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## Neighborhood Disadvantage and Perceptions of Neighborhood As Predictors of Aggression in Urban African American Youth: A Multilevel Analysis

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LOYOLA UNIVERSITY CHICAGO

NEIGHBORHOOD DISADVANTAGE AND PERCEPTIONS OF NEIGHBORHOOD  
AS PREDICTORS OF AGGRESSION IN URBAN AFRICAN  
AMERICAN YOUTH: A MULTILEVEL ANALYSIS

A THESIS SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
IN CANDIDACY FOR THE DEGREE OF  
MASTER OF ARTS

PROGRAM IN CLINICAL PSYCHOLOGY

BY

EDNA Y. ROMERO

CHICAGO, IL

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## **ABSTRACT**

The link between aggression and criminal activity in urban, low-income African American neighborhoods has resulted in many studies examining the predictive role of individual and neighborhood characteristics in the development of aggressive behaviors. Factors such as neighborhood violence, poverty, perceptions of neighborhood danger have consistently been linked to poor behavioral outcomes in urban youth (Colder, Mott, Levy, & Flay, 2000; Sampson, Raudenbush, & Earls, 1997), whereas perceptions of neighborhood cohesion have been associated with reduced externalizing behavior in children (Silk, Sessa, Sheffield Morris, Steinberg, & Avenevoli, 2004). The purpose of this paper was to examine, through the use of multilevel longitudinal analysis, the role of neighborhood disadvantage (rates of poverty and crime) and perceptions of neighborhood problems and cohesion on the development of aggressive behavior among a sample of urban low-income African American middle school aged youth (mean age = 11.65 years). Results indicated that youth experienced significant changes in rates of aggression across the three years, and that on average, negative youth perceptions of neighborhood predicted increases in aggression. Additionally, neighborhood characteristics trended towards significance as a moderator between negative youth perceptions and aggression. These results are in accordance with past research, which suggests that personal evaluations of the disadvantage of a neighborhood influence child development and behavior (Silk, Sessa, Sheffield Morris, Steinberg, & Avenevoli, 2004). Future studies



should examine the role that perceptions play in youth development, as well as in interventions geared towards thwarting youth aggression.

## **CHAPTER ONE**

### **INTRODUCTION**

Aggressive behavior is a common occurrence among African American youth living in urban, low-income, and high crime neighborhoods. The elevated rates of aggression in these neighborhoods can undoubtedly be linked to the disproportionate number of African American youth involved in violent criminal acts (U.S. Department of Justice, 2009). Given the link between aggression and criminal activity, many studies have assessed the predictive role of individual and neighborhood characteristics in the development of aggressive behaviors. Such literature has uncovered a variety of potential risk and protective factors for aggression in urban African American youth. In particular, factors such as neighborhood violence and poverty, and perceptions of neighborhood disadvantage have consistently been linked to poor behavioral outcomes in urban youth (Colder, Mott, Levy, & Flay, 2000). Additionally, positive perceptions of neighborhood, such as perceptions of neighborhood cohesion, have been associated with reduced externalizing behavior in children (Sessa, Sheffield Morris, Steinberg, & Avenevoli, 2004).

However, a problem with studies that attempt to decipher the risk or protection afforded by each of these variables is that they seldom acknowledge the variables' symbiotic or reciprocal relationship. This oversight is apparent in the use of theoretical models and statistical techniques that ignore the "transactions or mutual dependencies"

between neighborhood level characteristics and individual characteristics (Roosa, Jones, Tein, & Cree, 2003; p. 60). Given the enmeshed nature of these factors, their unique contribution to the outcome is often times difficult to distinguish through the use of regression analyses. Thus, the purpose of this paper was to examine, through the use of multilevel longitudinal analysis, the subjective and objective role of neighborhood in guarding against or promoting aggressive behavior. In particular, the role of neighborhood disadvantage (rates of poverty and crime) and perceptions of neighborhood problems and cohesion was explored in relation to the development of aggressive behavior among a sample of urban low-income African American youth. Ultimately, the paper aimed to provide a foundation for neighborhood level interventions geared at enhancing the protective factors that guard against aggression.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **Aggression Among Urban African American Youth**

The definition of aggression contains four assumptions: (a) aggression is a type of behavior, (b) aggression involves hostile intent, (c) aggression can be intended to do psychological as well as physical harm, and (d) aggression can be directed at either a person or at an object (Moeller, 2001). In addition to being multifaceted, the construct of aggression is also incorporated in other forms of externalizing problems. Violent assault, for instance, involves aggression and is categorized as a delinquent act by the U.S. Department of Justice. A recent report found that approximately 250,000 delinquent acts are committed yearly by children under the age of 13 (U.S. Department of Justice, 2006). This statistic is especially alarming because youth who engage in aggressive or delinquent acts before adolescence are at a greater risk of becoming serious, violent, and chronic offenders later in life. In fact, children who engage in aggressive acts early in life tend to have longer offending careers and pose greater threats to public safety and property than individuals who begin committing aggressive acts later in life (Loeber & Farrington, 2001).

