks-Gunn, 2003a; Sampson, Morenoff, & Gannon-Rowley, 2002; de Souza Briggs, 1997).

Neighborhood Measurement in Research with Children

As shown in the sections above, some researchers are currently moving away from the census definition and measurement of the neighborhood and beginning to survey residents and outsiders about their perceptions of the neighborhood in terms of its social and physical characteristics. While this method is indeed promising, it remains troubled in research pertaining to children and youth. Here I particularly draw attention to the age of the people surveyed about neighborhood conditions while studying child outcomes. For example, while Curtis, Dooley, and Phipps (2004) explored how neighborhoods affect children's well-being, neighborhood conditions were not assessed by the children. Rather, these data were collected from adult interviewers and parents in the neighborhood. This is the norm in neighborhood research utilizing perception of neighborhood assessments even if outcomes are related to children and youth (see work by Kohen, Brooks-Gunn, Leventhal, & Hertzman, 2002; Leventhal & Brooks-Gunn, 2003a; Meyers & Miller, 2004). As scholars have recently noted, children are rarely recognized in neighborhood research and their perceptions of the neighborhoods and the environments they occupy every day go largely unnoticed (Conn, 2000; Coulton, Korbin, & Su, 1996; Hume, Salmon, & Ball, 2005; Nicotera, 2002; Polivka, Lovell, & Smith, 1998). This is particularly problematic when the outcome of interest in neighborhood studies refers to child residents.

Failure to recognize and incorporate children's voices and perceptions of their neighborhoods may be a methodological flaw in neighborhood research. If researchers are interested in exploring true neighborhood effects in children and

young people, they should take children's views and perceptions of their surroundings into consideration because as Polivka, Lovell, and Smith (1998) suggest, incorporating children's voices in this research is important "in order to begin formulating *testable* hypotheses concerning the importance of neighborhood factors" (p. 171, emphasis added). Moreover, Burton, Price-Spratlen, and Spencer (1997) highlight that a perceptual or subjective definition and measurement of the neighborhood is the best approach in work with children. True effects can only be found if we implement refined and complete measures such as perceptions of neighborhood conditions (Coulton, Korbin, & Su, 1996) and moreover, if we implement them at the correct level of measurement.

The recent focus in the social science literature has revisited and embraced the role of children in research (Chawla, 2002; Corsaro, 1997). As Gabarino and Stott (1992) said "school-age children are frequently the best informants regarding their own behavior and feelings" (p. 37). Important to note here is the level of measurement and the participants involved. If we are interested in studying how growing up in cities affects children, the best participants to answer questions about their lives may be the children themselves (cf. Chawla, 2002; Lynch, 1977). Likewise, if we are interested in studying how neighborhoods affect children, I suggest that the best respondents may be children.

So, why are researchers not asking children directly about their perceptions of the neighborhoods? Why is there so much emphasis on adult respondents? One answer might simply refer to the logistics involved of conducting research with children where researchers have to worry about gaining access to children and

obtaining all appropriate levels of consent in order for children to participate (see Morrow & Richards, 1996). Another reason might be that social scientists, particularly in the U.S., have always relied on adult report (Corsaro, 1997) and thus come to question whether children can even conceptualize the idea of "neighborhood" and serve as reliable informants.

Despite the fact that the literature on children's conceptualization of neighborhood is rather limited, it does suggest that children and young people have an understanding of what a neighborhood is and how it is defined. For example, teenagers in Aneshensel and Sucoff's (1996) study successfully completed quantitative measures on the presence of hazards in their neighborhoods along with their perceptions of the degree of social disorder. But, can younger children conceptualize the idea of "neighborhood"? To answer this question, I draw on my second year research in which I asked children, aged nine to 13, to discuss their neighborhoods and draw the boundaries on a map (Schaefer-McDaniel, 2006). All children were able to do so. While the boundaries of what they considered to be their neighborhood varied (as would adults' definitions, see Coulton, Korbin, & Su, 1996; Coulton, Korbin, Chan, & Su, 2001), all understood how to visually illustrate their neighborhood. Also, Nicotera's (2002) dissertation research with ten and 11 year old children in which she asked children to write responses to open-ended questions about their neighborhoods suggests that children in this age range can define and discuss elements of their neighborhoods.

In the published literature, Polivka, Lovell, and Smith (1998) demonstrated that elementary school aged children in Cleveland could conceptualize their

neighborhoods by associating a number of adjectives (e.g., beautiful, peaceful, smells bad, ugly, noisy) with specific places in their neighborhoods. Also, O'Neill, Parke, and McDowell (2001) explored parents' and children's perceptions of neighborhood qualities in Southern California and offered the following definition of a neighborhood to third graders: "the streets and places around your home where you see familiar people and do everyday things like visit friends" (p. 140). Their findings suggest that children as young as eight years old were able to understand this definition and discuss perceived neighborhood qualities. Moreover, Holaday, Swan, and Turner-Henson (1997) demonstrated that chronically ill children, ten to 12 years old, eagerly discussed the things and places they liked and disliked in their neighborhood suggesting that children in this age group not only have an understanding of what a neighborhood is but, more importantly, an opinion.

One of the first studies to explore neighborhoods and children was Bryant's (1985) neighborhood walk with seven to ten year old children in rural California. Even though her focus was mostly on sources of support in the neighborhood, her study demonstrated that children can lead adults around their neighborhoods and discuss their characteristics. This latter assertion is particularly noticeable in Spilsbury's (2002) neighborhood walk with children in the same age group in Cleveland. Findings from Spilsbury's walk suggest that children in this age group are not only capable of conceptualizing and defining the neighborhood spatially but they also perceive and point out qualities of the neighborhood such as litter, graffiti, and vacant homes much as adults do.

Perhaps the greatest support for suggesting that children pay attention to neighborhood characteristics comes from the recent "Growing Up in the City" projects (Chawla, 2002; Chawla & Malone, 2003). Children aged ten to 15 from eight major cities around the world were asked through creative methods about their perceptions of their neighborhoods. These children generally liked having green spaces to play in and rated neighborhood safety as important characteristics. However, children reported the presence of crime and violence, heavy traffic, lack of places to socialize, and increasing amounts of trash and litter as serious problems in their neighborhoods.

Despite the scarcity of research on children's perceptions of neighborhood conditions, researchers repeatedly find that children are attuned to neighborhood characteristics such as the presence of violence, threats to safety, and neighborhood disorder (Cunningham, 1999; Kotlowitz, 1991; Wridt, 2004). Attar, Guerra, and Tolan (1994) even suggest that these negative perceptions can act as potential stressors for children which in turn can potentially lead to aggressive behaviors. So, despite the fact that the literature on children's perceptions and conceptualizations of the neighborhood remains sparse, it does suggest that children as young as elementary school age can discuss, define, illustrate, and conceptualize their neighborhood. As Rasmussen and Smidt (2003) state: "children perceive their neighborhood in a particular and concrete matter" (p. 85). The limited studies on children's perceptions also suggest that children's perceptions of their neighborhood appear to be similar to those often studied with adults (see Chawla, 2002; Chawla & Malone, 2003; O'Neill, Parke, McDowell, 2001; Spilsbury, 2002). However, more research is needed in this

regard as the relationship between parental and children's perceptions is under-explored.

Thus far, I have discussed the fact that neighborhood research may be flawed since it fails to consider children's perceptions of neighborhood conditions. I have also argued that children are, in fact, able to conceptualize the idea of neighborhood and would thus be able to serve as valuable informants about neighborhoods. However, one might wonder why I propose to look at perceptions of neighborhood conditions instead of relying on objective measures in work with children.

As mentioned in the previous sections, there are two types of objective measures – government statistics such as the Census Report and outside raters' perceptions. I have shown in the sections above that the literature often relies too heavily on inappropriate census data to define and measure neighborhood characteristics and that scholars are currently calling for alternative measurements. Aside from the fact that the census uses arbitrary boundaries (such as tracts and blocks), of which residents (particularly children) are not necessarily aware, the word "neighborhood" is a subjective construct that varies by residents (adult and children). As Wachs (1999) noted, neighborhoods consist of the objective space and "…a parallel environment that is the individual's subjective experience or perception of his or her objective environment" (p. 365). Nicotera (2002) further explains that neighborhoods are complex multidimensional entities that include objective and subjective elements. Further, she suggests that the census data only supply information on the objective environment but it is the subjective perceptions or interpretations of the environment that make it a *place* for its residents. Therefore,

utilizing residents' perceptions of their neighborhoods would allow a better and more refined measurement and definition of neighborhoods. Coulton, Korbin, and Su (1996) further suggest that one reason why neighborhood effects are statistically weak is due to the heavy reliance on the Census Report – they suggest that findings would be stronger if perceptions or residents' subjective definitions of the neighborhood were used rather than the census data.

So, residents' perceptions of the neighborhood may be a better measurement than government reports. But, what about other people or outsiders' perceptions of neighborhood conditions? To respond to this question, I draw attention to the relationship among the respondents, measurements, and the outcomes. If researchers are studying an outcome, such as children's health and well-being directly at the children's level, they must also collect the predictive constructs at the children's level (neighborhood conditions) – otherwise, these researchers might commit a methodological error as they may not be able to depend on proxy report to predict an outcome measured by a different respondent. In other words, I would suggest exploring children's perceptions of the neighborhood since the outcome is also measuring a perceptual construct at the children's level, namely children's perceptions of their well-being. Furthermore, measuring perceptions of neighborhood conditions with children is particularly important as children may perceive neighborhood conditions differently from adults. Therefore, assessing both measurements at the children's level is essential.

Neighborhoods and Health

The majority of the discussion has reported on the same outcome, namely children's health and well-being. This is because a few theories have been introduced that link the neighborhood environment to residents' health and well-being. For example, Wandersman and Nation (1998) suggest in their *structural characteristics model* that the social organization in the neighborhood such as social control and common values among residents along with psychological stress mediate the relationship between structural neighborhood characteristics (SES, racial composition) and residents' mental health. The *environmental stress model* focuses on the relationship between environmental stressors such as noise or crowding and health (Wandersman & Nation, 1998). The presence of these relatively stable stressors is thought to affect residents' health indirectly through unsuccessful coping strategies.

While these models focus on structural characteristics of the neighborhood (i.e. SES, racial composition) and stressors, Wandersman and Nation's (1998) *neighborhood disorder model* highlights the importance of residents' perceptions of neighborhood conditions and health. This model suggests that neighborhood characteristics such as social and physical disorder directly relate to residents' mental health so that residents in neighborhoods characterized by the presence of gangs, violence, abandoned buildings, and litter, may have poor mental health. Wandersman and Nation further suggest that the neighborhood disorder model may also work through residents' fear of crime and victimization (i.e. neighborhood disorder is linked to fear of crime, which is linked to poor mental health, see also Skogan, 1990).

Indeed, a number of recent studies with adults have found relationships between neighborhood characteristics and residents' health and well-being. This sudden interest has led some to suggest that there has been a recent "explosion" of research on neighborhoods and health (Diez Roux, 2001). For example, living in low SES neighborhoods has been linked to poor physical health and long-term illnesses (Cubbin, LeClere, & Smith, 2000; Diez Roux et al., 2001; Kobetz, Daniel, & Earp, 2003; Malmstrom, Johansson, & Sundquist, 2001; Picket & Pearl, 2001) and to mental health and substance abuse problems (Boardman, Finch, Ellison, Williams, & Jackson, 2001; Goldsmith, Holzer, & Manderschei, 1998; Ross, 2000).

Also, Cohen and colleagues' (2003) study suggests a relationship between neighborhood physical disorder, defined as the presence of boarded-up housing, and rates of gonorrhea and premature mortality. Others have linked poor neighborhood physical conditions to depression and physical inactivity with adults (Balfour & Kaplan, 2002; Handy, Boarnet, Ewing, & Killingsworth, 2002; Weich et al., 2002). Hill, Ross, and Angel (2005) found that the relationship between perceived neighborhood physical disorder and adult residents' self-reported health is mediated by physiological and psychological stress. Other research suggests that perceptions of neighborhood physical and social disorders are mediators. For example, Ross and Mirowsky's (2001) study suggests that the relationship between neighborhood disadvantage and health is mediated by perceptions of neighborhood physical disorder. Similarly, Franzini, Caughy, Spears, and Fernandez Esquer (2005) found that neighborhood characteristics including perceptions of social and physical disorder mediated the relationship between neighborhood poverty and self-rated

health. Although some studies incorporated residents' and outside raters' perceptions of neighborhood conditions, these studies still relied on crude census data to define the targeted neighborhood in terms of its disadvantage status.

Despite the fact that some have suggested a theoretical relationship between the built environment and children's health and well-being (Evans, 2003; Evans, Kliewer, & Martin, 1991), this area of research remains under-explored. Even though Table 1 suggests that the most commonly studied outcomes in neighborhood research with children are academic achievement, risky behaviors, and health, there is an important methodological issue in the studies linking neighborhoods to health. In many of these studies, health is not measured directly using children's reports but through parents (see Curtis, Dooley, & Phipps, 2004; Mason, Cauce, Gonzalez, Hiraga, & Grove, 1994; Meyers & Miller, 2004; O'Brien Caughy, O'Campo, & Muntaner, 2003; Plybon & Kliewer, 2001; Roosa et al., 2005) even though some indicators of health are subjective such as perceptions of one's overall well-being and mental health. This leads some neighborhood studies to rely solely on proxy report from parents or other adults for measuring both neighborhood conditions *and* children's health (see Curtis, Dooley, & Phipps, 2004; Mason, Cauce, Gonzalez, Hiraga, & Grove, 1994; Meyers & Miller, 2004).

Due to the lack of studies recognizing children's voices in neighborhood research, future neighborhood research is necessary that explores neighborhood and health at the children's level. As there are many components to health, I believe focusing on a holistic indicator of children's well-being, such as their perceived quality of life, is important. Quality of life is a broad health measure used to describe

how well or poorly life works for a particular individual (Wallander, Schmitt, & Koot, 2001). The construct embraces multiple domains of health including physical, emotional, and functional well-being thus allowing researchers to refine their analysis with regard to neighborhood effects and the different components of health.

Quality of life research has gained recognition with adults and hospitalized children but remains understudied with healthy and "normal" children (Kaplan et al., 1995; Mansour et al., 2003; Pal, 1996; Titman, Smith, & Graham, 1997; Wallander, Schmitt, & Koot, 2001). As is the case in neighborhood research, this body of research with children remains troubled since this subjective health construct is oftentimes assessed through parental report (Eiser, Mohay, & Morse, 2000; Kaplan et al., 1995; Pal, 1996; Titman, Smith, & Graham, 1997) despite the fact that research further suggests that children as young as elementary school-age are capable of reliably reporting on their quality of life (Eiser, Mohay, & Morse, 2000; Varni, Seid, & Kurtin, 2001). Subsequently, a number of quality of life measures have been introduced that assess the construct at the children's level (Eiser, Vance, & Seamark, 2000; Landgraf et al., 1998; Petersen, Schmidt, Power, & Bullinger, 2005; Theunissen et al., 1998; Varni, Seid, & Kurtin, 2001).

Scholars have also criticized the fact that mental health outcomes in neighborhood research are traditionally assessed using parental report despite the fact that children could provide more accurate insight into their well-being (Leventhal & Brooks-Gunn, 2000). So, it is also necessary to explore children's mental health, defined in terms of depression and anxiety, at the children's level in these future studies. Aneshensel and Sucoff (1996) have already found a relationship between

teenagers' perceptions of neighborhood conditions and depression and anxiety ratings but this relationship remains under-explored with younger children. Since previous research has been concerned with recognizing children's voices in mental health assessment, a number of scales have been developed and found to be reliable for use with school-age children (Kovacs & Beck, 1977; Kovacs, 1980; Radloff, 1991).

The Present Research

In the past decade, research on the effects of the social and physical characteristics of neighborhoods on people's experiences and behavior has received increased attention from investigators representing many social science disciplines. Although the rapid increase of neighborhood studies is promising, this body of literature remains troubled by a number of issues.

First, the vast majority of studies focuses on adults and adolescents and thus fails to explore neighborhood effects on younger residents. Secondly, too many studies rely on arbitrary boundaries such as census blocks or tracts to define the neighborhood despite the fact that residents do not define their neighborhoods in these terms. Third, the majority of neighborhood research relies on census information to measure neighborhood characteristics (e.g., socioeconomic status) thereby ignoring residents' perceptions of neighborhood conditions even though residents could provide more reliable and meaningful information. Fourth, the few studies that incorporate residents' or outside raters' perceptions of neighborhood conditions rely on adult ratings even if the outcome of interest is concerned with child and youth residents. Moreover, many neighborhood studies exploring children and

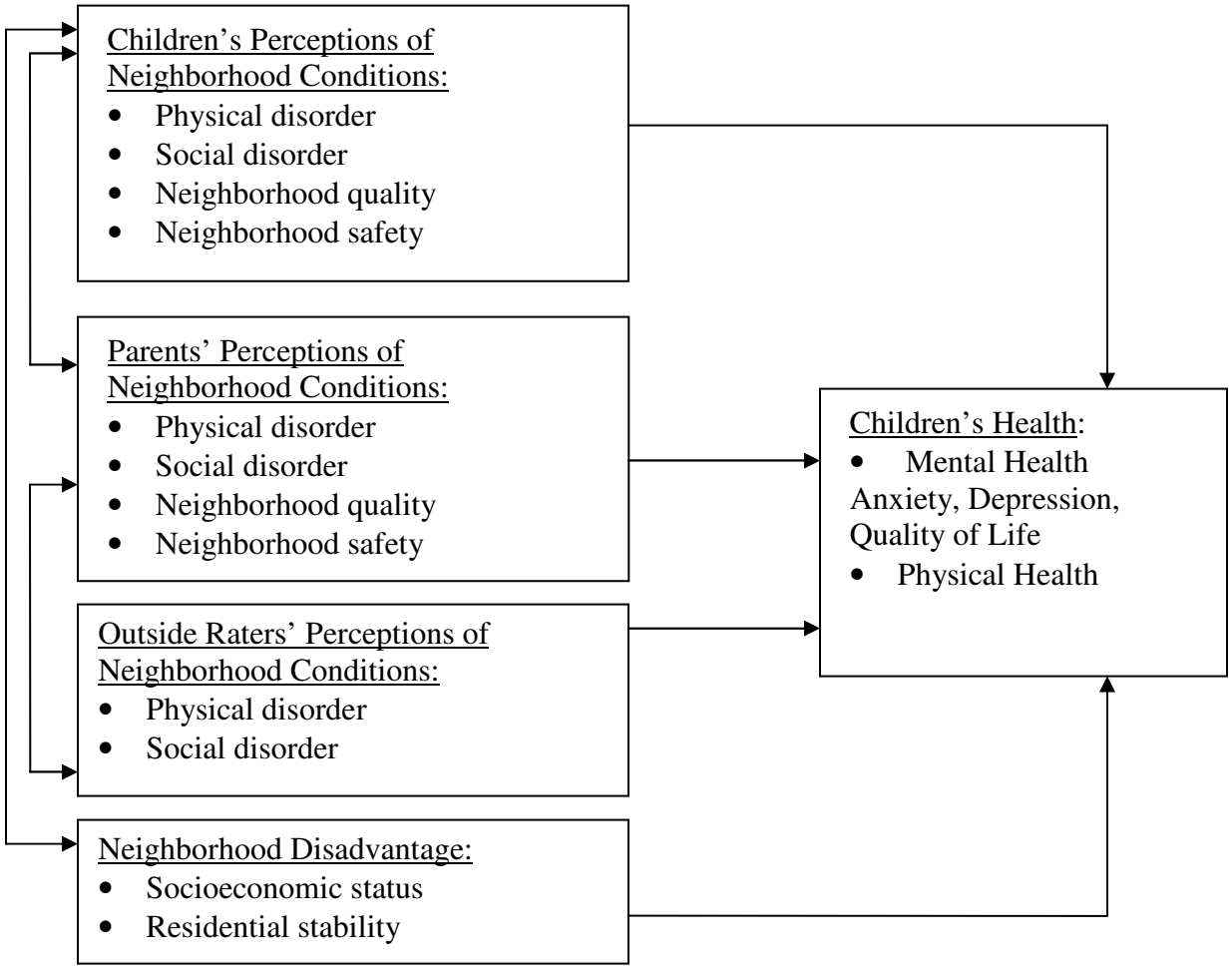
health rely on proxy parental report for both neighborhood and health measures thus completely ignoring children's voices and perceptions.

As these problems pose potentially serious methodological issues in neighborhood research, particularly in work with children and young people, I propose an alternative method for measuring neighborhood conditions relevant to this population. I particularly highlight the need to incorporate children's perceptions of their neighborhoods as their voices remain largely unheard in this regard (Conn, 2000; Coulton, Korbin, & Su, 1996; Hume, Salmon, & Ball, 2005; Nicotera, 2002; Polivka, Lovell, & Smith, 1998). Also, following the neighborhood disorder model as proposed by Wandersman and Nation (1998) and previous work linking neighborhood conditions to children's health (Curtis, Dooley, & Phipps, 2004), I suggest that children's perceptions of neighborhood conditions are linked to children's health and well-being. I especially point out that children's perceptions of neighborhood conditions may be important as predictors of children outcomes and that all constructs involving children should be measured using data from the children themselves.

As there is limited research on children's perceptions of neighborhood conditions and the relationship to other assessments commonly used to measure the neighborhood, this dissertation also explored various assessments of neighborhood conditions and their relationship to each other and to children's health and well-being defined in terms of their physical and mental health. As Model 1 illustrates, the focus of this research was to explore the relationship between children's and parents' perceptions of neighborhood conditions, the census data, and outsiders' observations.

The relationship between these assessments and children's physical and mental health was also explored.

Model 1. Direct Effects Predicting Children's Health and Well-Being.



Research Questions and Hypotheses

As little is known about children's perceptions of their neighborhoods and particularly since quantitative research in this areas remains sparse, a mixed methods approach was implemented. In the first study phase, qualitative methods were used to assess children's perceptions of neighborhood conditions (Research Question 1). The subsequent study phase used quantitative methods to respond to the remaining research questions as outlined below. Specifically, this dissertation explored the following research questions and hypotheses.

Research Question 1: What are inner-city pre-adolescents' perceptions of their neighborhoods as places to live? What neighborhood resources and conditions (physical and social) are most important to them?

Drawing on my previous research with pre-adolescents in New York City (Schaefer-McDaniel, 2006), I expect that children view having safe and appropriate places to play as important characteristics in their neighborhoods. Further, based on Holaday, Swan, and Turner-Henson's (1997) study, I imagine that children pay attention to feeling safe in the neighborhood as well as to its cleanliness or physical order and the social environment.

Hypothesis 1: Neighborhood quality, safety, social, and physical disorder will be important themes in children's responses to questions about their neighborhoods. Children will frequently discuss the neighborhood's physical disorder and safety. Children will less frequently discuss the neighborhood's social disorder and quality.

Research Question 2: What is the relationship between parents' and children's perceptions of neighborhood conditions with regard to neighborhood physical and social disorder, quality, and safety?

Previous research (Holaday, Swan, & Turner-Henson, 1997; O'Neill, Parke, & McDowell, 2001) suggests that children's and parents' perceptions of neighborhood conditions are strongly related since they live in and rate the same neighborhood.

Hypothesis 2: Children's and parents' perceptions of neighborhood conditions (physical and social disorder, quality, safety) will have a moderate to strong relationship ($r = .40$ to $r = .59$).

Research Question 3: How do objective indicators of neighborhood conditions (census data on neighborhood disadvantage and residential stability and outside raters' perceptions of neighborhood physical and social disorder) relate to parents' and children's subjective perceptions of neighborhood physical and social disorder, quality, and safety?

Previous neighborhood research (Michael, Beard, Choi, Farquhar, & Carlson, in preparation; Nicotera, 2002; O'Neill, Parke, & McDowell, 2001) suggests that there is a weak relationship between residents' subjective perceptions of neighborhood conditions and census data.

Hypothesis 3a: The relationship between children's and parents' subjective perceptions and the census data will be very small ($r = .10$).

Research has yet to explore the relationship between outside raters' perceptions of social and physical neighborhood conditions and child and adult

residents' perceptions. As outside raters of the neighborhood are not as familiar with the neighborhood as residents are, the following is expected.

Hypothesis 3b: The relationship between outside raters' perceptions of neighborhood conditions and children's and parents' subjective perceptions will be small (r = .10).

Research Question 4: Do these objective and subjective measurements of neighborhood conditions relate differently to components of children's health and well-being?

Current research suggests that community violence is strongly related to children's distress (Saegert & Evans, in press), thus suggesting that children's perceptions of their social and physical worlds directly impact their mental health.

Hypothesis 4a: Children's subjective perceptions of neighborhood conditions will be strongly related to their mental health. Specifically, children's perceptions of neighborhood safety and disorder will be most strongly related to their mental health.

Previous research (Curtis, Dooley, & Phipps, 2004) found parents' perceptions of neighborhood quality to be a strong predictor of children's physical health. Moreover, census data provide information on the socioeconomic structure of the neighborhood which I believe to be related to the availability and quality of health-care services and thus subsequently relate to children's physical health.

Hypothesis 4b: Parents' perceptions of neighborhood conditions, particularly neighborhood quality, will be a strong predictor of children's physical health.

Hypothesis 4c: Census data, particularly neighborhood socioeconomic status, will be a strong predictor of children's physical health.

Research Question 5: Whose rating of neighborhood conditions relates best to children's health and well-being?

Since children's perceptions of their immediate social and physical environment strongly affect their mental health (Saegert & Evans, in press) and since previous research suggested parents' perceptions of neighborhood conditions to be a strong predictor of children's physical health (Curtis, Dooley, & Phipps, 2004), the following is anticipated.

Hypothesis 5a: Children's subjective perceptions of neighborhood conditions will be the strongest predictors of children's mental health followed by parental perceptions of neighborhood conditions. Outside raters' perceptions will have a smaller relationship to children's mental health and the census data will be the weakest predictor of children's mental health.

Hypothesis 5b: Parents' perceptions of neighborhood conditions will be the strongest predictor of children's physical health followed by the census data and children's perceptions of neighborhood conditions. Outside raters' perceptions of neighborhood conditions will be a weak predictor of children's physical health.

Research Question 6: How do parenting practices and parents' mental health relate to children's health and well-being?

As children's health and well-being is the outcome of interest in this dissertation, it is important to recognize children's immediate social and family environments. Krenichyn, Saegert, and Evans (2001) found that harsh parenting practices predicted psychological distress in children. It is plausible that stressors in

the neighborhood (such as physical and social disorder) affect these parenting practices, which in turn relate to children's mental health.

