Beyond Neighborhood Play: Factors that Predict Child Civic Engagement

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BEYOND NEIGHBORHOOD PLAY:
FACTORS THAT PROMOTE CHILD CIVIC ENGAGEMENT

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
International Family and Community Studies

by
Tracy Jill Waters
December 2012

Accepted by:
Dr. James McDonell, Committee Chair
Dr. Robin Kimbrough-Melton
Dr. Jill Korbin
Dr. Susan P. Limber
ABSTRACT

This study utilized a unique mixed methodology to examine perceptions of neighborhood characteristics, independent mobility, and child civic engagement among 101 child-caregiver dyads. Children between the ages of 7 and 13 years completed a neighborhood walk with a member of the research team, identifying neighborhood boundaries, taking pictures of important places, and explaining their day-to-day activities. Responses from a written survey and neighborhood observations complimented the neighborhood walk data. Results revealed that spatial neighborhood and independent mobility did not vary significantly by age or gender. However, spatial neighborhood and independent mobility were positively related to several child and caregiver measures of neighborhood social content. Multivariate regression was used to assess the relationship between perceptions of neighborhood and child civic engagement. The results showed that child independent mobility, child perceptions of neighborhood safety, child perceptions of opportunities for friendship, and caregiver social embeddedness predicted child civic engagement. Of these, child perceptions of neighborhood safety was the strongest predictor of child civic engagement. The research and practical implications of these findings are discussed.
DEDICATION

I would like to dedicate this dissertation to my parents, Joe and Michelle Waters, and my husband, Juan Carlos Medina. Thank you for your support, encouragement, and unconditional love.
ACKNOWLEDGMENTS

First and foremost, I would like to thank the members of my doctoral committee. From the beginning, Dr. Jim McDonell took me under his wing and quickly became my mentor. He recognized the researcher in me and provided me the knowledge, skills, and opportunities to foster my growth and development. I owe Dr. Robin Kimbrough-Melton my gratitude for her invaluable advice, guidance, and supervision and for teaching me the value of human rights. Perhaps one day I will forgive her for Maymester 2009. I want to thank Dr. Jill Korbin for her support, expertise, and, most importantly, for staying on board despite the challenges of being a long-distance committee member. I also would like to thank Dr. Susan Limber for her constructive feedback and for asking the tough questions—I think I am finally figuring out what I want to be when I grow up.

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Monterrey’s to Skype dates as we spread throughout the world. I wish you all the very best.

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CHAPTER ONE
INTRODUCTION TO THE STUDY

This study examined an innovative mixed methodology for measuring children’s perceptions of neighborhood. In doing so, it explored the relationship between independent mobility and children’s civic engagement. More importantly, it brought light to the rich ways in which children experience the physical and social context of neighborhood. This chapter presents the background of the study, the statement of the problem, the significance of the study, definitions of terms, and an overview of the research questions and hypotheses.

Background of the Study

Within the past ten to fifteen years, researchers have initiated efforts to document the impact of neighborhood on children’s well-being and safety, revealing that neighborhood characteristics shape child development even before entry to school (Barbarin et al., 2004; Fantuzzo et al., 2005; Kohen, Leventhal, Dahiten, & McIntosh, 2008). Neighborhood characteristics have been associated with children’s school readiness and performance (Kohen et al., 2008; McWayne, McDermott, Fantuzzo, & Culhane, 2007) mental health (Hanks, 2008; Meltzer, Vostanis, Goodman, & Ford, 2007), antisocial behavior (Caughy, Nettles, & O’Campo, 2008; Guerra, Huesmann, & Spindler, 2003; Kohen et al., 2008; Vieno, Nation, Perkins, Pastore, & Santinello, 2010), and physical health and overweight status (Lumeng, Appuglese, Cabral, Bradley, &
Zuckerman, 2006; Potwarka, Kaczynski, & Flack, 2008), among others. In a nutshell, neighborhood matters for children.

Concurrently, scholars and theorists have begun the process of “rethinking childhood” (Pufall & Unsworth, 2004). Throughout history, children’s place in society has evolved greatly (James, 2004). While the debate of “nature versus nurture” has been a foundation of many introductory discourses on child development, new paradigms on childhood recognize the child’s own agency and voice as important factors shaping development. For example, Meacham (2004) described the contextualist approach to considering children’s agency and voice. In this approach, the child, family, and neighborhood are all important factors that contribute to childhood:

From the contextualist perspective, to have voice means being able to cooperate with others in setting an agenda for action. For children, having voice also means having the ability to construct and contribute interpretations, critiques, and insights that can enrich family, group, and community life. Adults can facilitate the development of children’s voice by including them within a caring community where they can share their visions and goals for the future and work together with others to make those goals become reality. (pp. 77 – 78)

This relationship is reciprocal, as children’s voice and agency are integral components of community life, just as neighborhood and community are important components of childhood.
Studies of children’s agency and voice compliment the modern movement for children’s participation based in the United Nations Convention on the Rights of the Child (1989). Article 12 and 13 of the Convention provide an important framework for children’s participation in a variety of contexts, such as family, education, and health care, to name a few. This framework describes children as competent social actors and acknowledges the right of children to freely express their views through words, pictures, or any other relevant format. Many scholars have used or complemented the framework provided by the Convention to construct models of children’s participation. Of note are Hart’s (1992) “Ladder of Children’s Participation,” a model based on Arnstein’s (1979) ladder of citizen participation, and Francis and Lorenzo’s (2002) seven realms of children’s participation.

Youth civic engagement is a natural extension of the study of children’s participation. Civic engagement generally refers to efforts to engender change for the benefit of a group, usually through formal types of participation in the political realm, such as voting or contacting elected officials. Age restrictions often exclude children from these forms of civic engagement. Instead, Youniss et al. (2002) described a continuum of youth civic engagement that ranges from political activities to civic activities. For children, especially during the period of middle childhood, engagement in neighborhood-based civic activities is a salient form of civic engagement (Nicotera, 2008a). Further, these kinds of activities highlight a connection to one’s community that is an essential component of overall civic engagement (Jans, 2004).
Researchers have started to explore how children experience the modern neighborhood and, in turn, how neighborhood characteristics shape childhood. More descriptive in nature, participatory research with children has explored much about children’s geographies, including how they explore, play, and travel within neighborhoods (Brown, Mackett, Gong, Kitazawa, & Paskins, 2008; Castonguay & Justras, 2008; Hume, Salmon, & Ball, 2005; Kyttä, 2004; Min & Lee, 2006; Mitchell, Kearns, & Collins, 2007; Page, Cooper, Criew, & Jago, 2010; Rissotto & Tonucci, 2002; Ross, 2007; Spilsbury, 2005; Thompson & Philo, 2004). There is much to learn, however, about how these experiences in and perceptions of neighborhood influence children’s connections to neighbors and sense of responsibility for people and places within the neighborhood. This study attempts to fill a gap in the literature by investigating how children’s experiences in and connections to their residential neighborhood are related to youth civic engagement.

Statement of the Problem

At a broader level, neighborhood effects research has struggled with methodological concerns. These concerns include the design of neighborhood research (Nicotera, 2007), competing approaches to defining neighborhood (Coulton, Cook, & Irwin, 2004), and the effect size of neighborhood factors on child outcomes (cf Leventhal & Brooks-Gunn, 2000). One approach to defining neighborhood, for example, is the use of a proxy. Many experts conducting neighborhood research at the national or city level define neighborhood with a proxy, such as census block group or zip code. Proxies are
more or less arbitrary boundaries drawn on a map that do not capture the real essence of neighborhood, including important social processes. For example, Coulton, Cook, and Irwin (2004) found considerable variation within census tracts, particularly with respect to indicators of safety, incivilities, and police relations. Despite the many shortcomings of neighborhood proxies, their use remains prevalent throughout the field of neighborhood research, highlighting the need to adopt more suitable measures of neighborhood.

Further, children often do not have the opportunity to participate directly in neighborhood effects research. This is troubling, as the aim of this research is to quantify the effects of neighborhood characteristics on children and youth. Neighborhood is an important social setting in which children grow and develop and children’s own perceptions of neighborhood are a valuable resource for the fields of community development, youth development, and children’s rights. Since parental perceptions of neighborhood frequently are utilized to gather data on child outcomes (e.g. Caughy, O’Campo, & Muntaner, 2003; Caughy et al., 2008), little is known about children’s own perceptions, how they are formed, and how they relate to child well-being and civic engagement. While an effort is underway to document and encourage children’s participation in environmental planning research (Francis & Lorenzo, 2002), this effort must extend into other areas of social science in which children’s participation is equally important.

The use of qualitative and mixed methodologies is especially appropriate for exploring children’s spatial and social neighborhood and civic engagement. Common
methodologies include drawing mental maps of neighborhoods (Al-Zoabi, 2002; Gillespie, 2010; Lee & Abbott, 2009), participating in neighborhood walks (Gallimore, Brown, & Werner, 2011; Mitchell et al., 2006), creating visual representations of neighborhood through child photography (Hume et al., 2005; Lee & Abbott, 2009; Rudkin & Davis, 2007), focus groups (Morrow, 2003), free writing activities (Nicotera, 2008b), and written surveys (Nayak, 2003). While all of these are relevant contributions to neighborhood methodology, there remains a lack of methodological consistency among researchers, leaving many gaps in how the physical and social characteristics of neighborhood are connected to children’s well-being.

Initial efforts to include children in neighborhood research have revealed that children, when given the opportunity, offer important insights into their use of and place within neighborhoods. Children are competent social actors whose perceptions of neighborhood structures (Castonguay & Jutras, 2009), neighborhood use (Morrow, 2001; Veitch, Salmon, & Ball, 2007), and boundaries limiting independent mobility (Mitchell et al., 2007; Nayak, 2003) are rarely voiced within the field. Further, children’s perceptions reveal differences by age (Brown et al., 2008; Korpela, Kyttä & Hartig, 2002; Spilsbury, 2005), gender (McMillan, Day, Boamet, Alfonzo, & Anderson, 2006), and nationality (Parameswaran, 2003) in children’s ability to move freely throughout the neighborhood, affecting the ways in which children experience their surroundings, attain spatial knowledge of their environment, and develop a sense of place. Friendship patterns (Hume et al., 2005; Morrow, 2001) and parental perceptions of neighborhood (Valentine
& McKendrick, 1997) are additional factors influencing children’s independent mobility and neighborhood experiences.

Unfortunately, there are many threats preventing children from drawing on these rich connections to neighborhood and community that contribute to youth civic engagement. One threat is the growing use of technology by children. A comparison of children’s time use diaries from 1997 and 2003 revealed a significant increase in the amount of time 6- to 12-year old children spent watching television, using a computer, and playing video games (Hofferth, 2010). Meanwhile, their time engaged in “nonscreen” play decreased by twenty percent. As children increasingly use technology for school, recreation, and social networking, parents more and more describe their children as “indoor children” (Skår & Krogh, 2009). Karsten (2005) referred to these children as the “backseat generation,” as they frequently are transported to and from adult-supervised activities outside of the residential neighborhood. Children from the United States have great knowledge of distant landmarks (Parameswaran, 2003), yet their knowledge of local neighborhood landscapes is lacking. Further, parental perceptions of poor neighborhood safety (Burdette & Whitaker, 2005; Johansson, 2006; Miles 2008) and neighborhood disorder (Miles, 2008) prohibit children from connecting to their neighborhoods.

Lastly, while youth civic engagement is an ever-growing area of interest, the focus of this research remains on adolescents and young adults. While there are developmental differences separating the periods of middle childhood and adolescence, preadolescents are young citizens, too. A better understanding of civic engagement
during middle childhood will enrich the field of youth civic engagement and provide more avenues for strengthening children, families, and communities. Initial efforts are underway. For example, the work of Nicotera (2008a) indicated the importance of studying civic engagement during middle childhood, while Atkins and Hart (2003) explored neighborhood influences on youth civic engagement among middle and high school students. Still, there remains a critical gap in the literature.

Given these gaps and conflicts within the field of neighborhood research, an exploration of children’s spatial community and civic engagement is proposed. By recognizing children as the experts on their own neighborhood, this study tested the use of a mixed methodology and explored aspects of neighborhood related to children’s independent mobility and civic engagement. In doing so, this research strengthened the case for including children in the research process, demonstrating the importance of children’s right to participation and its implications for strengthening the moral fabric of communities.

Significance of the Study

Neighborhood effects research is already responding to the child rights movement by directly including children in research and taking special care to consider children’s unique perspectives. Neighborhood mapping and photography have emerged as important components of measuring neighborhood for children (e.g. Loebach & Gilliland, 2010; Rudkin & Davis, 2007; Spilsbury, Korbin, & Coulton, 2009; Travlou, Owens, Thompson, & Maxwell, 2008). The reliability and usefulness of these innovative
methods requires additional research in order to add cohesion to a growing field of research. This study added to the literature by further exploring the use of these innovative methods.

In addition, this study tested a novel approach for measuring neighborhood and assessing neighborhood effects. This unique methodology attempted to generate a collective measure of neighborhood for children residing in the same neighborhood. This approach, currently untested, will be hard to validate within the scope of this exploratory study. For this reason, there is no hypothesis related to the validity of this method; however, this study initiated informal attempts to validate this approach, setting in motion possibilities for future research.

This study also expanded the current body of knowledge by exploring neighborhood characteristics in relation to children’s civic engagement. Understanding the dynamics of children’s neighborhood is important on its own, but it has greater value when viewed in relation to the early stages of children’s civic activity and development. Civic engagement is an important component of any healthy democracy. Understanding the earliest forms of civic engagement during middle childhood will contribute to the field of youth studies, community development, and democracy building. By identifying neighborhood predictors of youth civic engagement, this study alerts residents, practitioners, and policy makers to the importance of valuing children’s presence and voice in neighborhood life. While beyond the scope of this study, the ultimate hope is that civically engaged children will blossom into civically engaged adults, ultimately promoting the social welfare of all. This research is an important first step in
understanding the significance of neighborhood characteristics on child civic engagement and future civic engagement during adolescence and adulthood.

In addition, the results of this study will expand our understanding of children’s opportunities for participating in everyday neighborhood life as well as in neighborhood planning. The field of environmental planning has emerged as a leader for its use of participatory research with children. For example, neighborhood mapping with children has been used for completing community assessments (Loebach & Gilliland, 2010) and for evaluating the availability and accessibility of neighborhood parks (Vietch, Salmon, & Ball, 2008). This study helps validate participatory research with children as a powerful tool for transforming the physical and social characteristics of neighborhoods. Community leaders are often hard pressed for time, while the inclusion of children in planning is time intensive. This study provides community leaders a valuable example of how to genuinely engage children in community planning through the use of developmentally appropriate tools.

Definitions of Terms

In a broad sense, neighborhood refers to one’s residential community, the geographic area immediately surrounding one’s home. The operational definition of neighborhood varies greatly throughout the literature. Too, perceptions of neighborhood conditions and boundaries vary greatly among adult residents (Dahl, Ceballo, & Huerta, 2010) and among parents and children (Spilsbury & Korbin, 2004; Spilsbury, Korbin, & Coulton, 2009). For the purpose of this study, neighborhood refers to residential
community in the broad sense with the hope of better understanding how children experience and delimit this important social setting.

Spatial neighborhood, or home range, refers to the physical boundaries of children’s neighborhood. It measures the distance a child is allowed to travel from home without an adult. The concept of spatial neighborhood is more representative of what children actually experience as neighborhood on a day to day basis instead of the larger units of measurement typically employed in neighborhood effects research, such as census block groups.

Neighborhood social content encompasses all of the social dynamics of neighborhoods, placing an emphasis on the connections between people and places. At the heart of neighborhood social content are resident feelings and perceptions of belonging and safety, as well as the enforcement of collective norms. In the community psychology literature, this often is referred to as psychological sense of community (Chavis & Pretty, 1999; McMillan & Chavis, 1986), which includes the four elements of membership, influence, fulfillment of needs, and shared emotional connection.

Independent mobility is defined as children’s ability to explore public space, such as neighborhoods and parks, unaccompanied by an adult (Heurlin-Norinder, 1996; Kyttä, 2004). The function of independent mobility varies, as children travel for such reasons as play, school, or physical activity. For the purpose of this research, independent mobility may include travel with older children or siblings as long as there is no direct adult supervision.
Civic engagement refers to individual and collective efforts to engender change in the face of a public issue (Checkoway, 2009; Flanagan & Levine, 2010). In action, civic engagement takes on many forms. Youniss et al. (2002) described a continuum of youth civic engagement that ranges from the political realm to the community realm. This continuum is helpful for studying civic engagement among children, for civic behavior during this period of childhood occurs at the neighborhood and community level through connections with neighbors and contributions to community projects (Jans, 2004).

Research Questions

The review of the relevant theoretical and empirical literature suggested the following research questions:

Research Focus 1: How do children’s independent mobility and spatial neighborhood vary as a function of gender and age?

Research Focus 2: How does children’s independent mobility relate to spatial neighborhood and neighborhood social content?

Research Focus 3: To what extent do independent mobility, spatial neighborhood, neighborhood social content, and observed neighborhood characteristics predict children’s civic engagement?
Hypotheses

These research questions led to the following hypotheses:

**Hypothesis 1**

The first research question explored group differences in children’s independent mobility.

**H1.** There are statistically significant differences in children’s independent mobility among groups.

**H1(a)** Boys have greater independent mobility and a larger spatial neighborhood than girls.

**H1(b)** Older children have greater independent mobility and a larger spatial neighborhood than younger children.

**H1(c)** The function of independent mobility varies by gender. Boys will have more independent mobility for the purpose of outdoor play and traveling to school. Girls will have more independent mobility for the purpose of visiting friends.

**Hypothesis 2**

The second research question in this study examined the relationship between children’s independent mobility, spatial neighborhood, and neighborhood social content.

**H2.** Statistically significant relationships exist between children’s independent mobility, spatial neighborhood, and neighborhood social content:

**H2 (a)** There is a significant positive relationship between independent mobility and spatial neighborhood. Children with greater independent mobility have a larger spatial neighborhood.
**H2 (b)** There is a significant positive relationship between independent mobility and neighborhood social content. Independent mobility is positively related to child and caregiver perceived sense of safety, sense of place, and social support. Children with greater independent mobility will identify more neighborhood places that are socially significant.

**H2 (c)** Spatial neighborhood is significantly positively related to neighborhood social content.

**H2 (d)** Child neighborhood social content is positively related to caregiver neighborhood social content.

**Hypothesis 3**

The third research question in this study examined the predictive nature of neighborhood characteristics on child civic engagement.

**H3 (a)** Independent mobility, spatial neighborhood, neighborhood social content, and observed neighborhood characteristics will be significant predictors of child civic engagement. Higher levels of the predictor variables will be related to higher levels of child civic engagement.

With the aforementioned research questions and hypotheses in mind, this study attempted to fill a gap in the literature by exploring the unique ways in which children experience and perceive the context of neighborhood and how these experiences contribute to the development of civic engagement and identity. As described, neighborhood matters for children and childhood; however, there is a dearth of
neighborhood effects research that truly incorporates children’s voice and agency. This study helps advance innovative methods for measuring neighborhood with children and sheds light on the relationship between neighborhood connections and civic engagement during middle childhood, a stage of development often excluded from the study of youth civic engagement.

This paper begins with a detailed review of the literature, highlighting key findings related to place attachment, child and adult use and perceptions of neighborhood, youth civic engagement, and children’s participation in neighborhood effects research. In Chapter 3, the research methodology is described, focusing on the proposed sample and sampling technique, research protocol, and measures. Chapter 4 explains the approach to analysis, describing data preparation, data analysis, and threats to validity. The research findings are presented in Chapter 5 and discussion, implications, and directions for future research in Chapter 6.
CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter presents a detailed review of the literature associated with the proposed research questions. This literature review is arranged in the following order: (a) an overview of conceptualizations of child well-being; (b) place attachment and neighborhood; (c) children’s use and perceptions of neighborhood; (d) children’s independent mobility; (e) neighborhood friendship patterns; (f) parental use and perceptions of neighborhood; (g) youth civic engagement (h) children’s participation in neighborhood research; and (i) an overall summary of key concepts emerging from the literature review and the present study.

Exploring Child Well-Being

The definition of child well-being varies by discipline and by researcher, yet is an instrumental construct within the study of childhood. In general, child well-being often refers to the physical, emotional, and mental health of children. In neighborhood research, child well-being is operationalized and measured in many ways, although the most common approaches include measures of children’s academic, behavioral, and health outcomes (Caughy et al., 2003; Fletcher, Hunger, & Eanes, 2006; Sampson, 2003). For example, Fletcher et al. (2006) operationalized child well-being as a combination of maternal reports of children’s problem behavior, children’s official academic grades, and children’s self-reported self-efficacy. Fox, Berrick, and Frasch (2008) included a
measure of children’s expectations for the future, arguing that children’s beliefs about future opportunities for success are an integral part of well-being. Coulton and Korbin (2007) presented neighborhood level indicators of child well-being, including indicators based on administrative data, such as child access to early education and housing conditions, and adult perceptions of neighborhood characteristics, such as perceptions of crime and resident intervention. While operational definitions and measures vary, a common theme that emerges is the lack of children’s participation in defining and measuring child well-being.

Though children’s place within the discussion of child well-being is debatable, Ben-Arieh and colleagues (2001; 2005) argued that children should have a prominent place in the development of child indicators. Stemming from the child rights movement, Ben-Arieh et al. (2005) presented a strong framework for including children in the study of well-being. In this framework, children are active participants that play a role in designing studies, providing information, collecting data, and interpreting and utilizing results. While issues related to age, reliability, response rates, power, and ethics may hinder the potential for children’s participation in the development of indicators, children remain valuable participants in the advancement of the field and should be involved in all aspects of the research process. Beyond that, children want to participate in meaningful research that benefits other children, families, and communities.

Fattore, Mason, and Watson (2009) presented a framework for conceptualizing child well-being based primarily on children’s participation. Through the use of individual and group interviews and creative projects, the authors engaged children in the
task of defining and identifying relevant dimensions of well-being. First, children highlighted the “overarching importance of relationships” in the construction of well-being (p. 57). Under the broad umbrella of relationships, children identified three main themes related to well-being: positive sense of self, agency and control in everyday life, and security and safety. These three main themes then influenced the ways in which children perceived six secondary themes relating to well-being: activities, adversity, material and economic resources, physical environment, physical health, and social responsibility. A positive and practical implication of these child-generated themes is the creation of child indicators of well-being.

Although additional research is necessary in the refinement of child well-being constructs and indicators, this line of research demonstrates that children’s well-being is far more complex than objective measures of academic, behavioral, and health outcomes and is inextricably tied to relationships and the neighborhood environment (Fattore et al., 2009). Fattore et al. (2009) elaborated that “being able to access parklands autonomously, and feel safe to play in parks, is important to some children’s well-being” (p. 68). If social scientists are to view child well-being holistically, neighborhood must be considered an integral setting that influences child well-being as well as a setting in which children practice and develop participation rights. Central to this holistic view of children’s well-being is the process in which children form attachments to neighborhood, converting the objective concept of ‘space’ into the value-laden concept of ‘place.’
Neighborhood as Place

In an overview of the literature on the importance of place attachment for young children, Jack (2008) emphasized the difference between space and place, stating “Place comes into existence when people give meaning to a part of the larger, undifferentiated space in which they live” (p. 3). When considering the physical environment, space refers to those areas and structures which are neutral. Space is objective, while place is subjective. By assigning meaning to the physical environment, both children and adults develop a sense of place, sometimes referred to as place attachment. As shown by Fattore et al., (2009), sense of place is an important part of child well-being. Too, Korpela et al. (2002) found that one characteristic of children’s reported favorite places was the promotion of “conscious emotion regulation” (p. 396). Visiting a favorite place can be restorative for many children, providing a safe place for reflection and relaxation, contributing to well-being.

It is important to consider how children develop sense of place. The formation of children’s sense of place is linked to the formation of interpersonal relationships with family members and other neighborhood residents. First, building relationships with members of the community has been related to children’s increased sense of belonging and sense of safety (Ross, 2007). Even weak relationships with neighbors allowed children to independently explore the neighborhood and develop a sense of place, as children perceived that neighborhood adults were casually supervising them. Similarly, Derr (2002) defined sense of place “as a relationship to place, a dialectical way of thinking of and experiencing a biophysical and cultural place” (p. 125). Based on in-
depth interviews with children residing in Northern New Mexico, Derr concluded that family ties, social relations, and personal meaning were more relevant factors contributing to children’s sense of place than were physical features of the environment. Jack (2008) emphasized this point, explaining that positive social interactions within environments with poor physical characteristics still contributes to place attachment among children.

Strong social connections are related to children’s sense of safety, also contributing to sense of place. As described by Fattore et al., (2009) “When children feel safe in their neighborhood, they feel connected to place and are able to act autonomously within it” (p. 66). As is discussed later in more detail, child and parental sense of safety contribute to children’s independent mobility. By having the ability to explore the neighborhood without the presence of adults, children learn the spatial features of their surroundings, allowing them to develop a stronger sense of place. The establishment of social networks with neighborhood children and adults that foster a sense of safety is an important element in the formation of sense of place and sense of community.

Children’s sense of place is often reflected through mapping exercises. Sobel (1998) emphasized the importance of place attachment as he highlighted children’s mapmaking abilities throughout elementary school. Mapmaking is an essential part of children’s cognitive development, but many curricula force young children into abstract mapmaking, not allowing children the opportunity to explore their environment and incorporate affective features into maps. According to Sobel, the years of elementary school form a series of sensitive periods in which children are ripe for developing place
attachment and forming spatial community. In the first stage, from ages five to six, children begin to explore and bond with the natural environment and benefit from outdoor learning activities that foster spatial and kinesthetic skills. Children of this age create simple neighborhood maps that center primarily on the child’s home.

The second stage, when children reach seven or eight years of age, begins to show a shift away from the child’s home. Sobel (1998) described children’s maps during this time as reflective of greater neighborhood exploration and indicative that children’s play is no longer centered in the home, but in nearby parks, gardens, and backyards. Children’s pathways, or routes through the neighborhood, are also distinctive features appearing in maps; yet these pathways expose footpaths sometimes hidden to the adult eye, as they are often short-cuts created by children that may not even involve human-made roads or sidewalks. Al-Zoabi (2002) confirmed that young children’s maps primarily include landmarks within their neighborhood and often feature foot-paths. As children grow, so do their maps, with nine and ten year-old children creating sprawling maps that reflect their increasing independence and mastery of their environment (Sobel, 1998). The importance of children’s social networks is also seen through mapmaking during this stage, as children map places and paths that facilitate the formation and development of friendships.