The timing or onset of aggression is not the only indicator of poor outcomes; the severity of aggressive acts is also implicated. Research has shown that youth who engage in more severe or violent acts of aggression have longer and more chronic offending

records (Tolan & Thomas, 1995). In 2008, juveniles accounted for about 24% of total population, and accounted for 16% of all violent crime arrests in the U.S. (U.S. Department of Justice, 2009).

In addition to age related differences, racial and socioeconomic differences in the rates of aggression have consistently shown that minority groups, namely African American youth from low-income households, disproportionately participate in aggressive acts. Rates of aggressive behavior among this population are well above the national average (Guerra, Huesmann, Tolan, Van Acker & Eron, 1995). Despite only accounting for 16% of the youth population in 2008, and 4% of overall population, African American youth were involved in 52% of all juvenile violent crime arrests (U.S. Department of Justice, 2009). Research on the development of aggression suggests that aggressive behavior can begin in early elementary school for this subgroup of youth, and may even be a normative occurrence in low-income urban environments (Henry, Tolan & Gorman-Smith, 2001; Stouthamer-Loeber, Loeber, Wei, Farrington & Wikstrom, 2002).

Several anthropological and sociological explanations should be considered before interpreting the bleakness of these findings and statistics. First, many theorists point to racism and arrest bias as factors that contribute to the overrepresentation of African American youth in the criminal justice system (Moeller, 2001). Specifically, research has found that rates of violent offending are greater among African American youth, but that these differences are exaggerated by racial disparities within the legal system (Rutter, Giller, & Hagel, 1998). Second, there is compelling evidence to suggest that the same acts of aggression can be viewed as more chronic when committed by African American youth than when committed by European American youth (Miner &

Clarke-Stewart, 2008). This implies that racial stereotypes are influencing how behavior among African American youth is perceived. Third, “sociologists have long recognized that the experience of racial discrimination provokes feelings of rage and shame, which play a potent role in stimulating violence” (Garbarino, 1999, p. 11). Finally, the relationship between race and aggression may be due to the fact that a disproportionate number of African American youth live in poverty (Moeller, 2001). Impoverished communities typically include higher rates of crime and single-parent households, which are robust risk factors of aggression (Mistry, Vandewater, Huston, & McLoyd, 2002). These factors create what researchers call a “cascade” model of the development of serious violence, meaning that each factor builds upon the next, which exponentially increases the risk for developing aggression (Dodge, Greenberg, & Malone, 2008). Thus, the occurrence and presentation of aggression among African American youth depends on numerous factors.

Given that there are differences in the presentation of youth aggression, researchers have recently begun to examine the trajectories of aggressive behavior. Trajectories among normative and primarily European American middle-class samples demonstrate that in general, children experience a decrease in aggression as they grow older (Bongers, Koot, van der Ende, & Verhulst, 2003; Broidy et al., 2003; Cairns, Cairns, Neckerman, Ferguson, & Gariepy, 1989). It is argued that what accounts for the decrease in aggression is the accrual of positive socialization experiences (Odgers et al., 2009). As children grow older, socializing experiences in their home, school, and neighborhood environments reinforce their ability to develop self-regulation and peer

relationship skills, which in turn teach them to achieve their objectives through socially acceptable means (Odgers et al., 2009; Cairns et al., 1989).