Hypothesis 6a: Parenting practices mediate the relationship between parental assessments of neighborhood physical and social disorder and children's mental health.

Research also suggests that parents' mental health is a predictor of children's mental health (Spence, Najman, Bor, O'Callaghan, & Williams, 2002; Wood, McLeod, Sigman, Hwang, & Chu, 2003). Parents' mental health problems may be a consequence of being exposed to neighborhood disorder and subsequently influence children's mental health.

Hypothesis 6b: Parents' mental health mediates the relationship between parental assessments of neighborhood physical and social disorder and children's mental health.

Chapter 2: Research Methods

This dissertation utilized a mixed methods approach. As little is known about children's perceptions of neighborhood conditions, the first phase of the research employed qualitative methods to gather information about children's perceptions of their neighborhoods and to provide a foundation for the subsequent quantitative study phase. Ten children participated in individual open-ended interviews followed by child-led tours of their neighborhoods. Results from the first study phase then guided the design and development of a quantitative survey instrument assessing children's perceptions of neighborhood conditions and their health.

The second study phase utilized a quantitative approach in which 126 children completed questionnaires on children's perceptions of neighborhood conditions and their mental and physical health. One parent or primary caretaker of each child was also recruited to complete a similar survey resulting in a total of 117 surveys completed by adults. In their surveys, the children listed five blocks around their home which they knew well and considered their neighborhoods. These blocks were observed by two outside raters and census data at the block group level of aggregation were also collected. This chapter discusses the measures, procedures, and plans for data analysis for both study phases.

Measures

Qualitative Measures

The goal of the first phase of this project was to explore children's perceptions of their neighborhoods and examine which places and conditions are important to them. Ten middle school students enrolled in after-school programs in Manhattan and the Bronx participated in this part (Chapter 3 provides more information on these participants, after-school programs, and neighborhoods). These children participated in individual open-ended interviews and child-led tours of the neighborhood (also referred to as a neighborhood walk). Questions for the interview were based on previous neighborhood studies by Bryant (1985), Chawla (2002), Lynch (1977), and Spilsbury (2002).

The interview began by asking children to define the word "neighborhood." I then presented them with an enlarged map of their neighborhoods (I explained the map to those children who had difficulty reading it) and asked them to draw the boundaries of their neighborhoods. The map was then used to aid the conversation. For example, when asking children about places they liked, disliked, and found dangerous or scary, they were able to show me those places directly on the map. The children and I marked these places with colored markers. During the interview, we also discussed children's overall perceptions of their neighborhoods. Particularly, I asked them if they thought their neighborhood was a good place to live or for children to grow up. We also discussed what a child their age moving to the area would need to know about the neighborhood.

After the interview, the children took me on a neighborhood walk. Specifically, they were asked to take me to the places that they go by themselves and with their friends and that are important to them because of the things they can do and the people who are there. During the walk, they also showed me the places that they like, dislike, and/or find scary or dangerous. I engaged children in conversations about these places to supplement the information they told me during the interview. After the walk, the children and I returned to the after-school program where we drew the route of the neighborhood walk on the map. A complete list of questions asked during the qualitative phase can be found in Appendix 1.

Quantitative Measures

Child Survey

126 children from after-school programs in three New York City neighborhoods completed surveys assessing children's perceptions of neighborhood conditions and their physical and mental health. Qualitative study results guided not only the survey's content with regard to the dimensions of neighborhoods that are important to children but also helped define the neighborhood space in terms of physical boundaries. To define the space, children were given a map of their neighborhoods and asked to shade the five blocks around their home that they knew best and considered their neighborhoods. They were then instructed to refer to those blocks when answering questions about their neighborhoods.

While the items assessing neighborhood conditions were based on scales previously used in research with adults and modified for use with children, they were also adapted and modified based on findings from the qualitative study phase. In the

survey, children answered questions about neighborhood quality, social and physical disorder, and safety.

Neighborhood physical disorder was measured with eight items based on Ross and Mirowsky's (2001) and Curtis, Dooley, and Phipps' (2004) previous neighborhood research. Children responded on a five-point scale ranging from "strongly disagree" to "strongly agree" to items such as "there is a lot of graffiti in my neighborhood" and "my neighborhood is clean." As one child discussed the presence of rats during his qualitative interview, a question on the presence of rodents was added to this scale.

Neighborhood social disorder was assessed with seven items based on work by Coulton, Korbin, and Su (1996) and Hill, Ross, and Angel (2005). Respondents were asked to rate the frequency of gang activity and adults fighting, among other issues, on a three-point scale from "never" to "often."

Children also rated their level of agreement to questions on neighborhood quality and safety. The fourteen items on neighborhood quality were based on research by Coulton, Korbin, and Su (1996) and Ceballo, McLoyd, and Toyokawa (2004) and included statements such as "my neighborhood is a good place to live" and "if I had to move out of this neighborhood, I would be sorry to leave."

Children responded to these questions on a five-point scale ranging from "strongly disagree" to "strongly agree." Since children discussed the importance of having many things to do in their neighborhoods and knowing fellow residents in their qualitative interviews, four questions were added ("There are many things I can do in my neighborhood," "There are many places such as stores or restaurants,"

"There are many good places to play," "I know a lot of the other residents and I get along with them).

Neighborhood safety was assessed through six items based on research by Curtis, Dooley, and Phipps (2004) and Echeverria, Diez-Roux, and Link (2004). Children responded to statements such as "it is safe to walk alone in this neighborhood after dark" and "my neighborhood is safe from crime" using the same response scale as the items on neighborhood quality. As the children in the first study phase also commented on feeling safe when police are present and when there is sufficient street lighting, those questions were also added to this scale ("There are a lot of police on the street to protect me," "There is enough street light at night in my neighborhood").

Children's physical health was measured with the single item "Is your overall health excellent, very good, good, fair, or poor?" This measure has been used successfully in research with adults (Kawachi, Kennedy, & Glass, 1999). Mental health was defined in terms of children's quality of life, depression, and anxiety. Quality of life was measured with a modified version of the Pediatric Quality of Life scale (PedsQL 4.0) as introduced by Varni, Seid, and Kurtin (2001). The scale measures children's emotional, social, and school functioning by asking them to choose on a five-point scale ranging from "never a problem" to "almost always a problem" the best answer to questions such as "how much of a problem has feeling afraid or scared been for you in the past month?" This measure was designed to be used with non-hospitalized children, has been tested for psychometric properties, and is widely recommended for research with children (Eiser & Morse, 2001; Wallander,

Smitt, & Koot, 2001; Zekovic & Renwick, 2003; Varni, Seid, & Rode, 1999). Items assessing physical functioning and one item under the category of school functioning ("miss school because I had a doctor's appointment") were eliminated and two items assessing play and recreation were added ("finding it hard to find a place to play" and "finding it hard to play sports").

Depression was measured with a modified version of the Child Depression Inventory (CDI, Kovacs, 1980). Items assessing suicidal behavior (e.g., "I want to kill myself") were eliminated. Children were asked to choose on a three-point scale ranging from "once in a while" to "many times/all of the time" how often in the past two weeks they experienced certain thoughts or feelings, for example, how often they thought that everything they did would go wrong.

Based on Aneshensel and Sucoff's (1996) research with teenagers, anxiety was assessed with the subscale from the Hopkins Symptoms Checklist (HSCL, Derogatis, Lipman, Rickels, Uhlenhuh, & Covi, 1974). The wording was modified to match Aneshensel and Sucoff's (1996) measure (personal communication with Carol Aneshensel, November 2005). Children were asked to rate on a five-point scale ranging from "not at all" to "extremely" how often in the past two weeks they were bothered by feeling fearful or afraid among other items. The children's survey can be found in Appendix 2.

Parent/Primary Caretaker Survey

One parent or primary care taker of each child was also recruited to complete a similar survey assessing his or her perceptions of neighborhood conditions and children's health. Identical to the child survey, this survey assessed adults'

perceptions of their neighborhood defined in terms of neighborhood social and physical disorder, quality, and safety. In order to assure that children and adults rated the same neighborhood space, adults also received a map of their neighborhoods and were asked to shade the five blocks around their home they thought their child knew best. They were then asked to respond to this area for questions about their neighborhoods.

The adult survey also assessed children's and their own health in addition to their views of parenting practices. Parents or primary caretakers rated children's overall physical health with the same measure as did the children (is your child's overall health excellent, very good, good, fair, or poor?). Adults also rated their children's mental health defined as their quality of life, depression, and anxiety. Parents completed the same quality of life measure as their children. However, instead of rating their own quality of life, the parents rated their children's quality of life (PedsQL, see Varni, Seid, & Kurtin, 2001). Parents or primary caretakers also completed the depression and anxiety subscales from the Child Behavior Checklist version 2001 (Achenbach & Edelbrock 1981; Achenbach, Dumenci, Rescorla, &, 2002). Items on children's suicidal behavior ("talks about killing self" and "deliberately harms self") were eliminated. For example, adults rated on a three-point scale ranging from "not true" to "very true/often true" how true statements such as "in the past six months, my child has had trouble sleeping" were for their child.

Adults also completed the CES-D depression scale for themselves (Radloff, 1977). This measure has been extensively tested for psychometric properties and is widely recommended for clinical and non-clinical populations (Hann, Winter, &

Jacobsen, 1999; Radloff, 1977; 1991; Wong, 2000). Particularly, adults rated the occurrence of depressive symptoms such as feeling depressed or restless over the past week.

Lastly, parents also rated their parenting skills. Based on Krenichyn, Saegert, and Evans' (2001) research, these seven items asked how often, in the past month, parents or primary caretakers yelled at or argued with the child among other behaviors. The adult survey can be found in Appendix 3.

Neighborhood Observations

Two outside raters (the author and another woman of similar age) observed the neighborhood blocks the children had shaded on their maps. Outside raters observed the presence of neighborhood physical and social disorder by observing and rating the level of cleanliness on the block and people's behaviors. Ratings were based on the Systematic Social Observations inventory (Sampson & Raudenbush, 2004) and modified in line with the qualitative findings from the first study phase. Observations were conducted on weekday afternoons during the summer months of 2006. This timeframe was purposely chosen in order to assure that residents and children were outside in the neighborhood so that their behaviors could be observed in addition to the physical aspects of the neighborhood.

Inter-rater reliability on the 21 items between the two observers was tested with ten pilot blocks in one of the Bronx neighborhoods. Cohen's kappa and weighted kappa were computed and found to be significant using either one- or two-tailed tests. The significance implies that the level of agreement between the two raters was not due to chance (Cohen, 1960). Kappas ranged between .38 and 1.00 (perfect

agreement). Results from the pilot observations for three items (are people selling or using drugs; are drunken or otherwise intoxicated people visible; are adults arguing, shouting, fighting, or otherwise behaving in hostile or threatening ways) resulted in non-square tables, where only one rater chose two different categories and the other rater solely chose one response for all ten blocks. This was mainly due to the issue of timing. Although both raters observed the same block during the same time interval, the length of time the social disorder both were observing lasted varied during the observation period so that only one rater saw a person using drugs after that person had already passed the other rater on the sidewalk[4]. Since kappa cannot be computed in these instances, I relied on the rho statistic as an indicator for level of agreement. For these three items, rho ranged between 80% and 90% for each item. After inter-rater reliability was established, each block was observed by only one rater. The observation rating scales can be found in Appendix 4.

Census Data

Children listed the street on which they lived and the nearest cross-street in their surveys. Using this information, each child's census block group was extracted from the U.S. Census website (www.census.gov). Census data at the block group level of aggregation provided information on neighborhood disadvantage described in terms of neighborhood socioeconomic status (i.e. poverty and unemployment rate) and residential stability (i.e. percent renters). Appendix 5 lists the specific census variables.

[4] This issue specifically speaks to the problematic nature with this method of assessment.

Procedure

Children participating in the qualitative study phase were recruited during after-school activities at the Children's Aid Society programs in the Washington Heights neighborhood in Manhattan and the Concourse section of the Bronx in April 2006. After introducing myself and the project, I provided interested children with a packet containing a flier and parental consent forms in English and Spanish (see Appendix 6 for parental consent forms). Children were responsible for bringing the consent forms home and having a parent or guardian sign them. Six children in each of the two programs returned signed forms to the Children's Aid Society office. Five children in each program were randomly chosen to participate in the qualitative study phase.

The interviews took place during after-school program hours in offices and empty school classrooms. All children, regardless of age, were asked for written assent as I believed this procedure would give them more control and ownership of their participation (child assent forms can be found in Appendix 7). Children were also reminded that there were no right or wrong answers and that their responses would be treated confidentially.

Interviews began after children gave their assent to participate. Large neighborhood maps provided by the Metropolitan Transit Authority of New York City were used to aid the conversation. As these maps were laminated, children were able to color in responses to such questions as "what places do you like in your neighborhood" with different colored markers.

Following the interview, children took me on a tour of their neighborhoods. Children were in complete control of the types of places they wanted to show me with the only requirement that they discuss and show me the places that were important to them because of the people there or the activities they can do. Interviews and walks lasted between one and two hours and were tape-recorded and later transcribed. At the end of the neighborhood tour, we returned to the after-school program where the children and I drew the route of our walk on the map. Children were then thanked for their participation and received a $5 gift certificate to a local restaurant.

The second phase of the project began in late May 2006 and lasted through August 2006. Since the after-school programs turned into an all-day summer camps at the end of the 2005-2006 school year, research continuity was not interrupted. Children were recruited using the same procedures described earlier (see Appendix 8 for parental consent forms).

Parents and primary caregivers were recruited in person at social gatherings organized by the Children's Aid Society such as end-of-the-year shows and orientation sessions (see Appendix 9). All children and parents who returned signed consent forms were invited to complete a survey. Parents completed the surveys in either Spanish (n=33, 28.0%) or English (n=85, 72.0%) and did so individually. After completing the survey, adults were debriefed about the study and received a raffle ticket for a drawing for movie tickets to a local cinema and gift baskets.

After receiving parental consent, children gave their assent to complete the survey (see Appendix 10). Unlike the adults, the children completed the surveys in small groups consisting of five to ten children during after-school and summer camp

activities. The small group setting was advantageous so that children could ask questions and receive help with finding their homes and surrounding blocks on the map. Similar to their parents and caregivers, children had the choice of completing the survey in English or Spanish but only two children (1.6%) chose the latter option. After completing the survey, the children were debriefed about the study's intent and were given the chance to ask questions. As an appreciation, the children received a $5 gift certificate to the same local restaurant as in the first study phase.

Plans for Data Analysis

Qualitative data were first transcribed and content-analyzed. Major themes in the children's open-ended interviews and neighborhood walks were identified and connected. These qualitative findings were then used to guide the development of the survey to be used in the quantitative study phase.

Quantitative data were examined in terms of their distributional properties. Summary variables for the neighborhood and health variables were computed based on conceptual formulations and results from factor analyses. These summary variables from the different types of respondents (children, parents, observers, census report) were then correlated with each other to examine the degree of agreement. Next, ordinary least square regression analyses were computed to predict children's health from these neighborhood variables. However, this type of analysis assumes independence of observations meaning that the assessments are independent of each other and not correlated. But since many of these respondents reside in close proximity to each other (in the same census block group), this assumption might not

have hold. Therefore, an identifier variable was computed to classify children residing in the same census block group. Each outcome variable was examined in terms of independence of observations (commonly referred to as clustering or nesting) and if it was determined that the observations were not independent of each other, mixed linear models rather than ordinary least square regression models were employed to adjust for the non-independence.

Chapter 3: Qualitative Results

This chapter sets the context of the dissertation by providing an overview of the neighborhoods and after-school programs in which the research took place. This section is followed by a description of the respondents who participated in the qualitative study phase. Lastly, this chapter describes the qualitative findings.

Research Location and Neighborhoods

The research was conducted in a total of three after-school programs located in three New York City neighborhoods. One after-school program was located in Northern Manhattan (Washington Heights) and two programs were located in the South Bronx (Concourse and Crotona Park East). Children enrolled in the program in Washington Heights and in the Concourse area of the Bronx were invited to participate in both phases of the research while children enrolled in the Crotona Park East program only participated in the quantitative phase. This was due to the fact that the qualitative phase required only a small sample size and since the two Bronx neighborhoods are similar on a number of characteristics to be discussed below, it made sense to work with only one group of children in one Bronx neighborhood.

The after-school programs are sponsored by the Children's Aid Society and operate out of three public New York City middle schools. Generally, the after-school program takes place on weekdays between 2:45pm and 6:00pm and typically serves about one-quarter of the school's student population which ranges anywhere between 250 and 400 students (Jonas, 2005). As will be seen below, students enrolled in the

schools in which the after-school programs operate face multiple challenges including poor academic performance that are largely related to the lack of monetary funding and segregation that still occurs in these schools (Kozol, 1992; 2005). The Children's Aid Society after-school program addresses these problems by providing homework help and academic enrichment activities aside from the more typical recreational activities during after-school hours (Jonas, 2005).

The schools in which the after-school programs operate are of a special nature since they are considered "community schools." Community schools aim to promote linkages between schools, families, and communities thus building a strong social support system for its students and community. The schools operate under the supervision of the New York City Department of Education but additionally offer extended services year-round to enhance children's development. In addition to after-school enrichment activities, these schools also provide physical and mental health services to children and their families. The Children's Aid Society is a vital partner for these schools and is dedicated to seeing its students develop in a healthy manner and succeed academically (Children's Aid Society, 2001).

Unlike other New York City public schools, the majority of students attending these community schools and after-school programs reside in the surrounding neighborhood of each school. The Manhattan school is located in the Washington Heights section of Manhattan and served 1,548 students in the sixth through eighth grade as of May 2004 (New York City Department of Education, 2004a). Almost all of the students (98%) were eligible for free lunch in 2004 and 14% of the students were recent immigrants (within the past year) mostly from the Dominican Republic.

The school in the Concourse neighborhood of the Bronx enrolled 1,325 fifth through eighth graders in May 2004. 64.9% of all students were eligible for free lunch in 2004 and 9.9% were recent immigrants. Similar to the Manhattan school, most immigrants were from the Dominican Republic (New York City Department of Education, 2004b).

The middle school in the Crotona Park East neighborhood of the Bronx enrolled 276 sixth through eighth graders and is housed in the same building as an elementary school enrolling 383 students. Four out of five students (81.5%) were eligible for free lunch in 2004 and only 1.4% were recent immigrants (New York City Department of Education, 2004c). As Table 3 reveals, students' academic performance in 2004 on the New York State mandated exams is largely below performance standard in these schools.

Table 3. Students' Performance on the New York State Regents Exam in 2004.

	Manhattan		***Bronx***			
	Washington Heights		*Concourse*		*Crotona Park East*	
	English	**Math**	**English**	**Math**	**English**	**Math**
Level 1 – serious academic deficiencies	26.0%	39.5%	29.0%	41.5%	16.6%	24.7%
Level 2 – needs extra help to meet standards	59.3%	41.1%	50.3%	37.3%	59.8%	40.6%
Level 3 – meets standard	13.6%	17.4%	17.9%	17.9%	21.3%	31.0%
Level 4 – exceeds standard	1.1%	2.0%	2.8%	3.3%	2.3%	3.7%

Source: New York City Department of Education (2004a-2004c).

Neighborhood Characteristics

The Manhattan school and after-school program is located in a predominantly Spanish-speaking neighborhood commonly known as the Dominican section of New York City. The school is a few blocks from a major hospital and health care center that spans several blocks in all directions. The school is made up of several large buildings and is situated next to an elementary school and is in close proximity to another middle school. A police precinct is within two blocks of the community school and borders a large park which in turn borders the Harlem River Drive and the Harlem River separating Manhattan from the Bronx. This park contains a youth and recreation center and also houses a pool that is popular with students and families. The area surrounding the school is mostly residential with many low- and mid-rise apartment buildings. The area close to the hospital is more commercial and contains several shops and fast food restaurants. Unlike other parts of Manhattan, most signs in the neighborhood are in Spanish reflecting the recent immigrant status of many residents.

The school in the Concourse section of the Bronx is located in a residential section within walking distance to Yankee stadium. Similar to the Manhattan neighborhood, most of the buildings surrounding the school are low- and mid-rise apartment buildings. Signs on these apartment buildings indicate that they are closely patrolled by the New York City Police Department largely due to common occurrences of neighborhood violence and gang activity. The area surrounding the sports stadium is commercially zoned and contains fast food restaurants, a movie theater, and a shopping center. This neighborhood is also home to many court houses

including the family, criminal, and housing courts. In the summer, children can be seen playing in the parks around the stadium.

The school in the Crotona Park East neighborhood of the Bronx borders a large park containing benches, picnic tables, and play equipment. The school building itself is big in size and located next to another large middle school. The area surrounding these two schools is not very densely populated with low-rise residential buildings. The school is a short walk from a commercial strip of shops mostly consisting of fast food restaurants and convenience stores some of which have Spanish signs in their windows.

Population Characteristics

Census data from 2000 reveal that residents in the two Bronx neighborhoods are more similar to each other than to the Manhattan residents. Specifically, residents in the Manhattan neighborhood are older and overwhelmingly Hispanic reflecting the large number of immigrants from the Dominican Republic. Table 4 lists additional population characteristics for the three neighborhoods.

Table 4. Population Characteristics at the ZIP Code Level for the Three Neighborhoods.

	Manhattan	***Bronx***	
	Washington Heights	Concourse	Crotona Park East
Total population	63,842	76,656	53,707
% Male	47.9%	45.7%	45.9%
Median age (years)	32.0	27.6	27.8
% 18 years and over	74.5%	64.5%	65.1%
% 65 years and older	9.8%	7.2%	7.0%
% White	19.3%	14.2%	24.4%
% African American	22.4%	51.5%	34.2%
% Hispanic (of any race)	71.4%	50.4%	65.2%
% two or more races	7.8%	6.0%	6.0%
Average household size	2.99	2.98	2.95
Average family size	3.64	3.56	3.48

Note: The % Hispanic (of any race) variable overlaps with the % White and % African American variables, so the three racial indicators exceed 100%.
Source: Census 2000.

Census data from 2000 at the ZIP code level of aggregation further suggest that residents in the Manhattan neighborhood have higher annual household incomes ($26,237) compared to both neighborhoods in the South Bronx ($16,664 for Concourse and $19,517 for Crotona Park East). As Table 5 suggests, this distribution of wealth is further represented by other socioeconomic indicators such as median family income, family and individual poverty rates, and percentage of women as heads of household. Lastly, residents in Manhattan appear to be more likely to be college-educated compared to residents in the two Bronx neighborhoods. The census data also suggest that residents in both Bronx neighborhoods have less residential turn-over than Manhattan residents where fewer residents report having lived in the neighborhood for five years.

Table 5. Socioeconomic Characteristics at the ZIP Code Level for the Three Neighborhoods.

	Manhattan	***Bronx***	
	Washington Heights	Concourse	Crotona Park East
Socioeconomic Status:			
Median household income	$26,237	$16,664	$19,517
% families below poverty rate	29.5%	42.1%	36.9%
% individuals below poverty rate	32.5%	44.9%	39.7%
% single women heads of household	29.8%	40.2%	37.8%
% unemployed	9.0%	9.0%	9.3%
% high school or higher	52.6%	49.6%	53.9%
% BA or higher	15.1%	6.7%	7.7%
Residential Stability:			
% renters	94.8%	93.5%	88.6%
% moved to neighborhood in past year	11.0%	13.8%	16.1%
% moved to neighborhood in past 5 years	24.0%	28.7%	31.5%

Source: Census 2000.

Community Health

The New York City Department of Health and Mental Hygiene released "community health profiles" for 42 neighborhood areas in 2003 (see www.nyc.gov). Health information for the Washington Heights neighborhood was combined with the Inwood neighborhood to the north. This area covered 270,677 residents north of 134th Street and spanned five ZIP codes. One in four residents (26%) in this area reported his overall health to be poor or fair compared to 19% of the overall New York City

population and 14% of the general American population. Moreover, 5% of the residents reported suffering from serious mental health problems. About 20,000 residents (10%) did not have health coverage and 68,000 (34%) did not have a personal doctor. In terms of maternal and prenatal care, 33% of mothers received late or no prenatal care in 2001 compared to 30% of mothers in New York City as a whole. Eight percent of live births resulted in low birth weight, the same as the New York City average. The infant mortality rate between 1999 and 2001 was lower in this area (5.3 per 1,000 live births) compared to New York City as a whole (6.2 per 1,000 live births) (New York City Department of Health and Mental Hygiene, 2003a).

Health information for the Concourse neighborhood area was combined with the bordering neighborhoods of Highbridge and Morrisania covering a total of 189,755 people in three ZIP codes. In this area, 35% of the residents indicated that their overall health was poor or fair and about 10% reported suffering from a serious mental health condition. About the same percentage as Manhattan residents (9% or 11,000 residents) did not have health coverage and 33% did not have a personal physician. Slightly higher than in the Manhattan neighborhood, 35% of mothers reported receiving late or no prenatal care in 2001 and 10% of the births resulted in low birth weight. The infant mortality rate in this area was also higher (7.1 per 1,000 live births) between 1999 and 2001 compared to the Manhattan neighborhood and the New York City average (New York City Department of Health and Mental Hygiene, 2003b).

The Crotona Park East neighborhood was combined with two other bordering neighborhoods and covered over 199,530 residents in three ZIP codes. Identical to the Concourse neighborhood profile, 35% of Crotona Park East residents claimed their health to be poor or fair and 10% residents reported serious mental health problems. In terms of access to care, the statistics for this neighborhood area are identical to the other Bronx neighborhood area, i.e., 9% of residents reported having no health coverage and 33% indicated that they did not have a personal doctor. One third of mothers (33%) received late or no prenatal care in 2001 and 10% of live births resulted in a low birth weight. The infant mortality rate is comparable to that of the Concourse neighborhood (6.9 per 1,000 live births) (New York City Department of Health and Mental Hygiene, 2003c).

As Table 6 suggests, there is variation in children's health between the Manhattan and Bronx neighborhoods. Asthma rates are twice as high in both Bronx neighborhoods compared to the Manhattan neighborhood and the New York City average. Injury rates (i.e. hospitalizations due to injury from falls, burns, motor vehicle accidents, among others) are comparable though slightly higher in the two Bronx neighborhoods. Interestingly, lead poisoning rates are slightly lower than the New York City average for all three neighborhoods.

Table 6. Children's Health in the Three Neighborhoods.