Recent analyses of children’s maps and photographs have revealed common themes present in children’s representations of neighborhood that reflect a sense of place. Hume et al. (2005) examined children’s maps and identified six commonly occurring features: the family home; opportunities for physical activities and sedentary pursuits;
food items and locations; green spaces and outside areas; the school; and opportunities for social interaction. In a study combining the use of free writing about neighborhood and child photography, Morrow (2001) noted the following themes: the child’s home and street, a friend’s house and street, a school and surrounding playgrounds, parks, footpaths, urban landmarks, and work-related landmarks. These themes offer an important first look at children’s sense of place, yet indicate the need for a deeper exploration of children’s perceptions and use of neighborhood spaces.

Children’s Use and Perceptions of Neighborhood Spaces

As established, neighborhood and sense of place are concepts germane to the study of child well-being. Just as children are becoming increasingly involved in research relative to well-being, children have enjoyed greater opportunities to voice their perceptions of neighborhood spaces and their use of such spaces. Nicotera (2008b), following the framework of social disorganization theory, utilized a mixed methodology to explore children’s constructs of neighborhood. Her analysis revealed three constructs that children from all neighborhoods described: neighborhood resources, neighborly associations, and negative aspects of neighborhoods. These themes are reflected throughout the following section that examines how children perceive and use neighborhood spaces.

A common goal of child-centered neighborhood research is the identification of liked neighborhood spaces. In studies exploring children’s perceptions of important or well-liked spaces, children consistently reported outdoor neighborhood spaces as
important (Castonguay & Jutras, 2009; Elsely, 2004; Korpela et al., 2002; Morrow, 2001; Min & Lee, 2006; O’Brien, 2003; Veitch et al., 2008). The most commonly listed outdoor spaces were playgrounds and developed parks and green areas. However, not all parks and playgrounds were of equal importance, indicating that characteristics of outdoor spaces influence children’s perceptions (Castonguay & Jutras, 2009).

Castonguay and Jutras grouped children’s self-reported liked spaces into five categories: parks and playgrounds; streets and alleys; service and retail places; spaces near the child’s home; and spaces near an acquaintance’s home. Neighborhood places deemed important by children were most likely to be located in the interior of the neighborhood instead of toward the periphery (Min & Lee, 2006).

Children reported using neighborhood spaces in varying ways. Castonguay and Jutras (2009) categorized children’s reported activities in liked neighborhood places into five groups: games with rules; informal motor and creative play; play with fixed equipment; unspecified play; and play with locomotion equipment. In a study of urban South Korean children, Min and Lee (2006) identified five physical and social attributes of place that influence children’s behaviors and use of neighborhood places: accessibility to and spatial connections between settings; play opportunities and functional capabilities; possibility for privacy and sense of territoriality; chance to meet and play with friends or colleagues; and possible physical or social risks in the setting. As described by the authors, “children find a certain setting important because they are able to do what they want to do there and the setting provides the related affordances. This implies, in short, that settings behaviorally useful and functionally supportive are likely to
be psychologically valued,” (p. 68). Therefore, children’s place attachment is a complex combination of use and support.

Individual characteristics such as age influence children’s perceptions of neighborhood spaces. In a sample of low-income urban areas, younger children preferred spaces near the home of a friend or acquaintance, whereas older children were more likely to prefer parks and playgrounds (Castonguay & Justras, 2009). Beyond age, the authors found no significant difference in liked spaces attributed to children’s gender, family structure, family income, or length of neighborhood residence. Age also influences how children utilize their favorite places (Korpela et al., 2002). Younger children preferred to visit their favorite neighborhood place alone, while older children preferred to visit their favorite place with friends. This difference may be attributed to younger children viewing their favorite place as a spot of reflection and restoration.

Even at a young age, children are aware of neighborhood dangers that limit their independent mobility (Mitchell et al., 2007; Nayak, 2003). Though parental perceptions appeared to influence children’s perceptions of barriers and dangers, Mitchell et al. (2007) found that children’s photographs of neighborhood dangers exposed common fears. In general, children expressed frustrations with traffic and road dangers, inability to access public space, uneven pavement, litter, and residential construction. However, differences in socio-economic status (SES), neighborhood characteristics, and levels of neighborhood social cohesion were influential, with certain fears and frustrations emerging more often in different neighborhoods. Nayak (2003) also highlighted children’s heightened awareness of neighborhood crime, stressing the ability of children
to perceive and address threats to neighborhood safety. Children and adolescents residing in urban areas, especially girls, reported lower levels of perceived safety (Zani, Cicognani, & Albanesi, 2001). As shown, children do, in fact, have an extensive knowledge of neighborhood conditions, further justifying their participation in neighborhood research.

Children also have expressed perceived barriers limiting their use of public open spaces, such as parks and playgrounds (Veitch et al., 2007; Morrow, 2001). First, children described playground equipment as “uninteresting, not challenging enough, and primarily designed for younger children,” (p. 414). Children therefore avoided playgrounds due to a lack of stimulation. Additionally, children reported the presence of teenagers to be a barrier to accessing public open spaces, as teenagers were “threatening and intimidating,” (p. 414). Another barrier was children’s lack of time and independent mobility, with children expressing frustrations with homework and after-school activities and their reliance on adults to visit public spaces.

Children also cited urban design issues, such as a lack of public spaces within walking distance or roads with heavy traffic, as barriers to visiting public neighborhood spaces. In many instances, public play spaces simply are not available where needed most. Galliland, Holmes, Irwin, and Tucker (2006) found that there were fewer recreational opportunities in neighborhoods with the highest need. In this analysis, need reflected the type of housing stock, youth density, and household crowding. When public spaces are available, they are not always accessible or inviting. In a study exploring why children like or dislike neighborhood spaces, Castonguay and Jutras (2009) found that
children dislike certain public spaces due to “perceived possible threats to their safety” (p. 6), such as traffic. Even the presence of one or two non-walkable streets in a neighborhood can serve as a serious barrier for children, highlighting the potential unintended consequences of urban design (Gallimore et al., 2011).

Perceived exclusion is another barrier limiting children’s use of public spaces. Morrow (2001) mentioned a sense of exclusion perceived by children, such as postings of “No Ball Games” signs at public spaces. Similarly, youths residing in urban and rural neighborhoods in Britain, Scotland, California, and Brazil spoke of perceived exclusion from public spaces (Gough & Franch, 2005; Meek, 2008; Travlou et al., 2008). In a study completed with young adolescents, Morrow (2003) identified four ways in which British children were excluded from public spaces: exclusion due to the high cost of activities, practical exclusion due to road traffic, exclusion by fear of crime, and exclusion from participating in community decision-making. These types of exclusions and boundaries articulated by children highlight the fact that neighborhood spaces are often adult-dominated places that reduce children’s ability to move freely and establish a strong sense of place. Given these perceived boundaries, the study of children’s ability to move freely throughout the neighborhood merits further consideration.

Children’s Independent Mobility

Independent mobility is defined as children’s ability to explore public space, such as neighborhoods and parks, unaccompanied by an adult (Heurlin-Norinder, 1996; Kyttä, 2004). The function of independent mobility varies, as children travel for such reasons as
play, school, or physical activity. Many researchers view this mobility as home range, the farthest distance children are allowed to travel unaccompanied by an adult within the neighborhood (Spilsbury, 2005). Home range varies greatly. A third of the participants in Veitch et al.’s (2008) sample of 8- to 12-year old Australian children were able to travel independently only within 100 meters or less from their home. Additionally, 12% of children were not granted any independent mobility. The amount of independent mobility granted children is important to the study of childhood, as it has serious implications for other facets of development. For example, children with greater independent mobility reported more frequently engaging in outdoor play (Page, Cooper, Griew, & Jago, 2010).

Children’s age is a significant factor influencing home range (Brown et al., 2008; Korpela et al., 2002; Spilsbury, 2005). When exploring the effects of neighborhood violence on home range, Spilsbury (2005) found that variation in children’s home range was most influenced by age, with older children reporting farther home ranges than younger children. In fact, 10 and 11 year-old boys living in neighborhoods with high levels of violence in many instances had larger home ranges than younger boys living in neighborhood with low levels of violence. These findings suggest, then, that home range gradually increases with age and is more related to individual and family characteristics than to neighborhood characteristics. However, increased mobility does not imply that children assign greater value to distant places, as Korpela et al. (2002) found no significant relationship between children’s independent mobility, their type of favorite neighborhood place, or that place’s distance from the child’s home.
One family characteristic influencing children’s independent mobility is parental marital status (Valentine & McKendrick, 1997). Children living in a single-parent household were more likely to have greater independent mobility than were other children, a finding attributed to the limited monitoring potential of one parent compared to two parents. The authors noted that children residing in predominantly middle-class two-parent household neighborhoods were stereotypically perceived to have greater outdoor freedom, yet this freedom resulted in play opportunities in private spaces as opposed to play in public neighborhood spaces. Further, children from middle class neighborhoods were more likely to be involved in adult-monitored organized play, such as after-school activities taking place predominantly outside of the neighborhood. As the authors stated, “Children’s play… is now increasingly being spatially contained within child-adult segregated private spaces, like institutional play schemes, prompting more suspicion of those children who are in public spaces without adults” (p. 229). These shifts in children’s play opportunities have serious implications for children’s independent mobility and spatial community.

Further, cultural patterns in independent mobility were found in cross-cultural comparisons (Parameswaran, 2003). When comparing the mapmaking abilities of children from the United States and India, Parameswaran noted key differences in neighborhood knowledge. Indian children were found to demonstrate a richer knowledge of their immediate neighborhood, reflecting more time spent exploring neighborhood places. On the contrary, children from the United States had greater knowledge of distant landmarks, reflecting a greater amount of time spent traveling in private vehicles.
Children from the United States also were more likely to be able to identify cardinal directions within their maps than were Indian children, whereas Indian children were more likely to include aspects of social connectedness in their maps. These cultural differences indicate that children throughout the world enjoy varying levels of independent mobility that have implications for children’s development of place attachment.

Gender also influences children’s independent mobility, although in complex ways. McMillan et al. (2006) found gender differences among third- through fifth-graders’ mode of travel to school. When controlling for age, SES, and perceptions of neighborhood safety, girls were significantly less likely to walk or bike to school. However, this study only examined children’s mode of transportation and did not include a measure of children’s independence. In regard to outdoor play, Valentine and McKendrick (1997) reported that girls were less likely to be described by their caregiver as “outdoor children.” Additionally, girls’ outdoor play was more likely to be home-based, indicating higher levels of independent mobility awarded to boys. In neighborhoods characterized by high levels of violence, 10 and 11 year-old girls reported a surprisingly small home range that was comprised of the area immediately outside of the house and areas near friends’ homes located on the same side of the street (Spilsbury, 2005). Gender-related differences in mobility were present in several nations, as Indian boys were found to have more independent mobility than Indian girls of the same age (Parameswaran, 2003) and young men in Brazil more independent mobility than young women (Gough & Franch, 2005).
In addition, recent research suggests that children’s perceptions of neighborhood extend far beyond their home range (Spilsbury et al., 2009). Spilsbury et al. noted that “Children’s neighborhood dimensions were significantly greater than both home range alone and home range with a friend” (p. 11). This can be attributed to the growing tendency of parents to access resources located far from the family’s home, increasing the amount of time children spend in automobiles. Karsten (2005) referred to these children as the “backseat generation,” as they are frequently transported to and from adult-supervised activities outside of the neighborhood of residence. As previously noted, children from the United States have greater knowledge of distant landmarks (Parameswaran, 2003), yet their knowledge does not translate into increased levels of independent mobility.

Lastly, a growing body of research explores the extent of children’s independent mobility as it relates to children’s experiences travelling to and from school. Since school is a significant activity setting during middle childhood, the process of returning to and from school is an experience in which children’s neighborhood travel and independence are expanded or limited. Many researchers have begun to use qualitative child-centered research to understand the importance of children’s independent mobility and its implications for children’s spatial community. Despite the lack of empirical findings related to children’s independent mobility, researchers have identified many trends in children’s independent mobility related to a range of factors, including SES, gender, and parental perceptions of neighborhood safety.
First, children travel to and from school in a variety of ways. The most common modes of transportation are walking, bicycling, taking public transportation or the school bus, and riding in a private car (Mitchell et al., 2007). Additionally, children travel independently or accompanied by a parent, a parent and siblings, or peers. Mitchell et al. found that about half of the children in their sample of New Zealand children travelled to school accompanied by an adult, most often travelling by car. The vast majority of children travelling without an adult did so by walking alone or with peers. The decision to walk to school or not was most greatly influenced by walk travel time, with longer walk times associated with a lower likelihood of walking (McDonald, 2008).

Mode of transportation to and from school has surprising implications for children’s environmental knowledge. When asking children to draw their route to school on a map and then create a free-hand sketch of their neighborhood, Risotto and Tonucci (2002) found that Italian children who walked to school unaccompanied by an adult completed the mapping exercises with greater accuracy and ease, demonstrating higher levels of environmental knowledge. Children walking to school with an adult performed poorly in comparison. The authors reported that “Children who walk to school accompanied by an adult experience the journey within an adult perspective… as fast as possible, from the starting point to the destination” (p. 74). Although walking to school has important health benefits, children who lack independence are not able to explore the environment from a child’s point of view, thus compromising their agency and ability to structure knowledge of their environment.
In summary, children’s independent mobility is influenced by individual characteristics, such as age, gender, and culture, as well as family characteristics. However, other factors may contribute to children’s independent mobility. While Brown et al. (2008) did report gender differences in independent mobility, they cautioned that there are also differences among the ways boys and girls view independence, explaining that “it would appear that girls’ relationships with the environment are more mediated by their social networks than are boys,” (p. 329). Subsequently, it is important also to explore features of children’s friendship patterns, as these patterns potentially affect the way children perceive and experience neighborhood.

Neighborhood Friendship Patterns

Neighborhood friendship patterns influence children’s use and perceptions of neighborhood space. Hume et al. (2005) and Morrow (2001) identified themes related to friendship present in the majority of children’s visual representations of neighborhood. Morrow (2001) noted that “In many cases, how children felt about where they live seemed to depend on proximity to friends,” (p. 261). Children with many friends living in close proximity reported higher levels of attachment to their neighborhood, while children, particularly girls, with few friends residing nearby spoke less positively of their neighborhood. Further, children claimed that they would be more likely to visit parks if they knew their friends would be there (Min & Lee, 2006; Veitch et al., 2007) and often identified favorite places as places in which they could meet friends (Korpela et al., 2002).
Gender differences in social networks and friendship patterns have been found to influence children’s independent mobility. When mapping 11 and 12 year-old children’s friendship patterns, Brown et al. (2008) found that boys were more likely to have two or more friends living within close proximity, whereas girls had friendship patterns that were more scattered in nature. The authors reported two potential explanations for these patterns. First, they hypothesized that boys were initially granted more independent mobility and consequently formed more friendships within the neighborhood than did girls. On the other hand, girls were more likely to form friendships through pre-existing networks, such as through their mother’s friends, early childhood education experiences, or church. For this reason, girls’ friendship patterns were scattered, as they were formed in a variety of contexts. Independence, then, was manifested in different ways, with boys reporting more independence within the neighborhood and girls reporting more independence in utilizing public transportation to meet friends at distant shopping centers.

However, regardless of the reason for gender differences in friendship patterns, children with a greater number of neighborhood friends are more likely to request additional independence and have a greater attachment to and spatial understanding of their neighborhood. Brown et al. (2008) spoke of the value in achieving greater independence within the neighborhood, saying that “It may give a child intimate knowledge of a small territory and its people, rather than the vague knowledge of a wider area which comes through travelling by car. It may help a child to gain a sense of his or her own neighbourhood or territory and a sense of place which comes from that,” (p.
Although there is also value in the independence enjoyed by girls with scattered friendship patterns, many areas lack a suitable system of public transportation that allows for such independence, thus limiting girls to home when public travel is not possible.

An additional trend in child research aims to explore the relationship between linked child and adult friendship patterns and child well-being (Fletcher et al., 2006). Also referred to as intergenerational closure, this concept suggests positive outcomes for children whose parents’ social network is closely aligned with their children’s social network, thus allowing for an accumulation of social capital (Coleman, 1988; 1990). Fletcher et al. (2006) examined the role of social network closure and found that higher levels of closure in friendship clusters were correlated with positive child outcomes. While not directly affecting child well-being, increased closure did lead to positive changes in parental norms and behaviors which in turn were associated with positive child outcomes. Fletcher et al. identified four clusters in which closure occurs: family; neighborhood; church and school; and school and community. While all of these four contexts are important, the neighborhood cluster has greater implications for understanding children’s spatial community and well-being. Children and parents’ friendship patterns within the neighborhood vary, leading to differences in independent mobility, perceptions of neighborhood, and child well-being.

Despite the close proximity of children and adults, neighborhood is not a context that fosters high levels of friendship closure. Fletcher et al. (2006) noted “Geographic proximity makes it easy for neighborhood children to spend time together, but this very ease of access makes it unnecessary for parents to form closure relationships” (p. 1065).
However, a possible explanation points to the importance of social trust and support and parental control. Parents are more likely to allow their children greater independent mobility if they trust that neighborhood adults share common values, are concerned about children’s well-being, and are actively watching out for children who are playing in the neighborhood unaccompanied by an adult. Although not as common, intergenerational closure within the neighborhood does have implications for child well-being: higher levels of closure within the neighborhood context were associated with higher levels of children’s self-efficacy. Yet considering that intergenerational closure is less common in the context of neighborhood, it is important to explore other parental perceptions of neighborhood that influence children’s sense of place and spatial community.

Parental Use and Perceptions of Neighborhood

Parental perceptions of neighborhood, particularly neighborhood safety, are related to parenting practices and the amount of independent mobility granted children. Although this study primarily focused on children’s perceptions of neighborhood, it is important to consider how parental perceptions are strongly related to children’s perceptions and freedoms. While parents and children often have similar perceptions of neighborhood, in some instances their perceptions are markedly different, emphasizing the relevance of research comparing and contrasting parental and child perceptions. Such research places an emphasis on parent-child partnerships in which children’s perceptions are valued and considered.
First, parental perceptions may hinder or contribute to the amount of independent mobility granted to children. For example, Valentine and McKendrick (1997) attributed children’s limited independent mobility to parental fears and anxieties about safety, primarily due to perceived dangers posed by automobile traffic and strangers. Among parents who primarily viewed their children as “indoor children,” Karsten (2005) found that parents in the Netherlands reported a lack of safe outdoor spaces for children and a lack of social safety, thus causing them to limit their children to indoor spaces. Even in rural settings, parents are highly concerned about their children’s safety (Valentine, 1997). Parents with lower levels of trust were more likely to limit children’s independent travel, viewing the neighborhood environment as unsafe and insufficient (Johansson, 2006; Weller & Bruegel, 2009). Prezza, Alparone, Cristallo, and Luigi (2005) revealed that parents limit their children’s independent mobility due to fears of traffic, fears of crime, and the possibility of encountering drugs or ill-intentioned adults.

Even in urban environments more conducive to children’s independent mobility to school, parents often prefer to chauffeur their children to school for convenience and safety (Schlossberg, Greene, Phillips, Johnson, & Parker, 2006). This convenience factor is also present in relation to children’s after-school activities and leisure time, as parents consider organized activities to be a great alternative to outdoor play (Skår & Krogh, 2009). Skår and Krogh continued, stating:

Children’s lack of intuitive, embodied experiences in nature can in itself create a sense of alienation from nature and become an obstacle to getting children to use nearby areas for creative, expansive free play. Fear and anxiety lead to children
avoiding free or spontaneous encounters with nature, a change apparent, for example, in a comment made by a parent who described organized activities as ‘safe and easy’. (p. 351)

The interplay of convenience and fear on the part of parents appears to translate into fear and anxiety on the part of children, limiting children’s ability to engage in outdoor free play even when opportunities are available.

Further, parental sense of community relates to children’s independent mobility in sometimes contradictory ways. Prezza et al. (2005) found that parents residing in smaller towns and parents with a higher sense of community perceived their neighborhood as a safer place. Yet in a study of Italian children, mothers’ sense of community was not positively related to children’s independent mobility (Prezza et al., 2001). Instead, mothers’ knowledge of and relationships with other parents in the neighborhood was related to the level of independent mobility granted to children. Additionally, Johansson (2006) found that Scandinavian parents with a strong sense of community had a more favorable attitude toward chauffeuring their own children and neighborhood children than they did toward children’s independent mobility. The author hypothesized that a stronger sense of community increases communication and facilitates carpooling among residents.

Neighborhood income level may serve as a mediator between parental perceptions of neighborhood and child well-being. Caughy et al. (2003) hypothesized higher levels of child behavioral problems among parents residing in low impoverishment neighborhoods who reported knowing very few neighbors. On the contrary, child
behavioral problems were highest among parents living in high impoverishment neighborhoods who did report knowing many neighbors. In the case of impoverished neighborhoods, parental control techniques that isolate the family and limit children’s independent mobility may protect children and promote their well-being. Caughey et al. also found that measures of psychological sense of community were not associated with children’s behavioral problems.

Additionally, Jutras and Lepage (2006) found that parents residing in disadvantaged neighborhoods viewed their neighborhoods as less child-friendly than did parents living in more economically advantaged neighborhoods. Parents living in disadvantaged neighborhoods were less likely to discuss the presence of children in the neighborhood, neighborhood safety, and environmental amenities. Further, these parents were more likely to describe their neighborhood in terms of social disorders affecting child well-being, often referring to issues of violence, substance use, and prostitution.

Based on the perceptions of all parents surveyed, the authors identified three features of neighborhood that influence child well-being: child-friendliness, environmental amenities, and the presence of supportive neighbors. The combined presence of these features, in the eyes of parents, contributes positively to children’s sense of place and well-being.

An emerging line of research compares and contrasts the level of agreement between parental and child perceptions of neighborhood. Jutras and Lepage (2006) contended that parental sense of place greatly influences the way in which parents perceive neighborhood characteristics related to well-being. This suggests that parental
sense of place may be related to children’s sense of place. The authors reported that “Parents reveal a myriad of perceptions that constitute their perceptual field, which bear on their behavior as agents of socialization” (p. 320). Consequently, when parents feel at ease in their neighborhood and consider their neighborhood a safe place in which children can engage in activities with other children, they are more likely to pass these perceptions to their children, contributing to children’s own sense of place.

Spilsbury et al. (2009) explored differences in children’s and parents’ perceptions of their neighborhood and its boundaries. The authors found that children’s and parents’ perceived dimensions of neighborhood were correlated, although children defined neighborhoods that were vastly smaller in area and perimeter. The authors cautioned, “the parent-child differences observed in our study suggest that in order to capture neighborhood qualities in neighborhood-effects research, care must be taken to identify discrepancies between neighborhoods as defined by children versus parents” (p. 17). On a related note, Kyttä (2004) found that, despite Belarusian parents’ efforts to restrict children’s independent mobility, children nonetheless reported high levels of mobility, indicating that parental perceptions of children’s mobility are not necessarily accurate. On the other hand, children may overinflate their level of independence, suggesting the need for a balanced view of independent mobility.

In a study exploring neighborhood social capital, Spilsbury and Korbin (2004) also revealed differences in child and parent perceptions. Parents were asked to respond to a variety of scenarios in which they rated their likelihood of helping a child. Conversely, children were asked to imagine how their adult neighbors would respond if a
child needed help. The authors found that “Adults largely presumed that children who need help will want help and will accept it… Yet, while they supported help seeking as a general principle, children expressed some reticence and concern about asking for and accepting help” (p. 200). Consistent with the “stranger danger” lessons taught to children beginning at a young age, many children are reluctant about accepting help from adults within the neighborhood.

As demonstrated, children and adults often have differing perceptions of neighborhood. Considering that parental perceptions of neighborhood are documented more fully, research that encourages children’s participation and measures children’s perceptions of neighborhood will help reveal differences and lead to a better understanding of children’s sense of place and spatial community.

**Youth Civic Engagement**

Civic engagement refers to individual and collective efforts to engender change in the face of a public issue (Checkoway, 2009; Flanagan & Levine, 2010). In action, civic engagement takes on many forms, ranging from informal volunteering to formal political actions, such as voting. Too, Youniss et al. (2002) described a continuum of youth civic engagement that ranges from the political realm to the community realm. This continuum is helpful for studying civic engagement among children, for civic behavior during this period of childhood occurs at the community level through connections with neighbors and contributions to community projects (Jans, 2004). Atkins and Hart (2003) also highlighted the importance of community to civic engagement when describing the two
essential components of civic identity: (1) a sense of connection to a community; and (2) entitlements and responsibilities.

The influence of caring adults is integral to the formation of civic identity, as adults model pro-social behavior and norms (Atkins & Hart, 2003). The family, of course, serves as the nucleus in the development of civic norms. Flanagan, Bowes, Jonsson, Csapo, and Sheblanova (1998) described:

“The most robust finding is the consistent and significant effect that a family ethic of social responsibility has on adolescents’ civic commitment. In every country and for both boys and girls, those who heard this ethic emphasized in their families were more likely than their compatriots to consider helping their country and doing something to improve their society as an important life goal.” (p. 469)

Adults are an essential component of youth civic engagement, within the home and in the broader community. Other influential adults include coaches and youth leaders (Atkins & Hart, 2003) and community practitioners and neighborhood workers (Nicotera, 2008a).

Indeed, the context of neighborhood is quite salient for the development of youth civic engagement. In an analysis of urban minority youth, Atkins and Hart (2003) found that type of residential neighborhood was one of the best predictors of youth community service. The authors said, “Youth in high-poverty urban neighborhoods were nearly 50% less likely than their suburban counterparts to participate in community service” (p. 161). These same youth also showed lower levels of civic knowledge and political tolerance. Conversely, youth with greater feelings of policy control within the school and
community, a component of civic engagement and sociopolitical control that relates to beliefs about one’s ability to participate in decision making processes, had stronger neighborhood attachment and lower levels of substance use (Peterson, Peterson, Agre, Christens, & Morton, 2011).