Among low-income urban African American youth, however, research on the trajectories of aggression is scarce. According to Vazsonyi & Keiley (2007), “very little evidence exists about developmental changes of aggressive behaviors in different racial and ethnic groups” (p. 1048). Additionally, they state that the studies that do exist focus on middle or late adolescence, “a time when perhaps the most dramatic and potentially differentiating developmental changes may have already taken place” (p. 2). A couple studies have found decreases in externalizing behavior across time among a sample of low-income boys ages 2 to 17, but these studies relied solely on mother-reported externalizing behaviors and were not specifically examining African American youth (Gillom & Shaw, 2004; Owens & Shaw, 2003). The lack of research on the trajectories of aggression among low-income urban African American youth makes it difficult to determine if differences in rates of aggression are related to socialization processes, neighborhood characteristics, and/or other factors. In other words, without examining the developmental changes that occur in the presentation of aggression, it is difficult for researchers to determine when and how aggression is influenced. The current research suggests that the volatile nature of low-income urban environments and the normative existence of aggressive behavior fosters socialization processes that are markedly different from those that occur in less caustic environments. It is even possible that children in these neighborhoods are being socialized in a way that promotes aggression. Support for this claim comes from ethnographic reports by Anderson (1994). Anderson describes children raised in urban low-income and high crime neighborhoods as “street

children” who are socialized according to the “code of the streets” (1994, p. 82). The main premise of the *Code* is respect, which is “loosely defined as being granted the deference one deserves” (Anderson, 1994, p. 82). Respect is achieved and maintained through many means; however, assertiveness and aggression are the two methods most often used. If a youth is challenged, verbally or otherwise, it is expected that he/she retaliate in a way that asserts his/herself over the challenger (Anderson, 1994).

Similarly, Gilligan (2001) argues that violent behavior is stimulated by a desire to eliminate feelings of shame. Youth who are humiliated and shamed by either a direct form of aggression or by a type of social disparity, such as unemployment or discrimination, feel an unnerving desire to rectify the feelings of shame. These youth are especially susceptible to committing acts of violence or aggression because violence is the most reliable way to “force respect from other people” and from society (Gilligan, 2001, p. 35). These pervasive norms remind youth that aggressive behavior is necessary for social survival. Thus, African American youth from urban low-income environments presumably do not develop the same self-regulation skills as youth from the general population. Children who do not develop self-regulation skills and are continually exposed to aggressive models are at a high risk of continued aggression and related externalizing problems (Tremblay, 2004).

The occurrence of aggression among urban low-income African American youth is disturbing considering the link between childhood aggression and later antisocial or criminal activity (Babinski, Hartsough, & Lambert, 1999). Criminal activity is a well-established characteristic of urban low-income African American communities (Acosta, Albus, Reynolds, Spriggs, Weist, 2001). Therefore, failing to understand the



determinants and trajectories of aggressive behavior in children will perpetuate the cycle of criminality and violence that permeates and pervasively damages urban African American neighborhoods and the youth who reside in them.

### **Urban Low-Income African American Neighborhoods**

#### **Objective Measures of Neighborhood Disadvantage**

Since the early part of 20<sup>th</sup> century, much attention has been paid to the role of neighborhoods or communities in influencing individual health outcomes. Notably, Shaw and McKay's (1942) finding that urban, poor, and minority neighborhoods experienced higher rates of juvenile delinquency than their affluent and Caucasian counterparts sparked a wave of research examining urban neighborhoods. Such research has consistently revealed that urban low-income African American communities are associated with higher levels of poverty and crime, which in turn are related to both externalizing and internalizing problems among children (Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993). Given the distinct demographic characteristics of urban low-income African American neighborhoods, much of the neighborhood-level research has used objective measures of neighborhood disadvantage (e.g. census data, crime statistics). Researchers argue that objective measures of neighborhood disadvantage create a profile of the neighborhood's "social context" (Burton, Obeidallah, & Allison, 1993). Social contexts that create high levels of stress place individuals at risk for developing distress or psychopathology.

In what is now considered a seminal review of literature, Jencks and Mayer (1990), proposed several models or mechanisms that explain the relationship between social context and individual child outcomes. In the sociology literature, the term

“mechanisms” does not necessarily mean that the models statistically mediate the relationship between objective neighborhood characteristics and individual outcomes, but rather that they are the sociological processes that help explain the effects of neighborhood (Sampson, Morenoff, & Gannon-Rowley, 2002). The three models pertaining to objective measures of neighborhood are a) “contagion” or epidemic models, which suggest that individuals are encouraged to perpetuate the negative behaviors (e.g. crime and aggression) that are observed in their neighborhood, b) “neighborhood institutionalized resource” models, which argue that neighborhood resources impact children by providing them with access to enriching learning environments such as schools, parks, and community centers, and c) “models of competition,” which suggest that neighbors compete for scarce community resources (Jencks & Mayer, 1990).