	Manhattan	***Bronx***		
	Washington Heights	Concourse	Crotona Park East	New York City
Asthma rate	5	10	10	6
Injuries rate	4	5	5	4
Lead poisoning rate	12	13	12	15

Source: New York City Department of Health and Mental Hygiene (2003a-2003c).
Note: rates are per 1,000 children in each area.

Qualitative Sample Characteristics

The primary participants for this study were preadolescent children who were enrolled in after-school programs sponsored by the Children's Aid Society in three New York City neighborhoods. As scholars have noted before, school-aged children are valuable informants about their everyday lives (Gabarino & Stott, 1992). In recent years, preadolescent children have been actively and successfully engaged as research participants in both qualitative and quantitative research projects (see Attar, Guerra, & Tolan, 1994; Bettge, Ravens-Sieberer, Wietzker, & Holling, 2002; Bruckner, Beardslee, & Bassuk, 2004; Burns et al., 2004; McLeod & Owens, 2004; Schaefer-McDaniel, 2006; Troiano, Flegal, Kuczmarski, Campbell, & Johnson, 1995). Children in this age group therefore participated in both qualitative and quantitative phases of the project.

The ten children who participated in the qualitative phase were recruited from the Children's Aid Society after-school programs in the Washington Heights neighborhood in Manhattan and the Concourse section of the Bronx. These children

ranged in age from eleven to thirteen years (M=11.7). Most were boys with two girls in Manhattan and one girl in the Bronx. All children were racial or ethnic minorities. The three boys in the Manhattan neighborhood were of Hispanic/Latino origin while the two girls were African American. Conversely, the four boys in the Bronx neighborhood were African American and the girl was a recent immigrant from Venezuela. Four children in Manhattan had lived in their neighborhoods since birth and one boy had moved to his neighborhood six years prior to the interview. On the other hand, only two boys had lived in their neighborhoods since birth in the Bronx. Two boys had lived in the neighborhood for eight years and the girl moved to the Bronx from Venezuela a year before the interview took place.

Qualitative Findings

Qualitative interviews and neighborhood walks were first transcribed and analyzed following Creswell's (1998) approach to qualitative data analysis. This part of the research was specifically concerned with the first research question, which explored inner-city pre-adolescents' perceptions of their neighborhoods as places to live and the neighborhood resources and conditions (physical and social) that were most important to them. It was hypothesized that neighborhood quality, safety, social, and physical disorder would be important themes in children's responses to questions about their neighborhoods.

To explore these data, I examined children's overall perceptions of their neighborhoods and the major discussion themes. Since the qualitative results were used to inform the quantitative study phase, I also investigated children's definitions

of their neighborhood to arrive at a meaningful definition for the subsequent study phase.

The ten children were generally very talkative in the interview and neighborhood walk and appeared to be in good spirits overall. It was interesting that some children expressed anxiety when we talked about the presence of gangs and neighborhood violence whereas other children simply talked about these conditions as if they were a normal part of their everyday lives. Two boys (one in each neighborhood) appeared fearful of their neighborhoods throughout the entire interview and walk. Both of these children defined their neighborhoods in very small spatial terms and reported being afraid of what to them appeared endless neighborhood violence and gang activity. On the other hand, a few children seemed to be aware of adults loitering or other negative aspects of their neighborhoods and while they were cautious of these conditions, they generally seemed to enjoy their neighborhoods so they did not dwell on these issues. The remaining children seemed to accept their experiences and perceptions of neighborhoods as they were without attaching any significant emotional reaction.

Conceptualizing the Neighborhood

At the beginning of the qualitative interview, children were asked to define the word 'neighborhood.' All defined it as a physical place consisting of one or more blocks around their homes.

> "A neighborhood is like around where you live and for a couple of blocks or something" (Miguel[5], 13 years, Manhattan)

> "…like where my block [is] and the project near there"
> (John, 11 years, Manhattan)

Some children clarified that their neighborhood is a place with which they were familiar.

> "[a neighborhood is] some place that you've known for a long time that you live there" (Latisha, 11 years, Manhattan)

> "[it's my neighborhood] because….'cause after that…I don't really know…really know…nothing really there the area outside of it."
> (Romel, 12 years, Bronx)

Most of the children also defined their neighborhoods in social terms and particularly highlighted the role of having neighbors and friends.

> "I think that what makes something a neighborhood is like …um…you having friends around there like…and along where you live and all types of things like that" (Miguel, 13 years, Manhattan)

> "that's exactly how my neighborhood is 'cause right here I got a lot of people that are like friends and I like they are nice to me so I consider them my neighborhood 'cause…it's like they part of family" (Tyrone, 11 years, Bronx)

> "The people that's there…how they act, how they treat each other and stuff" (Melanie, 13 years, Manhattan)

[5] The children's names have been changed.

Lastly, a few of the children also defined their neighborhoods in terms of the activities they can do there.

> "A neighborhood is like a place where like you have neighbors, you could talk, you could communicate, you do a lot of stuff…there are a lot of places like pizza domes…um…malls…shops…museums" (Romel, 12 years, Bronx)

> "because I hang out [with friends] on 151st and I hang out on 150, 149, 148, 147, 146 to 145 and sometime I go to 143 'cause my best friend lives there" (Melanie, 13 years, Manhattan)

Children's Perceptions of Neighborhoods

Most of the children had positive things to say about their neighborhoods. They liked living close to friends and family and being in close proximity to green spaces such as parks. Children liked the parks because they could meet friends there and some also perceived parks as peaceful or serene places where they could get away from the noise of the streets.

> "my block 'cause my family is over there…these all streets 'cause all my friends is over there" (Melanie, 13 years, Manhattan)

> "[the park] is always peaceful and not a lot of noise. It always quiet and no trouble happening here" (John, 11 years, Manhattan)

The children in the Bronx neighborhood generally liked being close to Yankee Stadium because they were baseball fans and sometimes able to attend games. Their after-school program also made it possible for them to meet some of the players.

Some children also had negative perceptions of their neighborhoods most of which centered on neighborhood violence.

> "…'cause so many people get hurt …over there some people get killed …and so many fights over there" (Mike, 11 years, Bronx)

> "I don't like that [street] 'cause they like to fight over there a lot" (Melanie, 13 years, Manhattan)

Children were also quite perceptive to the changes that have occurred in the neighborhood over the time of their residence. For example, one boy in Manhattan and one boy in the Bronx thought their neighborhoods had changed for the worse.

> "it's [neighborhood] changed for the worst 'cause like before there was a fight like once a year and now there's a fight like every day"
> (Miguel, 13 years, Manhattan)

> "I think it [neighborhood] was a better place before but now I think it got worser […] 'cause like before it was trying to make it better but then something always happen to stop making it better" (Mike, 11 years, Bronx)

While these two responses suggest more of a stereotypical response to neighborhood changes, other children had different responses which contradicted the statement that children's neighborhoods had deteriorated over time.

> "Like …in the 1970s the crime was high…mobsters…crime was very, very high…and the crime went down a lot […] it [the neighborhood] used to be dirty and now it's starting to get clean" (Charles, 12 years, Manhattan)

> "my block changed…I know that …I am not saying it was bad but it wasn't all that good … now it's better 'cause they changed a lot of buildings and it's new people moving in and stuff like that…everybody get along now"
> (Melanie, 13 years, Manhattan)

Overall, children's perceptions of their neighborhoods could best be summarized in four major themes that are commonly discussed in neighborhood research: neighborhood quality, safety, social disorder, and physical disorder.

Neighborhood Quality

Children's perceptions of their neighborhoods were generally linked to the quality of the neighborhood. As seen in the discussion above, children considered a good neighborhood as one that contains parks or places for children to play. Children particularly valued having large and close-by outdoor spaces where they could meet

friends and play. The presence of stores that sell clothes, games, or food was also considered important.

> "[the park is a] really cool place 'cause we can play and really big and it have a big space" (John, 11 years, Manhattan)

> "it's [the park] big and enough for everybody and they got card tables that what we do basically is play cards and it's right next to like if we were playing in the house, we walk right down the block [to the park] […] there's a whole lot of stuff to do and it's like you don't have to walk far" (Melanie, 13 years, Manhattan)

> "it [neighborhood] is good 'cause there's good parts around there and there's restaurants and that's the best part about my neighborhood…food…and [hair] salons" (Latisha, 11 years, Manhattan)

> "you play in the park…there's parks everywhere you look…and game stores everywhere you look and like…like…the grocery stores…there's a mall…malls are like everywhere" (Romel, 12 years, Bronx)

The children also noted that sometimes play equipment was either missing or in poor condition in some parks. This was negatively related to their perceptions of these places.

> "they [other schools and parks] got good [basketball] rims…backboards so the ball comes back straight because usually our school's board are usually messed up" (Romel, 12 years, Bronx)

> "but it's not like we could do [play] 'cause there's no swings" (Melanie, 13 years, Manhattan)

Neighborhood Safety

All children discussed the element of neighborhood safety. Children were quite perceptive to neighborhood crime such as robberies and shootings as well as violence in general. The children were also able to locate and discuss particular streets where they had either heard of or seen violence first-hand.

> "you see here they play basketball here…but they rob the person…I seen them" (John, 11 years, Manhattan)

> "I didn't see it but I hear it 'cause my sister friend she live over there and there's rapists on [streets] …there people get shot too"
> (Mike, 11 years, Bronx)

> "the entire avenue…there's a lot of violence there especially when there's a block party […] some people comes with guns" (Tyrone, 11 years, Bronx)

Two children in the Bronx also commented on the lack of sufficient street lighting and that this led them to feel unsafe.

> "Jackson Avenue because in the night it's too dark there…because we have to take the train in the night […] they have no light" (Veronica, 12 years, Bronx)

> "in the dark time…in the nighttime you can't see nothing…so I really get scared so I run" (Mike, 11 years, Bronx)

The feeling of not being safe generally contributed to a poor evaluation of the neighborhood, particularly for one boy in each of the two neighborhoods. The theme of not feeling safe was continually pronounced during most of these interviews. At the beginning of his interview, Mike, the boy in the Bronx, even mentioned that he would rather live somewhere else because his neighborhood was too dangerous.

On a positive note, some children mentioned that having an active police presence in their neighborhoods made them feel safe.

> "it's [the neighborhood] good 'cause […]the cops are always around there just in case something wrong happen" (Latisha, 11 years, Manhattan)

> "we have like real protection and cops…and like because like right next to our school is like three [police] stations and up there [pointing on map]….there's nothing […] so anything goes wrong you got police right here"
> (Romel, 12 years, Bronx)

The lack of safety in the neighborhood was also related to a child's geographic range of movement though it is not clear from these interviews whether the lack of perceived safety led to a child's restricted geographic movement or vice versa. Furthermore, the role of parenting practices or play rules were also not

discussed so the relationship between parents' rules and children's geographic movement is unclear. In any case, a few children discussed how their own or a parent's perception of safety affected their geographic mobility around their neighborhood.

> "you gotta stay out of some area 'cause they not good…'cause like if they like me they don't wanna go near there and don't like stay on block that you [not] used to …stay on block that you familiar with 'cause that's….that's where you safest at" (Melanie, 13 years, Manhattan)

> "…'cause my mother think it too dangerous around there […] so I either go to backyard in school or sometime I go [to another nearby school yard] […] this block is dangerous…this one is dangerous…so I don't really like these blocks …I rather stay on my block" (Mike, 11 years, Bronx)

> "I can go like where I live…near the park and one of the store like …that how far I go 'cause my mom is afraid that something happens to me" (Joseph, 11 years, Bronx)

Social Disorder

All five children in Manhattan and three children in the Bronx discussed aspects of social disorder, particularly the presence of gangs and intoxicated adults hanging out in their neighborhoods. Not surprisingly, children discussed elements of social disorder in relation to fighting and drug activity.

> "a lot of gangsters […] they curse a lot and throw bottles and drink alcohol […] they always in a group and by my building and I always see them fighting" (John, 11 years, Manhattan)

> "they like to throw glass bottles … they like to shoot […] then one man was drunk when I went to the store and the other man hit him with a glass bottle […] they got drugs 'cause they like to fight …they always pick at arguments…they be doing illegal things" (Melanie, 13 years, Manhattan)

Two children felt particularly threatened by the presence of adults, particularly men, on certain streets and generally avoided these places.

> "a lot of men out there and they always like fighting […] and I don't like to walk past places in the night where there's a whole bunch of men" (Melanie, 13 years, Manhattan)

> "I usually walk on this side of the street 'cause there's usually those boys over there and I don't know…like I get worried to see what they…'cause they might do something" (Mike, 11 years, Bronx)

One child in the Bronx had a more difficult time avoiding gangs since they more or less traveled their turf and their presence was subsequently felt everywhere.

> "there's a group like the group that travels is the thing that's dangerous like these Bloods and these Crips…have you heard? […]'cause that's what makes the community a little dangerous" (Romel, 12 years, Bronx)

Physical Disorder

All children with the exception of two in the Bronx discussed physical disorder during their interviews about their neighborhoods. Within this theme, the children commented on the level of cleanliness and the presence of garbage or litter on the streets which led one boy in Manhattan to regularly clean up his neighborhood by removing trash from the streets and nearby parks. Interestingly, the children discussed this theme more often during the neighborhood walk than during the interview. Oftentimes, cues such as garbage on the streets, would elicit children's discussions of physical disorder.

> "you can see a lot of trash…a lot…people just throw them the trash bags" (John, 11 years, Manhattan)

> "it's more dirty than the other street" (Charles, 12 years, Manhattan)

> "usually it smells [..] garbage…'cause they don't pick up the garbage" (Romel, 12 years, Bronx)

Furthermore, children also discussed not liking the loud noises either from traffic or from people playing loud music. The children also discussed the poor condition of some houses and the presence of graffiti.

> "they listened to music they wanted…they can …put it higher and we can't sleep and they put it higher" (Veronica, 12 years, Bronx)

> "what I hate the most is around here a lot of buildings get burned and some of the buildings they have a fire and the building burns down"
> (Latisha, 11 years, Manhattan)

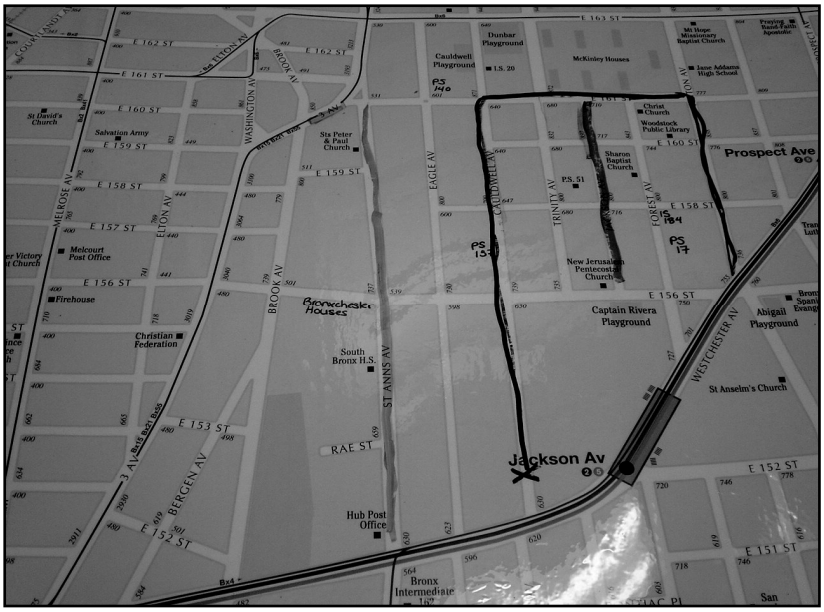
> "they could fix up the building and throw away the garbage … what if you fall? It's nasty! […] and there's graffiti over there and stuff…I don't like that graffiti over there" (Melanie, 13 years, Manhattan)

In summary, results from the qualitative study phase suggest that children were perceptive to conditions of neighborhoods frequently discussed in neighborhood research. The most common theme was one that all children thoroughly discussed, namely neighborhood safety. Hand-in-hand with that theme, eight children often discussed social disorder particularly not liking gangs or groups of adults or children hanging around their neighborhoods. This theme was discussed repeatedly throughout many of the interviews. While eight children did discuss elements of physical disorder in their neighborhood, this theme was the least pronounced in frequency and intensity of discussion. These results are in line with the expected results outlined in the first hypothesis.

The results of the qualitative phase set the tone for the subsequent quantitative phase. As the children discussed neighborhood quality, safety, social, and physical disorder, these themes were incorporated into a questionnaire assessing children's perceptions of their neighborhoods. The qualitative findings were also helpful for the

measurement and definition of the neighborhood space for the questionnaire. As shown in the section above, children understood the concept of a 'neighborhood' and had a spatial boundary in mind when asked about their neighborhood space. When they were asked how big their neighborhood was by drawing the boundaries on a map, they did not have to ponder this question very long. Not surprisingly, these boundaries differed from child to child: two children in the Bronx thought their neighborhood only constituted one block while one girl in Manhattan defined her neighborhood as an area measuring twenty by six blocks. Most of the remaining children indicated that their neighborhood was about five blocks in length and one to two blocks in width (see Figures 1-2).

Figures 1-2. Spatial Definitions of the Neighborhood.



Note: Solid dark line represents the children's definition of neighborhoods. Figure 1 is in Manhattan and Figure 2 is in the Bronx.

A refined analysis of the maps and children's responses during the interview and neighborhood walk revealed that children commonly reported traveling to places outside of their spatially defined neighborhoods. This was particularly true for children in Manhattan who were more likely to travel further distances by themselves (either by foot or public transportation) and also exhibited greater knowledge of the areas surrounding their spatially defined neighborhoods than children in the Bronx who seemed to be more restricted in their everyday movement. Children traveled to places outside of their spatially defined neighborhoods in order to pursue specific activities such as going shopping, playing in parks or playgrounds, and visiting friends or family. Essentially, children traveled to these places for social purposes and to participate in certain activities. This is interesting because children defined their neighborhoods in concrete spatial boundaries on the map but during the interview and

walk reported other separate places (such as parks) as being part of their neighborhood despite the fact that these places were not located within their spatial boundaries.

This, of course, complicates defining the term 'neighborhood' for work with children in the quantitative study phase. Simply relying on social or functional dimensions when defining a neighborhood (e.g., "the places where you play and hang out with your friends") fails to ground the definition in concrete physical boundaries in the area around the home children can easily locate. Furthermore, such a definition would also allow children (and adults as well) to define their neighborhoods solely in terms of pleasant and positive spaces. They might then not consider nearby places where physical or social disorder occurs as a part of their neighborhood despite the close proximity to their home. Similarly, a pure spatial definition of a neighborhood such as "a five-block radius of the home" or "the area within a ten-minute walk around your home" would also be misleading since it fails to include the social and functional qualities that are important to children when they discuss their neighborhoods. Relying solely on a spatial definition is also problematic since certain ecological forces or barriers (such as fences and dead-end streets) in the neighborhood may prevent some children from rating the entire spatially defined area.

So, offering a comprehensive definition of the term 'neighborhood' that included spatial and social dimensions was important for the next study phase. Based on the fact that the participants from the qualitative phase rated their neighborhoods on average to consist of five blocks and building on O'Neill and colleagues' (2001) definition ("the streets and places around your home where you see familiar people

and do everyday things like visit friends," p. 140), I used the following definition for the neighborhood in the quantitative study phase: "the five blocks around your home you know best."

Using such a definition ensured that all of the children had the same understanding of the term 'neighborhood' and that they respond to the entire five-block area close to home. This definition also allowed children to focus on areas close to home where they play and socialize with friends that they might not necessarily have considered as their neighborhood such as those children who defined their neighborhoods as consisting only of one block. A comprehensive definition such as the one used here allowed these (and other) children to include "separate" but close-by spaces (such as parks) that they might not have otherwise considered as part of their neighborhood. Likewise, such a definition refines the neighborhood space for those children who define their neighborhoods in larger terms. This definition was also easily applied to the children's parents who were asked to rate "the five blocks around your home that you think your child knows best."

Lastly, to make the definition as concrete and realistic as possible, children and adult respondents taking part in the quantitative study phase were provided with a small neighborhood map. Children were asked to shade the five blocks around their homes that they knew best and adults were asked to shade the five blocks around their homes they thought their children knew best. All respondents were then asked to refer to the area they shaded on the map as their neighborhood.

Chapter 4: Quantitative Results

This chapter presents findings from the quantitative study phase. The first section describes the research participants who completed surveys on their perceptions of their neighborhoods followed by a description of the major study variables. Prior to the description of the research findings for each health outcome, the interrelationships of the study variables will be presented.

Quantitative Sample Characteristics

A total of 126 children from the after-school programs in all three neighborhoods participated in the quantitative phase of the project. Slightly less than half of the children attended the program in the Concourse section of the Bronx (n=56, 44.4%) while 41 (32.5%) attended the program in Washington Heights in Manhattan. The remaining 29 (23.0%) children attended the Crotona Park East program in the Bronx. More than half of the participants were girls (n=76, 60.3%) and the children ranged in age from nine to 13 years with an average age of 11.8 (SD=1.2). At the end of the 2005-2006 school year, most of these children (n=80, 63.5%) had completed the sixth or seventh grade and a few respondents (n=5, 4.0%) reported having just completed fourth grade. All children were racial/ethnic minorities and more than half (n=74, 58.7%) identified as Hispanic/Latino. Table 7 lists additional characteristics for the child participants.

Table 7. Child Participants' Grade Levels and Race/Ethnicity.

Grade Level			***Race/Ethnicity***		
	Frequency	Percent		Frequency	Percent
4th grade	5	4.0%	African American	30	23.8%
5th grade	16	12.7%	Hispanic/Latino	74	58.7%
6th grade	39	31.0%	Mixed	15	11.9%
7th grade	41	32.5%	Other	7	5.6%
8th grade	25	19.8%			

One parent or primary care taker of each child who completed the child survey was also invited to participate and complete a similar questionnaire resulting in a total of 117 adult participants. I was not able to recruit the parents of nine children (two children in the Washington Heights program, three in the Concourse program, and four children in the Crotona Park East program). As did the children, most parents identified as Hispanic/Latino (n=70, 59.8%) and the vast majority were women (n=102, 87.2%). About half of the adults (n=60, 51.3%) reported being in the 30 to 39 year age range. A few of the adults (n=7, 6.0%) listed elementary or middle school as their highest level of education while two (1.7%) reported having received a graduate degree. Almost one-third of the parents (n=37, 31.6%) reported an annual household income of less than $15,000 while four adults (3.4%) indicated their income to be greater than $65,001. Tables 8 and 9 list additional characteristics of the adults who participated in the quantitative research phase. Note that percentages may not add to 100% in cases where parents skipped or refused to answer questions.

Table 8. Adult Participants' Age and Race/Ethnicity.

	Parent Age			***Race/Ethnicity***	
	Frequency	Percent		Frequency	Percent
20-29 years	6	5.1%	African-American	36	30.8%
30-39 years	60	51.3%	White/Caucasian	1	0.9%
40-49 years	34	29.1%	Hispanic/Latino	70	59.8%
50-59 years	11	9.4%	American Indian	1	0.9%
60+ years	2	1.7%	Mixed	4	3.4%

Table 9. Adult Participants' Highest Level of Education and Annual Household Income.

	Highest Level of Education			***Annual Household Income***	
	Frequency	Percent		Frequency	Percent
Elementary/ middle school	7	6.0%	Less than $15,000	37	31.6%
High school/ GED	68	58.1%	$15,001 to $25,000	34	29.1%
Associates degree	11	9.4%	$25,001 to $35,000	18	15.4%
College degree	18	15.4%	$35,001 to $45,000	12	10.3%
Graduate degree	2	1.7%	$45,001 to $55,000	2	1.7%
			$55,001 to $65,000	0	0.0%
			$65,001 and higher	4	3.4%

Scales and Descriptive Information

Aside from the 126 children and 117 parents who completed the neighborhood survey, quantitative data were also collected through neighborhood observations and from the U.S. Census Bureau. As previously noted, when the children completed their surveys, they also identified five blocks around their home they considered to be their neighborhoods. These blocks were then observed by two outside raters resulting in a total of 367 observed blocks. In the survey, the children also listed the streets on which they lived as well as the nearest cross-streets. Using this information, census data at the block group level of aggregation were collected from the U.S. Census Bureau website indicating that the respondents lived in a total of 68 census block groups.

Frequencies were first computed for each variable in the dataset to check for data entry mistakes and distributional problems. While there were some missing data in the child and parent surveys, the amount of missing data was minor. Five children (4.0%) accidentally skipped the question on their overall health but there were no other missing data in the child survey.

Nine of the 126 children (7.1%) did not have a parent complete the survey. This non-response was distributed across all three after-school programs and generally occurred when parents were in a hurry to leave the program when the adult survey was being administered. These parents nevertheless wanted their children to participate so they gave consent for their children despite the fact that they did not have the time to complete the survey. Of the 117 parents who completed the adult survey, some variables had complete data and others contained missing data. For the

summary variables containing missing data, the amount of missingness was minimal ranging from one (0.9%) to six (5.1%) cases. Missing values were therefore not imputed.

Since the four neighborhood constructs (physical and social disorder, safety, and quality) in the child survey were conceptually formulated, summary variables for each construct were computed by taking the mean for the items making up each scale. Negatively worded items were recoded so that all questions were scaled in the same direction. A higher score generally indicated a higher value of what the particular scale was measuring: a higher score on neighborhood quality indicated better quality, a higher score on social and physical disorder indicated more neighborhood disorder, and a higher value on neighborhood safety indicated greater safety. These summary variables were then correlated. As Table 10 demonstrates, the correlations between these constructs were moderate and significant for the children.

Table 10. Correlations among Neighborhood Constructs for Child Respondents (n=126).

	1	2	3	4
1. Neighborhood quality	1			
2. Neighborhood safety	.59**	1		
3. Neighborhood social disorder	-.24**	-.37**	1	
4. Neighborhood physical disorder	-.44**	-.51**	.66**	1

Note: ** p<.01.

Using SPSS Version 11.5, a factor analysis employing a promax rotation allowing for correlations among constructs was computed using these four variables. This resulted in a one-factor solution, explaining 60% of the variance. Although these results suggest an overall neighborhood quality factor, the theoretical background of this dissertation focuses on each of these aspects of the neighborhood and, as a consequence, the constructs were treated separately in subsequent analyses.

Following the computation of the summary scales of children's perceptions of neighborhood conditions, the same summary variables were calculated for the parents. Table 11 shows the correlations among the parents' perceptions of neighborhood conditions. As was true for the children's ratings, these variables were significantly correlated.

Table 11. Correlations among Parents' Perceptions of Neighborhood Conditions.