With such a focus on adolescence and young adulthood, one question remains: What about children? For some, childhood is a special period in which there is no responsibility toward the greater community, as evidenced in the quote by Atkins and Hart (2003):

“Prior to adolescence, most children enjoy a more or less unilateral relationship with their communities. During this phase of the relationship with the community they accrue a number of advantages, yet there is no expectation that they will contribute to the health or functioning of the community.” (p. 157)

This point of view places children into a different category, granting them reprieve from the task of maintaining and improving community life in the face of social problems. True, some societal and community issues are daunting at best. Efforts to build neighborhood problem-solving capacity among children has been related to lower levels of neighborhood identity and less optimism in one’s ability to solve problems, as children may become discouraged and disengaged when realizing the amount of work and resources needed to address neighborhood issues (Nicotera, 2008a). While the condition of childhood hardly excludes children from engaging in civic activity and developing a civic identity, care is needed when involving children in such efforts.
Efforts are underway to examine how early signs of civic engagement and identity form in childhood. After an 8-week intervention on how to assess neighborhood strengths and challenges, Nicotera (2008a) found that children showed greater civic awareness. Children, aged 5 to 13, demonstrated a higher awareness of the need to help out in one’s community as well as increased confidence in their own ability to help out. Also, children were more likely to indicate the importance of the collective responsibility of all residents to solve neighborhood challenges. The children in this research displayed the civic knowledge, community connections, and social competencies needed to create plans of action for helping out in the neighborhood.

Clearly, there is a link between civic engagement among children and youths and the contexts of neighborhood and community. To better understand this link and to provide a stronger rationale for this study, it is important to examine the theoretical foundations of youth civic engagement.

Theoretical Foundations of Youth Civic Engagement

There are many frameworks for conceptualizing the development of civic identity and the pathways for civic engagement. This section will touch on a few theoretical perspectives that support the proposed connection between neighborhood characteristics and youth civic engagement.

Theory: The Essentials

In his theory of psychosocial development, Erikson (1963, 1968) presented a series of crises and tasks essential to healthy growth and development throughout the lifespan. Erikson posited that personality does not remain stable, but continually shifts and evolves across one’s life. The eight stages present a pressing challenge and desired outcome during each period of life. While these stages follow a set order, this is not to say that an individual moves from one stage to the next, as if advancing up a ladder. Instead, the stages represent a matrix of sorts in which a salient issue moves to the forefront in each period of the lifespan while the other issues remain a work in progress throughout the lifespan (Whitbourne, Sneed, & Sayer, 2009).

The present study draws heavily on Erikson’s (1963, 1968) stage of *industry v. inferiority* that emerges during middle childhood, more or less when children are 7 to 12 years of age. During this period, the child is more active outside of the home, particularly in the contexts of school and neighborhood. These environments pose new challenges and require a greater emphasis on performance—not just doing for the sake of doing, but doing things well. Industry relates to the child’s ability to master tasks and demonstrate competence, while inferiority relates to a child’s feelings of inadequacy and failure. Parents remain influential during this period, but it is a time in which children make steady gains in freedom from constant direct supervision, thus allowing exploration with new tasks and roles. In sum, middle childhood is a critical period in which children
are trying out and mastering tasks and roles within their neighborhood, concurrently developing civic attitudes and beliefs and building relationships.

Bronfenbrenner (2005) provides another theoretical perspective for conceptualizing the interaction between the child and the environment within Ecological Systems Theory. According to Bronfenbrenner, “development at a particular point in time is a function of the person and the environment” (p. 108), indicating that the environment influences different outcomes depending on the individual characteristics of the child. In Bronfenbrenner’s model, the child is at the center of concentric circles, with each circle representing a layer of the environment. The closest layer, the *microsystem*, represents people and places with which the child has direct face-to-face interactions. As the layers move outward, their influence becomes less direct, but not necessarily less influential. Neighborhood places for play and neighborhood friends appear in a child’s *microsystem*, while the broader neighborhood and neighbors often comprise part of the *exosystem*.

Considering the process-person-context approach, the Ecological Systems Theory allows for a richer consideration of the myriad forces influencing development, including the child’s own characteristics and agency. Within this perspective, several facets of neighborhood interact with the child, such as people, places, and the overarching value system, the *mesosystem*. The child, too, has influence on the neighborhood, setting the stage for a closer examination of theories of youth civic engagement.
Theories of Youth Civic Engagement

There are multiple approaches to conceptualizing youth civic engagement, all of which contribute to the conversation on engagement. First, in their work on community service and social responsibility among youth, Youniss and Yates (1997) presented a framework drawing on Erikson’s (1963, 1968) stages of psychosocial development. Industry and identity, the tasks of middle childhood and adolescence, respectively, are essential components of Youniss and Yates’s (1997) social-historical identity framework for community service. In this framework, the development of civic identity is dependent upon industry, the ability of youth to do, serve, achieve, and make a difference with the support of caring adults. Youniss and Yates posited:

When youth are given opportunities to use their skills to redress social problems, they can experiences themselves as having agency and as being responsible for society’s well-being. When they participate as a cohort and when participation is encouraged by respected adults, youth begin to reflect on the political and moral ideologies used to understand society. It is this process of reflection, which takes place publicly with peers and adults, as well as privately, that allows youth to construct identities that are integrated with ideological stances and political-moral outlooks. (p. 36)

While not based on empirical research, this framework draws from the authors’ qualitative experiences with youth. Still, it is a relevant contribution to the understanding of youth civic engagement. The task of industry considered integral by Youniss and
Yates is the primary task of middle childhood, the age of interest in this study. Exploring industry in the context of neighborhood seems to be an important first step in understanding the development of civic identity and engagement during middle childhood and in later years.

In addition, Manzo and Perkins (2006) presented a framework for community action within the context of planning and development, emphasizing the importance of emotional connections to neighborhood places and people. The authors described the Ecological Framework for Community Planning and Development, stating:

Affective bonds to places can help inspire action because people are motivated to seek, stay in, protect and improve the places that are meaningful to them. Consequently, place attachment, place identity, and sense of community can provide a greater understanding of how neighborhood spaces can motivate ordinary residents to act collectively to preserve, protect, or improve their community and participate in local planning processes… The literature suggests that processes of collective action work better when emotional ties to places and their inhabitants are cultivated. (p. 347)

Recognizing the complexity of participatory planning, this framework also presents the forms of capital needed in the physical, social, political, and economic domains at various levels of analysis: the individual, the social group, the neighborhood, and the city or region. While this study does not involve community planning directly, it did examine
how children’s place attachment is related to civic action, an important step in understanding how to maximize children’s role in community planning.

In sum, theory indicates that the period of middle childhood is an important period in which children begin mastering skills, gaining autonomy, and building connections with neighborhood people and places. While the context of neighborhood has a great influence on the child, the child also influences the neighborhood, suggesting a need for additional research on children’s belief, attitudes, and actions related to engendering neighborhood change.

Children’s Participation in Neighborhood Research

As children become increasingly involved in the research process, it is essential to explore existing participatory methodologies in order to advance neighborhood research. As indicated by Melton (2005), children’s participation in research has the potential to help policy-makers and practitioners evaluate the state of children’s rights and work toward creating families, neighborhoods, and nations in which children’s rights are valued and promoted. With this consideration in mind, the following section discusses methodologies used with children in neighborhood research.

Mapping exercises are commonly used among children and adolescents. For example, Sobel (1998) advocated for the use of mapmaking as a developmental tool among elementary school children. Many qualitative researchers have engaged school-age children in mapping exercises in an effort to understand better the complex influence of neighborhood on child well-being (Brown et al., 2008; McMillan et al., 2006; Mitchell
et al., 2007; Spilsbury, 2005). However, a growing trend is the inclusion of young adolescents in neighborhood research (Gough & Franch, 2005; Nayak, 2003; Travlou et al., 2008; Valentine & McKendrick, 1997). This trend stems from the belief that young adolescents, or 13 to 16 year-old children, have a unique perspective on neighborhood due to their growing independence that is coupled with restricted access to certain public places.

Mapping exercises vary by the purpose of the study. In many mapping exercises, children are given blank paper and are instructed to draw a map of their neighborhood that includes important features (Hume et al., 2006). In other exercises, children are given actual maps of the neighborhood and are asked to mark important features and commonly used routes (Veitch et al., 2008). Further, some exercises combine these techniques (Rissotto & Tonucci, 2002). Some mapping exercises are part of a larger school-based study (Hume et al., 2006), while others take place in the school setting but only for the convenience of accessing a large group of children (Parameswaran, 2003).

While neighborhood mapping exercises may be more time and cost effective when used with classrooms of children (Nicotera, 2007), mixed neighborhood methodologies that engage children in the school environment have limitations. Although randomly selecting schools and classrooms is a logical sampling approach for locating children residing within the same neighborhoods, Al-Zoabi (2002) recognized “strong ‘classroom’ trends” in which the design and content of children’s cognitive maps were influenced by conversations with peers sharing cognitive maps (p. 16). Although previous methodologies emphasized the importance of giving children limited verbal or
written instructions to prevent biasing children’s reproductions of their neighborhood, the use of introductory materials within the classroom, such as examples of maps, may also bias children’s map drawing (Al-Zoabi, 2002; Hume et al., 2005). Due to this potential bias, methodologies that engage individual children outside of the school and that encourage participation while limiting the use of prompts will reduce bias and produce a more meaningful and rich portrayal of how children spatially define neighborhood. On the other hand, care must be taken to ensure that young children understand the mapping exercise; therefore a certain amount of adult guidance is necessary to promote validity of the results (Veitch et al., 2008).

A possible solution to avoiding classroom and instructional bias is the use of real maps or mapping software. Instead of instructing children to develop cognitive maps, in which scales vary greatly by child, Veitch et al. (2008) distributed A3-sized (11.7 x 16.5 inch) copies of actual neighborhood maps and asked children to label prominent features of the neighborhood, such as the child’s home, places in which the child engages in active play, playgrounds and parks, important pathways, and the places in which the child could go unaccompanied by an adult. This technique allowed researchers to objectively measure features of neighborhood based on children’s spatial perceptions of neighborhood. Although this mapping exercise was conducted in a classroom setting, the authors claimed peer interactions did not appear to influence the results, suggesting that methodologies based on concrete mapping strategies as opposed to cognitive mapping may yield less biased results. Loebach and Gilliland (2010) also utilized A3 aerial maps to guide neighborhood walks with children and noted that maps’ most valuable function
as that of centering group discussion and orientation. Variations of this technique have been utilized in comparable studies (Rissotto & Tonucci, 2002).

The use of handheld GPS mapping units in neighborhood research is growing in practice. Loebach & Galliland (2010) used handheld GPS units to track children’s neighborhood routes and record the coordinates of important places. Serving as a supplement to A3 aerial maps, GPS units were operated by adults on child-led walks. However, the routes and coordinates tracked by the devices were less than accurate. “The GPS units… showed a high degree of inconsistency… some recorded the true routes of the children quite well, while others exhibited quite poor records of the routes, indicating in some cases a path that was several streets away from the true route” (p. 79). Loebach and Galliland conducted their study in 2007; therefore, technological advances made in recent years may have improved the accuracy and reliability of GPS units.

An additional instructional consideration stems from the wording used when guiding children’s mapmaking experiences. Parameswaran (2003) examined differences in maps resulting from variations in presenting to children the goal of the mapmaking exercise. Children’s maps were more complex and accurately included more features of the neighborhood when children were asked to create a map of their neighborhood for the purpose of helping visitors find their way around the neighborhood. On the other hand, children who were simply directed to draw a picture of their neighborhood so that visitors could see what the neighborhood looked like created maps that were “less cognitively mature as enumerated by Piaget,” (p. 415).
Similar to neighborhood mapping, children’s photography is an emerging technique for measuring children’s perceptions of neighborhood. While there are variations on this exercise, in general children are given a camera and are instructed to take photographs based on the topic of the research study. For example, Castonguay and Justras (2010) asked children to take pictures of outdoor neighborhood places that they liked. De Visscher and Bouverne-De Bie (2008) instructed children to take photographs of places in their neighborhood “where they were actually present or that they actually passed by during the week” (p. 477). The goal of these instructions was to prevent children from photographing neighborhood places which they found aesthetically pleasing yet rarely visited. Rasmussen and Smidt (2003) instructed children to take their camera with them everywhere, including school, and allowed children to photograph people and animals. However, Nicotera (2007) described photography as time and cost intensive and lacking a validated method of analysis, all potential limitations to this technique.

While the children’s photographs are valuable, they remain meaningless until children explain why they selected each neighborhood place (Becker, 1995). As noted earlier, a photograph simply portrays a space. When space is combined with personal history and emotion, it is converted into place. Written responses and individual or group interviews are potential methods for measuring children’s rationale for taking photographs. Loebach and Gilliland (2010), for example, found a group photo elicitation exercise to be important for clarifying the content of photographs. Content analysis is a common way of analyzing children’s responses (Castonguay & Justras, 2009; De
Visscher & Bouverne-De Bie, 2008; Pitnor & Astor, 2008). The value associated with children’s explanations of visual representations of neighborhood are so important that it is considered a serious limitation when researchers are unable to interview children regarding their maps or photographs (Hume et al., 2005).

An additional use of photographs in neighborhood research involves children responding verbally to neighborhood pictures previously taken by researchers. Pitner and Astor (2008) used neighborhood pictures portraying various levels of incivilities, such as deteriorated homes and neglected streets, to ascertain children’s perceptions of poverty, physical deterioration, danger, and retribution. While this methodology allows for the participation of children, it does not fully capture children’s perceptions of their own neighborhoods, limiting its application in the study of neighborhood influences on child well-being.

Initial efforts are underway to establish the reliability and validity of children’s photographs. Rudkin and Davis (2007) created a two-phase rating system to score photographs. In the first phase, children rated their own photographs on two dimensions: affective valence and typicality. Affective valence measured whether the image was negative or positive and typicality measured how typical the image was of the neighborhood. Then, the researchers rated the photographs on the degree to which the image captured the child’s social connection to the neighborhood. The final weighted scores were correlated to traditional questionnaire measures of neighborhood and community connection.
Another important consideration is the temporal season in which child-focused neighborhood research takes place. Although Al-Zoabi (2002) collected children’s cognitive maps in the winter, he noted aspects of summer, such as flowers, gardens, and tress, in the majority of maps, as well as an emphasis on green play space. Morrow (2001) also suggested maintaining consistency in season throughout data collection, as children’s perceptions of neighborhood and willingness to enthusiastically participate in mapping exercising may vary depending on the weather. Despite collecting two waves of data, one in winter and one in summer, Morrow did note a consistent theme highlighting the importance of public parks and urban spaces, suggesting that temporal season matters, but that certain themes may emerge regardless of season. Overall, however, research indicates seasons of warmer weather to be preferable for data collection.

The use of focus groups with children is common among qualitative neighborhood research (e.g. Veitch et al., 2007). Travlou et al. (2008) engaged adolescents in focus group discussions centered on an exercise in which youths mapped and discussed their favorite and least favorite neighborhood places. This exercise encouraged and structured a meaningful discussion among the participants, providing a rich description of the complex relationship between adolescents and the environment. However, researchers have suggested caution when interpreting the results of children’s focus groups, as power dynamics and individual differences may prevent all children from voicing their opinions (Travlou et al., 2008; Veitch et al., 2007). As described by Veitch et al., “some of the children who participated were nervous and hesitant to contribute. Therefore, the view and opinions of the most outspoken or confident children
may have dominated the focus group discussions,” (p. 419). A possible remedy, as mentioned by Travlou et al. (2008), is to recruit participants who are not members of a pre-existing social group, though this may be a challenging task within a neighborhood.

As demonstrated, there are several approaches to engaging children in neighborhood research, including mapping and photography exercises. This review of the strengths and limitations of methodological approaches have informed the development of the current study’s methodology.

Summary

Chapter 2 provided a detailed description of the literature related to children’s well-being, perceptions and use of neighborhood, and independent mobility, setting the foundation for the current study. Children are competent social actors gaining increasing freedom to explore the neighborhood during middle childhood. The literature provides clear evidence that children have diverse experiences within and perceptions of the neighborhood based on age, gender, culture, family, and socio-demographic characteristics. Regardless of the circumstances, developing a sense of place through meaningful relationships with local people and places is an essential part of child well-being.

Despite the rich knowledge gained from previous quantitative and qualitative studies, a gap in the literature exists. There is still much to learn about the relationship between perceptions of neighborhood and child civic engagement. Further, this present study has major implications for promoting children’s participation in neighborhood life
as well as for understanding the development of civic engagement into adolescence and adulthood.

In Chapter 3, the research methodology of the present study will be described in greater detail, as well as the proposed survey instruments.
CHAPTER THREE

RESEARCH DESIGN – METHODS AND PROCEDURES

Setting and Participants

This study included neighborhoods in the upstate area of South Carolina, a geographic region comprised of both rural and urban areas. The area of focus was Greenville County and northern Laurens County. A convenience sample of neighborhoods was selected based on ease of accessing neighborhood children through neighborhood gatekeepers. These gatekeepers were neighborhood leaders knowledgeable of neighborhood-specific social processes and were trusted and well-known throughout the community. In some instances, gatekeepers were neighborhood residents; other times, gatekeepers were institutional leaders involved in the provision of community-based programming. The gatekeeper provided information on the physical street address for a central location of the neighborhood, allowing for the delineation of neighborhoods using road network maps generated by ArcInfo software (ESRI, 2010). Neighborhoods were defined as aggregations of roads in close geographic proximity and free of major intersections and through streets or other separating features, such as railways, lakes, and rivers.

Once neighborhoods were defined, a convenience sample of child-caregiver dyads was selected. As middle childhood is the period in which children are gradually granted more freedom to travel independently throughout the neighborhood, targeted child participants were between 7- and 13-years old. Initially, children were selected to
participate through the recommendation of a community gatekeeper. Further, a snowball technique was utilized in which participating child-caregiver dyads were encouraged to inform eligible neighborhood residents of the study. The researcher obtained caregiver consent, caregiver permission for children’s participation, and child assent. Children were provided with an explanation of the purpose of the study in developmentally appropriate language and were then asked to assent to participate in the study. As an incentive to participate, children’s names were entered into a drawing to win a bicycle.

A multi-level mixed methods design, this study explored variables at the levels of the individual, family, and neighborhood. The unit of measurement for quantitative multinomial analyses, however, was the individual. Determined through power analysis, a sample of 98 child-caregiver dyads was required to achieve adequate statistical power.

**Characteristics of the Sample**

Out of the 101 child participants, there were 27 sets of siblings that included 63 children. Of these sets of siblings, the majority (74.1%) included just two children, while 18.5% sets included three children and 7.4% included four children. Thirty-eight child participants were the only child from the family to participate. As a result, there were 65 unique caregiver participants. Caregivers of multiple child participants only completed one written survey and the data were entered multiple times, once per child, to ensure that each child had a complete set of data.
**Child Characteristics**

Characteristics of the child sample appear in Table 3.1. The average age of the sample was 9.93 (SD = 1.72) years with a range of 7 to 13 years old. The average grade level of the sample was fourth grade with a range of first to eighth grade.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage (n = 101)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>44.6%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>41.6%</td>
</tr>
<tr>
<td>African-American</td>
<td>11.9%</td>
</tr>
<tr>
<td>Other</td>
<td>2.0%</td>
</tr>
<tr>
<td><strong>Child gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48.5%</td>
</tr>
<tr>
<td>Female</td>
<td>51.5%</td>
</tr>
</tbody>
</table>

**Caregiver Characteristics**

The socio-demographic characteristics of the caregiver sample (n = 65) appear in Table 3.2. The average age of caregivers was 37.94 (SD = 6.65) years with a range of 28 to 70 years old. Given the choice, 46.2% of caregivers requested the Spanish language version of the written questionnaire. On average, families resided in their current neighborhood for a relatively short period of time (M = 5.77 years, SD = 5.28). Further, respondents’ knowledge of neighborhood children varied, with 42.2% of caregivers indicating they did not know the name of any children residing within the 10 nearest houses, 23.4% reported knowing a few children, and 34.4% reporting knowing more than half of the children.
Table 3.2. *Socio-demographic Characteristics of the Caregiver Sample*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage (n = 65)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caregiver ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>53.8%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>40.0%</td>
</tr>
<tr>
<td>African-American</td>
<td>6.2%</td>
</tr>
<tr>
<td><strong>Caregiver gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>93.8%</td>
</tr>
<tr>
<td>Female</td>
<td>6.2%</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>87.7%</td>
</tr>
<tr>
<td>Divorced</td>
<td>4.6%</td>
</tr>
<tr>
<td>Never Married</td>
<td>4.6%</td>
</tr>
<tr>
<td>Separated</td>
<td>1.5%</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>Some high school</td>
<td>11.5%</td>
</tr>
<tr>
<td>High school diploma or GED</td>
<td>16.4%</td>
</tr>
<tr>
<td>Some college or technical program</td>
<td>29.5%</td>
</tr>
<tr>
<td>Bachelor’s degree or higher</td>
<td>42.6%</td>
</tr>
<tr>
<td><strong>Work status</strong></td>
<td></td>
</tr>
<tr>
<td>Working part- or full-time</td>
<td>49.3%</td>
</tr>
<tr>
<td>Keeping house</td>
<td>31.7%</td>
</tr>
<tr>
<td>Something else</td>
<td>19.0%</td>
</tr>
<tr>
<td><strong>Household Income</strong></td>
<td></td>
</tr>
<tr>
<td>$30,000 or less</td>
<td>54.0%</td>
</tr>
<tr>
<td>$30,001 to $70,000</td>
<td>15.9%</td>
</tr>
<tr>
<td>$70,001 or more</td>
<td>30.2%</td>
</tr>
<tr>
<td><strong>Membership in Neighborhood Organization</strong></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>76.9%</td>
</tr>
<tr>
<td>Yes</td>
<td>23.1%</td>
</tr>
<tr>
<td><strong>Attendance at Neighborhood Activities</strong></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>73.4%</td>
</tr>
<tr>
<td>1 to 2 times in past month</td>
<td>15.7%</td>
</tr>
<tr>
<td>3 or more times in past month</td>
<td>11.0%</td>
</tr>
</tbody>
</table>
Neighborhood Characteristics

Child-caregiver dyads resided in a total of 43 residential neighborhoods. The characteristics of the neighborhoods appear in Table 3.3. One neighborhood observation was completed per neighborhood. The majority (62.8%) of neighborhoods had a park or public space, but only 39.5% of neighborhoods had sidewalks.

Determining Sample Size

Sample size (N = 98) was determined through a priori power analysis using G*Power 3.1.3 (Faul, Erdfelder, Buchner, & Lang, 2009). The first phase of the power analysis involved locating relevant effect sizes from related studies measuring the same constructs to be measured in this study. Effect sizes varied and were converted into delta (δ) using an effect size calculator (Wilson, 2001) and were converted into Delta (Δ), a statistical measure of effect size. Delta was calculated based on the difference between an observed mean and a hypothesized mean.

Based on the effect sizes extracted from the literature, a mean effect size of 0.24 was calculated (Appendix A). An F-test power formula for linear multiple regression (fixed model, R² difference from zero) was selected in power calculator G*Power 3.1.5 (Faul, Erdfelder, Buchner, & Lang, 2009). Using a more conservative effect size of 0.15, a power level of 0.80, an alpha level of 0.05, and 6 predictor variables, it was determined that 98 child-caregiver dyads were required in order to achieve an acceptable level of power in this study.
Table 3.3. *Characteristics of Neighborhoods*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage (n = 43)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day of observation</strong></td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>4.7%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>2.3%</td>
</tr>
<tr>
<td>Thursday</td>
<td>2.3%</td>
</tr>
<tr>
<td>Friday</td>
<td>27.9%</td>
</tr>
<tr>
<td>Saturday</td>
<td>46.5%</td>
</tr>
<tr>
<td>Sunday</td>
<td>16.3%</td>
</tr>
<tr>
<td><strong>Weather conditions</strong></td>
<td></td>
</tr>
<tr>
<td>Sunny or partly sunny</td>
<td>90.7%</td>
</tr>
<tr>
<td>Cloudy or partly cloudy</td>
<td>9.3%</td>
</tr>
<tr>
<td><strong>Housing stock</strong></td>
<td></td>
</tr>
<tr>
<td>Single-family detached</td>
<td>65.1%</td>
</tr>
<tr>
<td>Apartment homes</td>
<td>11.6%</td>
</tr>
<tr>
<td>Single-family detached and mobile homes</td>
<td>9.3%</td>
</tr>
<tr>
<td>Mobile homes</td>
<td>7.0%</td>
</tr>
<tr>
<td>Other housing stock</td>
<td>7.0%</td>
</tr>
<tr>
<td><strong>Number of people observed</strong></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>4.7%</td>
</tr>
<tr>
<td>Less than 5 people</td>
<td>30.2%</td>
</tr>
<tr>
<td>5 to 12 people</td>
<td>30.2%</td>
</tr>
<tr>
<td>13 to 20 people</td>
<td>25.6%</td>
</tr>
<tr>
<td>More than 20 people</td>
<td>9.3%</td>
</tr>
</tbody>
</table>

**Inclusion Criteria**

The study population consisted of children and their primary caregiver. The inclusion criteria were: (a) the child was between the ages of 7- and 13-years; (b) the caregiver was the child’s primary caregiver if multiple adult caregivers resided in the
household; and (c) child-caregiver dyads must have had resided a minimum of six months in their current neighborhood.

Data Collection Protocol

Overall, this study implemented a non-experimental correlational design. The first phase of this study involved primarily qualitative methods, while the second phase utilized quantitative methods. Lastly, the third phase utilized independent neighborhood observations. A detailed description of these three phases follows.

Phase One: Qualitative Design

Each child accompanied a researcher on a neighborhood walk that lasted on average 30 minutes and consisted of two main tasks: measuring neighborhood boundaries and taking photographs of important neighborhood places. For safety purposes, adults were welcome to join the neighborhood walk, but were encouraged to maintain a distance from the child in order to not influence the child’s participation. In households with multiple eligible children, the researcher encouraged the children to complete separate neighborhood walks, but respected the requests of the family to go on group walks when necessary. Of the 101 child participants, 51.5% completed walks unaccompanied by an adult or child, 31.7% were accompanied by another participant or non-participant child, and 17% were accompanied by an adult and potentially another participant or non-participant child. The child and researcher had an aerial map of the neighborhood for reference and for marking neighborhood boundaries.
Starting at the child’s residence, the researcher prompted the child to lead a neighborhood tour by choosing a direction and accompanying the researcher to the farthest point away from the home that he or she was allowed to walk without an adult. The goal was to repeat this process until the child and researcher had identified boundaries in four cardinal directions, allowing for a clear demarcation of spatial layout of the neighborhood. Given the varying design of sampled neighborhoods, it was not always practical to walk in each of the four cardinal directions; instead, the child and researcher walked in as many directions needed to identify clear boundaries. This was a representation of spatial neighborhood. The researcher marked all boundaries on an aerial map of the neighborhood and then the child confirmed the routes and boundaries drawn on the aerial map to reinforce the reliability of this method. These neighborhood boundaries allowed for the calculation of the area of each child’s spatial neighborhood.