Research has consistently supported the Jencks and Mayer (1990) models. For instance, scarce community resources increase the rate of unemployment among members of a community. Community unemployment is associated with Black male joblessness, which disrupts family composition and “substantially increases the rates of Black murder and robbery by juveniles” (Sampson, 1987, p. 348). Additionally, the high rates of crime that disproportionately occur in low-income urban environments expose children to a variety of “contagion” risk factors. Exposure to violence, for example, has become an increasingly common experience facing children living in low-income, urban communities (Gorman-Smith & Tolan, 1998). Not only are children and families in urban, low-income African American communities exposed to higher rates of violence, but also their exposure to violence is pervasive and has severely damaging effects on children’s well-being (Fowler, Tompsett, Braciszewski, Jacques-Tiura, & Baltes, 2009;

Richters & Martinez, 1993). Finally, objective neighborhood deterioration can attract gangs because the deterioration suggests that social control is weak (Sampson, 1995). Increased gang activity perpetuates the models of crime and aggression that exist in low-income urban environments.

Despite providing useful information, there are several limitations to exclusively studying objective measures of neighborhood disadvantage. First, the geographic units that constitute a neighborhood are often much larger than the developmental niches that children are exposed to (Burton, Price-Spratlen, & Beale Spencer, 1997). Second, the use of objective measures of neighborhood (e.g. census data) to represent the disadvantage of a larger geographic unit assumes that the entire unit is homogenous. In reality, most neighborhoods are much more heterogeneous than census data would suggest (Lee & Campbell, 1998). Third, as mentioned earlier objective measures are thought to affect individual outcomes through sociological mechanisms (Jencks & Mayer, 1990; Sampson et al., 2002). This suggests that unlike the more static features of objective neighborhood characteristics, social processes or mechanisms provide accounts of how neighborhoods bring about a change in youth outcomes (Sampson et al., 2002). Lastly, all of the aforementioned studies examined the associations between objective measures of neighborhood and child outcomes in general, but not aggression specifically. In order to address these limitations, and thus, to acquire a more complete picture of neighborhood disadvantage, this study examined subjective measures of neighborhood in conjunction with objective measures.

## **Subjective Perceptions of Neighborhood**

Perceptions of neighborhood, or subjective experiences of neighborhood, appear to be one of the sociological mechanisms through which objective neighborhood characteristics impact youth aggression (Sampson et al., 2002). Researchers in favor of studying subjective neighborhood experiences contend that personal evaluations of the disadvantage of a neighborhood influence child development and behavior (Silk, Sessa, Sheffield Morris, Steinberg, & Avenevoli, 2004). Furthermore, acquiring subjective perceptions of the environment, including perceptions of neighborhood problems and cohesion, is believed to be important in understanding child development (Bronfenbrenner & Evans, 2000; Garbarino, Kostleny, & Dubrow, 1991). Adults' or parents' perceptions of neighborhood have traditionally been examined in relation to youth outcomes (Burton, Price-Spratlen, & Beale Spencer, 1997). However, because adults and children can perceive their neighborhoods differently, researchers argue, "children's perceptions are uniquely important predictors of behavioral outcomes" (Burton, Price-Spratlen, & Beale Spencer, 1997, p. 139; Garbarino et al., 1991). One study found that youth reports of perceptions of neighborhood were more reliable than parent reports in predicting child outcomes (Byrnes, Chen, Miller, & Maguin, 2007). Therefore, in order to obtain a full picture of a child's experience, parent and child report of subjective perceptions should be examined jointly.

## **Perceptions of Neighborhood Disadvantage**

Shaw and McKay's (1942) finding that neighborhoods with high rates of delinquent behavior were also characterized by low socioeconomic status (SES), ethnic diversity, and high population turnover led them to conclude that these neighborhood

characteristics resulted in social disorganization, which in turn resulted in delinquency among individuals. Social disorganization is the inability of community residents to realize common goals and exercise social control (Furstenberg & Hughes, 1995). Inherent in the definition of social disorganization is the notion that neighborhood residents need to assess “environmental risk” or problems within the neighborhood (Hyson & Bollin, 1990). Perceptions of neighborhood risk are considered important predictors of child outcomes (Furstenberg & Hughes, 1995). Given the theorized link between perceptions of neighborhood risk and child outcomes, research has recently focused on child and adult perceptions of neighborhood disadvantage.