	1	2	3	4
1. Neighborhood quality	1			
2. Neighborhood safety	.67**	1		
3. Neighborhood social disorder	-.37**	-.50**	1	
4. Neighborhood physical disorder	-.36**	-.47**	.56**	1

Note: ** p<.01.

As Table 12 shows, reliability analyses for each of these four neighborhood constructs revealed high internal consistency reliability for both adult and child respondents.

Table 12. Reliability of the Neighborhood Constructs for Child and Adult Respondents.

	Child	*Parent*
Neighborhood quality	α=.84	α=.86
Neighborhood safety	α=.76	α=.80
Neighborhood social disorder	α=.83	α=.89
Neighborhood physical disorder	α=.75	α=.71

Next, summary variables for physical and social disorder were computed using observer ratings of the neighborhood. Since there were five neighborhood observations (five blocks) for each child respondent, these data were first aggregated for each child by taking the mean for each item. After recoding negatively worded questions, summary variables were computed for physical and social disorder by taking the mean of the items comprising each scale. These variables were scaled so that a higher score indicated more disorder. The correlation between physical and social disorder was significant but low in magnitude ($r = .23$, $p < .05$). Therefore both constructs were treated as separate in the analysis.

Internal consistency reliability was high for physical disorder ($\alpha = .87$), and moderate for social disorder ($\alpha = .57$). When the two items assessing social order using the presence of signs in the neighborhood indicating either ‘no loitering’ or ‘this building is under NYPD surveillance’ were eliminated, the internal consistency reliability of the scale increased to $\alpha = .65$. Since these two items had not been

previously used in neighborhood research and did not contribute adequately to the social disorder observation scale, they were eliminated in subsequent analyses.

Summary variables were also calculated for the census variables but these variables were first standardized using z-scores due to the differences in scaling. A factor analysis using promax rotation was then conducted on the standardized census variables. The variance was split for 'percentage of women as heads of household' so a new factor analysis without this variable was computed. This suggested a three-factor solution but since the variable 'percentage of residents unemployed' seemed to make up one factor entirely, it was removed and a new factor analysis without 'women as heads of household' and 'percent unemployed' was computed. This resulted in a two-factor solution, explaining 69.7% of the variance. One factor consisted of an SES indicator related to income and education and the other factor related to residential stability. Specifically, median income, residents with a high school degree or higher, residents with a BA degree or higher, percentage of individual residents below the poverty level, and percentage of families below the poverty level made up the SES indicator. Percentage of residents who were renters and the percentage of residents who moved to the neighborhood in the past year and the past five years made up the residential stability factor. The correlation between the factors was significant but the magnitude was low ($r = -.29$, $p < .01$) and both constructs were treated separately in the analysis. The internal consistency reliability for these factors was also moderate to high (residential stability $\alpha = .74$, SES $\alpha = .52$). The standardized variables measuring 'percentage of women as heads of household' and 'percentage unemployed' were treated as separate constructs in subsequent

analyses. Table 13 lists the means, standard deviations, and ranges for all neighborhood variables in the study.

Table 13. Means and Standard Deviations for Neighborhood Variables.

	N	Mean	Standard Deviation	Actual Range
Child-rated Neighborhood quality	126	3.48	0.65	1.86 to 4.93
Child-rated Neighborhood safety	126	3.09	0.76	1.0 to 4.97
Child-rated Social disorder	126	1.82	0.51	1.0 to 3.0
Child-rated Physical Disorder	126	2.66	0.72	1.13 to 4.50
Parent-rated Neighborhood quality	117	3.04	0.65	1.29 to 5.0
Parent-rated Neighborhood safety	116	2.72	0.74	1.0 to 4.83
Parent-rated Social disorder	117	2.23	0.53	1.0 to 3.0
Parent-rated Physical Disorder	117	2.86	0.65	1.0 to 4.25
Census: SES indicator	126	1.35	0.59	-.37 to 2.71
Census: Residential stability	126	0.26	0.81	-.85 to 3.70
Census: Unemployment	126	0	1	-2.06 to 3.38
Census: Single women heads of household	126	0	1	-1.99 to 2.53
Observation: Physical disorder	126	0.77	0.21	.29 to 1.44
Observation: Social disorder	126	0.28	0.12	.02 to .60

Note: The census variables ‘residential stability’ and ‘SES indicator’ were computed by averaging z-scores while ‘unemployment’ and ‘single women as heads of household’ were individual z-score variables.

Summary variables were also computed for the psychosocial indicators. Since previous research had tested these scales, summary variables for children's health were computed by averaging the items that make up children's quality of life, depression, and anxiety (assessed by children and parents). As was done with items on neighborhoods, negatively worded questions were recoded prior to computing a summary score. The mental health scales were summarized so that a higher score indicated a higher value on that scale. In particular, a higher score on quality of life indicated a better quality of life while a higher value on depression indicated more depression as was the case for anxiety. The internal consistency reliability for these scales was high for both child and adult respondents (see Table 14).

Table 14. Reliability of the Psychosocial Constructs for Child and Adult Respondents.

	Child	*Parent*
Quality of life	α=.88	α =.93
Depression	α =.71	α =.90
Anxiety	α =.86	α =.79

Lastly, summary variables were also created for parental reports of depression and their reports of parenting practices. Research on the CES-D scale measuring parents' depression generally recommends summing responses rather than averaging them (Radloff, 1977). So, after negatively worded questions were reverse coded, a summary score was computed so that a higher score indicated greater depression. A CES-D score larger than 16 is generally considered an indicator of clinical depression. A total of 33 parents (28.2%) had depression scores greater than this cut-off. These parents were contacted and referred to local mental health care facilities in

their communities.[6] Negatively worded questions were also recoded in the parenting practices scale and then averaged to arrive at a summary variable. A higher score in this scale indicated worse parenting skills. Both scales showed good internal consistency reliability (parents' depression α=.89, parenting practices α=.64). Table 15 lists the means, standard deviations, and ranges for the psychosocial study variables.

Table 15. Means and Standard Deviations for Psychosocial Variables.

	N	Mean	Standard Deviation	Actual Range
Child-rated quality of life	126	3.03	0.67	1.25 to 4.0
Child-rated depression	126	0.58	0.24	.04 to 1.12
Child-rated anxiety	126	1.54	0.71	1.0 to 5.0
Child-rated physical health	121	4.08	0.98	2.0 to 5.0
Parent-rated child quality of life	117	3.15	0.7	1.0 to 4.0
Parent-rated child depression	115	0.21	0.34	0 to 1.45
Parent-rated child anxiety	115	0.27	0.41	0 to 2.0
Parent-rated child physical health	115	4.18	0.75	3.0 to 5.0
Parent-rated parent depression	112	12.97	10.52	0 to 41.0
Parent-rated parenting practices	111	1.81	0.48	1.0 to 2.86

Descriptive information was then obtained for all summary variables, specifically with regard to the scales' distributional properties. These results suggested that child-rated anxiety (kurtosis = 5.46, skewness = 2.16), and parents' reports of child depression (kurtosis = 3.84, skewness = 2.10) and anxiety (kurtosis = 3.32, skewness = 1.85) were kurtotic. A square root transformation normalized these

[6] Three children also reported increased anxiety levels compared to their peers. The children's parents were notified in these instances along with a social worker at the appropriate after-school program so that immediate follow-up care was provided.

distributions and these transformed variables were used when these mental health scales served as the outcome variables in subsequent analyses. Summary variables were mean centered if they functioned as explanatory variables to ease interpretation.

After computing these summary variables, statistical analyses using SAS Version 9.1.3 were employed to evaluate the proposed hypotheses and research questions. Since the research questions and hypotheses concerned predictions of children's mental and physical health, study results are organized by these outcomes following a discussion of the interrelationship of the survey data.

Overlap between Children's and Parents' Neighborhood Perceptions

The initial analysis examined the second research question regarding the relationship between parents' and children's perceptions of neighborhood conditions, i.e. neighborhood physical and social disorder, quality, and safety. It was originally assumed that children's and parents' perceptions of neighborhood conditions (physical and social disorder, quality, safety) would have a moderate to strong relationship ($r = .40$ to $r = .59$).

To explore this hypothesis, perceived neighborhood conditions based on child and adult reports were correlated. As Table 16 indicates, all of the correlations were significant but their numeric values were lower than expected. Although the attenuation was partly due to measurement error, it is more likely that these low correlations were due to a possible disconnect in what children and parents defined as their neighborhood space. While parents were instructed to rate the neighborhood in terms of the area they thought their children knew best, it is possible that the parents'

definition of the neighborhood space did not match their children's definition. Hypothesis 2 was partially supported.

Table 16. Correlations between Child and Parent Perceptions of Neighborhood Conditions (n=117).

	r
Neighborhood quality	.26**
Neighborhood safety	.33**
Neighborhood social disorder	.30**
Neighborhood physical disorder	.29**

Note: **p<.01.

Children's Perceptions of Neighborhood Conditions

Since Table 10 suggested that children's perceptions of neighborhood conditions were significantly correlated with each other, the interrelationships of these variables were then examined. In these analyses, it was assumed that children's ratings of neighborhood social and physical disorder would explain neighborhood safety, which in turn was thought to relate to the children's subjective evaluation of neighborhood quality.

Preliminary Data Considerations

Since many of the 126 child participants lived in the same neighborhoods, specifically the same census block groups, I first assessed whether those children who lived close to on another were similar to each other on each outcome thus violating the independence of observation assumption.

For these analyses, a "cluster" variable was created consisting of 68 levels (because the children resided in a total of 68 census block groups), that identified children who lived in the same census block group. I then determined whether

clustering at the census block group level took place for each outcome so that a mixed linear model could adjust for the nesting in subsequent analyses. As Tabachnik and Fidell (2007) suggest, I examined the -2 log likelihood estimates in intercept only models in which I controlled for clustering (random model) and in models in which I did not control for clustering (non-random model). I then examined the statistical difference in the log likelihoods using a chi-square difference tests for nested models. If this difference was significant, it was an indication that the observations were not independent and that clustering occurred in that particular outcome. In these instances, a mixed linear model would need to be employed to adjust for the clustering in that outcome. On the other hand, if the difference between the -2 log likelihoods in the random and non-random models was not statistically significant, it was an indication that clustering did not take place (observations are independent) and ordinary least square regression analyses could be calculated for these outcomes.

First, child-rated neighborhood safety was examined in terms of observational independence. The -2 log likelihood in the random model was 283.4 and 286.8 in the non-random model. The chi square difference of 3.4 with one degree of freedom was marginally significant ($p = .065196$), suggesting that the observations were not independent. Therefore, a mixed linear model was used to predict child-rated neighborhood safety.

Next, I examined whether the observations were independent for children's ratings of neighborhood quality. The -2 log likelihood for the random model was 248.6 and 248.9 in the not random model. The chi square difference of 0.3 with one degree of freedom was not significant ($p = .58$), suggesting that clustering did not

take place on this outcome. Subsequently, ordinary regression analyses were computed to predict child-rated neighborhood quality.

Originally, child-rated neighborhood social and physical disorder were to be separate predictors in a single model but the high correlation between children's perceptions of neighborhood social and physical disorder ($r = .66$, $p < .01$, see Table 10) created problems in models in which both variables were used together as predictors. Specifically, the high correlation caused one disorder variable to be statistically non-significant if it was treated as a predictor along with the other disorder variable despite the fact that each was significantly related to a particular outcome. Therefore, separate models for both disorder variables were computed to examine the interrelationship between child-rated social and physical disorder, neighborhood safety, and quality.

Interrelationship of Child-rated Physical Disorder, Neighborhood Safety, and Neighborhood Quality

The analyses examining the interrelationship of children's ratings of physical disorder, neighborhood safety, and quality revealed that children's perceptions were related to each other in a pathway. Specifically, child-rated physical disorder was a significant predictor of child-rated neighborhood safety in the mixed model with a negative parameter ($t(57) = -7.04$, $p < .0001$) suggesting that greater child-rated physical disorder was linked to lower child-rated neighborhood safety. The within child error variance in the intercept only model predicting child-rated neighborhood safety was .3932 but when child-rated physical disorder was added as an explanatory

variable, the error variance dropped to .2703. In other words, adding child-rated physical disorder as an explanatory variable reduced the error by 31.3%.

The next model revealed that child-rated neighborhood safety positively (.51032) predicted child-rated neighborhood quality ($F(1, 124) = 67.32$, $p<.001$, $R^2 = .3519$), suggesting that greater child-rated safety was linked to better child-rated neighborhood quality.

Mediation

The pathways linking child-rated physical disorder to child-rated neighborhood safety and child-rated neighborhood safety to child-rated neighborhood quality were then examined in terms of mediation as discussed by Baron and Kenny (1986). First, a model was computed to examine whether the variable to be mediated predicted the outcome. This model suggested that child-rated physical disorder negatively predicted child-rated neighborhood quality ($F(1, 124) = 29.08$, $p<.001$, $R^2 = .1900$). Specifically, the negative parameter estimate (-.39731) suggested that greater physical disorder was linked to reduced neighborhood quality.

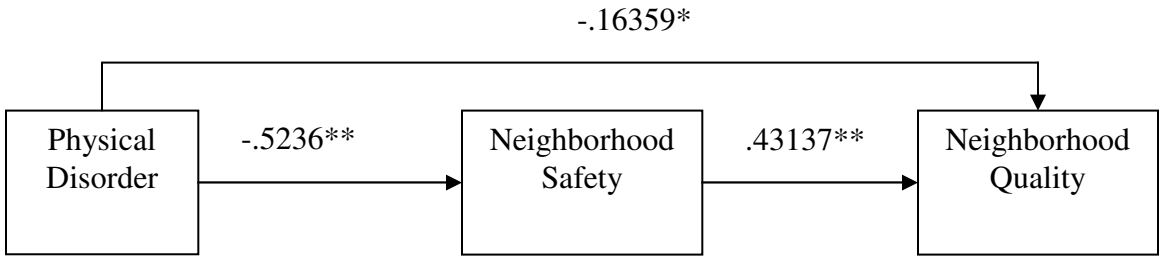
Second, a mixed linear model explored whether the variable to be mediated predicted the mediator. This model was already examined previously and showed that child-rated physical disorder negatively predicted child-rated neighborhood safety or that greater physical disorder was linked to lower neighborhood safety.

Lastly, an ordinary least square regression analysis was computed to examine whether the mediator and the variable to be mediated predicted the outcome. This overall model was significant ($F(2, 123) = 37.00$, $p < .001$, $R^2 = .3757$). Particularly, the negative parameter estimate (-.16359) showed that child-rated physical disorder

negatively predicted child-rated neighborhood quality so that greater physical disorder was linked to lower neighborhood quality ($F(1,123) = 4.69$, $p = .0323$). Furthermore, this model showed that child-rated neighborhood safety positively (.43137) predicted child-rated neighborhood quality so that more child-rated safety was linked to more neighborhood quality ($F(1, 123) = 36.56$, $p < .0001$).

Model 2 illustrates the mediational relationship for children's perceptions of physical disorder, neighborhood safety, and quality. The fact that the direct path from physical disorder to neighborhood quality continued to be significant indicates that factors other than safety might account for the link between physical disorder and neighborhood quality.

Model 2: Children's Perceptions of Physical Disorder, Neighborhood Safety, and Quality.



Note: *p<.05, **p<.01.

Outlier analyses were conducted for all of these models. As there are no absolute indicators of influential data points, the following diagnostic criteria were examined for potential outliers: the diagonal hat matrix, standardized internal and external residuals, the difference between internal and external residuals, the covariance ratio, and DFITS (see also Tabachnik & Fidell, 2007). This diagnostic analysis showed that there were no influential data points in any of these models and

therefore suggested that child-rated neighborhood safety was a partial mediator in the relationship between child-rated physical disorder and child-rated neighborhood quality.

Interrelationship of Child-rated Social Disorder, Neighborhood Safety, and Neighborhood Quality

In a model that included child-rated social disorder instead of child-rated physical disorder, a similar relationship emerged among the child-rated neighborhood variables. Specifically, child-rated social disorder significantly predicted child-rated neighborhood safety ($t(57) = -4.80$, $p < .0001$), showing that greater social disorder was linked to reduced safety. Interestingly, adding child-rated social disorder increased the within child error variance in the mixed linear model from .3932 to .4913 and a closer examination of this analysis suggested that the clustering in neighborhood safety disappeared when child-rated social disorder was added as an explanatory variable. Therefore, an ordinary least square regression analysis was calculated to predict child-rated neighborhood safety from child-rated social disorder. This model was significant ($F(1, 124) = 19.98$, $p < .0001$, $R^2 = .1387$). Child-rated social disorder was a negative predictor (-.55257), indicating that greater disorder was associated with decreased neighborhood safety. Previous analyses already demonstrated that child-rated neighborhood safety was linked to child-rated neighborhood quality.

Mediation

With child-rated social disorder, mediation was tested using the same Baron and Kenny (1986) criteria discussed previously. First, a model was computed to predict child-rated neighborhood quality from child-rated social disorder ($F(1, 124) = 7.37$, $p = .0076$, $R^2 = .0561$). This model revealed that child-rated social disorder was negatively (-.30232) related to child-rated neighborhood quality. Greater social disorder was associated with lower neighborhood quality. The second step of the mediation analysis, namely that child-rated social disorder predicted child-rated neighborhood safety was already examined and showed a significant, negative relationship. Finally, an ordinary least square regression model was computed in which child-rated neighborhood quality was predicted from child-rated social disorder and child-rated neighborhood safety ($F(1, 124) = 67.32$, $p < .0001$, $R^2 = .3519$). This model suggested that child-rated social disorder was no longer a significant predictor and that child-rated neighborhood safety positively (.51032) predicted child-rated neighborhood quality; safer neighborhoods were associated with better neighborhood quality (see Model 3). This model indicates that the effect of social disorder on neighborhood quality was completely explained by safety.

Model 3: Children's Perceptions of Social Disorder, Neighborhood Safety, and Quality.

Note: *p<.05, **p<.01.

In summary, the model using child-rated social disorder resulted in full mediation so that child-rated neighborhood safety fully mediated the relationship between child-rated social disorder and child-rated neighborhood quality. As was the case in the model with child-rated physical disorder, outlier analyses were conducted for these models. These analyses suggested that none of the cases were outliers or influential data points.

Interrelationship of Child-rated Neighborhood Disorder, Neighborhood Safety, and Neighborhood Quality

Due to the multicollinearity between children's ratings of physical and social disorder and the subsequent problem of treating both disorder variables as predictors in a single model, a new variable was computed which combined both scales into a standardized overall neighborhood disorder variable rated at the child level. The relationship between this standardized neighborhood disorder variable and child-rated neighborhood safety and quality was then examined.

A mixed linear model first examined the relationship between child-rated neighborhood disorder and child-rated neighborhood safety, and although the model was significant ($t(57) = -6.24$, $p < .0001$) showing that neighborhood disorder was linked with lower safety, the within child error variance increased from .3932 to .4365. As was the case with children's reports of social disorder, a closer inspection revealed that the child-rated disorder variable not only worsened the model but also caused the clustering in the neighborhood safety variable to disappear. Therefore, an ordinary least square regression analysis was computed to predict child-rated neighborhood safety from child-rated neighborhood disorder. This model was

significant ($F(1, 124) = 38.06$, $p < .0001$, $R^2 = .2348$). Neighborhood disorder was a negative predictor (-.20149) indicating that greater disorder was associated with decreased safety. Previous models already revealed that child-rated neighborhood safety was related to child-rated neighborhood quality.

Mediation

Child-rated neighborhood disorder significantly predicted the outcome, child-rated neighborhood quality ($F(1, 124) = 19.53$, $p < .0001$, $R^2 = .1361$). Specifically, this model suggested that child-rated neighborhood disorder was negatively (-.13194) related to child-rated neighborhood quality; greater neighborhood disorder was associated with lower neighborhood quality. The model examining whether the variable to be mediated predicted the mediator was already tested and indicated that child-rated neighborhood disorder negatively predicted child-rated safety. In the final model, child-rated neighborhood quality was predicted from child-rated disorder and child-rated neighborhood safety ($F(1, 124) = 67.32$, $p < .0001$, $R^2 = .3519$). This model revealed that only child-rated neighborhood safety was positively (.51032) related to neighborhood quality or that more safety was linked to better neighborhood quality (see Model 4).

Model 4: Children's Perceptions of Neighborhood Disorder, Safety, and Quality.

Note: *p<.05, **p<.01.

This mediation analysis therefore suggested that child-rated neighborhood safety fully mediated the relationship between child-rated neighborhood disorder and child-rated neighborhood quality. Outlier analyses in these models did not reveal any influential data points.

Parents' Perceptions of Neighborhood Conditions

Similar to the children's perceptions, the interrelationships among the parents' views of neighborhood conditions were also examined since Table 11 showed these assessments to be significantly related. As was the case with the children's perceptions of neighborhood conditions, parents' ratings of neighborhood social and physical disorder were thought to relate to neighborhood safety, which in turn was assumed to explain neighborhood quality.

Preliminary Data Considerations

As was done with the child level neighborhood data, I first examined whether clustering at the census block group level took place in the parent ratings of neighborhood safety. The -2 log likelihood in the random model was 259.4 as was the case in the non-random model. The absence of a difference between these models suggested that the observations were independent. Therefore, ordinary least square regression analyses were computed to predict parent ratings of neighborhood safety. Next, I examined whether clustering took place in parent ratings of neighborhood quality. The -2 log likelihood in the random model was 229.2 and 231.0 in the non-random model. The chi square difference of 1.8 with one degree of freedom was not significant, $p = .17$, suggesting that clustering did not take place in this outcome.

Ordinary least square regressions were therefore calculated for models predicting parent ratings of neighborhood quality.

As was the case with the children's neighborhood perceptions, parents' ratings of physical and social disorder were correlated with each other ($r = .56$, $p < .01$). However, unlike the children's data, parents' ratings of social and physical disorder made unique contributions to parents' ratings of neighborhood safety whereas the children's perceptions of these variables worked as a unit. In other words, there were no problems treating parent-rated social and physical disorder together in one model as explanatory variables.

Interrelationship of Parent-rated Physical Disorder, Social Disorder, Neighborhood Safety, and Neighborhood Quality

The analyses examining the interrelationships among parents' perceptions of neighborhood conditions showed results similar to those of the children. As in the children's model, I assessed whether parental ratings of physical and social disorder predicted parental rating of neighborhood safety. This model was significant ($F(2, 113) = 22.79$, $p < .0001$, $R^2 = .2874$), suggesting that parents' ratings of social disorder negatively (-.48715) predicted parents' ratings of neighborhood safety or that greater social disorder was associated with less safety ($F(1,113) = 11.27$, $p = .0011$). Furthermore, parental ratings of physical disorder were negatively (-.29814) related to parents' reports of neighborhood safety so that greater physical disorder was associated with less safety ($F(1, 113) = 6.19$, $p = .0143$).

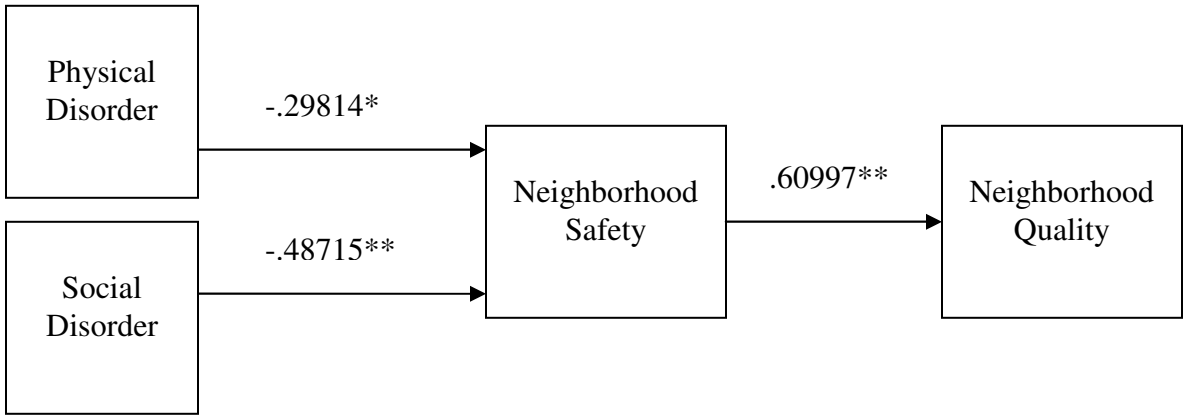
The next model examined whether parental ratings of neighborhood safety predicted parental assessments of neighborhood quality. This model was also

significant ($F(1, 114) = 108.83$, $p < .0001$, $R^2 = .4884$) and suggested that parental ratings of neighborhood safety positively (.60997) predicted parents' ratings of neighborhood quality; greater safety was linked to higher neighborhood quality.

Mediation

Mediation was then tested for parents' perceptions of neighborhood conditions using Baron and Kenny's (1986) criteria. In the first model I examined whether parental ratings of social and physical disorder predicted parents' assessments of neighborhood quality. This model was significant ($F(2, 114) = 11.95$, $p < .0001$, $R^2 = .1733$). Parental ratings of social disorder negatively (-.30231) related to parent-rated neighborhood quality; greater social disorder was associated with reduced neighborhood quality ($F(1, 114) = 5.57$, $p = .0199$). Further, parental ratings of physical disorder were found to negatively (-.22962) predict parent-rated neighborhood quality; greater physical disorder was associated with lower neighborhood quality ($F(1, 114) = 4.98$, $p = .0275$). The second model exploring whether the variable to be mediated predicted the mediator found, as specified above, that both parental ratings of social and physical disorder negatively predicted parents' assessments of neighborhood safety. The final mediation test explored whether the mediator and the variables to be mediated predicted the outcome. This model was also significant ($F(1, 114) = 108.83$, $p < .0001$, $R^2 = .4884$) and showed that only parental ratings of neighborhood safety positively (.60997) predicted parents' ratings of neighborhood quality; greater safety was associated with better neighborhood quality. In this model, neither parent-rated social nor physical disorder were significant predictors of neighborhood quality (see Model 5).

Model 5: Parents' Perceptions of Neighborhood Conditions.



Note: *p<.05, **p<.01.

Outlier diagnostics were also run and indicated that there were no influential data points in any of these models suggesting that parents' ratings of neighborhood safety fully mediated the relationship between parental assessments of physical and social disorder and neighborhood quality. Since parent-rated social and physical disorder did not cause problems in models in which they served together as explanatory variables, it was not necessary to combine these variables (as was done with the children's data) into an overall neighborhood disorder indicator.