It is important to note, however, that children’s broader conceptualizations of neighborhood have been found to expand beyond the area captured by this methodology (Spilsbury et al., 2009). This study was concerned more with children’s concrete experiences in their neighborhood, hence the use of spatial neighborhood that is reliant on independent mobility.

The next step of Phase One involved the use of children’s photography to measure important neighborhood places. Upon the beginning of the neighborhood tour, children were provided a digital camera. Children were instructed to take pictures of important places in their neighborhood. While pictures could include things and animals, children were asked not to take pictures of people in which facial features were
identifiable. An example of an acceptable photograph that included people is that of children playing on a slide off in the distance. The slide was the important place being photographed and children were actively engaged in play on and around the slide and could not be identified in the photograph. An example of an unacceptable photograph is one in which a child or adult is clearly the focus of the picture and no neighborhood place can be identified.

The child was able to take as many or as few photographs as he or she desired. As the child took pictures, the researcher took brief notes on the child’s verbal description of the important neighborhood place to supplement the photograph. The digital camera had global positioning system (GPS) capability and recorded the latitude and longitude of the picture.

Phase Two: Quantitative Design

Both children and caregivers completed separate written questionnaires. The questionnaires were left with the participants at the conclusion of the neighborhood walk. The researcher provided a self-addressed stamped envelope in which participants were instructed to return the questionnaires. Each questionnaire was labeled with a unique participant identification code. The child questionnaire was written at a second grade reading level as determined by readability assessment available in the word processing software used to create the questionnaire. Children were asked to complete the questionnaire to the best of their ability. Children were able to ask an adult for help understanding an unfamiliar word or question, but were asked to respond based on their
own thoughts and feelings. Caregivers were provided verbal instructions to offer only basic definitions of unfamiliar words and to not lead the children to respond a specific way, instead responding to children by asking, “What does that mean to you?” Unfortunately, this still introduced the potential for bias.

Caregivers were asked to complete the survey on their own. All participants were reminded that their responses were confidential. Hard copies of completed questionnaires and consent documents were stored in a locked filing cabinet within the offices of the Institute of Family of Neighborhood Life and will remain there for at least one year. Electronic data were stored on secure computers within the same office.

*Phase Three: Neighborhood Observations*

Trained members of the research team completed neighborhood observations in the defined neighborhoods. As described previously, neighborhoods were identified using ArcInfo software (ESRI, 2010). Neighborhoods were defined as aggregations of roads in close geographic proximity and free of major intersections and through streets or other separating features, such as railways, lakes, and rivers (McDonell & Skosireva, 2009). Neighborhood maps were printed to guide observations. One independent observation was conducted for each neighborhood. The observations occurred on a weekend day or on a week day afternoon or evening. Following a strict research protocol, observers had the option of collecting data through a neighborhood drive, neighborhood walk, or combined drive/walk. Observers traveled down each street of the neighborhood at least once, noting a range of physical and social characteristics. At the
conclusion of the observation, researchers recorded their observations using the Neighborhood Observation Scale (McDonell & Waters, 2010). The psychometric properties of this scale are discussed in the following section on measures.

Research Measures

The selection of instruments for this study was based on two factors: (1) relevance and reliability among preadolescents; and (2) relevance and reliability among a variety of neighborhood types. Instruments for child participants were available only in English. Instruments for caregivers were available in English and Spanish. Translation of the instruments followed standard procedures recommended by Brislin (1970, 1986). A native-Spanish speaker translated the documents into Spanish, followed by a back-translation into English by the researcher, a native-English speaker with a fluent command of the Spanish language. A summary of research measures appears in Table 3.4 and shows the mean, standard deviation, and alpha coefficient of all research measures. In addition, the child and caregiver research measures are located in Appendix B and C, respectively. The following section describes these measures in greater detail.

Child Research Measures

Spatial Neighborhood

Spatial neighborhood was a geospatial measure of children’s neighborhood. Derived from neighborhood walks with children, spatial neighborhood was quantified as the area in square acres of each child’s neighborhood as indicated on aerial maps.
Table 3.4. *Summary of Research Measures in the Current Sample*

<table>
<thead>
<tr>
<th>Research Measure</th>
<th>Mean</th>
<th>SD</th>
<th>alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child support</td>
<td>2.90</td>
<td>0.62</td>
<td>0.87</td>
</tr>
<tr>
<td>Child safety</td>
<td>3.19</td>
<td>0.57</td>
<td>0.66</td>
</tr>
<tr>
<td>Child activity</td>
<td>2.48</td>
<td>0.83</td>
<td>0.74</td>
</tr>
<tr>
<td>Child friendship</td>
<td>3.12</td>
<td>0.62</td>
<td>0.63</td>
</tr>
<tr>
<td>Independent mobility</td>
<td>3.34</td>
<td>0.94</td>
<td>0.80</td>
</tr>
<tr>
<td>Play mobility</td>
<td>3.16</td>
<td>1.20</td>
<td>0.81</td>
</tr>
<tr>
<td>Social mobility</td>
<td>3.52</td>
<td>0.96</td>
<td>0.69</td>
</tr>
<tr>
<td>Foundation for civic ethics</td>
<td>3.73</td>
<td>0.69</td>
<td>0.77</td>
</tr>
<tr>
<td>Community connections</td>
<td>3.32</td>
<td>0.71</td>
<td>0.61</td>
</tr>
<tr>
<td>Neighborhood civic engagement</td>
<td>3.06</td>
<td>0.53</td>
<td>0.84</td>
</tr>
<tr>
<td>Neighborhood efficacy</td>
<td>2.78</td>
<td>0.64</td>
<td>0.77</td>
</tr>
<tr>
<td>Neighborhood pride</td>
<td>3.39</td>
<td>0.55</td>
<td>0.81</td>
</tr>
<tr>
<td><strong>Caregiver Measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social embeddedness</td>
<td>3.09</td>
<td>0.87</td>
<td>0.89</td>
</tr>
<tr>
<td>Sense of community</td>
<td>2.91</td>
<td>0.94</td>
<td>0.93</td>
</tr>
<tr>
<td>Neighborhood satisfaction</td>
<td>3.09</td>
<td>0.61</td>
<td>0.83</td>
</tr>
<tr>
<td>Fear of crime</td>
<td>1.55</td>
<td>0.48</td>
<td>0.90</td>
</tr>
<tr>
<td>Neighborhood safety</td>
<td>3.15</td>
<td>0.57</td>
<td>0.73</td>
</tr>
<tr>
<td>Parental independent mobility</td>
<td>3.57</td>
<td>1.00</td>
<td>0.87</td>
</tr>
<tr>
<td>Play mobility</td>
<td>3.37</td>
<td>1.31</td>
<td>0.91</td>
</tr>
<tr>
<td>Social mobility</td>
<td>3.77</td>
<td>0.93</td>
<td>0.75</td>
</tr>
<tr>
<td>Parent civic engagement</td>
<td>3.24</td>
<td>0.53</td>
<td>0.80</td>
</tr>
<tr>
<td>Environmental trust</td>
<td>3.27</td>
<td>0.56</td>
<td>0.64</td>
</tr>
<tr>
<td>Trust in strangers</td>
<td>2.06</td>
<td>0.60</td>
<td>0.79</td>
</tr>
<tr>
<td>Trust in road users</td>
<td>2.48</td>
<td>0.49</td>
<td>0.60</td>
</tr>
<tr>
<td>Need to protect</td>
<td>3.27</td>
<td>0.56</td>
<td>0.81</td>
</tr>
<tr>
<td><strong>Neighborhood Measures</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical appearance</td>
<td>4.25</td>
<td>0.49</td>
<td>0.86</td>
</tr>
</tbody>
</table>
Neighborhood Youth Inventory

Social appearance 2.62 0.56 0.61
Safety characteristics 3.04 0.66 0.70

Neighborhood social content primarily was measured through the Neighborhood Youth Inventory ([NYI], Chipuer et al., 1999). This inventory was selected for its reliability and validity among youth populations, providing a developmentally appropriate measure of the social characteristics of neighborhood. This scale was developed based on focus groups with adolescents and reflects themes of neighborhood and community that are not captured in adult measures, such as the Sense of Community Index ([SCI], McMillan & Chavis, 1986). The NYI consists of 22 Likert-type scale items and measures children’s sense of community across four domains: support, safety, activity, and friendship. While this scale has shown strong reliability and validity among children residing in rural and urban neighborhoods, its use has primarily been intended for preadolescents and adolescents. The current study examined children in middle childhood, therefore slight modifications were made to reduce the reading level to a second grade level.

All sub-scales of the NYI were measured on a five-point scale ranging from “not at all true” to “completely true.” Support measured children’s perceptions of neighbors’ willingness to help and support each other and consisted of eight items. Sample items included “People are there for each other in my neighborhood” and “If I needed help I could go to anyone in this neighborhood.” The alpha coefficient for this sub-scale in previous research was 0.93. In the current study, support showed a high level of internal
consistency ($\alpha = 0.87$), with child participants indicating moderate levels of support ($M = 2.90$, $SD = 0.62$).

Safety measured children’s perceptions of danger and crime. Sample items included “There are bad kids in my neighborhood” and “The neighbors are suspicious of teenagers in my neighborhood.” The alpha coefficient for this sub-scale ranged from 0.79 to 0.85 in previous studies. In the current sample, the safety sub-scale also showed low yet acceptable internal consistency ($\alpha = 0.66$). In order to achieve this level of internal reliability, the item ‘There are gangs in my neighborhood’ was removed from the sub-scale, as suggested by the Item-Total Statistics produced in SPSS. This item was problematic given the suburban and rural nature of the sample in which gangs either did not exist or the concept was above the level of comprehension of the young sample. This left a total of five items on the sub-scale. Items on this scale were reverse-scored to reflect perceptions of safety instead of crime, therefore the child participants reported relatively high levels of neighborhood safety ($M = 3.19$, $SD = 0.57$).

Activity consisted of four items and measured children’s perceptions of opportunities for engaging in formal and informal activities. Sample items included “There is a place for kids my age to hang out in my neighborhood” and “There is not much to do in my neighborhood.” The alpha coefficient for this sub-scale ranged from 0.76 to 0.79 in previous studies. In the current study, the alpha coefficient for activity was 0.74, with children reporting relatively low perceptions of the activities available to children their age ($M = 2.48$, $SD = 0.83$).
Friendship also consisted of four items and measured children’s perceptions of neighborhood children and the proximity of their friends. Sample items included “I like being with other kids in my neighborhood” and “My friends live close to my neighborhood.” In previous research, alpha coefficients for this sub-scale ranged from 0.74 to 0.76. In the current study, friendship showed low yet acceptable internal consistency (α = 0.63). Children had positive perceptions of neighborhood children and opportunities and the proximity of their friends (M = 3.12, SD = 0.62).

Children’s Independent Mobility Scale

Independent mobility was measured through a scale developed specifically for this study. Drawing from a series of independent mobility items used in semi-structured interviews with parents (Prezza et al., 2001), this proposed scale measured children’s independent mobility in five areas: (a) home to school; (b) errands; (c) going to play; (d) outdoor play; and (e) helping out. Each of the areas represented a different function of children’s mobility. Sample item included “How often do you travel to school (walk, ride your bike, etc) without your parent or another adult?” Responses were measured on a 5-point Likert-type scale ranging from “never” to “every day.”

An exploration of the initial ten items revealed that some items performed poorly given the characteristics of the current suburban/rural sample. For instance, the geographic distance and car-centric infrastructure eliminated the option of walking to school for many children. Consequently, 90% of the child participants indicated that they ‘never’ walk to school or to a store. Given their irrelevance to independent mobility for
suburban and rural children, these two items were excluded from the following exploratory factor analysis (EFA).

EFA using principal axis factoring with direct oblimin rotation with Kaiser normalization was utilized to explore the factor structure of the eight remaining items. The rotation failed to converge in 25 iterations while attempting to extract three factors. A pattern matrix did converge in 7 iterations, allowing for an examination of factor loadings. Items were considered for elimination based on the presence of low communalities. The resulting scale consisted of 6 items that loaded on 2 distinct factors. The rotation converged in 14 iterations. The two factors explained 50.8% and 17.8% of the variance in children’s independent mobility, respectively. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.78 and Bartlett’s Test of Sphericity was significant, \( \chi^2(15) = 192.99, p < 0.001 \). The final rotated factor structure and factor loadings appear in Table 3.5.

The first factor represented the more social aspect of independent mobility, as it included items that referenced friends and neighbors. This factor was titled ‘social mobility’ and included three items. The internal consistency of this factor was 0.81, with children reporting moderate levels of social mobility (M = 3.16, SD = 1.20). Consisting of three items, the second factor represented more tangible play activities and was titled “play mobility”. The internal consistency of this factor was 0.69, with children reporting relatively high levels of play mobility (M = 3.52, SD = 0.96).
Table 3.5. *Final Rotated Factor Structure of Children’s Independent Mobility Scale*

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1 Social Mobility</th>
<th>Factor 2 Play Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk to neighbor’s house</td>
<td>0.756</td>
<td></td>
</tr>
<tr>
<td>Play with friends in neighborhood</td>
<td>0.601</td>
<td></td>
</tr>
<tr>
<td>Play in neighbor’s yard</td>
<td>0.843</td>
<td></td>
</tr>
<tr>
<td>Play in yard after school</td>
<td></td>
<td>0.649</td>
</tr>
<tr>
<td>Ride bike in neighborhood</td>
<td></td>
<td>0.492</td>
</tr>
<tr>
<td>Play in yard on weekend</td>
<td></td>
<td>0.780</td>
</tr>
</tbody>
</table>

*Pre-Adolescent Civic Engagement Scale*

Child sense of neighborhood responsibility was measured through the Pre-Adolescent Civic Engagement Scale ([PACES], Nicotera, Altschul, Schneider-Munos, & Webman, 2010). This scale was designed specifically for middle childhood and early adolescence, increasing its relevance for this study over other measures of youth civic engagement designed for adolescents and young adults. PACES consisted of 11 items that comprise two sub-scales: *foundation for civic ethics* and *community connection*. Both sub-scales were measured on a five-point Likert-type scale ranging from “disagree very much” to “agree very much.”

*Foundation for civic ethics* consisted of six items and measured a willingness to help others, especially other members of the community. Sample items included “I like doing something to help in my neighborhood” and “I like to help other people even if it is hard work.” The alpha coefficient of this sub-scale ranged from 0.77 to 0.80. In the
current sample, the internal consistency of *foundation for civic ethics* was acceptable ($\alpha = 0.77$). Children reported high levels of these foundations for civic ethics ($M = 3.73$, $SD = 0.69$).

*Community connection* consisted of five items and measured the sense of belonging related to civic engagement. Sample items included “When I help out in the neighborhood I make friends” and “People in my neighborhood take care of me.” The alpha coefficient of this sub-scale ranged from 0.66 to 0.71 in prior studies. With the removal of one item (‘When I grow up, I plan to help my neighborhood, family, or school’), the internal reliability of *community connection* barely reached an acceptable level ($\alpha = 0.61$). Children’s levels of community connections were moderate ($M = 3.32$, $SD = 0.71$).

*Neighborhood Civic Engagement*

Children’s neighborhood civic engagement was measured using an instrument developed specifically for this study. By examining the existing literature on the components of self-efficacy (Bandura, 1977, 1986, 1997; Henk & Melnick, 1995; Hinson, DiStefano, & Daniel, 2003) and children’s perceptions and use of neighborhood spaces (Min & Lee, 2006), a pool of 24 items was generated to measure the construct of child neighborhood efficacy. Items were measured on a 4-point Likert-type scale ranging from ‘not at all true’ to ‘completely true.’

EFA using principal axis factoring with direct oblimin rotation with Kaiser normalization was used to explore the factor structure of the 22 items. The rotation
extracted six factors in 19 iterations, explaining 61.86% of the variance. Items were considered for elimination based on the presence of low communalities and based on the theoretical underpinnings of the scale. The modified scale consisted of 11 items that loaded on 2 distinct factors. The rotation converged in 11 iterations. The two factors explained 39.86% and 11.64% of the variance in children’s neighborhood civic engagement, respectively. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.854 and Bartlett’s Test of Sphericity was significant, $\chi^2(55) = 330.12, p < 0.001$. The final rotated factor structure and factor loadings appear in Table 3.6.

The first factor represented children’s beliefs about their ability to help in their residential neighborhood. The factor, ‘neighborhood efficacy,’ included 6 items and had an alpha coefficient of 0.77. Children indicated moderate levels of neighborhood efficacy (M = 2.78, SD = 0.64). The second factor was titled “neighborhood pride” and represented children’s feelings of pride about their neighborhood experiences. Comprised of 5 items, this factor had an alpha coefficient of 0.81. Children reported high levels of neighborhood pride (M = 3.39, SD = 0.55).

The two sub-scales were combined to create a composite measure of neighborhood civic engagement. The alpha coefficient of neighborhood civic engagement was 0.84. Children reported high levels of neighborhood civic engagement (M = 3.06, SD = 0.53).

Socio-Demographic Questionnaire
Socio-demographic variables included gender, age, ethnicity, grade level at school, and number of siblings. These were constructed for the survey.

Table 3.6. *Final Factor Structure of Child Neighborhood Civic Engagement*

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1 Neighborhood Efficacy</th>
<th>Factor 2 Neighborhood Pride</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can help make my neighborhood a better place.</td>
<td>0.548</td>
<td></td>
</tr>
<tr>
<td>I help out in my neighborhood more than other children help.</td>
<td>0.407</td>
<td></td>
</tr>
<tr>
<td>I can ask my neighbors for help if I am in trouble.</td>
<td>0.569</td>
<td></td>
</tr>
<tr>
<td>I know who to ask for help if something breaks in my neighborhood.</td>
<td>0.668</td>
<td></td>
</tr>
<tr>
<td>People in my neighborhood listen to what kids have to say.</td>
<td>0.585</td>
<td></td>
</tr>
<tr>
<td>I know how to get help if something bad happens in my neighborhood.</td>
<td>0.714</td>
<td>-0.578</td>
</tr>
<tr>
<td>I know my way around my neighborhood.</td>
<td></td>
<td>-0.861</td>
</tr>
<tr>
<td>I feel happy when I am helping in my neighborhood.</td>
<td></td>
<td>-0.482</td>
</tr>
<tr>
<td>I feel good when I am outside in my neighborhood.</td>
<td></td>
<td>-0.548</td>
</tr>
<tr>
<td>I feel proud when I help in my neighborhood.</td>
<td></td>
<td>-0.620</td>
</tr>
<tr>
<td>My parents like to see me help in my neighborhood.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Caregiver Research Measures*

*Perceived Neighborhood Scale*

The Perceived Neighborhood Scale (PNS) consisted of 34 items that measured parental perceptions of neighborhood (Martinez, Black, & Starr, 2002). The PNS was designed for parents of young children and measured four dimensions of perceived
neighborhood: social embeddedness (9 items), sense of community (7 items), satisfaction with neighborhood (9 items), and fear of crime (9 items).

Social embeddedness measured perceptions of neighborhood networks by asking “How often do you greet your neighbors when you see them?” and “How often do you talk to neighbors who are also parents?” This sub-scale included nine items and was measured on two five-point Likert-type scales from “very likely” to “very unlikely” and “very often” to “very seldom.” In previous studies, the alpha coefficient for this sub-scale was 0.80. In the current sample, the internal reliability of social embeddedness was strong (α = 0.89), with caregivers reporting moderately high levels of embeddedness (M = 3.09, SD = 0.87).

Sense of community included seven items and measured feelings of membership and belongingness. Sample items included “People trust each other in my neighborhood” and “We help each other out in my neighborhood.” This sub-scale was measured on a five-point scale from “strongly agree” to “strongly disagree.” The alpha coefficient for this scale was 0.85 in previous studies and 0.93 in the current study. Parents’ perceived sense of community was moderately positive (M = 2.91, S = 0.94).

Satisfaction with neighborhood measured parental perceptions of the resources available in the neighborhood that are important for raising a child and consisted of nine items. This sub-scale was measured on a five-point scale from “strongly agree” to “strongly disagree.” The alpha coefficient for this scale in previous studies was 0.83. In the current study, satisfaction with neighborhood had strong internal reliability (α =
0.83), with parents reporting moderately high levels of neighborhood satisfaction (M = 3.09, SD = 0.61).

*Fear of crime* consisted of ten items and measured parental perceptions of social disorder and perceived crime. This sub-scale was measured on a five-point scale from “strongly agree” to “strongly disagree.” The alpha coefficient for this scale was 0.85 in previous studies and 0.90 in the current sample. Reported levels of fear of crime were relatively low (M = 1.55, SD = 0.48).

*Safe Neighborhood Scale*

The Safe Neighborhood Scale is a six-item scale measuring parental perceptions of neighborhood safety (Coulton & Korbin, 1996). Items were scored on a four-point scale from “strongly disagree” to “strongly agree.” Sample items included “I feel safe at home at night” and “If someone stopped me at night to ask me directions, I would probably stop to speak with them.” The alpha coefficient of this scale was 0.70 in previous research and 0.73 in the current sample. Overall, parents perceived moderately high levels of neighborhood safety (M = 3.15, SD = 0.57).

*Parental Perceptions of Children’s Independent Mobility Scale*

Parental perceptions of children’s independent mobility was measured by modifying the same items from the Children’s Independent Mobility Scale, developed specifically for this study. As described previously, the items for this scale were drawn from a series of independent mobility items used in semi-structured interviews with
parents (Prezza et al., 2001). Caregivers were asked to indicate the frequency with which their child engaged in a series of independent mobility items. Responses were measured on a 5-point Likert-type scale ranging from “never” to “every day.”

In order to remain consistent with the Children’s Independent Mobility Scale, only the six selected items from the final factor structure of the child inventory were considered in EFA. While the caregiver sample was relatively small, the ratio of participants to items was 10 to 1, an acceptable ratio for EFA (Nunnally, 1978). Again, this EFA utilized principal axis factoring with direct oblimin rotation with Kaiser normalization. The rotation extracted 2 factors in 27 iterations. The two factors explained 63.2% and 17.0% of the variance in parental perceptions of children’s independent mobility, respectively. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.816 and Bartlett’s Test of Sphericity was significant, $\chi^2(15) = 364.67$, $p < 0.001$. The final rotated factor structure and factor loadings appear in Table 3.7.

The final factor structure of Parental Perceptions of Children’s Independent Mobility matched the final factor structure of the child scale. The first factor, entitled ‘social mobility,’ included three items and represented the more social aspect of independent mobility. The internal consistency of this factor was 0.91, with parents perceiving moderate levels of children’s social mobility ($M = 3.37$, $SD = 1.31$). The second factor, entitled ‘play mobility,’ consisted of three items and represented more tangible play activities. The internal consistency of this factor was 0.75, with parents perceiving relatively high levels of children’s play mobility ($M = 3.77$, $SD = 0.93$).
Table 3.7. Final Factor Structure of Parental Perceptions of Independent Mobility

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk to neighbor’s house</td>
<td>0.814</td>
<td></td>
</tr>
<tr>
<td>Play with friends in neighborhood</td>
<td>0.942</td>
<td></td>
</tr>
<tr>
<td>Play in neighbor’s yard</td>
<td>0.903</td>
<td></td>
</tr>
<tr>
<td>Play in yard after school</td>
<td></td>
<td>0.660</td>
</tr>
<tr>
<td>Ride bike in neighborhood</td>
<td></td>
<td>0.430</td>
</tr>
<tr>
<td>Play in yard on weekend</td>
<td></td>
<td>0.915</td>
</tr>
</tbody>
</table>

**Parent Civic Engagement**

Parental civic engagement was measured through an adapted version of the Collective Efficacy sub-scale of Shared Control (Sampson et al., 1997). Items asked participants to indicate the likelihood that they would take action given some undesirable or adverse event occurring in their neighborhood. This scale consisted of five items and was measured on a 4-point Likert-type scale ranging from ‘very unlikely’ to ‘very likely’.

Since the items were modified, EFA using principal axis factoring with direct oblimin rotation with Kaiser normalization was utilized to determine the factor structure of this scale. The rotation extracted 1 factor in 6 iterations. The factor explained 56.6% of the variance in parental civic engagement. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.736 and Bartlett’s Test of Sphericity was significant, $\chi^2(10) = 161.56, p < 0.001$. The alpha coefficient of *parent civic engagement* was 0.80. Parents reported high levels of civic engagement ($M = 3.24, SD = 0.53$).
Parental Trust Inventory

The Parental Trust Inventory measured dimensions of parents’ environmental and interpersonal trust, as well as parental control ([PTI], Johansson, 2006). This inventory included four sub-scales that were measured on a 4-point Likert-type scale ranging from ‘strongly disagree’ to ‘strongly agree.’

Environmental trust measured parental beliefs about neighborhood safety for child independent mobility. This sub-scale consisted of 5 items and was measured on a four-point Likert-type scale. Sample items include “If my child plays outside, I feel safer if he/she stays close to our house” and “I think my child should be accompanied by an adult when it is dark outside.” The alpha coefficient of this sub-scale was 0.69 in previous studies. In order to achieve an acceptable level of internal reliability in the current study (α = 0.64), one item was removed from this scale based on the Item-Total Statistics generated by SPSS. Due to the negative wording of these items, parents’ high scores on environmental trust actually indicate mistrust (M = 3.27, SD = 0.56).

Trust in strangers measured parental beliefs about the trustworthiness of other members of society. This sub-scale consisted of 4 items. The alpha coefficient of this sub-scale was 0.85 in previous studies and 0.79 in the current study. Parents perceived a moderately low level of threat to their children from strangers (M = 2.06, SD = 0.60).

Trust in road users measured parental perceptions of the trustworthiness of other road users, such as automobile operators and cyclists. This sub-scale consisted of 4 items. In previous research, the alpha coefficient of this sub-scale was 0.76. This scale
had low but acceptable internal reliability in the current study ($\alpha = 0.60$). Parents indicated moderate levels of trust in other road users ($M = 2.48$, $SD = 0.49$).

*Need to protect* measured parental attitudes about protecting their child. This sub-scale consisted of five items. The alpha coefficient of this sub-scale was 0.68 in previous studies and 0.81 in the current study. Parents reported high levels of needing to protect and monitor ($M = 3.27$, $SD = 0.56$).