Shumow, Lowe Vandell, and Posner (1998) found that parent and child perceptions of neighborhood disadvantage mediated the relationship between neighborhood demographic characteristics and parent report of child misconduct and psychological distress. Mothers’ perceptions of neighborhood problems also mediated the relationship between objective neighborhood disadvantage and parent-child conflict (Deng et al., 2006). Perceived neighborhood disadvantage has also been related to increased alcohol, tobacco, and marijuana use among middle school children (Lambert, Brown, Phillips, & Ialongo, 2004). With regards to child aggression, perceived neighborhood disadvantage has been associated with stronger positive beliefs about aggression and higher levels of aggression (Colder et al., 2000) and delinquency (Byrnes et al., 2007).

Although a relatively newer construct, perceptions of neighborhood disadvantage have been reliably linked to poor individual outcomes. However, the previous studies provide limited information because they did not utilize appropriate statistical analysis,

both parent and child reports of perceptions of neighborhood problems, and/or examine perceptions of neighborhood in conjunction with objective measures of neighborhood.

### **Perceptions of Neighborhood Cohesion**

A less studied construct is neighborhood cohesion. Sampson, Raudenbush, and Earls (1997) argue that the social cohesion of neighbors and their ability to intervene to prevent delinquent acts and promote neighborhood safety, which they coined “collective efficacy,” has a direct effect on the violence that occurs in their respective communities. Sampson and colleagues (1997) found that “collective efficacy” indeed aids in the deflection of violence and is related to reduced neighborhood violence. They speculate that social cohesion plays an important role in the prevention of community violence because it allows for the recognition of common values amongst neighbors and a willingness of neighbors to supervise neighborhood children while they play or to intervene to prevent acts such as truancy. Neighborhood cohesion is an extension of social cohesion. Neighborhood cohesion refers to perceptions of supportive transactions within a neighborhood (Kliewer et al., 2004). Higher levels of neighborhood cohesion are associated with collective socialization and supervision of neighborhood children (Jencks & Mayer, 1990; Sampson et al., 1997).

Given the theorized protective role of neighborhood cohesion, several studies have examined neighborhood cohesion in relation to child outcomes. This research has found an association between perceived neighborhood cohesion and reduced internalizing problems (Kliewer et al., 2004), increased participation in recreational programming and physical activity (Cradock, Kawachi, Colditz, Gortmaker, & Buka, 2009), better physical health (Abada, Hou, & Ram, 2004), and reduced levels of antisocial behavior (Odgers et

al., 2009). Although informative, these findings did not directly test the moderating or protective role of perceptions of neighborhood cohesion on youth aggression. A preliminary moderation study found that neighborhood cohesion buffered the relationship between hostile parenting and externalizing behavior. (Silk et al., 2004). However, this study did not evaluate the direct relationship between neighborhood cohesion and other neighborhood characteristics, nor did it examine child reports of neighborhood perceptions. In an effort to fill the gap that former studies have left with regards to neighborhood characteristics, this study examined the role of perceptions of neighborhood cohesion and danger as independent predictors of African American youth's aggressive behavior.

### **Current Study and Hypotheses**

According to Roosa and colleagues (2003), the most frequently used method of analysis when examining the relationship between neighborhood and individual outcomes is ordinary least squares (OLS) regression. They argue that regression is not an optimal method of analyses for this type of data because it assumes the variables are independent. Instead, Roosa et al. (2003) propose that the most appropriate way to examine neighborhood predictors of individual child outcomes is by implementing a multilevel analysis. Incorporating a multilevel analysis, or a hierarchical linear model, will allow for an examination of cross level effects (e.g. effects of neighborhood characteristics on individuals), and to partition variance and covariance among levels appropriately (as cited in Aber, 1994; Garner & Raudenbush, 1991). Given the fact that this study was attempting to decipher the influence of nested neighborhood data variables on individual outcomes, a multilevel analysis was conducted to fulfill three aims.

The first aim of this study was to examine youth reported rates of aggression over three years (sixth, seventh, and eighth grade). As described earlier, research on the trajectories of aggression among young adolescent African American youth from urban low-income environments is lacking. This population of youth seems to experience higher rates of aggression, as compared to their Caucasian middle-class counterparts. However, it is unclear whether the high rates of aggression among low-income urban African American youth are consistent or variable across time. Therefore, the first aim of this study was to determine whether changes in aggression occur across the middle school years, which are considered to be an important time with respect to socialization and aggression (Vazsonyi & Keiley, 2007).