Overlap between Subjective Perceptions of Neighborhood Conditions and Objective Data

Census Data and Subjective Ratings of Neighborhoods

After establishing the relationship among the subjective ratings of neighborhood conditions, the next set of analyses was concerned with the third research question: How do objective indicators of neighborhood conditions (census data and outside raters' observations) relate to parents' and children's subjective perceptions of neighborhood physical and social disorder, quality, and safety? As outlined in Hypothesis 3a, it was originally assumed that the relationship between children's and parents' subjective perceptions and the census data would be small ($r = .10$).

To assess this hypothesis, parental and child ratings of neighborhood conditions were correlated with the four summary variables from the census report. As Table 17 indicates, only one correlation was statistically significant. The magnitudes of all correlations were very small indicating very little association between the census report and children's and parents' perceptions of the neighborhood. Hypothesis 3a was therefore supported.

Table 17. Correlations between Census Data and Child and Parent Perceptions of Neighborhood Conditions.

	Residential Stability	SES Indicator	Unemployed	Single Women Heads of Household
Child-rated Neighborhood quality	-.01	-.02	-.06	-.13
Child-rated Neighborhood safety	.18*	-.13	.04	.00
Child-rated Neighborhood social disorder	-.14	-.02	-.06	.00
Child-rated Neighborhood physical disorder	-.09	-.01	-.05	.02
Parent-rated Neighborhood quality	-.06	-.02	-.04	.01
Parent-rated Neighborhood safety	-.09	.00	-.03	.03
Parent-rated Neighborhood social disorder	.-14	.09	.12	.03
Parent-rated Neighborhood physical disorder	.10	.08	.17	.09

Note: *p<.05, correlations with child perceptions are based on n=126, correlations with parent perceptions are based on n=117.

Neighborhood Observations and Subjective Ratings of Neighborhoods

After establishing the relationship between the subjective evaluations of the neighborhood and the census data, the next analysis examined Hypothesis 3b which presumed that the relationship between outside raters' perceptions of neighborhood conditions and children's and parents' subjective perceptions would be small (r = .10). Specifically, the two summary variables for the observational data were correlated with children's and parents' perceptions of neighborhood conditions. As Table 18 illustrates, the correlations between these assessments were very low and not significant, indicating almost no overlap between observers' perceptions of

neighborhood conditions and child and adult residents. Hypothesis 3b was therefore supported.

Table 18. Correlations between Observations and Children's and Parents' Perceptions of Neighborhood Conditions.

	Observations: Physical Disorder	Observations: Social Disorder
Child-rated neighborhood quality	.03	.10
Child-rated neighborhood safety	-.04	.05
Child-rated social disorder	-.07	-.12
Child-rated physical disorder	-.09	-.08
Parent-rated neighborhood quality	.08	.12
Parent-rated neighborhood safety	.02	.09
Parent-rated social disorder	-.11	.00
Parent-rated physical disorder	-.10	.11

Note: correlations with child perceptions are based on n=126, correlations with parent perceptions are based on n=117.

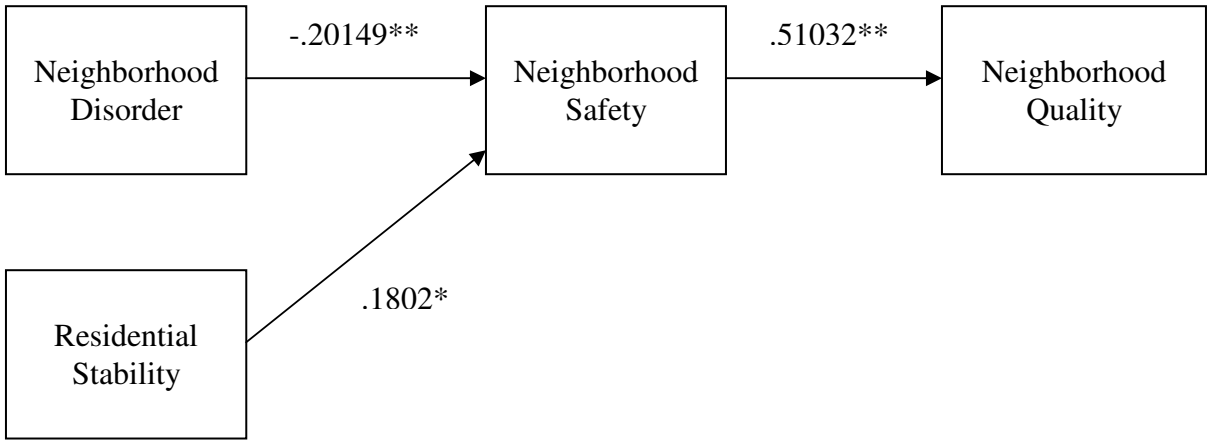
After examining the overlap between the census data sources and children's and parents' subjective evaluations of neighborhood conditions, Model 4 which depicted the interrelationship of children's perceptions of neighborhood conditions, was extended to include the significant association found between children's perceptions of neighborhood safety and residential stability as indicated by the U.S. census ($r = .18$, $p < .05$, see Table 17).

Specifically, a mixed linear model found that residential stability was a positive predictor of child-rated neighborhood safety ($t(58) = 2.21$, $p = .0312$) indicating that greater residential stability was linked to greater child-rated neighborhood safety. However, the effect was very weak, in fact increasing the within child error variance in neighborhood safety from .3932 to .3940. Interestingly, the model linking residential stability to child-rated neighborhood quality was not

significant, so child-rated neighborhood safety did not mediate the relationship between residential stability and child-rated neighborhood quality.

Since Tables 17 and 18 revealed no other significant correlations between subjective perceptions of neighborhood conditions and census data or outside raters' observations, no other pathways were added to this model. Model 6 illustrates the expanded model.

Model 6. Children's Perceptions of Neighborhood Conditions and Objective Indicators.



Note: *p<.05, **p<.01.

Mental Health

Background

After establishing the interrelationship of the study variables, the next set of analyses explored the relationship between objective and subjective measurements of neighborhood conditions and their relationship to children's mental health. Since both children and parents rated children's mental health, the relationship between both reports was first explored. Surprisingly, none of the correlations between children's perceptions of their mental health and parents' assessment of their children's well-being was significant for any of the three constructs (see Table 19).

Table 19. Correlations between Children's Reports of Their Mental Health and Parents' Perceptions of Their Children's Mental Health.

	Correlation between Child and Parent Report
Quality of life	.18
Depression	.02
Anxiety	.06

The absence of significant correlations implied that parents' assessments of their children's mental health had very little (almost no) overlap with how children actually viewed and rated their own mental well-being with the possible exception of quality of life. This is indeed surprising given the fact that much of the traditional neighborhood research literature typically relies on parental proxy reports to measure children's mental health. However, since children's voices and perceptions were the focus of this dissertation and due to the lack of significant overlap between children's and parents' assessments of children's mental health, subsequent analyses predicting children's mental health focus on the children's reports rather than on that of their

parents. Consequently, the present analyses did not examine the relationship between parental ratings of neighborhood perceptions and parental ratings of child health as is done in the traditional literature.

Preliminary Data Considerations

Prior to investigating the effects of neighborhoods on children's ratings of their own mental health, these health outcomes were examined in terms of observational independence. The difference between the -2 log likelihood in the random and non-random models was not significant for the children's ratings of their mental health with one degree of freedom (quality of life difference $x^2 = 0.3$; depression difference $x^2 = 0.1$; anxiety difference $x^2 = 0$). Therefore, ordinary least square regression models using backward selection were used to predict these outcomes.

Whose Rating of Neighborhood Conditions Relates Best to Children's Mental Health?

Hypothesis 4a which assumed that children's subjective perceptions of neighborhood safety and disorder were strongly related to children's mental well-being was examined first. Shown earlier, the high correlation between child-rated physical and social disorder caused problems in models in which both variables were included as predictors. Therefore, subsequent analyses using children's neighborhood perceptions employed the combined neighborhood disorder variable when assessing each mental health outcome.

Table 20 reveals that children's neighborhood perceptions related to their reports of their own mental health but not to their parents' reports of children's

mental health. Specifically, child ratings of neighborhood disorder were positively related to child ratings of depression and anxiety and had a negative relationship to child-rated quality of life. Child-rated neighborhood safety was significantly related to child-rated quality of life only so that children rated their quality of life higher in neighborhoods in which they felt safer.

Table 20. Correlations between Children's Perceptions of Neighborhood Conditions and Children's Mental Health.

	Child-rated neighborhood quality	Child-rated neighborhood safety	Child-rated neighborhood disorder
Child-rated quality of life	.31**	.19*	-.30**
Child-rated depression	-.26**	-.16	.36**
Child-rated anxiety	-.16	-.06	.27**
Parent-rated child quality of life	.05	.02	.00
Parent-rated child depression	.06	.11	-.06
Parent-rated child anxiety	.03	.04	-.04

Note: *p<.05; **p<.01.

The first analysis examined child-rated quality of life as a function of child-rated neighborhood disorder and child-rated safety. The overall model was significant ($F(1, 124) = 11.91$, $p = .0008$, $R^2 = .0876$), suggesting that the combined neighborhood disorder variable negatively (-.10800) predicted child-rated quality of life. Greater disorder was linked to a lower quality of life. Child-rated neighborhood safety was not a significant predictor of child-rated neighborhood quality.

In the second analysis, child-rated neighborhood disorder and child-rated safety predicted child-rated depression. This model was significant ($F(1, 124) = 18.61$, $p < .0001$, $R^2 = .1305$), showing that child-rated neighborhood disorder was a positive (.04785) predictor of child-rated depression. Greater disorder was linked to more depression. As was the case for child-rated quality of life, child-rated neighborhood safety did not predict child-rated depression.

The last model employed in this hypothesis examined whether child-rated neighborhood disorder and child-rated safety predicted child-rated anxiety. The overall model was also significant ($F(1, 124) = 9.54$, $p = .0025$, $R^2 = .0715$), suggesting that child-rated neighborhood disorder was a positive (.03645) predictor of child-rated anxiety. Greater disorder was linked to more anxiety. Similar to the previous models, child-rated neighborhood safety did not predict child-rated anxiety.

Outlier analyses were conducted for all models and there were no influential data points. Overall, the analyses examining the relationship between child-rated neighborhood disorder, child-rated safety, and child ratings of their mental health found that child-rated neighborhood safety was not a significant predictor due to the interrelationship of the children's perceptions of neighborhood conditions as demonstrated in the previous section. Hypothesis 4a was partially supported.

After assessing the relationship between children's ratings of neighborhood disorder, safety, and their mental health, the next set of analyses was concerned with an examination of whose rating of neighborhood conditions related best to children's mental health. Hypothesis 5a specified that children's subjective perceptions of neighborhood conditions would be the strongest predictors of children's mental health

followed by parental perceptions of neighborhood conditions. Outside raters' perceptions were thought to have a smaller relationship to children's mental health and the census data were assumed to be the weakest predictor of children's mental health.

Table 20 showed that children's perceptions of their neighborhoods were statistically related to their assessments of their mental health and Table 21 examines the association between parents' neighborhood assessments, census data, neighborhood observations, and children's health. With regard to the children's mental health, neither parents' perceptions of neighborhood conditions, census data, nor neighborhood observations were significantly associated with children's ratings of their quality of life, depression, or anxiety.

Table 21. Correlations between Parents' Neighborhood Assessments, Census Data, Observations, and Children's Health.

	Child-rated Quality of Life	Child-rated Depression	Child-rated Anxiety	Child-rated Physical Health
Parent-rated neighborhood quality	.09	-.06	-.09	.04
Parent-rated neighborhood safety	.06	-.07	.00	.17
Parent-rated social disorder	-.06	.00	.05	-.14
Parent-rated physical disorder	-.16	.14	-.03	-.11
SES indicator	.05	.03	-.13	.15
Residential stability	.08	-.08	-.03	-.11
Single women as heads of household	.06	-.02	-.08	-.05
Unemployment	-.10	-.05	.04	-.05
Observed physical disorder	-.01	.04	.10	.18*
Observed social disorder	-.07	-.05	.12	.05

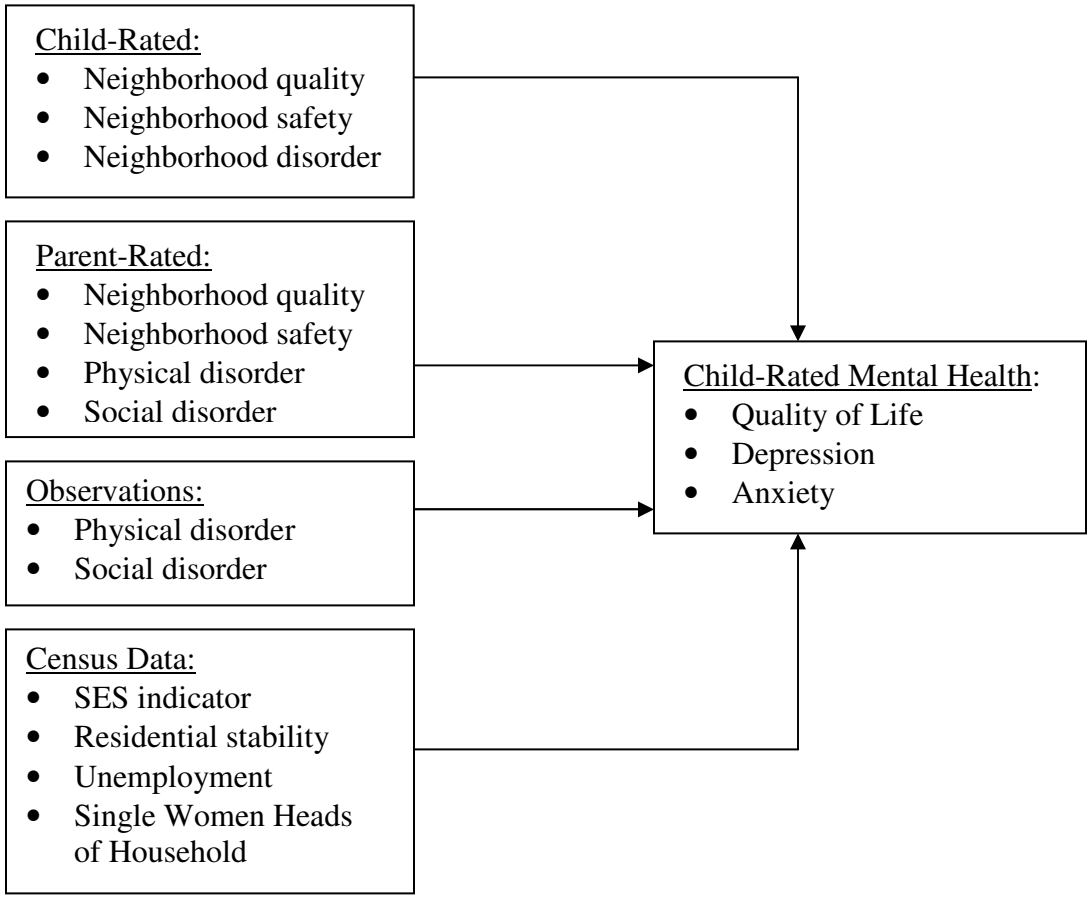
Note: *p<.05.

Although the correlations in Tables 20 and 21 suggested that only the children's ratings of neighborhood conditions were associated with their own ratings of their mental health, bivariate correlations can be misleading. Therefore, in order to examine whose ratings of neighborhood conditions related best to children's mental health, ordinary least square regression models using backward selection were computed to predict each mental health outcome. Due to the interrelationships of the neighborhood variables, separate regression models were computed for each source

of rating (child, parent, observation, and census) as predictors of child-rated mental health. Following these separate analyses, a final model combined the significant predictors from the four sources of neighborhood data in explaining each child-rated mental health outcome.

The following analyses therefore built on those previously reported for children's neighborhood perceptions but also added child-rated neighborhood quality as a new predictor of child-rated mental health in the analysis linking children's perceptions of neighborhood conditions to their mental health. Similar to the previous models, the combined child-rated neighborhood disorder variable was employed in models examining the contributions of children's neighborhood perceptions. However, as shown in the previous section exploring the interrelationships of parental neighborhood perceptions, parents' ratings of social and physical disorder did not create problems associated with multicollinearity if both disorder variables served together as predictor variables. Therefore, the models examining the relationship between parents' neighborhood assessments and child-rated mental health included both parents' ratings of social and physical disorder as separate explanatory variables. Model 7 shows the explanatory variables for each source of neighborhood rating predicting children's ratings of their mental health. The next analyses are organized by mental health outcome.

Model 7. Explanatory Variables for Each Source of Neighborhood Rating Predicting Children's Mental Health.



Quality of Life

The first model employed children's assessments of neighborhood disorder, quality, and safety as predictors of child-rated quality of life. The overall model was significant ($F(2, 123) = 9.56$, $p = .0001$, $R^2 = .1357$). Specifically, child-rated neighborhood quality was a positive predictor (.24042) indicating that higher quality neighborhoods were linked to a greater quality of life ($F(1, 123) = 6.83$, $p = .0101$).

Child-rated neighborhood disorder was a negative predictor in this model (-.07628). Greater neighborhood disorder was linked to lower child-rated quality of life ($F(1, 123) = 5.38$, $p = .0221$).

In the next model, parents' perceptions of neighborhood quality, safety, social disorder, and physical disorder predicted child-rated quality of life. The overall model was significant ($F(1, 114) = 3.63$, $p = .0593$, $R^2 = .0308$), showing that only parent-rated physical disorder negatively (-.18461) predicted child-rated quality of life. Greater physical disorder was linked to a lower quality of life. It is interesting to note that parental assessments of physical disorder predicted child-rated quality of life in this equation because Table 21 suggested that the correlation between these variables was not significant (r=.16). It therefore appears that this relationship became significant only in the context of other parental assessments of the neighborhood.

The remaining two models predicting child-rated quality of life from the census data and the neighborhood observations did not yield statistically significant results. There were no outliers in any of these models.

Since the separate models revealed that child-rated neighborhood quality, child-rated neighborhood disorder, and parent-rated physical disorder predicted children's ratings of quality of life, the final model predicting child-rated quality of life employed these significant predictors in one model. This overall model was significant ($F(1, 115) = 18.83$, $p < .0001$, $R^2 = .1407$), indicating that higher child-rated neighborhood quality was linked to better child-rated quality of life (.38210). Parents' reports of physical disorder and children's assessment of neighborhood disorder were no longer significant predictors of child-rated quality of life.

A refined investigation into the previous model revealed that parents' assessment of physical disorder significantly predicted child-rated neighborhood quality ($F(1, 115) = 9.21$, $p < .01$, $R^2 = .0741$), showing that greater parent-rated disorder was linked to lower child-rated neighborhood quality (-.27106). Since parent-rated physical disorder only predicted child-rated quality of life as an independent predictor and not in a model containing child-rated neighborhood quality, child-rated neighborhood quality mediated the relationship between parent-rated physical disorder and child-rated quality of life.

Depression

The next set of analyses focused on child-rated depression as the outcome. First, children's ratings of neighborhood disorder, safety, and quality were the explanatory variables. The overall model was significant ($F(1, 124) = 18.61$, $p < .0001$, $R^2 = .1305$), showing that greater child-rated neighborhood disorder (.04785) was linked to greater child-rated depression.

The separate model using parents' perceptions of neighborhood quality, safety, social disorder, and physical disorder as explanatory variables suggested that parent-rated physical disorder was the only predictor. Greater parent-rated physical disorder (.06471) was linked to more child-rated depression ($F(1, 114) = 3.26$, $p = .0737$, $R^2 = .0278$). As was the case with child-rated quality of life, the correlation between parental assessments of physical disorder and child-rated depression was not statistically significant (r=.14, see Table 21). This relationship became significant only in the context of other parental assessments of the neighborhood.

The models linking the census data and neighborhood observations to child-rated depression were not statistically significant. There were also no outliers in these analyses.

The separate models indicated that child-rated neighborhood disorder and parent-rated physical disorder predicted child-rated depression. Therefore, the final model regressed child-rated depression on child-rated neighborhood disorder and parent-rated physical disorder. This model was significant ($F(1, 115) = 16.79$, $p < .0001$, $R^2 = .1274$), revealing that only child-rated neighborhood disorder was a positive predictor (.04791). Specifically, greater neighborhood disorder was linked to greater ratings of depression. As was the case with child-rated quality of life, parental ratings of physical disorder disappeared as a significant predictor of child-rated depression.

Similar to the analysis on child-rated quality of life, a refined investigation revealed that parents' assessment of physical disorder significantly predicted child-rated neighborhood disorder ($F(1, 115) = 10.60$, $p < .01$, $R^2 = .0844$), showing that greater parent-rated physical disorder was linked to greater child-rated neighborhood disorder (.81173). Since previous models found that parent-rated physical disorder predicted child-rated depression independently but not in a model containing child-rated neighborhood disorder, child-rated neighborhood disorder fully mediated the relationship between parent-rated physical disorder and child-rated depression.

Anxiety

The last set of analyses was concerned with predicting child-rated anxiety. In the first model, children's reports of neighborhood disorder, safety, and quality were used as predictors of anxiety. The overall model was significant ($F(1, 124) = 9.54$, $p = .0025$, $R^2 = .0715$), revealing that child-rated neighborhood disorder was linked to more child-rated anxiety (.03645).

The separate models linking parents' perceptions of neighborhood conditions, census data, and observations to child-rated anxiety did not yield any significant results. As was the case in the other models, there were no influential data points in any of these analyses.

These analyses suggest that children's ratings of neighborhood conditions, specifically child-rated neighborhood disorder and child-rated neighborhood quality were significantly related to children's perceptions of their own mental health. It is evident from these results that child-rated neighborhood safety was not a significant predictor in any of the children's ratings of their mental health. This is no doubt due to the interrelationship of the neighborhood variables since previous results suggested that child-rated neighborhood safety mediated the relationship between child-rated neighborhood disorder and child-rated neighborhood quality.

Moreover, parents' reports of physical disorder were linked to child-rated quality of life and depression in models containing only parental assessments of the neighborhood suggesting that parents focused more on the physical aspects of neighborhood life rather than on the social dimensions. Surprisingly, this significant predictor disappeared in models containing both children's and parents' perceptions

of neighborhood conditions, thereby highlighting that children's ratings of neighborhood conditions were stronger predictors than the parents' neighborhood assessments. Interestingly neither census data nor observed social and physical disorder significantly related to children's mental health. Hypothesis 5a was therefore partially supported.

Indirect Relationships between Parental Assessments of Neighborhood Conditions and Children's Mental Health

The previous analyses examined whether parental ratings of neighborhood conditions were directly related to children's health. However, it was also presumed that parents' perceptions of neighborhood conditions may be linked to their children's mental health indirectly through their parenting styles and their own mental health.

This section addressed this indirect pathway outlined under the sixth research question: How do parenting practices and parents' mental health relate to children's health and well-being? Hypothesis 6a postulated that parenting practices would mediate the relationship between parental assessments of neighborhood physical and social disorder and children's mental health and Hypothesis 6b assumed that parental mental health would mediate the relationship between parental assessments of neighborhood physical and social disorder and children's mental health.

To address these hypotheses, correlations between parents' assessments of neighborhood conditions and children's ratings of their mental health were first examined. Table 21 showed that parents' assessment of neighborhood conditions did not relate to children's reports of their own mental health and Table 22 suggests that only parents' perceptions of physical disorder were related to parents' ratings of their

parenting practices. Specifically, greater disorder was associated with worse parenting practices.

Table 22. Correlations between Parents' Assessments of Neighborhood Conditions and Parents' Depression, and Parenting Practices.

	Parent-rated neighborhood quality	Parent-rated neighborhood safety	Parent-rated social disorder	Parent-rated physical disorder
Parents' own depression	.00	-.06	-.02	.12
Parent rated parenting practices	.00	-.06	.12	.19*

Note: *p<.05.

However, the bivariate correlations in Table 23 shows that neither parents' reports of depression nor their views of parenting practices were related to children's mental health.

Table 23. Correlations between Children's Mental Health, Parents' Depression, and Parenting Practices.

	Child-rated Quality of Life	Child-rated Depression	Child-rated Anxiety
Parents' own depression	-.01	.03	-.04
Parent-rated parenting practices	-.02	.16	.01

A multivariate investigation of these data did reveal a marginal relationship between parents' assessments of parenting practices and children's reports of their own depression ($F(1, 109) = 3.03$, $p = .0847$, $R^2 = .0270$). Worse parenting practices were associated with higher reports of children's depression (.08376). Interestingly, the simple correlation between both variables was not significant (see Table 23). Further, while Table 21 showed that parental ratings of neighborhood conditions did

not relate to children's reports of their mental health, a previous analysis linking parental assessments of neighborhood conditions to child-rated depression found that, in the context of other variables, parents' rating of physical disorder was a significant predictor. Interestingly, this significant relationship occurred only in the context of other parental assessments of the neighborhood so that there was no direct relationship between parents' ratings of physical disorder and child-rated depression when the parents' rating was the sole predictor. Therefore, the requirements for the mediating effects of parents' reports of parenting practices and depression on the relationship between parents' reports of physical disorder and child-rated depression were not met.

Physical Health

Background

After examining the link between neighborhood variables and children's mental health, further analyses assessed the relationships between the neighborhood variables and children's reports of their physical health. As was the case with children's mental health, the correlation between parental and child ratings of child physical health was not statistically significant (r = .19). Even though this result was possibly a function of the small sample size as well as measurement error, the lack of significance suggests that parents and children viewed the children's overall well-being differently. Similar to the analyses on children's mental health and since children's voices were the foundation of this research, children's assessment of their physical health was used as the outcome variable.

Preliminary Data Considerations

Prior to examining the multivariate relationship between parents' perceptions of neighborhood conditions and children's physical health, the child-rated physical health variable was examined for independence of observation (clustering). The difference between the -2 log likelihood in the random and not random model was marginally significant (x^2=3.4, p = 0.065196) so a mixed linear model was computed to predict children's reports of their physical health.

Whose Rating of Neighborhood Conditions Relates Best to Children's Physical Health?

The first analysis examining children's physical well-being explored Hypothesis 4b which suggested that parental perceptions of neighborhood conditions would be a strong predictor of children's physical health. Table 24 shows the relationship between parents' perceptions of neighborhood conditions and children's physical health. Interestingly, none of the correlations between child-rated physical health and parents' perceptions of neighborhood conditions was significant although the signs on the correlations were in the expected directions.

Table 24. Correlation between Parent Perceptions of Neighborhood Conditions and Child Physical Health.