*Neighborhood Knowledge and Activities*

The survey included several one-item measures of neighborhood knowledge and activities. These items measured children’s involvement in the neighborhood by asking about *knowledge of neighborhood children, neighborhood satisfaction, membership in a neighborhood organization*, and *frequency of participation in activities sponsored by neighborhood organization*. For example, *knowledge of neighborhood children* asked, “Of all the children living in the ten houses closest to you, how many do you know by name?”

*Socio-Demographic Questionnaire*

Demographic information was collected, including but not limited to: age, gender, income, marital status, employment, education, years of residency in the neighborhood, and residential mobility.
Neighborhood Characteristics

Neighborhood characteristics were measured using the Neighborhood Observation Scale (McDonell & Waters, 2010) (Appendix D). Scores on all items ranged from 1 to 5 with higher scores indicating the more positive end of the rated dimension. The inventory originally consisted of eight sub-scales, but modifications to these sub-scales were necessary given the characteristics of the current sample and recent revisions to the inventory.

*Neighborhood physical appearance* consisted of seven items that rated the physical appearance of dwellings, yards, streets, and the like. The positive ends of sample items included “Residences are in good repair” and “Residential area is free of trash.” While no modifications were made to these items, EFA using principal axis factoring with direct oblimin rotation with Kaiser normalization was conducted to be sure that the factor structure was consistent with the literature (McDonell & Waters, 2010). The rotation extracted one factor in 7 iterations. The factor explained 60.8% of the variance in physical characteristics of the neighborhood. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.84 and Bartlett’s Test of Sphericity was significant, $\chi^2(21) = 430.55, p < 0.001$. The alpha coefficient of *physical characteristics of the neighborhood* was 0.86. The observed physical characteristics of the current sample were very positive ($M = 4.25, SD = 0.49$).

*Neighborhood social appearance* consisted of nine items measuring the social characteristics of the neighborhood. The facture structure was explored using EFA with principal axis factoring and direct oblimin rotation with Kaiser normalization. The
rotation attempted to extract three factors but required more than 25 iterations. Items were considered for elimination based on the presence of low communalities. The modified factor structure included four items and extracted one factor in 19 iterations. That factor explained 48.16% of the variance in the social characteristics of the neighborhood. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.62 and Bartlett’s Test of Sphericity was significant, $\chi^2(6) = 57.26$, $p < 0.001$. The alpha coefficient of social characteristics of the neighborhood was 0.61. The observed social characteristics of the current sample were moderate ($M = 2.62$, $SD = 0.56$).

Neighborhoo safety characteristics consisted of five items. The facture structure was explored using EFA with principal axis factoring and direct oblimin rotation with Kaiser normalization. The rotation attempted to extract two factors but required more than 25 iterations. Items were considered for elimination based on the presence of low communalities and for loading on more than one factor. The modified factor structure included four items and extracted one factor in 13 iterations. That factor explained 53.22% of the variance in safety characteristics of the neighborhood. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.71 and Bartlett’s Test of Sphericity was significant, $\chi^2(6) = 73.7$, $p < 0.001$. The alpha coefficient of safety characteristics of the neighborhood was 0.70. The observed safety characteristics of the current sample were moderate ($M = 3.04$, $SD = 0.66$).
Approach to Analysis

The data were entered and analyzed using IBM SPSS Statistics software v. 20. The first stage of data analysis was data preparation and screening. Data preparation and screening techniques included data cleaning, replacement of missing values, assessment of univariate normality, reliability analyses to test the internal consistency of scales, and factor analyses to determine and confirm the factor structure of newly created or modified scales.

With this foundation in place, several approaches to data analysis were utilized in this study. First, descriptive statistics (measures of central tendency, dispersion, and univariate and bivariate association) were performed to characterize patterns in the research measures. Multivariate linear modeling was used to examine the predictive nature of neighborhood characteristics on child civic engagement. The remainder of this chapter describes these techniques in greater detail.

Data Preparation and Screening

Data preparation and screening were a vital step in the analysis, for they helped ensure the accuracy of the linear regression models. These preparation and screening techniques included data cleaning, replacing missing values, and establishing the reliability of scales.
Data Cleaning

Data cleaning was performed on all data. Frequencies revealed if there were any errors in data entry, the prevalence of missing values, and any unusual or unexpected values. Variable and value labels were added in order to maintain organization. When necessary based on the distribution of scores, variables were collapsed.

Missing Data

Data cleaning revealed the extent of missing data. A Missing Value Analysis was used to determine the pattern of missing data and to establish if the data were Missing Completely at Random (MCAR), a random pattern of missing data. While replacing missing values was not necessary, the researcher was concerned that large amounts of missing data would compromise sample size and power. The decision was made a-priori to replace missing values in research measures using a maximum likelihood technique, such as the Estimation-Maximization algorithm, depending on the pattern of missing data. This approach was selected over other forms of imputation, such as linear trend at point, for its ability to more accurately generate estimates of standard errors (Allison, 2002).

Univariate and Multivariate Normality

One of the underlying assumptions of multiple regression is a normal distribution of scores. To assess the distribution of variables, this study checked for outliers, skewness, and kurtosis. Outliers were identified through the rank order approach. This
approach calls for finding the range of scores and establishing the lower and upper bounds. Any values that are out of this range are considered outliers and may affect the distribution. Outliers were not removed, but recoded to the nearest acceptable value, a technique referred to as Winsorizing. Once outliers were recoded, skewness was assessed. Skewness, a measure of asymmetry to the left or the right of the mean, was corrected if greater than 0.8 or less than -0.8. Depending on the degree of skewness, the variable was transformed using either a square root transformation, a natural log (log 10) transformation, or an inverse transformation. Multivariate normality was assessed by examining multivariate skew and kurtosis (DeCarlo, 1997). Mardia’s statistics were not significant, indicating multivariate normality.

Multicollinearity

Though it is expected that there would be some degree of correlation between variables, it is problematic if there is too much correlation, or multicollinearity, as variables may be measuring the same construct. Bivariate correlations served as a starting point for identifying variables that are highly co-linear. Collinearity statistics and diagnostics generated along with regression analyses were examined to check for multicollinearity.

Reliability Analysis

Many of the scales that were utilized in this study had established psychometric properties from previous research studies. Still, it was important to assess the internal
consistency of these scales in the current study by generating Cronbach’s alpha, a reliability coefficient. In social sciences research, a Cronbach’s alpha of 0.70 or higher is generally considered acceptable (George & Mallery, 2005). In exploratory studies, such as the current study, it is also possible to include measures with a Cronbach’s alpha of 0.60 or higher (Nunnally, 1978; Robinson, Shaver, & Wrightsman, 1991). Therefore, while a minimum alpha coefficient of 0.70 was desired, the minimum alpha coefficient for research measures included in the study was 0.60.

*Factor Analysis and Construct Validity*

Exploratory factor analysis (EFA) was used for the following purposes: (1) determine the factor structure of scales created or modified specifically for this study; and (2) examine the factor structure of existing scales determined to have unacceptable reliability.

For scales created or modified for this study and scales with poor internal consistency, EFA was used to determine the underlying factor structure of the scale. The proposed analytic approach for these scales was principal axis factoring with direct oblimin rotation. The following criteria assisted in determining the final factor structure for each scale: (1) a minimum eigenvalue of 1.00 was used to retain extracted factors; and (2) a minimum factor score of .30 was used to determine the items loading on a given factor.
Descriptive Statistics

Univariate and bivariate analyses were used to characterize the sample. Univariate analyses, such as mean, standard deviation, and frequencies, were used to describe the characteristics of the sampled child-caregiver dyads and neighborhoods in relation to spatial neighborhood, neighborhood social content, independent mobility, and child civic engagement. Bivariate analyses, such as Pearson correlations, crosstabulation, and ANOVA, were used to describe patterns and associations in the sample. These analyses also were used as the basis for selecting predictors for the regression models.

Multinomial Linear Regression

Multivariate linear modeling was used to examine the predictive nature of neighborhood characteristics on child civic engagement. Multiple regression is a flexible technique that accommodates the complex interactions between variables. Multiple regression is advantageous, as multiple predictors provide better predictions than just a single predictor. In addition, it is possible to create the “best fit” combination of predictors. Though not a causal model, multiple regression provides a general feeling for the casual relationships among predictors and the dependent variable, allowing for the use of more sophisticated hypotheses (Sweet & Grace-Martin, 2012).

Threats to Validity

There were several features of this study that threaten its validity. This study utilized a convenience sample, a potential limitation that may lead to a sample that is not
representative of the population. This was taken into account by examining the
demographic structure of the sample before conducting analyses and by using statistical
controls. Although a larger random sample would have been preferential and would have
reduced the influence of these limitations, the time and resources that were necessary to
complete all phases of this study only allowed for a modest convenience sample.
Considering the findings generated by this study, resources may be available to replicate
the methodology with a larger random sample.

Further, since the study purposefully recruited children from the same
neighborhoods, collinearity was an additional threat to the study’s validity. It was likely
that siblings and children from the same neighborhoods answered questions similarly,
leading to increased collinearity. While sampling children within neighborhoods is
integral to the design of this study, one possible solution was to use a variety of
recruitment techniques in order to include a wide variety of neighborhood children.
However, even the use of a random sample would not eliminate this threat to validity.
Care was taken to examine the distribution and collinearity of variables and, when
possible, statistical techniques were utilized to reduce this threat to validity.

Similarly, it is possible that the close proximity of neighborhoods introduced bias
in the form of spatial autocorrelation. Spatial autocorrelation refers to systematic patterns
in the distribution of a variable. Many of the statistics that were used in the study
assumed independence of observations, an assumption that is may be violated in
neighborhood effects research given the close spatial proximity of observations
(Fotheringham, Brunsdon, & Charlton, 2000). If not corrected, positive and negative
spatial autocorrelation may lead to a confidence interval that is too narrow or too wide, respectively, and other issues (Cressie, 1993).

Additionally, instrumentation effects may have threatened the validity of this study. Written surveys are used with care among young children given their developing literacy skills. Though the written survey used with children was constructed at an appropriate developmental level, it was possible that some children found this task challenging or that certain questions were not framed in a way in which children answered as the study predicted. Further, some children may have requested that an adult help with the completion of the written survey, although this cannot be confirmed. While caregivers were instructed that it was permissible to help children define unknown words or to explain questions, they were asked not to influence children’s responses, as measuring children’s own perceptions is the ultimate goal of this research. Admittedly, children’s perceptions likely were related to parental perceptions, yet it was still important that children responded to survey questions on their own. In order to reduce this threat to validity, the written questionnaire was pilot-tested among a small group of non-participant children and their feedback guided revisions to the survey.

In summary, this study drew on several approaches to data preparation and analysis. While there were potential threats to validity, strict adherence to the data collection protocol and attention to detail when cleaning and preparing the data helped maintain a high level of methodological rigor and ensure accurate results. The results of data analysis appear in the following chapter.
Human Subjects Concerns

The risks associated with participation in this study were minimal. These risks included: (1) slight psychological or emotional discomfort related to the content of survey items and the data collection protocol; and (2) loss of confidentiality. Every effort was made to reduce or eliminate these risks through strict research protocol. Approval to conduct this study was obtained from the Clemson University IRB prior to data collection. The following sections detail research protocol designed to reduce potential risks.

Procedures for Safeguarding Confidentiality

Upon data collection, participants’ maps, photos, and questionnaires were stored in a locked filing cabinet in the research office at IFNL's office at the University Center-Greenville (UCG) and will remain there for a period of one year. Each child-caregiver dyad was assigned a unique identification number that was used for data management. This number linked written surveys, neighborhood maps, and photographs. To further protect confidentiality, participants were instructed to completely seal the return envelope provided and return it by mail to the research team’s office. The envelopes were not opened until they arrived at UCG and then only were seen by members of the Clemson University research team. Survey forms and signed parental permission and child assent forms were kept in separate drawers in locked filing cabinets in the research office at UCG. All data and id files were maininted on personal computers in locked, private offices at UCG.
It was necessary to collect identifying information in order to follow up with families. Contact information consisted of name, phone number, and email address and was maintained in a separate secure data file. Contact information was deleted upon the completion of the study.

Managing Respondents’ Psychological Discomfort and Adverse Events Handling

Procedure

Children could have experienced slight anxiety over participating in the neighborhood walk and this anxiety likely was allayed by offering the parent or caregiver the option of coming along. Children and caregivers could have had slight emotional reactions to the content of the survey or had concerns about the acceptibility of their responses. The survey content was fairly innocuous, however, and any emotional response to the survey content likely was fleeting.

Children and caregivers were notified of the potential risks of emotional distress and loss of confidentiality at the beginning of the study. Participants were assured that they did not have to respond to any questions that caused discomfort and were free to drop out of the study at any time. A protocol was established to address severe discomfort experienced while participating in any part of the research design, though it was expected that no such events would occur. In fact, no child or adult reported discomfort as a result of participating in this study.

In summary, this study utilized a complex methodology to assess the influence of neighborhood characteristics on youth civic engagement. The neighborhood walks with
children and photographs by children added breadth and depth to the written
questionnaires of children and caregivers. Adhering to a strict data collection protocol
minimized the risks associated with the study and maximized the quality of data
generated, thus reducing threats to validity. These threats to validity, along with
approach to data analysis, appear in the following chapter.
CHAPTER FOUR
RESULTS

A total of 111 children completed neighborhood walks with a member of the research team. Of these, only 101 child-caregiver dyads returned completed written questionnaires, a return rate of 91%. The following analyses, therefore, are based on the 101 child-caregiver dyads with complete data.

Data Cleaning and Transformations
Caregiver demographic items were collapsed to eliminate categories with small counts. These included 1) caregiver education, which was collapsed into an ordinal variable with four categories of ‘less than high school diploma’, ‘high school diploma or GED’, ‘some college or training’, and ‘Bachelor’s degree or higher’; 2) household income which was collapsed into an ordinal variable with three categories for ‘less than $30,000’, ‘$30,001 to $70,000’; and ‘more than $70,001’; 3) caregiver work status which was collapsed into three categories for, ‘working full- or part-time’, ‘keeping house’, and ‘something else’; and 4) attendance at neighborhood activities which was collapsed into an ordinal variable with three categories for ‘none’, ‘once or twice’, and ‘three or more times’. For both children and caregivers, ethnicity was collapsed into a dichotomous variable for ‘non-Hispanic’ and ‘Hispanic’. In addition, a dichotomous variable was created for children’s age with categories of ‘9 years old or less’ and ’10 years old or more’.
A new ordinal categorical variable was created to measure children’s independent mobility. The ten individual items were summed to create a score of total independent mobility, with scores ranging from 13 to 40. This variable was then converted into an ordinal categorical variable with three categories for ‘low mobility’, ‘moderate mobility’, and ‘high mobility’.

Several neighborhood observation items were problematic. Given the suburban and rural nature of the neighborhoods, there were many neighborhoods without sidewalks, a park or public space, or a school. With such a high percentage of missing values, imputing missing values was not plausible. The three items measuring the physical characteristics of the school were completely removed from the analysis. The variable measuring the condition of sidewalks was converted into a dichotomous variable with categories for ‘no sidewalk present in neighborhood’ and ‘sidewalk present in neighborhood.’ The two items measuring the physical characteristics of the park or public space and the four items measuring the social characteristics of parks and public spaces were removed from the analysis. One of the park items was converted into a dichotomous variable to indicate the presence or absence of a park or public space. Lastly, the three public amenity items were removed from the analysis.

Outliers were identified through the rank order approach, which established the upper and lower bounds of the distribution, allowing for the identification of any values outside of those bounds. Outliers were handled by recoding the value to the nearest acceptable value, or Winzorizing.
There were two single-item variables with outliers, including area of the neighborhood and years lived in the neighborhood. For area of the neighborhood, there were 13 extreme values. These values were recoded to the nearest acceptable value, 41 acres. For years lived in the neighborhood, there were three extreme values. These values were also recoded to the nearest acceptable value, 15 years.

**Missing Data**

Analyses revealed a small amount of missing data. Given the age of child respondents, a certain amount of missing data was expected despite efforts to design the survey with enough clarity to avoid confusion. Among the 78 child items for use in scaled variables, 48 items had 0% missing data, 20 items had 1% missing data, 7 items had 2% missing data, 2 items had 3% missing data, and 1 item had 4% missing data. Replacing these values was important to the subsequent analyses, as every case was needed to maintain an acceptable level of power. For this reason, the best approach to handling missing data, listwise deletion, was not a suitable option.

Before replacing missing values, it was important to establish the pattern of missing data. More reliable tools exist to replace missing values if the data are Missing Completely at Random, or MCAR. In order to determine the pattern of missing data, the Missing Value Analysis add-on module in SPSS was utilized.

The Missing Value Analysis was run for sets of variables by inventory. Among the five child inventories, four of the inventories had a non-significant Little’s MCAR test, indicating the data were missing completely at random (p > 0.05). The
Neighborhood Youth Inventory, however, had a significant Little’s MCAR, $\chi^2(104) = 134.46$, $p < 0.05$. In this situation, given the young age of the participants and the length of the written survey, it is possible that the responses are missing by design and still meet the criteria for MCAR (Acock, 2005). Further, no variable in this inventory showed a percentage of missing values higher than 1%. For these reasons, it was still reasonable to impute missing values for this inventory.

Missing Values Analysis also was completed for the caregiver inventories. Non-significant Little’s MCAR tests showed that these data were missing completely at random ($p > 0.05$). Having established the condition of MCAR for the variables comprising research measures, missing values were imputed using the Estimation-Maximization algorithm feature in SPSS.

Bivariate Statistics

There were several differences distinguishing Hispanic caregivers from non-Hispanic caregivers. On average, Hispanic caregivers were younger ($M = 38.46$, $SD = 6.35$) than non-Hispanic caregivers ($M = 42.14$, $SD = 7.96$). This difference was significant, $t(90) = 2.40$, $p < 0.05$.

Hispanic caregivers had lower levels of education than non-Hispanic caregivers, $\chi^2(3) = 26.54$, $p < 0.001$. Two-thirds (66.7%) of non-Hispanic caregivers had a Bachelors degree or higher compared to 17.1% of Hispanic caregivers. Conversely, 17.1% of Hispanic caregivers had not finished high school, while no non-Hispanic caregivers had this low level of education.
In addition, Hispanic caregivers were less likely to be working full- or part-time compared to non-Hispanic caregivers, $\chi^2(2) = 36.36$, $p < 0.001$. Most (70.6%) non-Hispanic caregivers were working full- or part-time, whereas most (63.8%) Hispanic caregivers were keeping house.

As a result, Hispanic caregivers reported lower levels of household income than non-Hispanic caregivers, $\chi^2(2) = 42.64$, $p < 0.001$. The majority of Hispanic caregivers (82%) reported an annual combined income of less than $30,000, while 21.6% of non-Hispanic caregivers reported earning the same income. More than half (52.1%) of non-Hispanic caregivers reported earning more than $70,000 per year, something only 2% of Hispanic caregivers reported.

Group differences were more than socio-demographic. For instance, there was a significant group difference in knowledge of neighborhood children, $t(96) = 2.46$, $p < 0.05$. Non-Hispanic caregivers reporting knowing more neighborhood children ($M = 3.19$, $SD = 1.07$) than Hispanic caregivers ($M = 2.68$, $SD = 0.98$). This group difference was also present for caregiver perceptions of social embeddedness, $t(99) = 4.65$, $p < 0.001$. Hispanic caregivers ($M = 2.72$, $SD = 0.84$) reported lower levels of social embeddedness than non-Hispanic caregivers ($M = 3.45$, $SD = 0.74$). Further, Hispanic caregivers perceived lower levels of neighborhood safety ($M = 2.97$, $SD = 0.63$) than non-Hispanic caregivers ($M = 3.32$, $SD = 0.44$), $t(99) = 3.32$, $p < 0.01$.

There were similar group differences among the child participants. First, there was a significant group difference in neighborhood civic engagement by ethnicity, $t(99) = 2.08$, $p < 0.05$. Hispanic children ($M = 2.95$, $SD = 0.55$) had lower levels of
neighborhood civic engagement than non-Hispanic children ($M = 3.16, SD = 0.49$). Further, the ethnic groups also differed in number of important neighborhood places, $t(99) = 2.67, p < 0.01$. Hispanic children ($M = 5.81, SD = 3.95$) identified fewer important neighborhood places than non-Hispanic children ($M = 8.07, SD = 4.51$). Last, there was a significant group difference in perceptions of neighborhood support, $t(99) = 2.19, p < 0.05$. Perceived levels of neighborhood support were lower among Hispanic children ($M = 2.75, SD = 0.67$) than non-Hispanic children ($M = 3.02, SD = 0.56$).

Beyond these group differences by ethnicity, there were also group differences by income. Children from low-income families were more likely to have less independent mobility, $\chi^2(2) = 7.38, p < 0.05$. Nearly half (46.8%) of low-income children also had low independent mobility, while 40.8% of children from high-income families had high mobility. This trend continued when examining group differences by income in spatial neighborhood, $t(99) = -4.40, p < 0.001$. Children from low-income families had a significantly smaller spatial neighborhood ($M = 5.88, SD = 8.40$) than children from high-income families ($M = 16.42, SD = 14.22$).

**Research Hypothesis Testing**

*Hypothesis 1*

The first research question explored group differences in children’s independent mobility, and the following hypotheses were proposed.

**H1.** There are statistically significant differences in children’s independent mobility among groups.
**H1(a)** Boys have greater independent mobility and a larger spatial neighborhood than girls.

**H1(b)** Older children have greater independent mobility and a larger spatial neighborhood than younger children.

**H1(c)** The function of independent mobility varies by gender. Boys will have more independent mobility for the purpose of outdoor play and traveling to school. Girls will have more independent mobility for the purpose of visiting friends.

Cross-tabulation was used to identify differences in the distribution of independent mobility by gender. There was no significant difference in the distribution of independent mobility by gender, $\chi^2(1) = 0.008$, $p = 0.928$. An independent sample t-test was used to identify group differences by gender in spatial neighborhood. There was no significant difference in spatial neighborhood between girls ($M = 11.86$, $SD = 13.32$) and boys ($M = 9.89$, $SD = 11.86$), $t(99) = -0.783$, $p = 0.435$. Therefore, hypothesis H1(a) was not supported.

Again, cross-tabulation was used to identify differences in the distribution of independent mobility by age. There was no significant difference in the distribution of independent mobility by age, $\chi^2(1) = 0.251$, $p = 0.617$. An independent sample t-test was used to identify group differences by age in spatial neighborhood. Levene’s test for equality of variance was not significant ($p = 0.833$). There was no significant difference in spatial neighborhood between younger children ($M = 9.91$, $SD = 12.51$) and older
children (M = 11.88, SD = 12.75), t(99) = -0.784, p = 0.435. Hypothesis H1(b) was not supported.

Independent sample t-tests were used to identify group differences by gender in functions of independent mobility for play and for socialization. There was no significant difference in mobility for the function of play between boys (M = 3.21, SD = 1.24) and girls (M = 3.11, SD = 1.17), t(99) = 0.182, p = 0.856. There was no significant difference in mobility for the function of socialization between boys (M = 3.21, SD = 1.24) and girls (M = 3.11, SD = 1.17), t(99) = 0.402, p = 0.688. Hypothesis H1 (c) was not supported.

Hypothesis 2

The second research question in this study examined the relationship between children’s independent mobility, spatial neighborhood, and neighborhood social content. The following hypotheses were proposed.

**H2.** Statistically significant relationships exist between children’s independent mobility, spatial neighborhood, and neighborhood social content:

**H2 (a)** There is a significant positive relationship between independent mobility and spatial neighborhood. Children with greater independent mobility have a larger spatial neighborhood.

**H2 (b)** There is a significant positive relationship between independent mobility and neighborhood social content. Independent mobility is positively related to child and caregiver perceived sense of safety, sense of place, collective efficacy, and social support.
Children with greater independent mobility will identify more neighborhood places that are socially significant.

**H2 (c)** Spatial neighborhood is significantly positively related to neighborhood social content.

**H2 (d)** Child neighborhood social content is positively related to caregiver neighborhood social content.

A Pearson correlation matrix was created to explore the relationships among independent mobility, spatial neighborhood, child neighborhood social content, and caregiver social content.

The results showed that there was a significant positive relationship between children’s independent mobility and spatial neighborhood, $r = 0.21, p < 0.05$. Hypothesis H2 (a) was confirmed.

There was a significant positive relationship between children’s independent mobility and child neighborhood perceptions of support, $r = 0.32, p < 0.01$, friendship, $r = 0.40, p < 0.001$, activity, $r = 0.23, p < 0.05$, neighborhood civic engagement, $r = 0.40, p < 0.001$, and number of important neighborhood places, $r = 0.21, p < 0.05$. The relationship between child independent mobility and children’s perceptions of neighborhood safety was not significant, $r = 0.07, p = 0.50$.

There was a significant positive relationship between children’s independent mobility and caregiver social embeddedness, $r = 0.53, p < 0.001$, sense of community, $r = 0.44, p < 0.001$, parental civic engagement, $r = 0.27, p < 0.01$, and knowledge of
neighborhood children, $r = .53, p < 0.001$. There was a significant negative relationship between children’s independent mobility and caregiver need to protect/control, $r = -0.26, p < 0.01$. The relationships were not significant between children’s independent mobility and caregiver neighborhood satisfaction, $r = 0.09, p = 0.36$, fear of crime, $r = 0.03, p = 0.79$, perceptions of neighborhood safety, $r = .19, p = 0.06$. Hypothesis H2 (b) was partially confirmed.

There was a significant positive relationship between children’s spatial neighborhood and child perceptions of friendship, $r = 0.23, p < 0.05$, activity, $r = 0.33, p < 0.01$, and number of important neighborhood places, $r = 0.26, p < 0.01$. The relationships between spatial neighborhood and other child neighborhood social content variables were not significant.

There was a significant positive relationship between children’s spatial neighborhood and caregiver social embeddedness, $r = 0.23, p < 0.05$, sense of community, $r = 0.31, p < 0.01$, neighborhood satisfaction, $r = 0.26, p < 0.01$, perceptions of neighborhood safety, $r = 0.28, p < 0.01$, and knowledge of neighborhood children, $r = 0.26, p < 0.05$. There was a significant negative relationship between children’s spatial neighborhood and caregiver need to protect/control, $r = -0.35, p < 0.001$. The relationships between spatial neighborhood and other caregiver social content variables were not significant. Hypothesis H2 (c) was partially confirmed.