The second aim of this study involved an analysis of the subjective and objective characteristics of neighborhood disadvantage. Neighborhood disadvantage, as measured by objective reports of neighborhood disadvantage and subjective reports of neighborhood danger has consistently been linked to poor developmental outcomes (Sampson et al., 1997; Silk et al., 2004). However, both subjective and objective indicators of neighborhood disadvantage have not been thoroughly examined as co-dependent predictors of child aggression. Thus, the second aim of this paper was to examine whether perceptions of neighborhood problems, high poverty rates, and high crime rates work together to explain increases in rates of youth aggression.

The final aim of this study was to examine the protective role of neighborhood cohesion. Given the harmful costs of living in low-income urban neighborhoods, recent research has focused on examining the protective factors that may prevent youth from developing psychological side effects. Despite the push to explore protective factors, no



studies to date have evaluated the moderating effects of perceptions of neighborhood cohesion on the relationship between neighborhood disadvantage and aggressive behavior. Therefore, this study examined how a sense of neighborhood cohesion interacts with neighborhood disadvantage in the development of youth's aggressive behavior. Understanding how perceptions of neighborhood cohesion interact in the development of aggressive behavior will provide a foundation for the creation of intervention programs geared at encouraging positive socialization and reducing externalizing problems in urban children. This study utilized a longitudinal analysis on a sample of low-income urban African American youth.

### **Question 1 and Hypothesis 1**

Do African American youth from urban low-income neighborhoods experience a change in rates of aggressive behavior over time? It was hypothesized that the youth in this study would experience an increase, on average, in aggressive behavior over the three years they were followed.

### **Question 2 and Hypothesis 2**

Do subjective and objective measures of neighborhood disadvantage affect the rate of child aggression? Specifically, do perceptions of neighborhood disadvantage, high poverty rates, high rates of single-mother headed households, high rates of residents without high school diplomas, and high crime rates explain the variability in the hypothesized increase in youth aggression over three years? It was hypothesized that an increase in both subjective and objective neighborhood disadvantage would explain variability in the increase in youth aggression over time.

**Question 3 and Hypothesis 3**

Do perceptions of neighborhood interact with objective measures of neighborhood disadvantage in the development of youth aggression? Specifically, do perceptions of neighborhood cohesion moderate the relationship between neighborhood disadvantage and youth aggression? It was expected that the relationship between neighborhood disadvantage and youth aggression will be different for youth with high and low perceptions of neighborhood cohesion. It was hypothesized that youth who report higher levels of neighborhood cohesion will experience an attenuated increase in aggression over time as opposed to those who reported less neighborhood cohesion. Thus, neighborhood cohesion was expected to serve as a protective factor against the development of aggression.

## **CHAPTER THREE**

### **METHOD**

#### **Participants**

A sample of 271 urban African American sixth grade students (mean age = 11.65 years, 40% males and 60% females) from six public schools in low-income Chicago neighborhoods were recruited for the first year of a three-year longitudinal study examining youth's exposure to violence from 6<sup>th</sup> to 8<sup>th</sup> grade. The six schools were located in different neighborhoods throughout Chicago. Two hundred fifty-four seventh grade students (mean age = 12.57 years, 41% males and 59% females) participated in the second year of the study and 222 eighth grade students (mean age = 13.58 years, 41% males and 59% females) participated in the third year. The six public schools selected for this study were located in high-crime neighborhoods as reported by Chicago Police Department crime statistics for the year preceding data collection. Consistent with previous studies of similar samples (e.g., Cooley-Quille & Lorion, 1999), 58% of youth recruited during the first year of the study agreed to participate.

The majority of the participants lived in lower-income households. Median family income was between \$10,000 and \$20,000 according to parents or guardians. Eighty-three percent of parents had, at minimum, a high school degree and 10% reported having a college or graduate/professional degree. A previous study of this sample also

reported that 69% of participants came from households headed by single mothers and 31% of participants' parents were unemployed (Ortiz, Richards, Kohl, & Zaddach, 2008).