	Parent-rated neighborhood quality	Parent-rated neighborhood safety	Parent-rated social disorder	Parent-rated physical disorder
Child-rated physical health	.04	.17	-.14	-.11
Parent-rated child physical health	.04	-.02	-.09	-.23*

Note: * p<.05.

The first mixed linear model consisted of parents' ratings of neighborhood quality, safety, social, and physical disorder predicting child-rated physical health. As mentioned in the previous section, the correlation between parent-rated social and physical disorder did not create problems in models where they were employed together as explanatory variables. Therefore, they were treated as independent predictors here.

The full model suggested that only the parents' assessment of neighborhood safety was marginally significant ($t(47) = 1.79$, $p = .0806$) in the context of other parental ratings. At the next step, this model was re-computed by removing the least significant predictor variable, parent-rated social disorder ($t(47) = -.33$, $p = .7458$). This caused parent-rated neighborhood safety to become more significant ($t(48) = 1.82$, $p = .0745$) but parent-rated neighborhood quality ($t(48) = -1.51$, $p = .1368$) and parent-rated physical disorder ($t(48) = .35$, $p=.5546$) remained statistically non-significant predictors. Parent-rated physical disorder was then removed and this resulted in parent-rated neighborhood safety becoming more significant ($t(49) = 2.17$, $p = .0347$). However, parents' assessments of neighborhood quality continued to be a non-significant predictor ($t(49) = -1.51$, $p = .1378$), and was therefore removed in the final model. Surprisingly, when parent-rated neighborhood safety was the sole predictor of child-rated physical health, it became non-significant ($t(50) = 1.59$, $p = .1185$), indicating that parent-rated neighborhood safety was a significant predictor only in models with other non-statistically significant neighborhood predictors.

As was done in previous models, outlier analyses were conducted and found that there were no influential data points in any of these models. Hypothesis 4b was therefore not supported.

The next analysis examined Hypothesis 4c which assumed that census data, particularly neighborhood socioeconomic status, would be a strong predictor of children's ratings of their physical health. As a first step, the relationship among the four census variables was examined. As Table 25 suggests, residential stability and

SES were negatively related showing that greater residential stability was linked to lower socioeconomic status. Further, the variable 'single women as heads of household' was linked to residential stability so that greater residential stability was associated with more women being single heads of household.

Table 25. Correlations among Census Variables.

	1	2	3	4
1. SES indicator	1			
2. Residential stability	-.29 **	1		
3. Single women as heads of household	.15	.22*	1	
4. Unemployed	.07	-.09	.16	1

Note: ** p<.01, *p<.05.

Table 26 examines the bivariate relationships between the census variables and the children's report of their physical health and shows that none of the census variables was linked to children's physical health. A multivariate mixed linear model was then employed in which the four census variables predicted child-rated physical health. The full model revealed that there were no significant predictors of child-rated physical health (SES $t(54) = .91$, $p = .3675$, residential stability $t(54) = -1.15$, $p = .2552$, single women as heads of household $t(54) = -.15$, $p = .8777$, unemployment $t(54) = -.65$, $p = .5171$). Successive removal of non-significant variables did not improve the model. In addition, there were no influential data points in any of these analyses. Hypothesis 4c was therefore not supported.

Table 26. Correlations between Census Variables and Children's Physical Health.

	Child-rated physical health
SES indicator	.15
Residential Stability	-.10
Single women as heads of household	-.05
Unemployed	-.05

The next set of analyses built on the previous models by exploring whose rating of neighborhood conditions related best to children's ratings of their own physical health. As outlined in Hypothesis 5b, it was expected that parents' perceptions of neighborhood conditions would be the strongest predictor of children's physical health followed by the census data and children's perceptions of neighborhood conditions. Outside raters' perceptions of neighborhood conditions were expected to be a weak predictor of children's physical health.

Previous models had already shown that neither parents' neighborhood perceptions nor the census data were significantly related to children's physical health. As was done in the analyses of children's mental health, the model which employed child-rated neighborhood perceptions as explanatory variables of child-rated physical health utilized the combined neighborhood disorder variable. This model revealed that none of the child-rated explanatory variables were significant (neighborhood quality $t(51) = .74$, $p = .4637$, safety $t(51) = 1.18$, $p = .2450$, neighborhood disorder $t(51) = .84$, $p=.4067$). In the next step, child-rated neighborhood quality was removed since it was the least significant predictor. This reduced model suggested that child-rated neighborhood safety was marginally

significant ($t(52) = 1.87$, $p = .0677$) while child-rated neighborhood disorder was not ($t(52) = .74$, $p = .4602$). Child-rated neighborhood safety remained marginally significant even in a model by itself ($t(53) = 1.94$, $p = .0574$), suggesting that greater neighborhood safety was linked to better physical health. However, this was a weak effect that slightly increased the within child error variance from .8212 to .8219.

Table 21 indicated that physical disorder rated by outside observers was correlated with children's physical health ($r = .18$, $p < .05$). The model linking social and physical disorder rated by outside observers to children's reports of their physical health suggested that social disorder was not a significant predictor ($t(52) = -.29$, $p = .7751$) but that physical disorder was ($t(52) = 2.03$, $p = .0478$). This finding held even after observed social disorder was removed from the model. This resulted in observed physical disorder being a stronger predictor of physical health ($t(53) = 2.24$, $p = 0.0292$). This model reduced the within child error variance to .8057, reducing the error by 1.97%.

Interestingly, the positive sign on the parameter estimate showed that greater observed physical disorder was linked to better child-rated physical health. Similar to the analyses of children's mental health, outlier diagnostics were examined and concluded that there were no influential data points in any of these models.

The models connecting ratings of neighborhood conditions to children's ratings of their physical health found that child-rated neighborhood safety and outside raters' perceptions of physical disorder were significant predictors. The final model explaining children's assessments of their own physical health employed these

explanatory variables in one model. This mixed linear model revealed that child-rated neighborhood safety ($t(52) = 2.21$, $p = .0314$) and observed physical disorder ($t(52) = 2.38$, $p = .0213$) both positively predicted child-rated physical health. Greater neighborhood safety was associated with better physical health as was greater observed physical disorder. This model reduced the within child error variance in physical health by 2.0% from .8212 to .8048.

Hypothesis 5b was partially supported by finding that observed physical disorder and child-rated neighborhood safety significantly related to child-rated physical health. Interestingly, neither parents' assessments of neighborhood conditions nor the census data explained child-rated physical health.

Combined Model for Children's Perceptions of Neighborhoods and Health

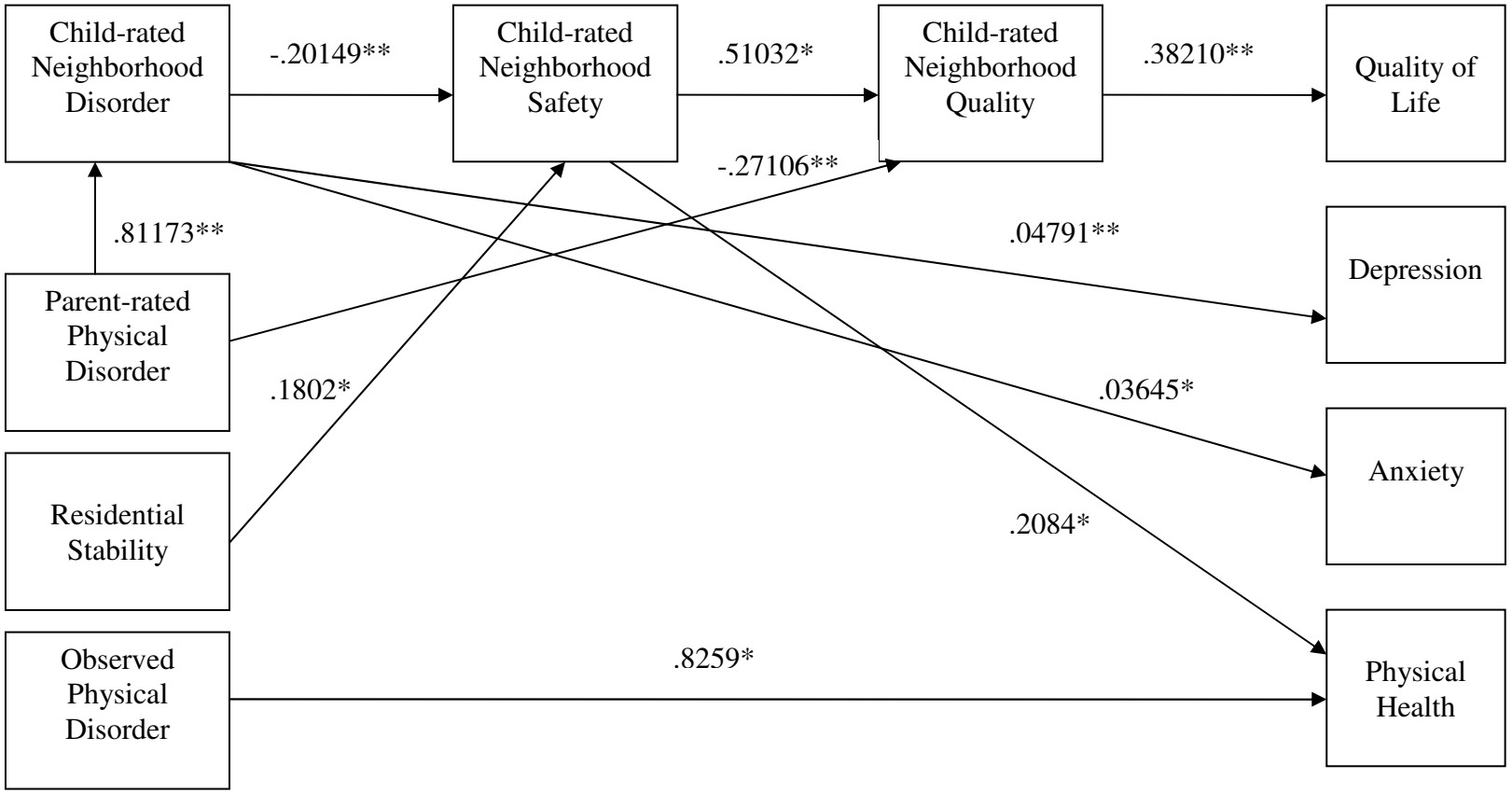
During the course of data analysis, a more complicated picture emerged explaining the impact of neighborhoods on children's health. To understand these relationships more clearly, this section integrates the findings on the interrelationship of the subjective neighborhood perceptions rated by the children and the analyses linking the neighborhood variables to children's mental and physical health.

Model 6 illustrated that child-rated neighborhood safety explained the relationship between child-rated neighborhood disorder and child-rated neighborhood quality. While a previous analysis linked residential stability to child-rated neighborhood safety, child-rated neighborhood safety did not mediate the relationship between residential stability and child-rated neighborhood quality. In other words, residential stability had no effect on child-rated neighborhood quality.

Model 8 builds on Model 6 by integrating the significant relationships between children's perceptions of neighborhood conditions, parental ratings of physical disorder, observed neighborhood disorder, and child-rated mental and physical health as discussed in the previous sections. Briefly, these sections outlined that child-rated neighborhood disorder predicted child-rated depression and child-rated anxiety so that greater neighborhood disorder was associated with more mental health problems. Child-rated neighborhood quality was also positively related to child-rated quality of life so that children in higher quality neighborhoods reported a better quality of life. Moreover, the relationships between parental reports of physical disorder and child-rated quality of life and depression were mediated by children's reports of neighborhood quality and disorder, respectively. Lastly, child-rated

neighborhood safety and observed physical disorder were positively linked to children's assessments of their physical health so that they reported better overall well-being in neighborhoods in which they felt safer and in neighborhoods in which observers perceived greater physical disorder.

Model 8. Combined Model for Children's Perceptions of Neighborhood Conditions and Child-rated Health.



Note: *p<.05, **p<.01.

Reverse Causation

As these data were cross-sectional, a cause and effect relationship among the study variables could not be determined. Since most of the children did not live in the same census block group and the clusters were so spread out that only very few contained more than one child, it did not make sense to examine the directionality of the data through a pooled variable that removed a child's neighborhood perceptions in predicting his or her health so that the true predictor would be other children's perceptions of neighborhood conditions. So, in order to examine the directionality of the data (i.e. do children's perceptions of neighborhood conditions predict children's ratings of health or vice versa?), the significant associations between children's reports of neighborhoods and their health demonstrated in Model 8 were tested in reverse causation models.

As seen in the previous section, child-rated neighborhood quality was a significant predictor of child-rated quality of life and child-rated neighborhood disorder was a significant predictor of child-rated depression and child-rated anxiety. Since these variables were significant in models while they contained other explanatory variables, they were rerun as individual predictors to refine the explained variance. Following this analysis, the reverse models were computed.

In the first model, child-rated neighborhood quality predicted child-rated quality of life. This model was significant ($F(1, 124) = 13.45$, $p = .0004$) and accounted for 9.79% of the variance. The reverse causation model where child-rated quality of life predicted child-rated neighborhood quality yielded the same result as the original model.

Secondly, the refined model in which child-rated neighborhood disorder predicted child-rated depression resulted in significance ($F(1, 124) = 18.61$, $p < .0001$), explaining 13.05% of the variance. The reverse model in which child-rated depression predicted child-rated neighborhood disorder was identical.

The previous section also showed that child-rated neighborhood disorder predicted child-rated anxiety, accounting for 7.15% of the variance. Not surprisingly, the reverse model where anxiety predicted neighborhood disorder resulted in the same finding.

Model 8 also illustrates that child-rated neighborhood safety positively predicted children's physical health although it increased the within child error variance slightly from .8212 to .8219. Since child-rated neighborhood safety was a variable in which the independence of observation assumption was violated, a mixed linear model was computed for the reverse model. The reverse causation model where child-rated physical health predicted child-rated neighborhood safety was significant but less so than the original model ($t(51) = 1.81$, $p = .0763$). Further, the reverse model containing the explanatory variable increased the residual from .3932 to .4656, indicating that it was a worse fit. This analysis showed that the original model linking child-rated neighborhood safety to child-rated physical health was a better fit of the data.

To summarize, the analyses examining the directionality of the data suggest that there is evidence for reverse or reciprocal causation for child-rated mental health but not for child-rated physical health. Specifically, these data show that children's perceptions of neighborhood conditions predict their rating of mental health and vice

versa; no one direction is better. However, these data provide evidence that child-rated neighborhood perceptions are related to child-rated physical health more strongly than the other way around. More longitudinal research on neighborhoods and children's health is needed to show more evidence for cause and effect relationships.

Chapter 5: Discussion

Findings from the qualitative study support the fact that children are perceptive to a number of neighborhood conditions and that these views are similar to those often discussed with adults in neighborhood research. For example, children in the present study were perceptive of conditions that characterize good quality neighborhoods, namely those that have places for children to play and friends living close-by. They also frequently discussed issues related to neighborhood safety and social disorder. Children did not like it when adults and youth congregated on the streets, fought, or behaved in a disorderly manner. While some children discussed the occurrence of physical disorder in their neighborhoods, especially the presence of garbage on the streets, this theme was not discussed as often as neighborhood quality, safety, and social disorder. The finding that children in the qualitative study phase were perceptive of neighborhood conditions and problems, particularly those related to neighborhood safety and quality, is in line with previous research with children (Chawla, 2002; Cunningham, 1999; Conn, 2000; Gearin & Kahle, 2006; Nicotera, 2002; Holaday, Swan, & Turner-Henson, 1997; O'Neill, Parke, & McDowell, 2001; Povlika, Lovell, & Smith, 1998; Spilsbury, 2002; Timperio, Crawford, Telford, & Salmon, 2004; Wridt, 2004).

Aside from gaining insight into preadolescents' perceptions of their neighborhoods, the qualitative findings also provided a foundation for the survey that was administered to children and their parents in the quantitative study. As anticipated, children's and parents' perceptions of neighborhood conditions (social

and physical disorder, quality, safety) were correlated. Although these associations were lower in magnitude than originally expected, O'Neill, Parke, and McDowell (2001) found statistically significant correlations of similar degree in their study of elementary school aged children and their parents' perceptions of neighborhood conditions. While measurement error may be responsible for the low magnitude of the present correlations, it is also possible that there was disagreement in terms of the area the children and parents defined as their neighborhoods. More research is necessary to understand the relationship between children's and parents' definition of the neighborhood space and how well their evaluations of neighborhood conditions overlap with each other.

As anticipated, neither children's nor parents' views of neighborhood conditions related to the census data at the block group level of aggregation. This finding is in line with earlier research (Nicotera, 2002; O'Neill, Parke, & McDowell, 2001) even though a previous study found a relationship between young people's subjective perceptions of neighborhood factors and the census report (Herrenkohl, Hawkins, Abbott, & Guo, 2002). Interestingly, the sample size in the latter study was much greater (n=1053) than sample sizes in the present study (n=126) and those by Nicotera (2002, n=59) and O'Neill, Parke, and McDowell (2001, n=63). So, sample size may be an important factor in establishing a significant association between census data and young people's views about their neighborhoods. Additionally, age appears to be a factor since respondents in Herrenkohl, Hawkins, Abbott, and Guo's (2002) study were slightly older (on average 15 years) than the present participants and those in Nicotera's (2002) and O'Neill, Parke, and McDowell's (2001) research.

It is thus possible that older children's assessments of neighborhood conditions are more in line with the census ratings than younger respondents.

The present study also found that child and adult residents' subjective perceptions of their neighborhoods did not relate to outside raters' observations of the neighborhoods' social and physical disorder. This is in line with previous research that found little overlap between outside raters' observations of neighborhood conditions and residents' subjective evaluations (O'Neill, Parke, & McDowell, 2001) but contradicts another study in which these two types of assessments were found to be significantly correlated (Ross & Mirowsky, 1999). Again, sample size seems to be responsible for this significant association because Ross and Mirowsky (1999) surveyed 2,482 respondents whereas the present research and the study by O'Neill, Parke, and McDowell (2001) utilized much smaller samples. Further, unlike the present study and that of O'Neill, Parke, and McDowell (2001), Ross and Mirowsky (1999) only targeted adult residents. It thus seems that, in addition to sample size, in some studies, residents' age plays a role in the evaluation of the neighborhood space and establishing a relationship to objective measures.

Additional quantitative findings revealed that children's perceptions of social and physical disorder worked together as a unit while parents' assessments of both constructs made individual contributions. Specifically, the high correlation between children's ratings of social and physical disorder caused one disorder variable to become non-significant if it was included with the other disorder variable as a predictor variable. To remedy this problem, both child-rated social disorder and child-rated physical disorder were combined into a standardized overall neighborhood

disorder variable. Even though the quantitative data suggested a stronger link, this makes sense if the qualitative data are taken into account since the children discussed social disorder much more frequently than physical disorder. It is therefore possible that children take their cues primarily from the presence of social disorder in their neighborhoods when they evaluate their neighborhoods as bad or unsafe places. It thus seems that for children, the idea of neighborhood disorder as a whole is more applicable than specifying a particular type of disorder.

Contrary to the children's reports, parents' assessments of social and physical disorder could be treated as independent predictors and the correlation between them did not create problems in the regressions and mixed linear models. These variables assessed at the parent level therefore made unique contributions. This then suggests that adult residents in the present study were more attuned to the distinct physical and social dimensions in their neighborhoods compared to the children. However, this finding also suggests that children and parents might not agree on what they perceive as disorder in their neighborhood. This merits further investigation and future research should more deeply explore how both types of residents define social and physical disorder in their neighborhoods and what factors are important to them within each construct.

Since the subjective evaluations of the neighborhood were significantly related to each other for both children and their parents, the quantitative data were also examined separately in terms of the interrelationship of children's and parents' subjective evaluations of the neighborhood. These analyses revealed that the constructs were related to each other in a mediational pathway. Specifically for both

children and parents, neighborhood (social and physical) disorder was related to neighborhood safety which in turn predicted neighborhood quality. This is in line with previous literature that suggests that neighborhood disorder is linked to residents' perceptions of safety and crime (see Wandersman & Nation, 1998; Skogan, 1990).

In terms of understanding whose ratings of neighborhood conditions related best to the children' mental health, the present study found that children's perceptions of neighborhood quality and disorder directly predicted children's mental health as they report it. The remaining analyses predicting children's reports of mental health from parents' perceptions of neighborhood conditions, census data, and outside raters' perceptions of the neighborhood found that only parents' account of physical disorder was a significant predictor of children's quality of life and depression. These effects disappeared when this parental assessment was included in the same model as children's perceptions of neighborhood conditions to predict children's mental health and a refined analysis revealed that parental reports of physical disorder were mediated by the children's reports of neighborhood conditions. These results highlight the importance of considering children's assessments of neighborhood conditions in predicting their ratings of mental health.

The finding that children's perceptions of neighborhood conditions related to their reports of mental health is in line with the neighborhood disorder model as specified by Wandersman and Nation (1998). This model suggests that residents' perceptions of neighborhood disorder or incivilities are linked to their perceptions of safety and mental health. Previous neighborhood research finds a similar effect of

neighborhood conditions on young people's mental health and substance use (Aneshensel & Sucoff, 1996; Wilson, Syme, Boyce, Battistich, & Selvin, 2005).

As previous literature suggested that parents' mental health and parenting practices also relate to children's mental health (Krenichyn, Saegert, & Evans, 2001; Spence, Najman, O'Callaghan, & Williams, 2002; Wood, McLeod, Sigman, Hwang, & Chu, 2003), the mediating role of these constructs was examined in the relationship between parents' views of their neighborhoods and children's mental health. Unfortunately, the relationships between children's reports of mental health, parents' own views of depression and parenting practices, and parents' assessments of the neighborhood were not significant. This lack of statistical association did not allow a more detailed investigation of the relationship between stressors in the neighborhood environment and their effects on children's mental well-being. Therefore, the potentially mediating roles of parents' depression and parenting practices could not be determined.

In terms of the children's physical health, the present study found children's perceptions of neighborhood safety to be significantly related to their ratings of physical health: the children rated their health better in neighborhoods in which they felt safer. This is in line with Ziersch, Baum, MacDougall, and Putland's (2005) study that found a similar effect with adults in Australia. The present study also found that children's physical health was predicted by physical disorder as observed by the outside raters. Surprisingly, this effect suggested that greater observed physical disorder was associated with better child health. This effect may be due to the limited knowledge researchers currently have on successfully conducting neighborhood

observations or, as to be discussed below, may be a function of utilizing children's reports to measure children's physical health.

Unlike the previous study by Curtis, Dooley, and Phipps (2004), the present results did not find that parents' assessments of neighborhood conditions were linked to children's physical health as they rate it. In fact, parents' assessments of neighborhood conditions were not related to any aspect of child-rated health. This is an interesting finding because the conventional neighborhood literature that has often uncovered neighborhood effects on children's health has typically relied on parental assessments of both neighborhood and child health information (see Leventhal & Brooks-Gunn, 2000). However, this study found that these previously established neighborhood effects can disappear when health data are collected directly from the children themselves rather than through parental report.

Contrary to anticipated findings, the present study found that census data describing neighborhood socioeconomic status and residential stability did not relate to children's reports of their physical health. It should be noted though that research that has previously found such an effect has often studied a larger variation of neighborhoods so that a true comparison between affluent and disadvantaged neighborhoods and their effects on children's health could be established (see Adler, Boyce, Chesney, Folkman, & Syme, 1993; Chen, 2004; Leventhal & Brooks-Gunn, 2000). Unlike these studies, the present study focused only on disadvantaged neighborhoods and was therefore affected by constrained variance. It is also important to recognize that, in the present study, children reported on their physical

health. Using objective ratings of child health, such as those from a clinician, could possibly have yielded different results.

Overall, the study's main findings generally suggest that children's subjective ratings of neighborhood conditions are predictors of children's assessments of their physical and mental health. This research therefore adds to findings of similar large-scale studies like those by Aneshensel and Sucoff (1996) and Wilson, Syme, Boyce, Battistich, and Selvin (2005). Both these studies examined the relationship between neighborhood evaluations and children's health and behaviors using children's assessments.

Aneshensel and Sucoff (1996) conducted surveys with 877 adolescents (on average 14.5 years) who responded to questions on the presence of ambient hazards in their neighborhoods which the authors defined in terms of neighborhood disorder and crime. In addition to reporting on symptoms of conduct disorder, respondents also answered questions on anxiety and depression. Aneshensel and Sucoff (1996) found that the young people's views of neighborhood conditions were related to how children rated their mental health. Specifically, the more threatening respondents perceived their neighborhoods to be, the more common were their reported symptoms of depression, anxiety, and conduct disorder.

Wilson, Syme, Boyce, Battistich, and Selvin (2005) conducted surveys with 369 seventh and eighth graders in which the students answered questions on the presence of social disorder in their neighborhoods and how often they used alcohol, marijuana, and tobacco. They found significant relationships between students'

reports of social disorder and current alcohol, tobacco, and marijuana use, so that the presence of social disorder was associated with greater substance use.

The present research adds to these studies by refining neighborhood measurement with children. Specifically, the present study employed a mixed methods design in which a qualitative study on children's views about their neighborhoods uncovered that children were attuned to social and physical aspects of neighborhood life. These results informed and guided the quantitative assessment of children's evaluations of neighborhood conditions. Rather than solely examining ambient hazards and social disorder as was done in previous work (Aneshensel & Sucoff, 1996; Wilson, Syme, Boyce, Battistich, & Selvin, 2005), the present study was able to explore the unique roles of neighborhood safety, quality, social disorder, and physical disorder on children's health. Furthermore, the present research was able to examine the interrelationship of children's assessments of neighborhood conditions and extended the previous studies by additionally considering the roles of parents' assessments of neighborhood conditions, census data, and observers' ratings of neighborhoods and their relationship to children's mental and physical health.

Despite the fact that both Aneshensel and Sucoff (1996) and Wilson, Syme, Boyce, Battistich, and Selvin (2005) were concerned with linking neighborhoods to children's outcomes, neither study offered respondents a definition of the neighborhood space. The present study adds to the literature by employing such a definition. This definition was not arbitrary as it was based on qualitative work with preadolescents who viewed their neighborhoods to consist on average of the five blocks around their home that they knew best. Using such a definition assured that

children viewed their neighborhoods in concrete spatial terms instead of the general area that they consider their neighborhoods.

The present study also adds to the literature by replicating Aneshensel and Sucoff's (1996) findings with younger residents. Both studies employed the same scales to measure children's anxiety and depression and both findings suggest that young people's evaluation of neighborhood conditions is linked to their mental health. This is important since these results suggest that, for young people, their experience of living in a neighborhood is linked to how they rate their mental health. Generally, the poorer their evaluation of neighborhood conditions, the higher are their reports of mental health problems.