There were several significant positive relationships between child neighborhood social content research measures and caregiver social content research measures. A summary of significant relationships appears in Table 5.1. The caregiver research
Table 5.1. *Significant Correlations between Child and Caregiver Neighborhood Social Content Research Measures.*

<table>
<thead>
<tr>
<th>Caregiver Social Content Research Measures</th>
<th>Child Support</th>
<th>Child Friendship</th>
<th>Child Activity</th>
<th>Child Safety</th>
<th>Child neighborhood civic engagement</th>
<th>Child # important places</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social embeddedness</td>
<td>0.55***</td>
<td>0.50***</td>
<td>0.45***</td>
<td></td>
<td>0.43***</td>
<td>0.21*</td>
</tr>
<tr>
<td>Sense of community</td>
<td>0.55***</td>
<td>0.41***</td>
<td>0.44***</td>
<td></td>
<td>0.40***</td>
<td>0.27**</td>
</tr>
<tr>
<td>Neighborhood satisfaction</td>
<td>0.42***</td>
<td>0.28**</td>
<td>0.32**</td>
<td>0.20*</td>
<td>0.23*</td>
<td>0.28**</td>
</tr>
<tr>
<td>Fear of crime</td>
<td></td>
<td></td>
<td></td>
<td>-0.24*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe neighborhood</td>
<td>0.40***</td>
<td>0.30**</td>
<td>0.37***</td>
<td></td>
<td>0.22*</td>
<td>0.24*</td>
</tr>
<tr>
<td>Knowledge of children</td>
<td>0.44***</td>
<td>0.41***</td>
<td>0.47***</td>
<td></td>
<td>0.30**</td>
<td>0.35***</td>
</tr>
<tr>
<td>Environmental trust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust in road users</td>
<td>0.23*</td>
<td></td>
<td></td>
<td></td>
<td>-0.23*</td>
<td></td>
</tr>
<tr>
<td>Trust in strangers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need to protect/control</td>
<td></td>
<td></td>
<td>-0.27**</td>
<td></td>
<td>-0.27**</td>
<td></td>
</tr>
<tr>
<td>Parental civic engagement</td>
<td>0.23*</td>
<td></td>
<td></td>
<td></td>
<td>0.22*</td>
<td></td>
</tr>
<tr>
<td>Ind. mobility for play</td>
<td>0.34***</td>
<td>0.31**</td>
<td>0.20*</td>
<td></td>
<td>0.23*</td>
<td>0.22**</td>
</tr>
<tr>
<td>Ind. mobility for socializing</td>
<td>0.37***</td>
<td>0.40***</td>
<td>0.36***</td>
<td></td>
<td>0.27**</td>
<td></td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01; ***p < 0.001
measures of social embeddedness, sense of community, neighborhood satisfaction, perceptions of a safe neighborhood, and knowledge of neighborhood children had a significant positive correlation with five of the six child research measures. For example, caregiver social embeddedness had a strong positive significant relationship with child support, \( r = 0.55, p < 0.001 \), child friendship, \( r = 0.50, p < 0.001 \), and child activity, \( r = 0.45, p < 0.001 \), and child neighborhood civic engagement, \( r = 0.43, p < 0.001 \). Caregiver research measures with a negative orientation were significantly negatively related to child research measures, and thus were in line with the hypothesis.

Two caregiver research measures, environmental trust and trust in strangers, were not significantly related to any of the child research measures. In summary, Hypothesis H2 (d) was partially confirmed.

**Hypothesis 3**

The third research question in this study examined the predictive nature of neighborhood characteristics on child civic engagement. The following hypothesis was proposed. **H3 (a)** Independent mobility, spatial neighborhood, neighborhood social content, and observed neighborhood characteristics will be significant predictors of child civic engagement. Higher levels of the predictor variables will be related to higher levels of child neighborhood civic engagement.

Multiple linear regression was used to predict the variance in child neighborhood civic engagement. Socio-demographic, child, parent, and neighborhood variables that had a significant bivariate relationship with child neighborhood civic engagement were
considered for inclusion in the regression model. One child variable, child support, had a strong significant correlation with the dependent variable, $r = 0.60$, $p < 0.001$. This strong correlation, in addition to the presence of some items that were almost identical to items comprising the dependent variable, suggested potential collinearity. Subsequently, child support was not considered for inclusion in the model. Though identified by the hypothesis, spatial neighborhood and the observed neighborhood characteristics did not have a significant bivariate relationship with the dependent variable and were not considered for inclusion in the model either. The following section describes the three iterations of the multivariate regression model and the modifications made to achieve the final model.

The first iteration of the model included 14 predictors: three caregiver socio-demographic variables, one child socio-demographic variable, four child research measures, and six caregiver research measures. The results of the model appear in Table 5.2. The model explained 32% of the variance in child neighborhood civic engagement, but only three of the predictor variables had significant standardized beta coefficients. Further, the tolerance coefficients and variance inflation factors (VIF) indicated the presence of multicollinearity.

In order to improve the model, several non-significant predictors were removed. However, non-significant predictors with a standardized beta coefficient greater than or equal to 0.15 were retained, as these coefficients were approaching significance in the saturated model.
The second iteration of the multivariate regression model included six variables:

- one caregiver socio-demographic variable, three child research measures, and two caregiver research measures. This model explained 39% of the variance in child neighborhood civic engagement and appears below in Table 5.3. With fewer predictors, this model explained a greater proportion of the variance than the first iteration of the model. As shown in the table, four predictor variables had significant standardized beta

![Table 5.2. Multivariate Regression Model: First Iteration](image)
coefficients, while two predictor variables, caregiver education and parent perceptions of child independent mobility, had non-significant standardized beta coefficients. In addition, parent perceptions of child independent mobility had tolerance and VIF coefficients suggesting collinearity, likely connected to the presence of the child independent mobility measure in the model.

Table 5.3. Multivariate Regression Model: Second Iteration

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>B(SE)</th>
<th>B</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiver education</td>
<td>0.02 (0.05)</td>
<td>0.04</td>
<td>0.86</td>
<td>1.16</td>
</tr>
<tr>
<td>Child independent mobility</td>
<td>0.18 (0.08)</td>
<td>0.29*</td>
<td>0.43</td>
<td>2.32</td>
</tr>
<tr>
<td>Child friendship</td>
<td>0.16 (0.08)</td>
<td>0.20*</td>
<td>0.68</td>
<td>1.48</td>
</tr>
<tr>
<td>Child safety</td>
<td>0.33 (0.08)</td>
<td>0.36***</td>
<td>0.96</td>
<td>1.04</td>
</tr>
<tr>
<td>Social embeddedness</td>
<td>0.24 (0.07)</td>
<td>0.42**</td>
<td>0.46</td>
<td>2.16</td>
</tr>
<tr>
<td>Parent independent mobility</td>
<td>-0.12 (0.07)</td>
<td>-0.23</td>
<td>0.35</td>
<td>2.88</td>
</tr>
</tbody>
</table>

Model Summary

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R²</td>
<td>0.43</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.39</td>
</tr>
<tr>
<td>F value</td>
<td>10.81***</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>(6, 85)</td>
</tr>
</tbody>
</table>

*p < 0.05, **p < 0.01, ***p < 0.001

In order to create the most parsimonious model, a third and final iteration of the model was generated. Variables were considered for elimination based on non-significant beta coefficients and collinearity. The final model predicting child neighborhood civic engagement contained one block of four independent variables: child independent mobility (1 = ‘low mobility’; 2 = ‘moderate mobility’; and 3 = ‘high mobility’), caregiver social embeddedness, child perceptions of friendship, and child
perceptions of safety. The descriptive statistics of the four predictor variables and their bivariate relationship with the dependent variable appear in Table 5.4.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child neighborhood civic engagement</td>
<td>3.06</td>
<td>0.53</td>
<td>1.00</td>
</tr>
<tr>
<td>Child independent mobility</td>
<td>2.00</td>
<td>0.80</td>
<td>0.43**</td>
</tr>
<tr>
<td>Social embeddedness</td>
<td>3.09</td>
<td>0.87</td>
<td>0.43**</td>
</tr>
<tr>
<td>Child friendship</td>
<td>3.12</td>
<td>0.62</td>
<td>0.40**</td>
</tr>
<tr>
<td>Child safety</td>
<td>3.19</td>
<td>0.57</td>
<td>0.25*</td>
</tr>
</tbody>
</table>

n = 101, *p < 0.05, **p < 0.01, ***p < 0.001

The final model explained 35% of the variance in child neighborhood civic engagement. The results of this model appear in Table 5.5. The standardized beta coefficients indicate that child perceptions of safety had the greatest impact on child neighborhood civic engagement (β = 0.32). Child independent mobility, caregiver social embeddedness, and child friendship also were significant predictors, but had a smaller effect on the dependent variable. Collinearity statistics suggested that the predictor variables were not overly correlated. No variable had a variance inflation factor (VIF) greater than 1.6, while the tolerance for most variables remained close to 1.0. The tolerance for social embeddedness was slightly lower (0.63), but still within the acceptable range.
Table 5.5. Final Multivariate Regression Model Predicting Child Neighborhood Civic Engagement

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>B(SE)</th>
<th>β</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child independent mobility</td>
<td>0.15 (0.06)</td>
<td>0.23*</td>
<td>0.71</td>
<td>1.40</td>
</tr>
<tr>
<td>Child friendship</td>
<td>0.19 (0.09)</td>
<td>0.23*</td>
<td>0.73</td>
<td>1.37</td>
</tr>
<tr>
<td>Child safety</td>
<td>0.29 (0.09)</td>
<td>0.32***</td>
<td>0.97</td>
<td>1.04</td>
</tr>
<tr>
<td>Social embeddedness</td>
<td>0.15 (0.06)</td>
<td>0.25*</td>
<td>0.62</td>
<td>1.60</td>
</tr>
</tbody>
</table>

Model Summary

|                     |         
|---------------------|---------|
| $R^2$               | 0.37    |
| Adjusted $R^2$      | 0.35    |
| F value             | 14.30***|
| Degrees of freedom  | (4, 96) |

*p < 0.05, **p < 0.01, ***p < 0.001

The standardized beta coefficients of the predictors were all in the expected direction. Higher levels of child independent mobility, child friendship, child safety, and caregiver social embeddedness predict higher levels of child neighborhood civic engagement. Since the model did not include spatial neighborhood or observed neighborhood characteristics, Hypothesis 3 (a) was only partially confirmed.

In summary, this chapter presented the findings of the current study. An initial exploration of group differences using crosstabulations and t-tests revealed that there were no significant group differences by gender or age in children’s independent mobility and spatial neighborhood (Research Question 1). Boys and girls had comparable levels of independent mobility and spatial neighborhood and were equally mobile for play and for socialization. Older children and younger children also had comparable levels of independent mobility and spatial neighborhood.
Despite the lack of group differences, independent mobility and spatial neighborhood were significantly related to several child and caregiver research measures (Research Question 2). Children who reported higher levels of independent mobility were more socially engaged in their neighborhood and perceived higher levels of neighborhood social support, opportunities for friendship and activity, and neighborhood civic engagement. Independent mobility was also related to caregiver neighborhood connectedness, with higher levels of mobility associated with greater perceptions of social embeddedness, sense of community, parental civic engagement, and knowledge of neighborhood children. Lastly, it was clear that child perceptions of neighborhood coincided greatly with caregiver perceptions of neighborhood, with several significant relationships between the child social content research measures and the caregiver social content research measures.

Given these findings, a multivariate regression model predicting children’s neighborhood civic engagement was generated that explained 35% of the variance with four predictor variables (Research Question 3). Children with greater independent mobility, higher perceptions of opportunities for friendship, higher perceptions of neighborhood safety, and higher levels of caregiver social embeddedness had higher levels of neighborhood civic engagement. A discussion of these findings appears in Chapter Five.
CHAPTER FIVE

DISCUSSION

The current study responded to a lack of methodological consistency in conducting neighborhood effects research with children and the subsequent gaps in knowledge connecting the physical and social characteristics of neighborhood to children’s well-being. This study examined a mixed methodology for measuring children’s perceptions of neighborhood, taking into special consideration the relationship between children’s independent mobility and neighborhood civic engagement. The purpose of this study was to inform the methodological debate and strengthen the case for children’s participation in research and community life, while teasing out the relationship between neighborhood characteristics and children’s civic engagement.

The findings of this study of 101 child-caregiver dyads residing primarily in suburban neighborhoods revealed that children’s experiences in and perceptions of their residential neighborhood are powerful predictors of neighborhood civic engagement, the beliefs and emotions related to making difference in one’s own neighborhood. During the period of middle childhood, these neighborhood connections and efforts to engender change are critical precursors to the development of youth and adult civic engagement (Jans, 2004; Nicotera, 2008a). This chapter outlines key findings, discusses practical implications stemming from the study, recognizes limitations, and makes recommendations for future research.
Discussion of Findings

*Group Differences in Independent Mobility and Spatial Neighborhood*

One major goal of the study was to examine group differences in independent mobility and spatial neighborhood. Previous studies found significant differences in mobility by age (Brown et al., 2008; Korpela et al., 2002; Spilsbury, 2005) and gender (McMillan et al., 2006; Valentine, 1997). Contrary to expectations, there were no significant group differences in independent mobility by gender or age. While trending in the predicted directions, the results were not large enough to support Hypothesis 1. In the current sample, boys and girls reported similar levels of independent mobility and had similar sizes of spatial neighborhood. Additionally, younger children and older children reported similar levels of independent mobility and had similar sizes of spatial neighborhood.

A possible explanation for the lack of significant group differences by gender and age may relate to the effect of household income. Children living in families with a low level of household income had significantly lower levels independent mobility and a smaller spatial neighborhood. The influence of income may have been strong enough to overpower the effects of gender and age seen in previous studies. Caregivers with low income also reported lower levels of social embeddedness, sense of community, and neighborhood safety. However, when controlling for income, there were still no significant group differences by gender or age.
This raised the possibility that other and unmeasured factors may influence the relationships among gender, age, and spatial neighborhood. For example, Ahmadi and Taniguchi (2008) suggested that the long home-school distance, differences in the proximity of schools for boys and girls, and the regularity with which children were driven to school may have offset gender differences in spatial knowledge among children living in Tehran. This suggests the possibility that children’s mode of travel to school and other community locations may have an effect on spatial understanding and independent mobility. Additional research is needed to understand better the relationship between independent mobility, spatial neighborhood, and socio-demographic characteristics.

**Independent Mobility and Perceptions of Neighborhood**

Child independent mobility and spatial neighborhood were significantly related to several measures of child and caregiver social content, providing partial support for Hypothesis 2. While not all relationships were significant, it is clear that a strong relationship exists between children’s mobility and child and caregiver perceptions of neighborhood. This finding is consistent with previous research, as parents with lower levels of trust were more likely to limit children’s independent travel (Johansson, 2006; Weller & Bruegel, 2009). It is not possible to determine causality, however, so while it is possible that mobile children with a larger home range have more opportunities to engage with neighborhood people and places, it is also possible that children and caregivers with
stronger neighborhood connections feel more comfortable allowing more mobility. The relationship likely is reciprocal, but additional research is needed to support such a claim.

An interesting finding, though, was the lack of a significant relationship between independent mobility and child and caregiver perceptions of neighborhood safety. There is some evidence in the existing literature consistent with this finding, as Spilsbury (2005) found that levels of neighborhood violence did not influence children’s mobility. Other studies found that parents did, in fact, report limiting their children’s mobility due to a perceived lack of safety (Karsten, 2005). Despite a significant relationship between child spatial neighborhood and caregiver perceptions of neighborhood safety, overall the child and caregiver safety research measures did not significantly correlate with measures of mobility and home range. Additional research is needed to understand the relationship between safety and mobility.

There also was support for the hypothesis that child perceptions of neighborhood are related to caregiver perceptions of neighborhood. In fact, there was a strong significant positive correlation between child sense of support and caregiver sense of community, providing additional support for previous findings that child and caregiver sense of place are connected (Jutras & Lepage, 2006). Caregiver social embeddedness, a measure of neighborly helping, was strongly positively related to child neighborhood civic engagement, a finding in line with previous research on the importance of the family unit in transmitting civic values (Flanagan et al., 1998).
Predicting Child Neighborhood Civic Engagement

The last research question of this study explored the extent to which independent mobility, spatial neighborhood, neighborhood social content, and observed neighborhood characteristics predicted child neighborhood civic engagement, proposing that these research measures would be significant positive predictors of the criterion variable. A significant multivariate regression model was generated that explained 35% of the variance in child neighborhood civic engagement. This model included four predictor variables: child independent mobility, child perceptions of opportunities for friendship, child perceptions of neighborhood safety, and caregiver social embeddedness. As predicted, higher levels of the four predictor variables predicted higher levels of child neighborhood civic engagement. However, the measure of spatial neighborhood, the observed neighborhood characteristics, as well as several social content measures were not significant predictors. For this reason, there was only partial support for Hypothesis 3. Regardless, the model parsimoniously predicted a significant portion of the variance in civic engagement and contributes to the field of study.

Child perceptions of neighborhood safety was the strongest predictor of child neighborhood civic engagement in the current study. Children who perceived their neighborhood as a safer place had higher levels of civic engagement. This finding is intuitive, as safer neighborhoods are those in which residents are civically engaged, watching out for fellow residents and enforcing norms related to safety. Conversely, studies also have found high levels of engagement in high violence neighborhoods, as parents implement additional strategies to improve the conditions that they perceive as
posing a risk to ensure the safety of their children (Letiecq & Koblinsky, 2004). These strategies, however, may become overly restrictive and lead to parental withdrawal from neighborhood life (Dahl, Ceballo, & Huerta, 2010). The relationship between neighborhood safety, parenting strategies, and civic engagement is complex and requires further attention.

In addition to perceptions of safety, child independent mobility and perceptions of opportunities for friendship were significant predictors in the model. Children who reported greater levels of mobility and opportunities for friendship had higher levels of neighborhood civic engagement. The combination of these variables underscores the importance of place attachment in fostering civic engagement, as children who feel safer are more mobile and have more opportunities to engage with neighborhood children, developing a stronger connection to the neighborhood as a whole. As suggested by the Ecological Framework for Community Planning and Development, the emotional bonds generated through place attachment are integral for the development of civic attitudes and behaviors among children (Manzo & Perkins, 2006).

The last significant predictor in the model was caregiver social embeddedness, a measure of neighborly helping. Caregivers who reported higher levels of social embeddedness had children with higher levels of neighborhood civic engagement. Again, the importance of the family in engendering civic attitudes among children is evident—caregivers have a large role to play in preparing children for future citizenship (Flanagan et al., 1998).
In the context of this study, caregiver neighborly helping also reflects strong neighborhood connections contributing to caregiver sense of place. In previous studies, parents with lower levels of trust were more likely to limit children’s independent travel, viewing the neighborhood environment as unsafe (Johansson, 2006; Weller & Bruegel, 2009). Caregiver social embeddedness appears to be a strong mechanism for facilitating or hindering child independent mobility, influencing child civic engagement in an additional way. Future research utilizing a more robust approach to analysis, such as path analysis, will help uncover the complex interactions between the predictor variables.

Interestingly, no socio-demographic characteristics emerged as significant predictors of child neighborhood civic engagement. Bivariate statistics revealed significant group differences in civic engagement by ethnicity and income, with Hispanic children and children from low-income families reporting lower levels of civic engagement than their non-Hispanic and high-income counterparts. In previous research, neighborhood poverty has been found to be a significant negative predictor of adolescent civic engagement and knowledge, with youths from high-poverty neighborhoods showing lower levels of community service and civic knowledge (Atkins & Hart, 2003). While many families participating in the current study demonstrated financial hardship, overall the neighborhoods were not characterized by extreme disadvantage or disrepair, especially in comparison to high-poverty urban neighborhoods. The relationship between family and neighborhood disadvantage and civic engagement requires additional attention, especially when considering poverty within the context of suburban and rural neighborhoods.
Practical Implications

The current study added to the existing wealth of knowledge about the importance of the context of neighborhood for child well-being. Previous research has found that neighborhood characteristics have been associated with children’s school readiness and performance (Kohen et al., 2008; McWayne, McDermott, Fantuzzo, & Culhane, 2007), mental health (Hanks, 2008; Meltzer, Vostanis, Goodman, & Ford, 2007), antisocial behavior (Caughy, Nettles, & O’Campo, 2008; Guerra, Huesmann, & Spindler, 2003; Kohen et al., 2008; Vieno, Nation, Perkins, Pastore, & Santinello, 2010), and physical health and overweight status (Lumeng, Appuglese, Cabral, Bradley, & Zuckerman, 2006; Potwarka, Kaczynski, & Flack, 2008), among others. The current study demonstrated that child and caregiver perceptions of neighborhood characteristics also were associated with the early stages of children’s civic engagement. Practitioners, researchers, and policy makers may want to consider the importance of neighborhood when crafting programs, studies, and policies that aim to understand and improve the well-being of children and families.

In addition, the results of this study provided further evidence that, when given the time and opportunity, children have much to contribute to scholarly research, especially neighborhood effects research. The field of environmental planning already has served as an example for how to engage children in meaningful research endeavors, such as community assessments (Loebach & Gilliland, 2010) and evaluations of neighborhood parks (Vietch, Salmon, & Ball, 2008). This study validates that participatory research with children is a powerful tool with much utility.
By and large, children were enthusiastic about their participation and ability to contribute. During the neighborhood walks, many children boasted to neighbors and friends that they were out giving the researcher a tour of the neighborhood, chatting eagerly about their favorite games, hideouts, and adventures. More often than not it was the caregiver who cautioned that their child would have little to say about the neighborhood, warning the researcher that their child may not be a good candidate for participating in the study. The findings of the current study indicated that children, in fact, have plenty to say about their neighborhood and should be given more consideration by adults, especially researchers. This study provided community leaders a valuable example of how to genuinely engage children in community planning through the use of developmentally appropriate tools.

The fact remains, however, that genuine engagement is time intensive. The average home visit with a family lasted about 45 minutes, but some visits certainly lasted longer. The unpredictability of neighborhood walks with children poses a challenge for planning such research and requires patience, flexibility, and resources on the part of the researcher. Simply planning home visits is time intensive and cancellations and no-shows are inevitable. It is recommended that researchers and planners work very closely with community gatekeepers to recruit families for comparable studies and dedicate adequate resources to facilitate data collection.

Another crucial part of the home visit is building rapport with the family. While building rapport is essential for purely academic research, it is even more critical for community planning efforts involving children. The relationship and interactions
between the family and the researcher can support or hinder efforts to strengthen neighborhood cohesion. It is essential that members of the research team possess sufficient cultural competencies in order to respect and understand the expectations of the family while setting clear boundaries. For example, several caregivers prepared a snack or meal while the researcher and child were out on the neighborhood walk, demonstrating culturally acceptable forms of hospitality. Future research studies of this nature should develop a clear protocol for responding to various home visit scenarios in order to foster and maintain the relationships essential to strengthening the community.

Another important lesson relates to the transmission of civic values. Caregiver social embeddedness was a significant predictor of children’s neighborhood civic engagement. Social embeddedness measured caregivers’ self-reported frequency of giving and receiving help with neighbors and other neighboring activities, a measure in line with the neighborly helping measured by children’s neighborhood civic engagement. Caregivers’ beliefs and behaviors related to neighborly helping influence children’s beliefs about their ability to make a difference in their neighborhood, though it is possible that the relationship is reciprocal.

A practical implication for those trying to increase civic engagement among children and youth is to target the entire family, as civic attitudes permeate throughout the entire family and, in fact, are likely transmitted across multiple generations within the same family. This very well may be an example of trickle-down helping in which increasing helping behaviors and connectedness among adults has tangible implications
for children. Conversely, increasing civic engagement among children may serve as a mechanism for engaging previously isolated and disengaged caregivers.

This study revealed that independent mobility is an excellent mechanism through which children can development connections to people and places, connections that lead to pro-social civic attitudes and behaviors. This is an important finding, as more and more children are spending their leisure time inside and are thought of as “inside children” (Skår & Krogh, 2009). Other forces limit children’s independent mobility, such as parental fears of traffic, fears of crime, the absence of walkways and green space, and the possibility of encountering drugs or ill-intentioned adults. While these fears may be legitimate and children’s time spent indoors may have separate benefits, the findings of the current study indicate that a certain amount of independent mobility is integral for the development of children’s civic engagement. Efforts to mitigate parental fears and improve neighborhood conditions are necessary to help create the conditions in which children can reclaim the title of ‘outdoor children.’

While independent mobility is important, mobility must be paired with opportunities for friendship and activity. Research has found that children with a greater number of neighborhood friends were more likely to request additional independence and have a greater attachment to and spatial understanding of their neighborhood (Korpela et al., 2002; Morrow, 2001; Min & Lee, 2006; Veitch et al., 2007). The results of the current study support previous findings, with children’s independent mobility positively associated with children’s perceptions of friendship opportunities and activity within the neighborhood. Child perceptions of friendship opportunities was also a significant
predictor of children’s neighborhood civic engagement. While it is important for children to be out and about, having opportunities to make, meet, and play with friends within the neighborhood may be a force driving independent mobility and leading to greater neighborhood attachment. Though some friendships may develop through school or riding the school bus, parents should make a more concerted effort to help foster neighborhood friendships.

Child perceptions of safety also influence how children view their ability to make a difference in their neighborhood. Previous research has found that children have a heightened awareness of neighborhood crime (Nayak, 2003). While the neighborhoods included in the current sample received moderately high ratings on observed safety characteristics and both children and caregivers reported low perceptions of crime, children nonetheless were attuned to possible illegal activity within their neighborhoods. The relationship between independent mobility and perceptions of safety was not significant, indicating that children were mobile regardless of how safe they perceived their environment to be. This finding is comparable to previous findings, as Splisbury (2005) found that children in high violence neighborhoods still were very mobile, concluding that, as children age, they naturally roam farther regardless of neighborhood characteristics. Child perceptions of safety were related to neighborhood civic engagement, however, indicating that the combination of mobility and a safer environment combine to create conditions in which children are more apt to help out in their neighborhood.
An additional practical implication relates to social disengagement of Hispanic families. The current study found that Hispanic children had lower levels of neighborhood civic engagement than non-Hispanic children and that Hispanic caregivers were less connected to their neighborhood than non-Hispanic caregivers. The lack of community connections will pose a significant challenge as the children of immigrants reach adulthood. With the ethnic makeup of the nation shifting quickly, children of immigrants soon will comprise the majority of children. Fostering civic engagement during middle childhood is an important first step in preparing these youth for civic engagement later in life. It is necessary to create more inclusive communities in which all residents feel the sense of belonging and safety critical for supporting children’s independent mobility and civic engagement.