Similar to the studies by Aneshensel and Sucoff (1996) and Wilson, Syme, Boyce, Battistich, and Selvin (2005), the present study employed a cross-sectional research design. Despite the fact that these types of studies currently dominate the literature linking neighborhood characteristics to children's outcomes, it is important to remember that a cause and effect relationships among these variables cannot be established due to the nature of the data. Interestingly, the studies by Aneshensel and Sucoff (1996) and Wilson, Syme, Boyce, Battistich, and Selvin (2005) imposed a direction of the relationship among study variables in which the children's perceptions of neighborhood conditions were assumed to predict their ratings of health and behaviors. It is surprising that the present study is among the first to consider alternative reverse causation models to examine the directionality of the data. These models linked children's ratings of their health to their assessments of neighborhoods and provided partial evidence that children's assessments of

neighborhoods were better predictors of child-rated physical health than reverse models. Even though longitudinal research is much needed to fully examine cause and effect relationships between neighborhood characteristics and residents' health, cross-sectional neighborhood studies that impose a certain directionality of study variables currently dominate and set the standard for the literature.

It is also important to note that the studies by Aneshensel and Sucoff (1996) and Wilson, Syme, Boyce, Battistich, and Selvin (2005) as well as the present one are affected by mono-method or same source bias which occurs when both predictor and outcome variables are assessed with the same measurement instruments (Caughy, O'Campo, & Patterson, 2001; Duncan & Raudenbush, 1999). Essentially, it is possible that respondents in these studies poorly evaluated their neighborhoods and health or behaviors because they had a bad day, or alternatively, rated each aspect in great terms simply because they were in a good mood. Future neighborhood research has to be mindful of this bias and investigate the relationship between these study variables more clearly such as in research over time.

The problem of mono-method bias also raises a greater question in terms of who should rate aspects of neighborhood life and respondents' health, or more specifically, whether the same respondents can adequately rate each of these aspects. Scholars such as Wachs (1999) suggest that neighborhoods are not solely objective because they consist of a subjective space as well. Particularly, residents perceive and experience their neighborhoods in a distinct matter. It is therefore important that residents provide information on their neighborhoods since they can supply more accurate information on aspects of neighborhood life than outsiders who are not

familiar with the neighborhood and the census data which focus exclusively on structural components (Coulton, Korbin, Su 1996; Duncan & Raudenbush, 1999). Moreover, residents' experiences and perceptions of their neighborhoods may be linked to their coping skills and mental health (Aneshensel & Sucoff, 1996; Roosa et al., 2005; Wandersman & Nation, 1998) so utilizing these subjective measurements is essential.

Since the present research found that children are very informed about their neighborhoods and overlap with their parents' evaluations of neighborhood conditions, children should be more fully recognized as informants about their neighborhoods. This would better integrate young people into research concerning them and is especially important if researchers aim to connect the neighborhood environment to children's outcomes (Burton & Jarrett, 2000). Aside from providing insight into how children's evaluations of neighborhood conditions are linked to their mental health and coping, utilizing these assessments can also be important for developing interventions. For example, if future research suggests that children's negative evaluations of the physical appearance of neighborhoods are linked to negative developmental outcomes such as poor academic achievement or poor health, researchers could consult with children on redesigning the physical appearance of neighborhoods to assure that children have positive perceptions, and subsequently, positive outcomes.

While children and parents overlapped in their assessments of neighborhood conditions, the present data found that both groups of respondents had different views of the children's health. The limited literature on parent-child agreement for

measuring children's health generally yields mixed results with some reporting no relationship (Ederer, 2004; Grills & Ollendick, 2003; Kazdin, Esveldt-Dawson, Unis, & Rancurello, 1983), and others finding statistically significant but often weak associations (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Stanger & Lewis, 1993; Waters, Stewart-Brown, & Fitzpatrick, 2003). Current research suggests that parent-child disagreements occur more often in mental health outcomes because these symptoms are internal and focused on the individual whose mental health is being evaluated (Grills & Ollendick, 2003). The present data support this hypothesis as the correlations between children's and parents' reports of child depression and anxiety were almost non-existent compared to their ratings of children's physical health.

Since many symptoms related to mental health problems are internal and often cannot be observed directly by lay persons, parents and teachers should not report on children's mental health problems. Some scholars (Leventhal & Brooks-Gunn, 2000) have criticized the dominant role these adults play in the assessment of mental health problems with children in neighborhood research suggesting that measuring children's mental health with these types of respondents is linked to inaccurate and misleading findings or to overstatements of neighborhood effects. Rather, it makes sense that neighborhood research rely on the children themselves to respond to questions on their mental health as they are best attuned to their mental health and functioning. However, children's age and cognitive development must be kept in mind as researchers recommend that children be at least ten years old in order to be able to fully understand and rate their health adequately (Edelbrock, Castello, Dulcan, Kalas, & Conover, 1985; Ollendick, Grills, & King, 2001; Rapee, Barrett, Dadds, &

Evans 1994). Aside from children themselves, clinically trained outsiders such as psychologists, social workers, and psychiatrists could be involved in measuring children's mental health. Even though utilizing these respondents would be costly, they could also provide useful and accurate information due to their expertise in clinical training and assessment.

While children may be reliable informants on their mental health, physical health is best measured with the children's parents and/or trained experts such as physicians and nurses. If researchers ask children to rate their overall physical health with a single question as was done in the present study, they fail to consider the possibility that children may adapt to suffering from and living with a chronic disease such as asthma or obesity. Consequently, children may indicate that they are functioning well when, in fact from a medical standpoint, they are not. Asking children to make a general evaluation of their overall physical health is also much more difficult than asking them about specific behaviors and symptoms as is usually done to measure mental health. Therefore, physical health should be measured objectively through trained health workers or parents who can more accurately judge a child's physical health.

In summary, the present study adds to neighborhood research by refining neighborhood measurement with children, offering a definition of the neighborhood space, and supporting the finding that children's evaluations of neighborhood conditions are linked to aspects of their health. Further, cross-sectional studies that connect neighborhoods to children's health and impose a direction for study variables to relate to each other currently dominate the literature. This study adds to this

research by examining reverse causation models. However, longitudinal research is needed to clarify the issue of cause and effect.

Despite the fact that same source bias is common in studies connecting children's evaluation of neighborhood conditions to their health, it is important to recognize that children can reliably report on neighborhood life and aspects of their health. Similar to adults, children experience their neighborhoods in a particular way which has important implications for their mental health and coping (Roosa et al., 2005; Wandersman & Nation, 1998). Researchers should therefore incorporate children as potential informants about their neighborhoods. Further, children can also reliably report on their mental health. However, children's physical health should be assessed by outsiders such as clinicians and parents who can provide more accurate information.

Study Limitations

Despite the numerous findings and insights, there were some study limitations that need to be considered. First, the correlations between children's and parents' ratings of neighborhood conditions were smaller than expected. This may be due to measurement error but is more likely a function of the possible disconnect between the geographic areas both respondents were rating as their neighborhoods. Future work should redefine the neighborhood space for these subjective measures to assure that respondents are referring to the same neighborhood space.

A second limitation refers to the small sample size which may have been potentially responsible for the lack of statistical significance of correlations in the

study. It is important to keep in mind that many correlations reported here are of similar small magnitude as correlations reported in the published neighborhood literature. However, given the fact that the majority of these published studies utilize very large samples and study a greater range of neighborhoods, the low correlations are statistically significant in these analyses. The small sample size in the present study was therefore a noteworthy study limitation but also raises a question of whether correlations (and findings) reported in the neighborhood literature would hold if sample sizes and number of studied neighborhoods were smaller.

Unlike other studies (Adler, Boyce, Chesney, Folkman, & Syme, 1993; Chen, 2004; see studies reviewed in Leventhal & Brooks-Gunn, 2000), the present study solely focused on low-income neighborhoods thus constraining the variance of neighborhood socioeconomic conditions. This is an important limitation as neighborhood effects may have been stronger or more pronounced if a greater variation of neighborhoods had been studied.

Furthermore, while this study explored many different types of assessments as measures of the neighborhood space, children's health was measured solely through self-report measures by the children and parents. As the results suggest, there was no agreement between the children's and parents' assessments of children's health. It is entirely possible (as is often the criticism of self-report measures), that one or both groups of respondents over or under-reported children's health problems. Information on children's health could have been collected from trained clinicians who would have been able to provide more objective information on the children's health.

This study did not demonstrate a cause and effect relationship between the neighborhood and health constructs. While findings from this study suggested a relationship between children's perceptions of their neighborhoods and their health, it is not possible to claim that, for example, presence of neighborhood disorder causes poor mental health. As suggested in the results section, reverse causation models found that, in some instances, the same effects hold the other way around in which children's ratings of health predict their ratings of neighborhood conditions. It is also entirely possible that the neighborhood-health relationship occurred due to an unmeasured third variable or variables.

There are also limitations associated with the various measurements of the neighborhoods. For example, the surveys did not assess the length of time the children and parents had lived in their neighborhoods. While informal conversations with study participants suggested that most of the participants had resided in their neighborhood for a substantial period of time, it is entirely possible that newcomers to the neighborhood had different perceptions of neighborhood conditions than residents who had lived in the same space for a longer period of time. Furthermore, the surveys did not assess how much time respondents actually spent in their neighborhoods. Such information would have been useful in order to refine neighborhood effects as these can only occur if residents are exposed to their neighborhoods.

Additionally, the neighborhood observations conducted by the outside raters only provided a single snapshot of the social and physical disorder of each block. These observations were typically short, lasting only the few minutes it took to walk

the block in both directions. It is likely that this short time period was insufficient to provide an insight into the typical behaviors of residents on that block since much of the studied social disorder is time sensitive. Also, since the raters were purposely outsiders of the neighborhood, it is plausible that residents who were carrying out illegal behaviors left the public space when they saw these outsiders hanging around their turf. It is thus entirely possible that occurrences of social disorder were under-reported.

Directions for Future Research

As demonstrated in this dissertation, research on children's perceptions of their neighborhoods is growing quickly and repeatedly suggests that children are not only quite perceptive to a number of neighborhood conditions but that they also discuss largely the same themes as adult residents do. Further, this study demonstrated that subjective measurements of neighborhoods are better predictors of children's health than objective measurements which dominate much of the measurement in the conventional neighborhood literature. Future research on neighborhood effects should therefore give residents' subjective perceptions about the places in which they live more consideration (Burton & Price-Spratlen, 1999; Coulton, Korbin, & Su, 1996).

Secondly, this study found that children as young as nine years old can successfully discuss and rate elements about their neighborhoods and thus serve as valuable informants about the places in which they live. Moreover, the children generally enjoyed being involved in the research process. For example, they liked

using large neighborhood maps and coloring in the places they discussed in the interview.

Nicole: [getting maps which are rolled together]
Miguel: Hey! Is that like a neighborhood map?
Nicole: It is.
Miguel: Cool!

Nicole: So this is a fun map because you can draw on it
Latisha: Yay!

The children also liked giving a neighborhood tour since the after-school program did not permit children to go outside and enjoy the warm spring weather. Not surprisingly, the children embraced their roles as "expert tour guides" and took full ownership of the walk by taking control of the tape recorder and using it as a microphone during our walk. Commonly, the walks would start by my asking where we would go and children leading the way. Similar to real tour guides, children would often start the walk with "as you can see on your right…"

Overall, the children seemed to enjoy the interview and the walk and were interested in the topic.

Nicole: So what did you think of this interview?
Melanie: It's nice…I like you get to walk around the neighborhood …usually you stay in a room and ask all types of questions

At the end of our walk, Mike and I are walking back to the after-school program.
Mike: This was fun!
Nicole: Yeah?
Mike: Yes!
Nicole: What was fun about it?
Mike: 'Cause I got to express myself and got to tell you what I like and what I don't like about my neighborhood.

Although data were not collected on children's involvement in the quantitative study phase, they generally seemed to enjoy taking the survey and giving their opinions about their neighborhoods. Neighborhood researchers should therefore focus on children's opinions and perceptions of their neighborhoods in future research since their voices have generally been ignored in this type of research (Conn, 2000; Coulton, Korbin, & Su, 1996; Hume, Salmon, & Ball, 2005; Nicotera, 2002; Polivka, Lovell, & Smith, 1998), and since present and previous findings (Aneshensel & Sucoff, 1996; Wilson, Syme, Boyce, Battistich, & Selvin, 2005) suggest that children's evaluation of neighborhood condition may be related to their health and behaviors. Burton and Jarrett (2000) further argue that it is particularly important to recognize children's voices because researchers can better interpret research findings if neighborhood perceptions and outcomes are assessed at the child level.

While taking children's perceptions of their neighborhoods into consideration appears to be a simple task, the mixed method design of the present study also uncovered that neighborhood research on children and their health may not be as straightforward as originally thought. Findings from the qualitative phase revealed that children commonly travel to places outside of their spatially defined neighborhoods for recreational and social purposes. The fact that children travel to places outside of their neighborhoods is interesting from a child development and health point of view. Much research has been concerned with linking the neighborhood environment to children's health, often their mental health, but has found inconsistent results to support the fact that children's neighborhoods matter (Leventhal & Brooks-Gunn, 2000). This may be due to the fact that neighborhood

research has often relied on the immediate social and physical neighborhood area close to the home despite the fact that children are commonly a part of an entirely separate social environment further away from their immediate neighborhoods which potentially also impacts their mental health. So, a possible downfall of neighborhood research is the fact that researchers focus too exclusively on children's immediate area close to the home and its relationship to children's mental health without considering children's mobility and their overall social environments. This is a particular problem in urban settings where the relatively easy and affordable access to public transportation allows children to travel greater distances to socialize with friends. This then suggests that future neighborhood research must not only focus on children's perceptions of their immediate neighborhoods but it must also consider children's social environments as a whole when exploring the link to health.

In order to address this and other issues in neighborhood research, scholars are currently calling for an ecological approach to studying residents' health which would simultaneously explore neighborhoods' structural, social, and physical factors and their influences on residents' health (Saegert & Evans, 2003). Neighborhood researchers should take such an approach into consideration and explore the interplay of structural factors of neighborhoods (e.g., ethnic heterogeneity, socioeconomic status, residential mobility) along with physical (e.g., residents' perceptions of neighborhood conditions, presence and accessibility of neighborhood resources such as parks, medical facilities), and social features (e.g., social support, social cohesion, social capital). These types of ecological neighborhood studies should also take the residents' age structure into account since some assume this to be related to the

degree of social cohesion in the neighborhood and to the availability of community services (Cagney, 2006). Further, since the role of the family has often been ignored in neighborhood research (Burton & Jarrett, 2000; Furstenberg, 1993), future studies should also incorporate a focus on children's home life and family structure and their relationship to children's health and well-being.

Aside from examining the influence of other environments children typically occupy, taking such an ecological approach would also allow researchers to assess how much time children typically spend in each setting. As neighborhood effects can only occur if children actually spend time in their neighborhoods, it is important that future research assesses how much time children spend in each milieu. Children could easily provide this information and such time-space or time-use studies would greatly inform on the relationship between how environments relate to children's health, behaviors, and development.

Additionally, neighborhood research should consider alternative measurements for children's health. As previously discussed, mental health is best measured subjectively with the person directly but mental health experts could also provide meaningful information. On the other hand, researchers should not rely on the children themselves to measure physical well-being since they may adapt to living with a medical condition and therefore not be able to provide accurate information. Rather, researchers should make use of health experts such as nurses and physicians to measure children's physical health more objectively.

Aside from focusing on health, future neighborhood research should also look at the more behavioral and existential effects neighborhoods have on their residents.

For example, the qualitative findings suggested that children's (and parents') reports of safety around their homes were linked to children's overall geographic movements and the places where they could travel (see also Schaefer-McDaniel, 2006). Keeping this in mind, it is possible that these restrictions in movement are linked to children's opportunities to build social relationships, supports, and social capital. Since current research supports a relationship between social support, social capital, and residents' health and well-being (Berkman & Kawachi, 2000; Marmot & Wilkinson, 1999; McKenzie & Harpham, 2006), future research should concentrate on examining these social indicators along with limitations in the use of physical neighborhood space and take such an approach to researching residents' health and well-being.

It is also of great importance that the definition of the neighborhood space is refined in future research. As previously discussed, employing solely aerial or spatial definitions can be problematic as ecological barriers such as fences or highways may not allow participants to fully respond to the entire area of a specified neighborhood. While the present research tried to overcome this problem by specifying not just a spatial area but also by stipulating that respondents should know the area they define as their neighborhood very well, it is likely that residents may have chosen to focus on areas they like rather than on ones with which they are most familiar. Therefore, researchers should focus on respondents' actual use of their neighborhood area, for example, by employing such definitions as "the five blocks around your home you use most frequently."

Future research should also focus on refining the outside raters' neighborhood observations since the present findings showed that the correlations between

residents' and outside raters' evaluations of physical and social disorder were almost non-existent. Interestingly, observed physical disorder was associated with better child-rated physical well-being so it is possible that what the outside raters perceived as physical disorder was actually a normal part of life for residents. Future research is therefore necessary to explore the particular aspects of neighborhoods that residents and outsiders view as social and physical disorder.

Further, despite the fact that the literature on neighborhood observations as a method continues to grow (see work by Andresen, Malmstrom, Miller & Wollinky, 2006; Burton, Price-Spratlen, & Spencer, 1997; Caughy, O'Campo, & Patterson, 2001; Curtis, Dooley, & Phipps, 2004; Kohen, Brooks-Gunn, Leventhal, & Hertzman, 2002; Sampson & Raudenbush, 2004; Spencer, McDermott, Burton, & Kochman, 1997), relatively little remains known about methodological issues in this type of assessment. For example, the literature generally does not explicitly describe how many observations should be conducted for each block nor does it elaborate on the time of day these observations should be conducted. Sampson and Raudenbush (2004) reported that they conducted, on average, 50 observations for each block between 7:00am and 7:00pm but they did not discuss how close these observations were to each other over time or whether these observations were solely conducted during weekdays. Future research is necessary to examine this methodology in closer detail, specifically with regard to how many observations per block provide a reliable and good description since many items related to social disorder change over time.

Moreover, the conventional neighborhood literature generally conducts outside raters' observations by observing the neighborhood within certain census tract

and block groups around residents' homes rather than using residents' definitions of the neighborhood boundaries as was done in the present study. This study purposely based the outsiders' observations on the children's boundaries due to the ambiguous use of census boundaries and due to previous research that found that residents are often unaware of spatial borders defined by the U.S. Census Bureau (Coulton, Korbin, Chan, & Su, 2001). Future research is therefore needed to explore which boundaries around a resident's home should be observed to arrive at meaningful objective measurements of the neighborhood space.

While research on neighborhoods and residents' health is of increasing interest to researchers and policy makers, this body of research has a long way to go. Future research that addresses all of these issues and examines the effects of neighborhoods on residents' and children's health over a longer period of time is much needed. Longitudinal research will not only address the issue of cause and effect that cannot be established in cross-sectional studies but it would also provide insight into the changing nature of neighborhoods as many researchers typically view neighborhoods as a stagnant entity rather than as one that continually changes (Burton, Price-Spratlen, & Spencer 1997; Elliott et al., 1996).

Appendix

Appendix 1. Questions for the Qualitative Interview and the Neighborhood Walk.

CAS site: Manhattan/Washington Heights Bronx/Concourse

Date: _____ Time: _____

Background information:

- What is your name?
- How old are you?
- What grade are you in at school?
- How long have you lived in your neighborhood? Where did you live before?
- Who do you live with? [names, ages, relationship]

Questions about the neighborhood:

1. Do you know what a neighborhood is? What do you consider your neighborhood? What makes a neighborhood?

   Show map: Do you know what this is? Can you find your school? Where is your home?

2. On the map, can you draw what you consider your neighborhood? [mark on map]

3. Where are the places you go to play? Why do you go there? [mark on map]

4. Where else do you go in your neighborhood alone or with friends? [mark on map]

5. Can you show me the places in your neighborhood that you like? [mark on map]
   Why do you like these places?

6. Can you show me the places in your neighborhood that you don't like to go to? What don't you like about these places? [mark on map]

7. Can you show me the places in your neighborhood that you find dangerous or scary? Why are these places dangerous or scary? [mark on map]

8. If a child the same age as you were moving here, what would you tell them what it's like living here? How would you describe your neighborhood to them?

9. Do you think your neighborhood is a good place to live? Why? Do you think it's a good place for children? Why? What's good about your neighborhood? What's bad?

10. Are there places where you aren't' allowed to go? Who forbids you? Why would you like to go there?

11. Has your neighborhood changed since you lived here? How? For the better or worse?

12. Do you belong to any clubs or organizations like the Boy or Girls Scouts? Where and what are they? [mark on map]

13. Do you go to any stores in your neighborhood? Where and with whom? [mark on map]

14. Is there anything I forgot? Anything else I should have asked you about the neighborhood?

Neighborhood Walk:
Now, I would like you to show me your neighborhood. By neighborhood I mean the places you can go to alone and with your friends and that are important to you because of the people who are there and the things you can do.

Let's start by going to the places you just told me about like the neighborhood clubs you go to.

Probe to take me to places s/he discussed in interview such as places s/he likes, dislikes, and finds dangerous or scary; places for play, places s/he goes to with friends

Talk with participant about each place i.e. why did you take me here? What is good/bad about this place?

[Return to starting point after walk]

Now let's look at the map together and draw in the places we visited. [mark on map]

Did I miss anything? Is there anything else I should know about your neighborhood?

Appendix 2. Survey for Child Participants.

On the enclosed neighborhood map, please shade the 5 blocks around your home that you know best. For the next questions, "neighborhood" refers to the 5 blocks you shaded on the map.

Please circle the best answer to each statement.

Neighborhood Quality:
How strongly do you agree with the following statements?
1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree

- My neighborhood is a good place to live.
- My neighborhood is a good place for children.
- The people moving into the neighborhood in the past year or so are good for the neighborhood.
- I would not want to move out of this neighborhood.
- I can play freely with all children in my neighborhood.
- For the most part, the police come within a reasonable amount of time when they are called.
- There is not a lot of traffic in my neighborhood.
- There are enough bus stops in my neighborhood.
- If I had to move out of this neighborhood, I would be sorry to leave.
- I am very satisfied (happy) with my neighborhood.
- There are many things I can do in my neighborhood.
- There are many places such as stores or restaurants.
- There are many good places to play.
- I know a lot of the other people in my neighborhood and I get along with them.

Neighborhood Safety:
How strongly do you agree with the following statements?
1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree

- It is safe to walk alone in my neighborhood after dark.
- It is safe for me to play outside during the day.
- My neighborhood is safe from crime.
- Violence is not a problem in my neighborhood.
- There are a lot of police on the street to protect me.
- There is enough street light at night in my neighborhood.

Social Disorder:
How frequently do the following things occur in your neighborhood?
1=never, 2=sometimes, 3=often

- Drug dealers or users hanging around.
- People drinking alcohol in the open or drunks hanging around.
- Groups of strangers hanging out.
- Gang activity.
- Adults fighting or arguing loudly.
- Children hanging out and arguing or fighting loudly.
- People acting with no respect for your property (like stealing or breaking things).

Physical Disorder:
How strongly do you agree with the following statements?
1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree

- There is a lot of graffiti in my neighborhood.
- My neighborhood is noisy (like loud traffic or music).
- Vandalism (like people breaking windows) is common in my neighborhood.
- There are a lot of abandoned (empty), burned down, or boarded up buildings in my neighborhood.
- My neighborhood is clean.
- People in my neighborhood take good care of their houses and apartments.
- There is a lot of garbage, litter, or broken glass in the street or road, sidewalks, and yards.
- There are a lot of rats or rodents on the streets or hallways in my neighborhood.

Physical Health:

- Is your <u>overall</u> health excellent, very good, good, fair, or poor?

1=excellent, 2=very good, 3=good, 4=fair, 5=poor

Quality of Life:
How much of a problem has each statement been for you during the <u>past month</u>:
0=never a problem, 1=almost never a problem, 2=sometimes a problem, 3=often a problem, 4=almost always a problem

- Finding a place to play.
- Finding a place to play sports.
- Feeling afraid or scared.
- Feeling sad or blue.
- Feeling angry.
- Having trouble sleeping.
- Worrying about what will happen.
- Having trouble getting along with kids your age.
- Other kids not wanting to be friends.
- Being teased.

- Doing things other kids your age do.
- Having a hard time keeping up when playing with others.
- Having a hard time concentrating.
- Forgetting things.
- Having trouble keeping up with schoolwork.
- Missing school because I have been ill.

Depression:

In the past two weeks, have you thought that …

0=once in a while, 1=sometimes, 2=many times/all of the time

- things will work out ok for you
- everything you do will go wrong
- nothing is fun at all
- bad things are usually not your fault
- that doing schoolwork is not a big problem

In the past two weeks, have you felt …

- sad
- ugly
- sure that terrible things will happen to you
- like crying
- like not wanting be with people
- that you could make up your mind about things easily
- tired
- alone
- just as good as other kids
- sure that somebody loves you
- bad
- like you do not have any friends
- like things bothered you

In the past two weeks, did you …

- worry about aches and pains
- have fun at school
- do what you were told to do
- get into fights
- sleep well
- eat well
- do badly in subjects you used to be good in
- like yourself

Anxiety:

In the past <u>two weeks</u>, how bothered were you by…

- feeling nervous or shaky
- trembling or shaking hard
- suddenly feeling scared for no reason
- feeling fearful or afraid
- heart pounding or racing (heart beating fast)
- having to avoid certain places or activities because they frighten you
- feeling tense or keyed up (edgy)

Demographics:

How old are you? _____ years
What grade are you in? _____
What school do you go to? _____

Are you a… ☐ boy ☐ girl

What street do you live on? _____

What is the nearest cross-street? _____

What is your ethnic background?
☐ African American ☐ White/Caucasian
☐ Hispanic/Latino ☐ American Indian
☐ Other - please specify: _____

Appendix 3. Survey for Parents and Primary Caretakers.

On the enclosed neighborhood map, please shade the 5 blocks around your home that you think your child knows best. For the next questions, "neighborhood" refers to the 5 blocks you shaded on the map.