The lack of social connectedness facing Hispanic families is even more troublesome considering the nature of the sample. The majority of Hispanic families that participated in this study were recruited from a multi-cultural family activity center in which families frequently participated in classes and family support activities. One would expect that the presence of these high-quality center-based supports would translate to greater community connectedness. This does not appear to be the case, however, meriting additional research on the effectiveness of center-based supports and the influence of these supports in other contexts. Neighborhood-based interventions may be a more appropriate tool for promoting feelings of connection and engagement.
Limitations

While this study contributed to the field’s understanding of neighborhood characteristics, independent mobility, and child neighborhood civic engagement, it is important to note several limitations that may compromise the strength of the findings. First, this study cannot determine causality in the relationships among research measures. Though it is logical that increased mobility may lead to increased neighborhood connections, thus influencing civic engagement, it is impossible to determine such casual relationships from the current study. Perhaps some children simply are more civically minded and have a greater need to be out and about within the neighborhood to act upon their civic attitudes. Too, children’s beliefs and behaviors about helping others may influence caregivers’ beliefs and behaviors. Additional research is needed to help shed more light on the complex relationships discovered in this study.

Due to the non-random nature of the sample, it is not possible to generalize the findings of this study. In addition, the sample was not representative, indicating the findings generated in this study cannot be applied to all children and families in the region. Selection bias was a potential issue, as families that participated may have been more trusting and socially connected in general. Families that were asked and agreed to participate either felt like they trusted the researcher sufficiently or were more trusting in general, as a certain amount of trust is needed to allow one’s child to take a neighborhood walk with a more or less stranger. Families were hesitant to participate if they did not know the researcher directly or were not referred by a trusted friend or family member.
This selection bias applies even more to the Hispanic families that participated in the study. The majority of Hispanic children and caregivers were recruited through a multi-cultural family activity center in which the primary researcher previously worked. These families already had a personal relationship with the researcher and may have been more likely to participate for two reasons. First, these families may have felt more comfortable participating in the study due to the level of trust already established with the researcher, promoting their comfort with the neighborhood walk portion of the study. Second, the families may have felt an obligation to participate despite the researcher’s insistence that participation was completely voluntary. The families may have perceived the researcher as a figure of authority given her previous position at the family center and viewed participation as a duty or a requirement to continue engaging in family activities at the center.

Further, there may have been an issue with measurement sensitivity among Hispanic caregivers. While the survey was translated into Spanish following a standard protocol (Brislin, 1970, 1986), many Hispanic caregivers indicated low levels of education, with many not having completed high school. While the survey was written at an appropriate reading level, it is possible that low literacy among some Hispanic caregivers remained an issue, introducing error into the study. Further, it is possible that the Spanish translation may not have captured the intended meaning of the research measures. Though every effort was made to select research measures with valid psychometric properties among various ethnic groups, it is possible that the measures used in this study were not valid or culturally-sensitive for all ethnic groups. Additional
research aiming to validate fully the research measures with Hispanic participants will help assure the reduction of measurement bias in future studies.

Yet another form of measurement bias relates to the use of a written survey among young children. While the research measures were presented at a second grade reading level, the possibility remains that some children did not fully understand the meaning of items. Caregivers were given instructions for assisting young children if needed, but it is not possible to know what level of assistance caregivers actually provided to children, as the surveys were completed at home without a member of the research team present. This potential for measurement bias will persist unless members of the research team are available to supervise the provision of the written survey. While every effort was made to ensure the readability of the survey, this limitation must be considered when interpreting the results of the current study.

Lastly, despite best efforts on the part of the research team, there were instances in which the research protocol was not followed exactly. These small deviations undoubtedly introduced additional error. For example, the original protocol called for only allowing one child per family to participate. Following this provision was challenging, as siblings were excited at the prospect of participating and did not understand this guideline. As it was even more challenging to reach an adequate sample size, siblings were allowed to participate but encouraged to complete a separate neighborhood walk to allow each child’s voice and point of view to be heard. Again, at times this was not possible, mostly due to the preferences of the children and family. These deviations from the research protocol may have influenced the findings.
Replicating this study while adhering more strictly to the research protocol will help validate the findings.

**Recommendations for Future Research**

Though its findings were robust, the current study utilized a relatively small sample, limiting its ability to detect small effect sizes and tease out the complex relationships between research measures. Replicating this study with a larger sample is the first order of business. The results from this pilot are promising, helping make a compelling case for additional studies. With the necessary resources, it will possible to replicate the study and validate the current findings.

When replicating this study, it is recommended that more of an effort be made to recruit children residing in the same neighborhood. In general terms, it would be worthwhile to have five to ten children from the same neighborhood participate in the study. By having more children from the same neighborhood participate, it will be easier to understand the neighborhood dynamics and the many paths to child neighborhood civic engagement. While a snowball sampling technique was utilized in the current study, it remained challenging to recruit multiple children within the same neighborhood, emphasizing the point that caregivers often do not know other neighborhood parents well enough to enlist them to participate in such a study. Perhaps offering an additional incentive for recruiting neighbors would assist with obtaining a larger sample within individual neighborhoods.
Further, it is recommended that future studies refine the measure of children’s spatial neighborhood. Measuring spatial neighborhood is a real challenge, as children’s boundaries are far from linear. Simply marking the boundaries of their mobility does not capture the true area they access, as certain yards and streets may be off limits for any number of reasons and are intermixed within the greater area of spatial neighborhood defined by boundaries. The current study mapped children’s spatial neighborhood on ArcGIS mapping software in order to calculate the area. While this approach was moderately successful, a more sophisticated approach to measuring children’s spatial neighborhood is warranted.

A longitudinal study would allow for researchers to track the development of civic engagement across time. While it is helpful to understand children’s civic engagement as it develops in middle childhood, there is much to learn about how these civic values and behaviors change across time and if neighborhood civic engagement even matters in the long run. Some caregiver participants even asked the researcher if their child could remain involved in the study, expressing disappointment when told about the cross-sectional nature of the study. Conducting a longitudinal study would help fill in the many gaps in the relationship between neighborhood characteristics and civic engagement across time.

Another research priority is the analysis of photographs collected in this study. In total, the child participants took 546 photographs of important neighborhood places and provided a rich description of the importance of each place. Time constraints limited the complete analysis of these photographs in the current study. The proposed plan for
analyzing these photographs includes the extraction of major themes through inductive content analysis. Hume et al. (2005) presented an example of this approach when analyzing children’s drawings, maps, and photographs. Understanding the themes and patterns in children’s photographs and integrating this knowledge with the quantitative findings presented in this study will provide a richer and more complete understanding of the relationships between child perceptions of neighborhood, independent mobility, and civic engagement.

An additional future research endeavor is the creation of a condensed version of the Neighborhood Rating Scale (McDonell & Waters, 2010). The current instrument is quite extensive, including multiple variables measuring school and park characteristics. These school and park variables help comprise some of the sub-scales of the instrument. When using the observational tool within small rural and suburban neighborhoods, it is more likely that these neighborhoods will not include a school or public space. When there are large amounts of missing data, the tools available for imputing missing values are less reliable. The missing data was so widespread in the current study that the researcher opted to eliminate these items, forcing the reexamination of the instrument’s factor structure. Having a short version or multiple versions of this tool may help increase its utility among a wide range of neighborhoods. As modifications continue to be made to this instrument, it is recommended that two distinct observations occur for each neighborhood.
Conclusion

The current study contributed to understanding the significance of neighborhood as it relates to children’s civic engagement. Neighborhood is a powerful context that shapes child development in myriad ways. More than that, though, neighborhood is a child’s playground for experimenting with and acquiring civic attitudes and behaviors, allowing the child to explore ways in which he or she can shape the neighborhood. During middle childhood, opportunities for independent mobility and neighborhood friendship are essential to the formation of the emotional bonds that drive civic engagement. Too, perceptions of safety and a family disposition for neighborly caring contribute to children’s beliefs that they can make a difference in their residential neighborhood. While continued research is needed to examine the connections between neighborhood characteristics, child neighborhood civic engagement, and civic engagement later in life, the results of this study provided several practical implications for promoting the civic engagement of children and parents alike. Finally, this study served as an important reminder that children have much to contribute to community conversations, planning, and research—but only if others take the time to listen.
APPENDICES
### Appendix A

#### Power Analysis Table

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Effect Size</th>
<th>( \delta )</th>
<th>( \Delta )</th>
</tr>
</thead>
</table>
| *Brown, et al. (2008)* | Gender differences in percentage of children allowed to go out alone; children 8 – 11 years | Boys = 60%  
\( n = 355 \)  
Girls = 44%  
\( n = 328 \) | \( \delta = 0.356 \) | \( \Delta = 0.168 \) |
| *Brown, et al. (2008)* | Gender differences in percentage of children allowed to travel to friends’ houses alone; children 8 – 11 years | Boys = 51%  
\( n = 355 \)  
Girls = 31%  
\( n = 328 \) | \( \delta = 0.463 \) | \( \Delta = 0.210 \) |
| *Brown, Perkins, and Brown (2004)* | Correlation between home attachment and social contacts with neighbors; adults, observation, block groups | \( r = 0.23 \)  
\( p < 0.01 \)  
\( n = 349 \) | \( \delta = 0.473 \) | \( \Delta = 0.214 \) |
| *Brown, Perkins, and Brown (2004)* | Correlation between home attachment and observed home incivilities; adults, observation, block groups | \( r = -0.32 \)  
\( p < 0.01 \)  
\( n = 349 \) | \( \delta = 0.676 \) | \( \Delta = 0.280 \) |
| *Cicognani, Albanesi, & Zani (2008)* | Gender differences in sense of community; adolescents and young adults | \( F = 6.957 \)  
\( p < 0.01 \)  
\( n = 297 \)  
(144 m, 153 f) | \( \delta = 0.306 \) | \( \Delta = 0.146 \) |
| *Dallago, et al. (2009)* | Gender differences for perceived safety; adolescents 15 years | \( F = 155.155 \)  
\( p < 0.001 \)  
\( n = 20,810 \)  
(9,503 m, 10,580 f) | \( \delta = 0.176 \) | \( \Delta = 0.087 \) |
| *Dallago, et al. (2009)* | Gender differences for place attachment; | \( F = 69.348 \)  
\( p < 0.001 \)  
\( n = 20,810 \)  
(9,503 m, 10,580 f) | \( \delta = 0.118 \) | \( \Delta = 0.059 \) |
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<thead>
<tr>
<th>Study Authors</th>
<th>Study Title</th>
<th>Correlation</th>
<th>Effect Size</th>
<th>Δ</th>
</tr>
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<tbody>
<tr>
<td>Daly, et al. (2009)</td>
<td>Correlation between children’s perceptions of neighborhood incivilities and neighborhood crime; 7th – 8th grade children</td>
<td>r = 0.51, p &lt; 0.001, n = 123</td>
<td>δ = 1.186</td>
<td>Δ = 0.382</td>
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<tr>
<td>Daly, et al. (2009)</td>
<td>Correlation between children’s perceptions of neighborhood incivilities and teacher support; 7th – 8th grade children</td>
<td>r = 0.27, p &lt; 0.001, n = 123</td>
<td>δ = 0.561</td>
<td>Δ = 0.245</td>
</tr>
<tr>
<td>Daly, et al. (2009)</td>
<td>Correlation between children’s perceptions of neighborhood incivilities and family support; 7th – 8th grade children</td>
<td>r = 0.35, p &lt; 0.001, n = 123</td>
<td>δ = 0.747</td>
<td>Δ = 0.299</td>
</tr>
<tr>
<td>Daly, et al. (2009)</td>
<td>Correlation between children’s perceptions of neighborhood incivilities and school engagement; 7th – 8th grade children</td>
<td>r = 0.34, p &lt; 0.001, n = 123</td>
<td>δ = 0.723</td>
<td>Δ = 0.293</td>
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<tr>
<td>Emory, Caughy, Harris, &amp; Franzini (2008)</td>
<td>Adult perceptions of neighborhood collective efficacy by level of neighborhood poverty; adults</td>
<td>χ² = 86.81, p &lt; 0.001, n = 1,235</td>
<td>δ = 0.550</td>
<td>Δ = 0.212</td>
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<td>Emory, Caughy, Harris, &amp; Franzini (2008)</td>
<td>Adult perceptions of physical and social disorder by level of neighborhood poverty; adults</td>
<td>χ² = 543.55, p &lt; 0.001, n = 1,235</td>
<td>δ = 1.773</td>
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<td>Emory, Caughy, Harris, &amp; Franzini (2008)</td>
<td>Adult perceptions of fear and</td>
<td>χ² = 127.09, p &lt; 0.001, n = 1,235</td>
<td>δ = 0.667</td>
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<td>Methodology</td>
<td>Effect Size</td>
<td>Mean Difference</td>
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<tr>
<td>Guerra, Huesmann, &amp; Spindler (2003)</td>
<td>Gender differences in self-reported exposure to neighborhood violence; 1st – 6th grade children</td>
<td>t-test (20) = 2.63 p &lt; 0.05 n (female) = 2,221 n (male) = 2,247</td>
<td>δ = 0.079</td>
<td>Δ = 0.039</td>
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<tr>
<td>Jutras &amp; Lepage (2006)</td>
<td>Group differences in positive aspects of neighborhoods by SES (child-friendliness); caregivers to children 6 – 12 years</td>
<td>χ² = 20.2 p &lt; 0.001 n = 258</td>
<td>δ = 0.583</td>
<td>Δ = 0.252</td>
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<tr>
<td>Jutras &amp; Lepage (2006)</td>
<td>Group differences in positive aspects of neighborhoods by SES (safety); caregivers to children 6 – 12 years</td>
<td>χ² = 26.5 p &lt; 0.001 n = 258</td>
<td>δ = 0.360</td>
<td>Δ = 0.169</td>
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<tr>
<td>Jutras &amp; Lepage (2006)</td>
<td>Group differences in positive aspects of neighborhoods by SES (environmental amenities); caregivers to children 6 – 12 years</td>
<td>χ² = 55.4 p &lt; 0.001 n = 258</td>
<td>δ = 1.051</td>
<td>Δ = 0.362</td>
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<td>Jutras &amp; Lepage (2006)</td>
<td>Group differences in positive aspects of neighborhoods by SES (social disorders); caregivers to children 6 – 12 years</td>
<td>χ² = 82.4 p &lt; 0.001 n = 256</td>
<td>δ = 1.378</td>
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<td>Jutras &amp; Lepage (2006)</td>
<td>Group differences in positive aspects of neighborhoods by SES (lack of child friendliness); caregivers to children 6 – 12 years</td>
<td>χ² = 4.7 p &lt; 0.05 n = 256</td>
<td>δ = 0.274</td>
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<td>Kyttä (2004)</td>
<td>Differences in actualized affordances by 5 types of neighborhood (ex. Rural, urban, etc.) in Belarus;</td>
<td>F = 3.6 p &lt; 0.01 n = 147 (28, 30, 30, 29, 30)</td>
<td>δ = -0.678</td>
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<tr>
<td><strong>Lohmann &amp; McMurran (2009)</strong></td>
<td>Differences in adult sense of community by time (1998 v. 2004); adults</td>
<td>t(570) = 3.66, p &lt; 0.01&lt;br&gt;n (1998) = 491&lt;br&gt;n (2004) = 358</td>
<td>δ = 0.254</td>
<td>Λ = 0.123</td>
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<tr>
<td><strong>McGuire (1997)</strong></td>
<td>Correlation between parental perceptions of neighborhood attachment and local social networks; adult caregivers</td>
<td>r = 0.35, p &lt; 0.001&lt;br&gt;n = 142</td>
<td>δ = 0.747</td>
<td>Λ = 0.299</td>
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<tr>
<td><strong>McGuire (1997)</strong></td>
<td>Correlation between parental perceptions of neighborhood attachment and neighborhood disorder; adult caregivers</td>
<td>r = -0.23, p &lt; 0.01&lt;br&gt;n = 142</td>
<td>δ = 0.473</td>
<td>Λ = 0.214</td>
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<td><strong>McGuire (1997)</strong></td>
<td>Correlation between parental perceptions of neighborhood attachment and neighborhood crime; adult caregivers</td>
<td>r = -0.27, p &lt;0.01&lt;br&gt;n = 142</td>
<td>δ = 0.561</td>
<td>Λ = 0.245</td>
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<td><strong>McMillan, et al. (2006)</strong></td>
<td>Gender differences in mode of travel to school; 3rd – 5th grade children</td>
<td>Male = 27% walk/bike&lt;br&gt;n = 647</td>
<td>δ = 0.246</td>
<td>Λ = 0.119</td>
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<td><strong>Min &amp; Lee (2006)</strong></td>
<td>Age differences for reasons of place importance; children 7 – 11 yrs</td>
<td>χ² = 20.1, df = 10&lt;br&gt;p &lt; 0.05&lt;br&gt;n = 230</td>
<td>δ = 0.619</td>
<td>Λ = 0.263</td>
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<td><strong>Obst, Smith, &amp; Zinciewicz (2002)</strong></td>
<td>Differences in sense of community by region (rural, regional, or urban); adults</td>
<td>F = 63.11, p &lt; 0.01&lt;br&gt;n = 699&lt;br&gt;(122 rural, 201 regional, 344 urban)</td>
<td>δ = 1.173</td>
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<td><strong>Parameswaran (2003)</strong></td>
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<td>Gender differences in features of neighborhoods included on maps; children 6 years and 12 years</td>
<td>$\delta = 0.421$</td>
<td>$\Delta = 0.194$</td>
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<td>Age differences in features of neighborhoods included on maps; children 6 years and 12 years</td>
<td>$\delta = 0.977$</td>
<td>$\Delta = 0.349$</td>
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<td><strong>Prezza &amp; Pacilli (2007)</strong></td>
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<td>Correlation between adolescent sense of community and neighborhood relations; Adolescents</td>
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<td>Correlation between age of free movement and fear of crime; Adolescents</td>
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<td>Correlation between age of free movement and sense of community; Adolescents</td>
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<td>Correlation between autonomy in mobility and in play and fear of crime; Adolescents</td>
<td>$\delta = 0.676$</td>
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<td><strong>Rissotto &amp; Tonucci (2002)</strong></td>
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<td>Differences in accuracy of neighborhood maps by mode of transportation to school; children 8 – 11 years</td>
<td>$\delta = 0.814$</td>
<td>$\Delta = 0.316$</td>
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<td><strong>Spilsbury (2005)</strong></td>
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<td>Gender differences in home range (perimeter) when child is alone; children 10 – 11 years</td>
<td>$\delta = 1.225$</td>
<td>$\Delta = 0.387$</td>
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<td>-----------------------------------------------------------------------------</td>
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</tr>
</tbody>
</table>
| Spilsbury (2005)                    | Gender differences in home range (area) when child is alone; children 10 – 11 years | $\chi^2 = 8.241$  
  $p < 0.05$  
  $n = 29$ | $\delta = 1.260$  
  $\Delta = 0.392$ |                     |
| Spilsbury, Korbin, & Coulton (2009) | Correlation between child and adult perceptions of neighborhood area; Children 7 – 11 years | $r = 0.35$  
  $p = 0.01$  
  $n = 50$ parent-child dyads | $\delta = 0.747$  
  $\Delta = 0.299$ |                     |
| Spilsbury, Korbin, & Coulton (2009) | Correlation between child and adult perceptions of neighborhood perimeter; Children 7 – 11 years | $r = 0.29$  
  $p < 0.05$  
  $n = 50$ parent-child dyads | $\delta = 0.606$  
  $\Delta = 0.259$ |                     |
| Valentine & McKendrick (1997)       | Parental perceptions of gender differences in play location (home-based or not home-based); Target child 8 – 11 yrs | $\chi^2 = 10.783$  
  $p < 0.001$  
  $n = 390$ | $\delta = 0.337$  
  $\Delta = 0.160$ |                     |
| Valentine & McKendrick (1997)       | Parental levels of satisfaction with local play opportunities; (Urban v. rural); Target child 8 – 11 yrs | $\chi^2 = 13.007$  
  $p < 0.001$  
  $n = 390$ | $\delta = 0.332$  
  $\Delta = 0.158$ |                     |
| Valentine & McKendrick (1997)       | Parental levels of satisfaction with local play opportunities; (middle v. working class); Target child 8 – 11 yrs | $\chi^2 = 20.277$  
  $p < 0.001$  
  $n = 390$ | $\delta = 0.468$  
  $\Delta = 0.212$ |                     |
| Veitch, Salmon, & Ball (2008)       | Group differences in furthest distance traveled alone by age; children 8 – 12 years | $\chi^2 = $ not reported  
  $p < 0.001$  
  $n = 183$ | $\delta = 0.502$  
  $\Delta = 0.224$ |                     |
| Veitch, Salmon, & Ball (2008)       | Group differences in furthest distance traveled alone by SES; children 8 – 12 years | $\chi^2 = $ not reported  
  $p < 0.001$  
  $n = 183$ | $\delta = 0.502$  
  $\Delta = 0.224$ |                     |
| **Veitch, Salmon, & Ball (2008)** | \( \chi^2 \) = not reported  
\( p < 0.01 \)  
\( n = 212 \) | \( \delta = 0.360 \) | \( \Delta = 0.169 \) |
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</thead>
<tbody>
<tr>
<td>Group differences in places where children have been active by gender (yard at home); children 8 – 12 years</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
| **Veitch, Salmon, & Ball (2008)** | \( \chi^2 \) = not reported  
\( p < 0.01 \)  
\( n = 212 \) | \( \delta = 0.360 \) | \( \Delta = 0.169 \) |
| Group differences in places where children have been active by gender (open public space); children 8 – 12 years | | | |
| | | mean \( \Delta = 0.239 \) |
Appendix B

Child Questionnaire

Neighborhood Youth Index

Circle the number that explains how true you think each sentence is. Here is an example: “There are lots of pets in my neighborhood.” If you think this is “not at all true” circle the number 1 next to the statement. If you think it is “sometimes true,” circle the number 3.

<table>
<thead>
<tr>
<th>Not at all true</th>
<th>Usually not true</th>
<th>Sometimes true</th>
<th>Completely true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

People in my neighborhood pitch in to help others.
There is a place for kids my age to hang out in my neighborhood.
There are gangs in my neighborhood.
None of my friends live in my neighborhood.
When I want I can find someone to talk to in my neighborhood.
We look out for each other in my neighborhood.
There are things for kids my age to do in my neighborhood.
There are fights in my neighborhood.
My friends live close to my neighborhood.
I feel okay asking for help from my neighbors.
People help each other in my neighborhood.
In my neighborhood there are things to get involved in, like a neighborhood garden or a club for kids.
There are bad kids in my neighborhood.
I like being with the other kids in my neighborhood.
If I need help I could go to anyone in my neighborhood.
People are there for each other in my neighborhood.
There is not much to do in my neighborhood.
There are people who sell drugs in my neighborhood.
People are happy to help each other in my neighborhood.
The adults do not trust kids in my neighborhood.
People in my neighborhood help each other get things done.
People in my neighborhood can be really mean.

Child Independent Mobility Scale

Think about a time of the year when the weather is nice enough to be outside. Circle the number that shows how often you do a certain activity. Here is an example: “How often
do you go to the library?” If you “never” go to the library, circle the number 1 next to the statement. If you go “once a week” circle the number 3.

<table>
<thead>
<tr>
<th>Never</th>
<th>Once a month</th>
<th>Once a week</th>
<th>A few times a week</th>
<th>Every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

How often do you play in your front or back yard after school?
How often do you ride your bike in your neighborhood?
How often do you walk to a neighbor’s house?
How often do you walk to school?
How often do you play at a park in your neighborhood?
How often do you walk or ride your bike to a store in your neighborhood?
How often do you play with friends in your neighborhood?
How often do you play in a neighbor’s yard?
How often do you play in your front or back yard after dark?
How often do you play in your front or back yard on the weekend?

Pre-adolescent Civic Engagement Scale

Next are some questions about helping out in your neighborhood. Circle the number next to each statement that is the best answer.

<table>
<thead>
<tr>
<th>Disagree very much</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Agree very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

I should be the one to help in my neighborhood.
I like doing something to help in my neighborhood.
I let others know I want to help.
I like doing things with other people.
I like to help other people even if it is hard work.
It is important to take care of people who need help.
I do things that help my neighborhood.
When I help out in the neighborhood I make friends.
When I grow up, I plan to help my neighborhood, family, or school.
People in my neighborhood take care of me.
I take time to help make my neighborhood a better place.

Child Neighborhood Civic Engagement Scale

Next are some questions about helping out in your neighborhood. Circle the number next to each statement that is the best answer.
<table>
<thead>
<tr>
<th>Not at all true</th>
<th>Just a little true</th>
<th>Pretty much true</th>
<th>Completely true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

I can help make my neighborhood a better place.
I know my way around my neighborhood.
I help out in my neighborhood more than other children help.
I feel happy when I am helping my neighbors.
People ask me how I feel about my neighborhood.
My teachers ask me how I help in my neighborhood.
I can ask my neighbors for help if I am in trouble.
I know my way around my neighborhood better than other kids do.
I feel mad when I see people leave trash in my neighborhood.
My neighbors think I can help fix problems in our neighborhood.
I know who to ask for help if something breaks in my neighborhood.
My friends in the neighborhood think I waste my time when I ask adults for help.
I know who makes decisions in my neighborhood.
Other kids ask me for help when there are problems in our neighborhood.
I am the only kid in my neighborhood that cares about fixing things.
I feel good when I am outside in my neighborhood.
I get mad when I cannot change things in my neighborhood.
People in my neighborhood listen to what kids have to say.
I know how to get help if something bad happens in my neighborhood.
I feel proud when I help in my neighborhood.
My parents think I know how to fix problems in my neighborhood.
My parents like to see me help in my neighborhood.

**Child Socio-Demographic Questionnaire**

How old are you? ________________

What grade are you in at school? (circle one)

2<sup>nd</sup> grade 3<sup>rd</sup> grade 4<sup>th</sup> grade 5<sup>th</sup> grade 6<sup>th</sup> grade 7<sup>th</sup> grade

What is the name of your school? ________________________________

Are you a boy or a girl? (circle one)  **Boy**  **Girl**

What is your race or ethnicity?

*White or Caucasian*  *Black or African-American*  *Hispanic or Latino*

*Asian-American*  *American Indian*  *Other ___________*
Appendix B

Caregiver Questionnaire

Perceived Neighborhood Scale

*I’d like you to think about the neighborhood you live in. Please read the statements about neighborhoods and tell me how much each statement fits the way you feel about your neighborhood.*

How likely is it that…

<table>
<thead>
<tr>
<th>Very unlikely</th>
<th>Unlikely</th>
<th>Likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

You could ask a neighbor to loan you a few dollars or some food?
A neighbor could ask you to borrow a few dollars or some food?
You get help from a neighbor (e.g. watch your place if you’re away, take care of your child when you’re sick)?
You help a neighbor (e.g. watching their place if they’re away, taking care of their child if they are sick)?

How often do you…

<table>
<thead>
<tr>
<th>Never</th>
<th>Once every 3 months</th>
<th>Once a month</th>
<th>Once a week</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Greet your neighbors when you see them?
Casually visit with neighbors, either going over to their place or their coming over to yours?
Go to neighborhood activities (e.g. church fair, neighborhood meetings, sports events)?
Exchange/share child care with a neighbor?
Talk to neighbors who are also parents?

*Next are some statements that could describe your neighborhood. Indicate how much you agree or disagree with the following statements.*

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

There are people I can rely on among my neighbors.
People trust each other in my neighborhood.
I feel I belong in my neighborhood.
I care about what my neighbors think of my actions (e.g. how I dress, how I treat my child).
I feel close to some of my neighbors.
People in my neighborhood are usually warm and friendly.
We help each other out in my neighborhood.
My neighborhood is a good place to live.
My neighborhood has been getting worse recently.
I have good access to public transportation in my neighborhood.
The building and yards in my neighborhood are really run down.
I would move out of my neighborhood if I could.
I have easy access to a telephone (e.g. pay phone close by, neighbor with phone, cell phone)
There is a good place (e.g. playground) for children to play in this neighborhood.
My neighborhood is a good place to raise a family.
It’s safe for my child to play outside.
There are troublemakers hanging around in my neighborhood.
There is public drinking in my neighborhood.
There is open drug abuse/dealing in my neighborhood.
It’s safe to walk alone in my neighborhood at night
Some friends and relatives don’t visit me at home because they don’t feel safe.
People are scared of being robbed in my neighborhood.
People are scared of being raped in my neighborhood.
People are scared of being mugged in my neighborhood.
People are scared of being murdered in my neighborhood.

Safe Neighborhood Scale

Next are more statements that could describe your neighborhood. Indicate how much you agree or disagree with the following statements.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

My neighborhood is a safe place for children.
I feel safe at home at night.
I feel safe being out in my neighborhood alone during the day.
If someone stopped me at night to ask directions, I would probably stop to speak with them.
On Halloween, most of the children go trick-or-treating in this neighborhood.
Most criminal activity going on here is committed by people living outside of this neighborhood.
Parental Perceptions of Child Independent Mobility

Next are some questions about things your child may do in your neighborhood when the weather is nice enough to be outside. Think about your child that is participating in this study and answer the following questions.

<table>
<thead>
<tr>
<th>Never</th>
<th>Once a month</th>
<th>Once a week</th>
<th>A few times a week</th>
<th>Every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

How often does your child play in your front or back yard after school?
How often does your child ride his/her bike in the street?
How often does your child walk to a neighbor’s house?
How often does your child walk to school?
How often does your child play at a park in your neighborhood?
How often does your child walk or ride his/her bike to a store in your neighborhood.
How often does your child play with friends in your neighborhood?
How often does your child play in a neighbor’s yard?
How often does your child play in your front or back yard after dark?
How often does your child play in your front or back yard on the weekend?

Parental Trust Inventory

Please indicate your opinion on your child’s safety in society. Think about your child that is participating in this study.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

If my child plays outside, I feel safer if he/she stays close to our house.
I find it uncomfortable if my child has to walk along narrow streets.
I think my child should accompanied by an adult when it is dark outside.
I don’t feel comfortable letting my child walk along streets without sidewalks.
I think it is safe for my child to use crosswalks.
I can trust that drivers notice my child.
There is a risk that people may steal from my child.
There may be gangs of youths that harass my child.
People drive carefully when close by my child.
My child may easily be offered drugs.
I can trust that my child is given right-of-way at crosswalks.
Cyclists are careful when they are close by my child.
Other children may threaten or harm my child.
I want to know exactly what my child is doing.
I feel that I must know adults who work with my child, like teachers, coaches, or after-
school program employees.  
I must be convinced that my child is able to do something before he/she is allowed to try it.  
I don’t want my child to go anywhere without an adult.  
As a parent I feel I should know all of my child’s friends.

**Parent Civic Engagement Scale**

*The next questions concern things that might happen in your neighborhood and the likelihood that you would take some action, such as telling someone in authority. For each question, please tell me the response that best reflects your opinion.*

<table>
<thead>
<tr>
<th>Very unlikely</th>
<th>Somewhat unlikely</th>
<th>Somewhat likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

If some children were skipping school and were hanging out in your neighborhood, how likely is it that you would do something about it?  
If some children were spray-painting graffiti on a local building, how likely is it that you would do something about it?  
If some children were showing disrespect to an adult, how likely is it that you would correct him or her?  
If someone was being beaten up or threatened with harm in your neighborhood, how likely is it that you would do something about it?  
If the fire station closest to your home was threatened with budget cuts, how likely is it that you would do something about it?

**Neighborhood Knowledge and Activities**

*Of all the children living in the ten houses closest to you, how many do you know by name? Would you say...?*

- There are no children in the 10 houses closest to me ........... 0
- None.................................................................................. 1
- A few................................................................................... 2
- More than half...................................................................... 3
- Most ...................................................................................... 4
All things considered, how satisfied or dissatisfied are you with this neighborhood as a place to live? On a scale of 1 to 7, with 1 meaning “Completely Dissatisfied” and 7 meaning “Completely Satisfied”...

<table>
<thead>
<tr>
<th>Completely Dissatisfied</th>
<th>Completely Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

Are you a member of a neighborhood organization, such as a neighborhood watch, or a resident, tenant, or homeowner’s association?

YES................................................. 1
NO.................................................. 2

Whether or not you are a member, how often have you taken part in the activities sponsored by a neighborhood organization in the past 30 days?

None................................................. 0
Once............................................... 1
Twice............................................. 2
Three times................................. 3
Four times ................................. 4
More than four times ................. 5

Socio-Demographic Questionnaire

Finally, please tell me a little about yourself.

How old were you on your last birthday? _________________

What is your current marital status?

MARRIED.............................................. 1
SEPARATED......................................... 2
DIVORCED.......................................... 3
WIDOWED........................................... 4
NEVER MARRIED.................................... 5

What is your primary race?

AMERICAN INDIAN.................................... 1
ASIAN AMERICAN.................................... 2
BLACK OR AFRICAN AMERICAN (Non-Hispanic) .................................................. 3
HISPANIC OR LATINO .......................................................... 4
WHITE (CAUCASIAN) .................................................. 5
OTHER (Specify) ____________________________________________________________________ 6

What is the highest level of education you completed?

SOME HIGH SCHOOL .......................................................... 01
HIGH SCHOOL DIPLOMA .................................................. 02
GED ................................................................................. 03
VOC/TECHNICAL PROGRAM AFTER HIGH SCHOOL BUT NO VOC/TECH DIPLOMA ........... 04
VOC/TECH DIPLOMA AFTER HIGH SCHOOL ................................................. 05
SOME COLLEGE BUT NO DEGREE .................................................. 06
ASSOCIATE’S DEGREE .................................................. 07
BACHELOR’S DEGREE .................................................. 08
MASTER’S DEGREE (MS, MA) .................................................. 09
DOCTORATE DEGREE (PhD, EdD) .................................................. 10
PROFESSIONAL DEGREE AFTER BACHELOR’S DEGREE (Medicine/MD; Dentistry/DDS; Law/JD/LLB; etc.) ................................................. 11

Are you currently working full-time, working part-time, looking for work, in a training program, keeping house or doing something else?

WORKING FULL-TIME (35 hours or more per week) .................................................. 1
WORKING PART-TIME .................................................................. 2
LOOKING FOR WORK .......................................................... 3
LAID OFF FROM WORK .................................................. 4
IN SCHOOL/TRAINING .................................................. 5
KEEPING HOUSE .................................................................. 6
SOMETHING ELSE .................................................................. 7
(Specify) ____________________________________________________________________ 7

How many years have you lived in this neighborhood? |___|___| YEARS

How many times have you moved in the past year? |___|___| NUMBER OF MOVES
Do you have access to a car when you need one?

<table>
<thead>
<tr>
<th>YES</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>2</td>
</tr>
</tbody>
</table>

What is your family’s income from all sources?

<table>
<thead>
<tr>
<th>Income Range</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $10,000</td>
<td>1</td>
</tr>
<tr>
<td>$10,001 to $20,000</td>
<td>2</td>
</tr>
<tr>
<td>$20,001 to $30,000</td>
<td>3</td>
</tr>
<tr>
<td>$30,001 to $40,000</td>
<td>4</td>
</tr>
<tr>
<td>$40,001 to $50,000</td>
<td>5</td>
</tr>
<tr>
<td>$50,001 to $70,000</td>
<td>6</td>
</tr>
<tr>
<td>$70,001 to $90,000</td>
<td>7</td>
</tr>
<tr>
<td>More than $90,000</td>
<td>8</td>
</tr>
</tbody>
</table>
Cuestionario para Padres

Escala de los Percepciones del Barrio de los Padres

Piense en el barrio en donde vive. A continuación hay una serie de preguntas sobre su barrio. Ponga un círculo sobre el número que mejor responda a la pregunta.

¿Qué probable sería….?

<table>
<thead>
<tr>
<th>No es probable en absoluto</th>
<th>Poco probable</th>
<th>Bastante probable</th>
<th>Muy probable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

...Que usted pidiera que su vecino le prestara un poco de dinero o comida?
...Que un vecino le pidiera que Ud. le prestara un poco de dinero o comida?
...Que Ud. consiguiera ayuda de algún vecino? (como cuidar a su casa, cuidar a su hijo/a)
...Que Ud. ayude a algún vecino? (como cuidar a su casa, cuidar a su hijo/a)

¿Con qué frecuencia…

<table>
<thead>
<tr>
<th>Nunca</th>
<th>Una vez cada tres meses</th>
<th>Una vez al mes</th>
<th>Una vez a la semana</th>
<th>A diario</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

...saluda a sus vecinos al verlos?
...usted visita a sus vecinos o sus vecinos vienen a su casa?
...va a actividades del barrio? (como una feria en la iglesia, reuniones del barrio, actividades deportivas)
...comparte/intercambia el cuidado de niños (o babysitting) con algún vecino?
...habla con vecinos que también son padres?

A continuación hay algunas frases que pueden describir a su barrio. Indíquenos que de acuerdo o desacuerdo está con cada una de las siguientes proposiciones.

<table>
<thead>
<tr>
<th>Muy en desacuerdo</th>
<th>En desacuerdo</th>
<th>De acuerdo</th>
<th>Muy de acuerdo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Entre mis vecinos, hay personas con quien yo puedo contar.
En mi barrio las personas tienen mutual confianza.
Siento que pertenezco en mi barrio.
Me importa lo que mis vecinos piensan en mí. (como me visto, como trato a mi hijo/a).
Tengo una relación cercana con algunos de mis vecinos.
Las personas en mi barrio son amables y cariñosas.
Nos ayudamos unos a otros en mi barrio.
Mi barrio es buen lugar para vivir.
Recientemente mi barrio se está empeorando.
Tengo buen acceso a transporte público en mi barrio.
Las casas y patios en mi barrio son muy deterioradas.
Yo me mudaría de mi casa si pudiera.
Tengo fácil acceso a un teléfono (teléfono público, vecino con teléfono, celular).
Hay buen lugar (patio de recreo/ parque) en que los niños pueden jugar en mi barrio.
Mi barrio es un buen lugar para criar una familia.
Mi barrio es seguro para que mi hijo/a a juegue afuera.
Hay arma-problemas dando vueltas en mi barrio.
Hay personas que toman bebidas alcohólicas en público en mi barrio.
Hay personas que usan/venden drogas en público en mi barrio.
Es seguro caminar solo/a por noche en mi barrio.
Algunos de mis amigos y parientes no me visitan en casa porque no se sienten seguros.
La gente tiene miedo de ser robada en mi barrio.
La gente tiene miedo de ser violada en mi barrio.
La gente tiene miedo de ser asaltada en mi barrio.
La gente tiene miedo de ser asesinada en mi barrio.

Escala de Seguridad en los Barrios

En esta sección presentamos una serie de posibles descripciones de su barrio. Indíquenos que de acuerdo o que desacuerdo está con cada una de ellas.

<table>
<thead>
<tr>
<th>Muy en desacuerdo</th>
<th>En desacuerdo</th>
<th>De acuerdo</th>
<th>Muy de acuerdo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Mi barrio es un lugar seguro para niños.
Me siento seguro en casa de noche.
Me siento seguro cuando salgo solo en mi barrio durante el día.
Si alguien me pide direcciones en la noche estando yo solo, probablemente pararía para hablar con la persona.
En Halloween, casi todos los niños salen disfrazados a pedir dulces por el barrio.
La mayor parte de la actividad delincuente que sucede en mi barrio la cometen gente de fuera del barrio.

Escala de las Percepciones de los Padres de la Movilidad Independiente de los Niños

A continuación hay algunas actividades que su hijo/a puede hacer en el barrio cuando hace buen tiempo. Conteste pensando en su hijo/a que está participando en este estudio.
¿Con qué frecuencia su hijo/a juega en el patio de la casa después de la escuela?
¿Con qué frecuencia su hijo/a monta bicicleta en la calle?
¿Con qué frecuencia su hijo/a camina a la casa de un vecino?
¿Con qué frecuencia su hijo/a camina a la escuela?
¿Con qué frecuencia su hijo/a juega en un parque del barrio?
¿Con qué frecuencia su hijo/a juega o va en bicicleta a una tienda del barrio?
¿Con qué frecuencia su hijo/a juega con amigos en su barrio?
¿Con qué frecuencia su hijo/a juega en el patio de algún vecino?
¿Con qué frecuencia su hijo/a juega en el patio de la casa cuando está oscuro?
¿Con qué frecuencia su hijo/a juega en el patio de la casa los fines de semana?

Escala de la Confianza de los Padres

Indiquenos su opinión sobre la seguridad de su hijo/a en la sociedad.

<table>
<thead>
<tr>
<th>Muy en desacuerdo</th>
<th>En desacuerdo</th>
<th>De acuerdo</th>
<th>Muy de acuerdo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Si mi hijo/a juega afuera, me siento mejor si se queda cerca a la casa.
Me siento incomodo/a si mi hijo/a tiene que caminar por calles estrechas.
Pienso que mi hijo/a debe de estar acompañado por un adulto cuando está oscuro.
No me siento bien dejando que mi hijo/a camine por calles sin aceras.
Pienso que es seguro que mi hijo/a use cruces de peatones.
Puedo confiar en que los conductores se dan cuenta de mi hijo/a.
Existe el riesgo de que la gente pueda robar a mi hijo/a.
Es posible que haya pandillas de jóvenes queacosan a mi hijo/a.
La gente conduce con cuidado cuando están cerca de mi hijo/a.
Mi hijo/a puede ser fácilmente ofrecido drogas.
Puedo confiar en que a mi niño/a se le da el derecho de paso en los cruces peatonales.
Los ciclistas son cuidadosos cuando están cerca de mi hijo/a.
Otros niños pueden amenazar o pegarle a mi hijo/a.
Quiero saber exactamente lo que está haciendo mi hijo/a.
Siento que tengo que conocer a los adultos que trabajan con mi hijo/a como maestros o entrenadores.
Debo estar convencido/a de que mi hijo/a es capaz de hacer algo antes de que él / ella se le permita a intentarlo.
No quiero que mi hijo/a vaya a ninguna parte sin un adulto.
Como padre me siento que debo conocer a todos los amigos de mi hijo/a.
Escala del Compromiso Cívico de los Padres

Las siguientes preguntas tratan de cosas que pueden suceder en su barrio y la probabilidad que usted tome alguna acción, como avisar a alguien con autoridad. Para cada pregunta, por favor, indíquenos la respuesta que mejor refleje su opinión.

<table>
<thead>
<tr>
<th>No es probable en absoluto</th>
<th>Poco probable</th>
<th>Bastante probable</th>
<th>Muy probable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Si algunos niños faltaran a la escuela y estuvieran pasando el rato en su barrio, ¿qué tan probable es que usted haría algo al respecto?
Si algunos niños pintaran con grafiti en un edificio local, ¿qué tan probable es que usted haría algo al respecto?
Si algunos niños mostraran falta de respeto a un adulto, ¿qué tan probable es que usted corregiría a ellos?
Si alguien fuera sido golpeado o amenazado en su barrio, ¿qué tan probable es que usted haría algo al respecto?
Si la estación de bomberos más cercana a su casa fuera amenazada con recortes en el presupuesto, ¿qué tan probable es que usted haría algo al respecto?

Conocimientos de y Actividades en el Barrio

De todos los niños que viven en las diez casas más cercanas a usted, ¿cuántos conocen por su nombre? Diría usted…?

<table>
<thead>
<tr>
<th>Ningún niño vive en las 10 casas más cercanas</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ninguno...........................................</td>
<td>1</td>
</tr>
<tr>
<td>Algunos...........................................</td>
<td>2</td>
</tr>
<tr>
<td>Más de la mitad..................................</td>
<td>3</td>
</tr>
<tr>
<td>La mayoría........................................</td>
<td>4</td>
</tr>
</tbody>
</table>

A fin de cuentas, ¿Qué satisfecho o insatisfecho está usted con este barrio como un lugar para vivir? En una escala del 1 al 7, donde 1 significa "totalmente insatisfecho" y 7 significa "completamente satisfecho" ...

<table>
<thead>
<tr>
<th>Completamente Insatisfecho/a</th>
<th>Completamente Satisfecho/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1------------------2---------3---------4---------5---------6---------7</td>
<td></td>
</tr>
</tbody>
</table>
Es usted miembro/a de una organización del barrio, como miembro/a de vigilancia del barrio (neighborhood watch) o una asociación de residentes/propietarios (HOA)?

SÍ.............................................. 1
NO............................................... 2

Sea usted un miembro/a o no, ¿cuántas veces ha participado en las actividades patrocinadas por una organización del barrio en los últimos 30 días?

Nunca .......................................... 0
Una vez .......................................... 1
Dos veces ....................................... 2
Tres veces....................................... 3
Cuatro veces................................... 4
Más de cuatro veces....................... 5

Características Socio-demográficas

Al final de la encuesta, tenemos unas preguntas sobre usted y sobre cuánto tiempo ha vivido en esta comunidad.

¿Cuántos años tiene usted? _________________

¿Qué es su actual estado civil? Ponga un círculo alrededor de un solo número.

CASADO/A.............................................. 1
SEPARADO/A........................................... 2
DIVORCIADO/A....................................... 3
VIUDO/A............................................... 4
NUNCA SE CASÓ...................................... 5

80. ¿Cómo se describe a sí mismo?

AMERINDIO/A U ORIUNDO/A DE ALASKA............ 1
ASIÁTICO/A ESTADOUNIDENSE ....................... 2
NEGRO/A ESTADOUNIDENSE (NO-HISPANO/A)........ 3
HISPANO/A O LATINO/A .................................. 4
BLANCO/A O CAUCÁSICO/A (NO-HISPANO/A) ......... 5
OTRO: ESPECIFICAR .................................... 6
¿Qué nivel de educación tiene? Por favor marque el número que refleje su nivel más alto de educación.

UNOS AÑOS DE ESCUELA SECUNDARIA, PERO SIN TITULARSE ....................................................... 01
DIPLOMA DE ESCUELA SECUNDARIA .................................................. 02
DIPLOMA DE EQUIVALENCIA DE ESCUELA SECUNDARIA (GED - GENERAL EQUIVALENCY DEGREE) ........................................................................... 03
PROGRAMA UNIVERSITARIO O PROFESIONAL/TÉCNICO DESPUÉS DE LA ESCUELA SECUNDARIA, PERO SIN DIPLOMARSE .................................................................................................................. 04
CERTIFICADO DE FORMACIÓN PROFESIONAL, TÉCNICA O DE UN OFICIO.................................................................................. 05
UNOS AÑOS DE UNIVERSIDAD, PERO SIN TITULARSE .......................................................................................................................... 06
TÍTULO DE ASOCIADO (DOS AÑOS DE ESTUDIOS UNIVERSITARIOS) ........................................................................................................ 07
LICENCIATURA (CUATRO AÑOS DE ESTUDIOS UNIVERSITARIOS) ........................................................................................................ 08
MAESTRÍA (DE CIENCIAS O ARTES) .................................................................................. 09
DOCTORADO (PHD, EDD) .................................................................................. 10
TÍTULO PROFESIONAL O DE POSGRADO ........................................................................... 11

Actualmente ¿está usted...

TRABAJANDO A TIEMPO COMPLETO (35 HORAS SEMANALES O MÁS) .................................................. 1
TRABAJANDO TIEMPO PARCIAL .................................................................................. 2
BUSCANDO TRABAJO .................................................................................. 3
SIN TRABAJO .................................................................................. 4
EN LA UNIVERSIDAD/EN UN PROGRAMA DE CAPACITACIÓN .................................................................................. 5
AMA DE CASA .................................................................................. 6
ALGUNA OTRA COSA. (ESPECIFIQUE) .................................................................................. 7

¿Cuántos años ha vivido en este barrio? [_____] AÑOS

¿Cuántas veces se ha mudado de residencia durante el último año? [_____] NÚMERO DE MUDANZAS
¿Tiene acceso a un auto cuando lo necesita?

Sí............................................................ 1
NO.......................................................... 2

¿Cuáles son los ingresos de su familia?

Menos de $10,000................................. 1
De $10,001 a $20,000.......................... 2
De $20,001 a $30,000........................... 3
De $30,001 a $40,000......................... 4
De $40,001 a $50,000......................... 5
De $50,001 a $70,000......................... 6
De $70,001 a $90,000......................... 7
Más de $90,000................................. 8
Appendix D

Neighborhood Rating Scale

This observational assessment is intended to arrive at a rating of the neighborhood’s physical and social appearance, safety, and amenities. Ratings are carried out by three observers whose scores are averaged to arrive at item scores, although a single rating is valid. The rating scale is to be used according to a standard protocol, assuring reliable data. Most important, raters should carry out their observations independently and not discuss ratings among themselves prior to turning in their rating scales.

Please be sensitive to the residents of the neighborhood. After all, this is their home and you are a stranger. Stay off of private property, unless you have the permission of the owner. Be courteous and answer any questions residents may pose about your presence in the neighborhood. Your safety is important. Leave the neighborhood if you feel threatened. Be alert and follow the safety guidelines in the data collection protocol.

Neighborhood ID:
County:
Neighborhood name (if known):
Rater:
Date:
Day of week:
Time:

Method of observation:
1 = Neighborhood walk
2 = Neighborhood drive
3 = Combined walk and drive

Weather conditions:
1 = partly sunny/sunny
2 = partly cloudy/cloudy
3 = showers/thunderstorms
4 = moderate precipitation
5 = heavy precipitation
6 = other (specify)

General neighborhood characteristics

Type of neighborhood (circle one number below)
1 = Residential only
2 = Predominately residential
3 = Predominately commercial
4 = Commercial only
5 = Mixed residential/commercial

What housing types are evident in the neighborhood (circle all that apply)
1 = Single family detached
2 = Duplex
3 = Row house
4 = Multiple occupancy (3 to 6 units)
5 = Apartment (7 or more units)
6 = Mobile homes
7 = Other (specify) _________________________

On average, how many people did you see while in the neighborhood? (circle one number below)
0 = None
1 = Fewer than 5
2 = Five to 12
3 = 13 to 20
4 = More than 20

Of those people observed, estimate the percent who are…(make sure this equals 100%)
Under 18 years old __________%
19 to 29 years old __________%
30 to 45 years old __________%
46 to 65 years old __________%
Over 65 __________%

Of those people observed, estimate the percent who are…(make sure this equals 100%)
Male __________%
Female __________%

Rate the physical appearance of the neighborhood along the following dimensions.

1 2 3 4 5

Residences are in poor repair v. Residences are in good repair
Yards are poorly kept v. Yards are well kept
Streets are in poor repair v. Streets are in good repair
Sidewalks are in poor repair v. Sidewalks are in good repair
Residential area is full of trash v. Residential area is free of trash
Local school is in poor repair v. Local school is in good repair
School grounds full of trash v. School grounds free of trash
School has poor play equipment v. School has good play equipment
Park/play area/public space in poor repair v. Park/play area/public space in good repair
Park/play area/public space is full of trash v. Park/play area/public space is free of trash
Few or no indications of neighborhood name v. Many indications of neighborhood name
There are many abandoned vehicles on the street or in yards v. There are no or few abandoned vehicles on the street or in yards
There are many for sale/for rent signs v. There are no or few for sale/for rent signs
There are no or few residential decorations v. There are many residential decorations
There are many boarded up or abandoned dwellings v. There are no or few boarded up or abandoned dwellings

Rate the social appearance of the neighborhood along the following dimensions

1 2 3 4 5

Few people are out and about in the neighborhood v. Many people are out and about in the neighborhood
Residential area noisy v. Residential area quiet
High physical barrier density between dwellings v. Low physical barrier density between dwellings
High symbolic barrier density in neighborhood v. Low symbolic barrier density in neighborhood
Expressions of cultural tradition absent v. Expressions of cultural tradition present
People not engaged socially in residential area v. People engaged socially in residential area
Park/play area/public space not easily accessible v. Park/play area/public spaces easily accessible
Few people are out and about in park/play area/public spaces v. Many people are out and about in park/play area/public spaces
Park/play area/public spaces noisy v. Park/play area/public spaces quiet
People not engaged socially in park/play area/public spaces v. People engaged socially in park/play area/public spaces
No evidence of organized neighborhood life v. Evidence of organized neighborhood life

Rate the safety of the neighborhood along the following dimensions

1 2 3 4 5

No indications of resident/police vigilance v. Many indications of resident/police vigilance
No indications of resident generated attempts to enforce norms related to safety v. Many indications of resident generated attempts to enforce norms related to safety
Bikes/toys/other personal objects unattended in yard/on porch v. Bikes/toys/other personal objects not unattended in yard/on porch
Garages(storage areas open/not locked v. Garages/storage areas closed/locked
Vehicles exceed posted speed limit v. Vehicles do not exceed posted speed limit
Street lighting is inadequate v. Street lighting is adequate
Please rate public amenities

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

Public transportation stops adequate v. Public transportation stops inadequate
Trash receptacles are absent/inadequate v. Trash receptacles are adequate
REFERENCES


Coulton, C., Cook, T., Irvin, M. (2004). Aggregation issues in neighborhood research: A comparison of several levels of census geography and resident defined neighborhoods. APPAM Fall Research Conference, Atlanta, GA.