Neighborhood Quality:
How strongly do you agree with the following statements?
1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree

- My neighborhood is a good place to live.
- My neighborhood is a good place for children.
- The people moving into the neighborhood in the past year or so are good for the neighborhood.
- I would not want to move out of this neighborhood.
- My children can play freely with all children in my neighborhood.
- For the most part, the police come within a reasonable amount of time when they are called.
- There is not a lot of traffic in my neighborhood.
- There are enough bus stops in my neighborhood.
- If I had to move out of this neighborhood, I would be sorry to leave.
- I am very satisfied (happy) with my neighborhood.
- There are many things I can do in my neighborhood.
- There are many places such as stores or restaurants.
- There are many good places to play.
- I know a lot of the other people in my neighborhood and I get along with them.

Neighborhood Safety:

- It is safe to walk alone in my neighborhood after dark.
- It is safe for children to play outside during the day.
- My neighborhood is safe from crime.
- Violence is not a problem in my neighborhood.
- There are a lot of police on the street to protect me.
- There is enough street light at night in my neighborhood.

Social Disorder:
How frequently do the following things occur in your neighborhood?
1=never, 2=sometimes, 3=often

- Drug dealers or users hanging around.
- People drinking alcohol in the open or drunks hanging around.
- Groups of strangers hanging out.
- Gang activity.
- Adults fighting or arguing loudly.
- Children hanging out and arguing or fighting loudly.
- People acting with no respect for your property (like stealing or breaking things).

Physical Disorder:
How strongly do you agree with the following statements?
1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree

- There is a lot of graffiti in my neighborhood.
- My neighborhood is noisy (like loud traffic or music).
- Vandalism (like people breaking windows) is common in my neighborhood.
- There are a lot of abandoned (empty), burned down, or boarded up buildings in my neighborhood.
- My neighborhood is clean.
- People in my neighborhood take good care of their houses and apartments.
- There is a lot of garbage, litter, or broken glass in the street or road, sidewalks, and yards.
- There are a lot of rats or rodents on the streets or hallways in my neighborhood.

Child Physical Health:
Is your child's health excellent, very good, good, fair, or poor?
1=excellent, 2=very good, 3=good, 4=fair, 5=poor

Child Quality of Life:
How much of a problem has each statement been for your CHILD during the past month?
0=never a problem, 1=almost never a problem, 2=sometimes a problem, 3=often a problem, 4=almost always a problem

- Finding a place to play.
- Finding a place to play sports.
- Feeling afraid or scared.
- Feeling sad or blue.
- Feeling angry.
- Having trouble sleeping.
- Worrying about what will happen.
- Having trouble getting along with kids your child's age.
- Other kids not wanting to be friends.
- Being teased.
- Doing things other kids your child's age do.
- Having a hard time keeping up when playing with others.
- Having a hard time concentrating.
- Forgetting things.
- Having trouble keeping up with schoolwork.
- Missing school because your child has been ill.

Child Depression:
How true were the following for your CHILD in the past six months?
0=not true, 1=somewhat/sometimes true, 3=very often true

- There is little he/she enjoys
- Cries a lot
- Doesn't eat well
- Feels worthless or inferior
- Feels guilty
- Overtired without good reason
- Sleeps less than most kids
- Sleeps more than most kids during day and/or night
- Trouble sleeping
- Underactive, slow moving, or lacks energy
- Unhappy, sad, or depressed

Child Anxiety:
How true were the following for your CHILD in the past six months?
0=not true, 1=somewhat/sometimes true, 3=very often true

- Clings to adults or too dependent
- Fears certain animals, situations, or places other than school
- Fears going to school
- Nervous, high-strung, or tense
- Worries

Parent Depression:
In the past week, how often ….
0=less than 1 day, 1=1-2 days, 2=3-4 days, 3=5 days or more

- Were you bothered by things that usually don't bother you?
- Did you not feel like eating; your appetite was poor?
- Did you feel that you could not shake off the blues?
- Did you feel that you were just as good as other people?
- Did you have trouble keeping your mind on what you were doing?
- Did you feel depressed?
- Did you feel that everything you did was a failure?
- Did you feel hopeful about the future?
- Did you think that your life had been a failure?
- Did you feel fearful?
- Was your sleep restless?
- Were you happy?
- Did you talk less than usual?
- Did you feel lonely?
- Were people unfriendly?
- Did you enjoy life?
- Did you have crying spells?

- Did you feel sad?
- Did you feel people disliked you?
- Did you feel that you could not get "going"?

Parenting Practices:
In the <u>past month</u>, how often did you…
1=never, 2=seldom, 3=sometimes, 4=very often

- Shout or yell at your child?
- Slap or spank your child?
- Praise your child?
- Cuddle your child?
- Get angry at your child?
- Criticize your child?
- Argue with your child?

Demographics:

Are you: ☐ Male ☐ Female
What street do you live on? _____

What is the nearest cross-street? _____

How old are you?
☐ 20–29 years ☐ 30–39 years ☐ 40–49 years ☐ 50–59 years
☐ 60 or older

What is your ethnic background?
☐ African American ☐ White/Caucasian
☐ Hispanic/Latino ☐ American Indian
☐ Other - please specify: _____

What is your annual household income?
☐ less than $15,000 ☐ $15,001 - $25,000
☐ $25,001 - $35,000 ☐ $35,001 - $45,000
☐ $45,001 - $55,000 ☐ $55,001 - $65,000
☐ $65,001 or more

What is your highest level of education?
☐ Elementary/middle school ☐ High school / GED
☐ Associates degree ☐ College degree
☐ Graduate degree

Appendix 4. Observations of the Neighborhoods by Outside Raters.

Neighborhood Physical Disorder:

- Is there graffiti on buildings, walls, signs?

0=No graffiti visible
1= Less than 25% of buildings
2=More than 25% of buildings

- How many housing or commercial units are vandalized (e.g., broken windows)?

0= None
1= Less than 25% of units
2=More than 25% of units

- How many housing or commercial units are burned down, boarded up, vacant, or abandoned?

0= None
1= Less than 25% of units
2=More than 25% of units

- Are there any burned down or abandoned cars?

0= None
1=A few (one or two)
2=More than two
99=N/A no cars on the street

- Are there any rats, rodents, or large insects (e.g., roaches)?

0=None visible
1= A few (one or two)
2=Many (more than two)

- Is there garbage, litter, or broken glass on the street, sidewalks, vacant lots, alleys, or yards?

0= None/almost none
1=Yes, some but not a lot
2= Quite a lot

- How would you rate the general condition of most of the housing or commercial units?

0=Deteriorated/poor condition [peeling paint; crumbling facade] /more than 25% of units in poor condition,
1=Fair condition /less than 25% of the units in poor condition,
2=Well kept/no units in poor condition

- How would you rate the general condition of the street and sidewalk?

0=Deteriorated/poor condition [potholes, crack in sidewalks] /more than 25% of street/sidewalk in poor condition,
1= Fair condition /less than 25% of street/sidewalk in poor condition,
2=Well kept/in good repair

- How would you rate the overall level of cleanliness of the street, sidewalks, and buildings?

0= Deteriorated condition/more than 25% of street, sidewalk, and buildings are dirty
1=Moderate/less than 25% of the street, sidewalk, and buildings are dirty
2=Well kept/ most of the street, sidewalk, and buildings are clean

Neighborhood Social Disorder:

- Are people selling or using illegal drugs?

0=None visible
1= A few [one or two]
2=More than two

- Are people drinking in the streets, vacant lots, or open spaces?

0=None visible
1= A few [one or two]
2=More than two

- Are drunken or otherwise intoxicated people visible?

0=None visible
1= A few [one or two]
2=More than two

- Are youth loitering, congregating, or hanging out?

0=No
1= One group
2=Two or more groups

- Are adults loitering, congregating, or hanging out?

0=No
1= One group
2=Two or more groups

- Are there homeless or begging persons?

0=None visible
1= A few [one or two]
2=More than two

- Are teenagers or young adults identified by group or gang forms of personal appearance? (i.e. clothing, hair styles)

0=None visible
1= A few people [two or three]
2=A lot [more than three]

- Are adults arguing, shouting, fighting, or otherwise behaving in hostile or threatening ways?

0=None visible
1= A few [one or two]
2=More than two

- Are children arguing, shouting, or fighting loudly?

0=None visible
1= A few [one or two]
2= More than two

- Are people acting without respect for other people's property (e.g., vandalizing)?

0=None visible
1= A few [one or two]
2=More than two

- Are there any 'no loitering' signs visible?

0=None visible
1= A few [on one or two buildings]
2= Many [on three buildings or more]

- Are there any 'this building is under NYPD surveillance' signs visible?

0=None visible
1= A few [on one or two buildings]
2=Many [on three buildings or more]

Appendix 5. Census Data.

Census data were collected at the block group level of aggregation.

- Neighborhood Socioeconomic Status

Income	median household income
Poverty rate	% families below poverty level % individuals below poverty level % single heads of household that are women
Unemployment	% unemployed
Education	% high school degree or higher % BA degree and higher

- Residential Stability

% Renters	% rental units out of total housing units
Residential stability	% moved to neighborhood in past year % moved to neighborhood in past five years

Appendix 6. Parental Consent Form for the Qualitative Study Phase.

A. English Version

Dear Parent or Guardian:

My name is Nicole Schaefer-McDaniel and I am a student in the Environmental Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY). I am carrying out a project sponsored by the Children's Aid Society, which explores children's views of their neighborhoods. I am trying to find out what helps make neighborhoods safe and healthy places for children. I would like your permission to interview your child about his/her views about the neighborhood. I would also like your child to show me around the neighborhood.

The interview will take place at the Children's Aid Society after-school program. I will talk with your child about different parts of the neighborhood and ask him/her to show me places on a neighborhood map. After the interview, I will ask your child to take me on a tour of the neighborhood. I will bring your child back to the program at the end of our tour.

Participation is voluntary and your child can refuse to answer questions at any time or end the project without penalty. The interview and neighborhood tour will take approximately 1 hour and 30 minutes. With your permission I would like to audio-tape the interview and neighborhood tour so that I can record the details accurately. The tapes will only be heard by me and my advisor.

All information gathered will be kept strictly confidential and will be stored in a locked file cabinet located in a locked office at the Graduate Center of CUNY, to which only I and my advisor will have access. As a thank you for participating, your child will receive a $5 gift certificate to Subway.

The risks of this study are minimal. In previous projects, I learned that children like talking about their everyday lives and I expect that your child may also enjoy thinking about his/her neighborhood and working with the map. Five children will participate in this project. If more than five children want to participate, a lottery drawing will choose the five children.

I may publish the results of the study but names of people or any identifying characteristics will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at (917) 854-6737 or my advisor Gary Winkel at (212) 817-8724. If you have any questions about your child's rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York at (212) 817-7525.

Thank you for granting your child's participation in this study. Please circle your answer to each statement below, sign the form, and print your child's name.

I agree to let my child participate in the interview and neighborhood tour. YES NO

I agree to have my child's interview and neighborhood tour audio-taped. YES NO

_____	_____	_____	_____
Parent/Guardian signature	Date	Investigator signature	Date

_____
Child's name

B. Spanish Version

Estimado padre o tutor:

Mi nombre es Nicole Schaefer-McDaniel y soy una estudiante en el programa doctoral de Psicología Ambiental en el Centro Graduado de la Universidad de la Ciudad de Nueva York. Estoy dirigiendo un proyecto patrocinado por la Children's Aid Society cuya meta es explorar las percepciones de los niños sobre sus vecindarios. Quiero entender lo que contribuye a que los vecindarios sean lugares sanos y saludables para los niños. Me gustaría que usted me permitiera entrevistar a su hijo/a sobre las percepciones de su vecindario. También me gustaría que su hijo/a me pasée por su vecindario.

La entrevista será hecha en el programa post-escolar de la Children's Aid Society. Hablaré con su hijo/a sobre las diferentes partes de su vecindario y le pideré que me muestre diferentes lugares en un mapa del vecindario. Después de la entrevista, le pideré a su hijo/a que me pasée por el vecindario. Yo lo/a traere a la escuela al final de nuestra excursión.

La participación de su hijo/a es voluntaria y el/ella puede dejar de contestar preguntas o desistir de participar en cualquier momento sin ningún problema. La entrevista y el paseo por el vecindario demoraran aproximadamente una hora y treinta minutos. Me gustaría que usted me permitiera grabar la entrevista en audio y el paseo para poder captar los detalles con precisión. Las cintas serán escuchadas por mi tutor y yo solamente.

Toda la información recolectada es completamente confidencial y será guardada en un gabinete bajo llave en el Centro Graduado de la Universidad de la Ciudad de Nueva York, lo cual mi director de tesis y yo serémos los únicos que tendrémos aceso a el. Su hijo/a recibirá un bono de regalo de $5 para el restaurante Subway para agradecerle su participación.

El riesgo de participación en este estudio es mínimo. En proyectos previos, aprendí que a los niños les gusta hablar de sus vidas cotidianas y espero que su hijo/a se divierta pensando en su vecindario y trabajando con el mapa. Cinco niños participarán en este proyecto. Se utilizará un sistema de lotería para seleccionar a los participantes si más que cinco niños llegan a estar interesados.

Es posible que publicaré los resultados de este estudio pero todas las características identificables y los nombres de los participantes no serán incluidas en las publicaciones. Si usted le interesaría una copia de este estudio, favor de darme su dirección y se le enviaré cuando sea disponible.

Si usted tiene preguntas sobre esta investigación, favor de contactar se conmigo al (917) 854-6737 o a mi tutor Gary Winkel al (212) 817-8724. Si usted tiene preguntas sobre los derechos de su hijo/a como participante en este estudio, favor de contactar a Kay Powell, Administradora del IRB del Centro Graduado de la Universidad de la Ciudad de Nueva Cork/Graduate Center City University of New York al (212) 817-7525.

Gracias por permitir que su hijo/a participe en este estudio. Favor de rodear la respuesta a cada afirmación siguiente, firmar el formulario y escribir el nombre de su hijo/a.

Estoy de acuerdo que mi hijo/a participe en la entrevista y en el paseo por el vecindario.
SÍ NO

Estoy de acuerdo que la entrevista y el paseo por el vecindario sean grabados en audio.
SÍ NO

_____	_____	_____	_____
Firma del padre o tutor	Fecha	Firma de la investigadora	Fecha

_____
Nombre de su hijo/a

Appendix 7. Child Assent Form for the Qualitative Study Phase.

I am a researcher and I am interested in what children and young people think about their neighborhoods. I would like to talk to you about your neighborhood and then I would like you to take me on a tour and show me your neighborhood. First, I would like to read you each of these statements below so that you will understand exactly what I will be doing. Then you can decide if you would like to participate. Your parent(s) or guardian(s) has already given me permission for you to participate in this project.

- First we will talk about what you think about your neighborhood and then we will look at a map of the neighborhood.
- After our talk, you will show me your neighborhood and some of the places we talked about.
- The interview will take place here at the CAS program.
- This is not a test and it is important to remember that there are no right or wrong answers to any of the questions I will be asking you.
- You do not have to participate in the study if you don't want to, and if you do decide to participate, you can decide not to answer certain questions. You can also stop taking part in the study at any time without penalty.
- Your answers to all questions will be kept strictly confidential. Your name will not appear anywhere on the interview form or on the map. (If parental/guardian permission is given to tape, participant will be informed that the interview session and the group discussion will be tape-recorded)
- The interview and tour will take about 1 hour and 30 minutes to complete.
- After we return from the tour of the neighborhood, you will receive a $5 gift certificate to Subway.
- If you have any questions either before or after you have taken part in the study, I will be happy to answer them.

Signature: _____ Date: _____

Appendix 8. Parental Consent Form for Children to Participate in the Quantitative Study Phase.

A. English Version

Dear Parent or Guardian:

My name is Nicole Schaefer-McDaniel and I am a student in the Environmental Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY). I am carrying out a project sponsored by the Children's Aid Society, which explores children's views of their neighborhoods and their health. I am trying to find out what helps make neighborhoods safe and healthy places for children. I would like your child to fill out a questionnaire about his/her views of the neighborhood and his/her health.

The questionnaire should take approximately 20 to 30 minutes to complete. Your child will fill out the questionnaire at the Children's Aid Society after-school program. Your child can refuse to answer questions at any time or end this project without any penalty. As a thank you for participating, your child will receive a $5 gift certificate to Subway.

All information gathered will be kept strictly confidential and will be stored in a locked file cabinet located in a locked office at the Graduate Center of CUNY, to which only I and my advisor will have access.

The risks of this study are minimal. Some questions may be of a sensitive nature, and if your child indicates any need for health services, I will advise you and the Children's Aid Society. The Children's Aid Society has health services available or can refer you to appropriate services that could benefit your child if you or your child find it necessary. In similar projects in the past, I learned that children like talking about their everyday lives and I expect that your child may also enjoy thinking about his/her neighborhood. There will be approximately thirty-five children in this study.

I may publish the results of the study but names of people or any identifying characteristics will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at (917) 854-6737 or my advisor Gary Winkel at (212) 817-8724. If you have any questions about your child's rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York at (212) 817-7525.

Thank you for granting your child's participation in this study. Please circle your answer below, sign the form, and print your child's name in the space below.

I agree to let my child complete the questionnaire. YES NO

_____	_____	_____	_____
Parent/Guardian signature	Date	Investigator signature	Date

Child's name: _____

B. Spanish Version

Estimado padre o tutor:

Mi nombre es Nicole Schaefer-McDaniel y soy una estudiante en el programa doctoral de Psicología Ambiental en el Centro Graduado de la Universidad de la Ciudad de Nueva York (CUNY). Estoy dirigiendo un proyecto patrocinado por la Children's Aid Society cuya meta es explorar las percepciones de los niños sobre sus vecindarios. Quiero entender lo que contribuye a que los vecindarios sean lugares sanos y saludables para los niños. Me gustaría que su hijo/a rellene un cuestionario sobre las percepciones de su vecindario y su salud.

Llenar el cuestionario tomará aproximadamente 20 a 30 minutos. Su hijo/a lo rellenará en el programa post-escolar de la Children's Aid Society. Su hijo/a puede dejar de contestar las preguntas o desistir de participar en cualquier momento sin ningún problema. El/ella recibirá un bono de regalo de $5 para el restaurante Subway para agradecerle su participación.

Toda la información recolectada es completamente confidencial y será guardada en un gabinete bajo llave en el Centro Graduado de la Universidad de la Ciudad de Nueva York, el cual mi director de tesis y yo seremos los únicos que tendremos acceso a ella.

El riesgo de participación en este estudio es mínimo. Algunas preguntas pueden ser dificiles y si su hijo/a llega a indicar la necesidad de servicios de salud, le notificaré a usted y a la Children's Aid Society. La Children's Aid Society tiene servicios de salud disponibles o le pueden referir a otros servicios mas apropiados que puedan beneficiar a su hijo/a si usted lo encuentra necesario. En proyectos previos, aprendí que a los niños les gusta hablar de sus vidas cotidianas y espero que su hijo/a se divierta pensando en su vecindario y trabajando con el mapa. Participarán aproximadamente 35 niños en este estudio.

Es posible que publicaré los resultados de este estudio pero todas las características identificables y los nombres de los participantes no serán incluidas en las publicaciones. Si usted le interesaría una copia de este estudio, favor de darme su dirección y se le enviaré cuando sea disponible.

Si usted tiene preguntas sobre esta investigación, favor de contactar se conmigo al (917) 854-6737 o a mi tutor Gary Winkel al (212) 817-8724. Si usted tiene preguntas sobre los derechos de su hijo/a como participante en este estudio, favor de contactar a Kay Powell, Administradora del IRB del Centro Graduado de la Universidad de la Ciudad de Nueva Cork/Graduate Center City University of New York al (212) 817-7525.

Gracias por permitir que su hijo/a participe en este estudio. Favor de rodear la respuesta a la afirmación siguiente, firmar el formulario y escribir el nombre de su hijo/a.

Estoy de acuerdo que mi hijo/a rellene el cuestionario. SÍ NO

_____	_____	_____	_____
Firma del padre o tutor	Fecha	Firma de la investigadora	Fecha

_____
Nombre de su hijo/a

Appendix 9. Parental Consent Form for Their Own Participation in the Quantitative Study Phase.

A. English Version

Dear Parent or Guardian:

My name is Nicole Schaefer-McDaniel and I am a student in the Environmental Psychology Ph.D. Program at the Graduate Center of the City University of New York (CUNY). I am carrying out a project sponsored by the Children's Aid Society, which explores parents' views of their neighborhoods and children's health. I am trying to find out what helps make neighborhoods safe and healthy places for children. I would like you to fill out a questionnaire about your views of your neighborhood and your child's health.

The questionnaire should take approximately 20 to 30 minutes to complete. You can refuse to answer questions at any time or end this project without any penalty. As a thank you for participating, there will be a raffle for movie tickets and gift baskets. All information gathered will be kept strictly confidential and will be stored in a locked file cabinet located in a locked office at the Graduate Center of CUNY, to which only I and my advisor will have access.

The risks of this study are minimal. Some questions may be of a sensitive nature, and if you indicate any need for health services, I will advise you. If you wish, the Children's Aid Society has health services available or can refer you to appropriate services that could benefit you if you find it necessary. In similar projects in the past, I learned that people like talking about their everyday lives and I expect that you may also enjoy thinking about your neighborhood. There will be approximately thirty-five parents in this study.

I may publish the results of the study but names of people or any identifying characteristics will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at (917) 854-6737 or my advisor Gary Winkel at (212) 817-8724. If you have any questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York at (212) 817-7525.

Thank you for granting your participation in this study.

_____	_____	_____	_____
Parent/Guardian signature	Date	Investigator signature	Date

_____

Child's name

B. Spanish Version

Estimado padre o tutor:

Mi nombre es Nicole Schaefer-McDaniel y soy una estudiante en el programa doctoral de Psicología Ambiental en el Centro Graduado de la Universidad de la Ciudad de Nueva York (CUNY). Estoy dirigiendo un proyecto patrocinado por la Children's Aid Society cuya meta es explorar las percepciones de los padres de hijos sobre sus vecindarios y la salud de sus hijos. Quiero entender lo que contribuye a que los vecindarios sean lugares sanos y saludables para los niños. Me gustaría que usted rellene un cuestionario sobre las percepciones de su vecindario y la salud de su hijo/a.

Rellenar el cuestionario tomará aproximadamente 20 a 30 minutos. Usted puede dejar de contestar las preguntas o desistir de participar en cualquier momento sin ningún problema. Usted participará en una rifa de entradas para el cine y canastas de regalos. Toda la información recolectada es completamente confidencial y será guardada en un gabinete bajo llave en el Centro Graduado de la Universidad de la Ciudad de Nueva York, el cual mi tutor y yo seremos los únicos que tendremos acceso a ella.

El riesgo de participación en este estudio es mínimo. Algunas preguntas pueden ser dificultosas y si usted llega a indicar la necesidad de servicios de salud, le aconsejaré sobre los servicios disponibles. La Children's Aid Society tiene servicios de salud disponibles o le pueden referir a otros servicios mas apropiados que le puedan beneficiar si lo encuentra necesario. En proyectos previos, aprendí que a las personas les gustan hablar de sus vidas cotidianas y espero que usted se entretenga pensando en su vecindario. Aproximadamente participarán 35 padres en este estudio.

Es posible que publicaré los resultados de este estudio pero todas las características identificables y los nombres de los participantes no serán incluidas en las publicaciones. Si usted le interesaría una copia de este estudio, favor de darme su dirección y se la enviaré cuando sea disponible.

Si usted tiene preguntas sobre esta investigación, favor de contactar se conmigo al (917) 854-6737 o a mi tutor Gary Winkel al (212) 817-8724. Si usted tiene preguntas sobre los derechos de su hijo/a como participante en este estudio, favor de contactar a Kay Powell, Administradora del IRB del Centro Graduado de la Universidad de la Ciudad de Nueva Cork/Graduate Center City University of New York al (212) 817-7525.

Muchas gracias por su participación en este estudio. Favor de rodear la respuesta a la afirmación siguiente, firmar el formulario y escribir el nombre de su hijo/a.

Doy mi consentimiento a rellenar el cuestionario. SÍ NO

_____	_____	_____	_____
Firma del padre o tutor	Fecha	Firma de la investigadora	Fecha

_____
Nombre de su hijo/a

Appendix 10. Child Assent Form for the Quantitative Study Phase.

A. English Version

I am a researcher and I am interested in what children and young people think about their neighborhoods. I am also interested in young people's health. I would like to give you a questionnaire asking questions about your neighborhood and your health. First, I would like to read you each of these statements below so that you will understand exactly what I will be doing. Then you can decide if you would like to participate. Your parent(s) or guardian(s) has already given me permission for you to participate in this project.

- First, I will ask you to fill out a questionnaire asking questions about what you think about your neighborhood and your health.
- You can fill out the questionnaire here at the CAS program.
- This is not a test and it is important to remember that there are no right or wrong answers to any of the questions I will be asking you.
- You do not have to participate in the study if you don't want to, and if you do decide to participate, you can decide not to answer certain questions. You can also stop taking part in the study at any time without penalty.
- Your answers to all questions will be kept strictly confidential. Your name will not appear anywhere on the questionnaire.
- The questionnaire should take about 20 to 30 minutes to complete.
- After you complete your questionnaire, you will receive a $5 gift certificate to Subway.
- If you have any questions either before or after you have taken part in the study, I will be happy to answer them.

Signature: _____ Date: _____

B. Spanish Version

Soy una ivestigadora y estoy interesada en lo que los niños y los jovenes piensan sobre sus vecindarios. Tambien estoy interesada en la salud juvenil. Me gustaría darte un cuestionario en el cual te pregunataré sobre tu vecindario y tu salud. Primero, me gustaría leerte las afirmaciones siguientes para que entiendas exactamente lo que voy a hacer. Después, puedes decidir si quieres participar. Tu madre/ padre o tutor me ha dado su permiso para que participes en este proyecto.

- Primero, te pideré que rellenes un cuestionario sobre tu vecindario y tu salud.
- Puedes rellenar el cuestionario aquí en el programa de CAS.
- El cuestionario no es un examen y es importante que tengas en mente que no hay respuestas correctas ni incorrectas.
- No tienes que participar en este estudio si no lo deseas, y si decides participar, puedes dejar de responder a unas preguntas. También puedes parar el proceso en cualquier momento sin ningún problema.
- Todas tus respuestas son completamentes confidenciales y tu nombre no aparecerá en el cuestionario.
- El cuestionario tomará de 20 a 30 minutos para rellenar.
- Después de terminar el cuestionario, recibiras un bono de regalo de $5 para el restaurante Subway.
- Con mucho gusto, te contestaré cualquier pregunta que tengas antes de empezar como al terminar tu participación en este estudio.

Firma: _____ Fecha: _____

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