### **Procedure**

Of the students asked to take part in the study, 58% agreed to participate. Student assent and parental consent were obtained for all participants. Data collection began when the students were in 6<sup>th</sup> grade (Time 1), and again when the students were in 7<sup>th</sup> grade (Time 2) and 8<sup>th</sup> grade (Time 3). Participants completed a variety of questionnaires that were administered by trained research staff for a period of five consecutive days each year for three school years (1999-2002). Participants also took materials home for their parents or guardians to complete during each assessment period. Participants returned the completed parent/guardian questionnaires to project staff during each wave of data collection. This study analyzed self-report and parent-report data from all three years of data collection.

### **Measures**

#### **Demographic**

Information on the following demographic variables was assessed: gender, parent and child age, parent and child race/ethnicity, SES (as assessed by family income), parent education attainment, parent occupation, and number of people in home.

#### **Objective Measures of Neighborhood Disadvantage**

To objectively examine participants' neighborhood disadvantage, a composite variable was constructed depicting 2000 Census data and Chicago Police Department crime statistics for the six neighborhoods from which the students were recruited. The six neighborhoods were identified through zip codes in the 2000 Census database, and

participants fell into one of the six neighborhood categories. The 2000 Census data identified the percentage of families living below poverty, percentage of single-mother headed households, and percentage of neighborhood residents without a high school diploma. These three statistics have been associated with an increased risk of homicide in the six neighborhoods that were examined (Eno & Shaker, 2008). Additionally, Chicago Police Department reported crime statistics for each of the six neighborhoods and each of the three years of data collection (1999, 2000, 2001) was examined. The crime statistics reflected a composite score of violent crime per person and violent crime per square mile for each of the years of data collection. Participants from the same neighborhoods received the same scores on each of these objective measures.

### **Child Perception of Neighborhood Disadvantage**

A revised version of Mason, Cauce, Gonzales, Hiraga and Grove's (1994) Neighborhood Environment Scale (NES) was used to assess youth's perceived levels of crime and problem behavior. Mason and colleagues' (1994) measure has demonstrated good reliability and validity in a sample of young African American adolescents. . The scale is composed of 22 items and two subscales. The first subscale, *behavior problems*, includes items such as "Violent crime with a weapon." The second subscale, *gang problems*, includes items such as "Street gang activity." Responses fell on a 4-point scale from "Never Happens" to "Happens Very Often." Cronbach's alpha range from .89 to .93 across the two subscales and the three years of data collection.

### **Child Perception of Neighborhood Cohesion**

A revised version of Chipeur et al.'s (1999) Neighborhood Youth Inventory (NYI) was used to measure youth's perceptions of neighborhood cohesion. This measure

has demonstrated good internal consistency and convergent, discriminant, and construct validity in a sample of urban youth (Chipeur et al., 1999). The revised measure is comprised of 10 items and three subscales that assess cohesion amongst neighbors such as, perceptions of *support* (e.g. “People in my neighborhood pitch in to help each other”), perceptions of cohesive *activity* (e.g. “There is a place for kids my age to hang out in my neighborhood”), and perceptions of *friendliness* towards neighbors (e.g. “When I want I can find someone to talk to in my neighborhood”). Responses range from “Not At All True” to “Completely True” on a 5-point scale. Cronbach’s alphas for each of the subscales range from .71 to .83 across all three years.

### **Parent Perception of Neighborhood Disadvantage**

Items for this scale were adapted from Buckner’s (1988) measure of beliefs about the neighborhood. This measure has demonstrated good internal consistency, test-retest consistency and criterion related validity (Buckner, 1988). The measure included two subscales that best assess problems in the community. The first subscale, *neighborhood problems*, included items such as “Gangs are a problem in my neighborhood” and “Violent crime is a problem in my neighborhood.” The second subscale, *neighborhood decay*, included items such as “Abandoned or boarded-up homes are a problem on my block.” Parents’ responses ranged from “Strongly Agree” to “Strongly Disagree” on a 5-point scale. Cronbach’s alphas range from .73 to .89 for each of the subscales across the three years.

### **Parent Perception of Neighborhood Cohesion**

Items for this scale were also adapted from Buckner’s (1988) measure of beliefs about the neighborhood. The scale assessed parents’ perceptions of neighborhood

cohesion and includes two subscales. The first subscale, *neighborhood cohesion*, includes items such as, “If I needed advice about something I could go to someone in my neighborhood.” The second subscale, *neighborhood involvement*, includes items such as “I feel like I belong to the neighborhood.” Parents’ responses ranged from “Strongly Agree” to “Strongly Disagree” on a 5-point scale. This scale demonstrated strong internal consistency; alphas range from .70 to .82 across the two subscales and three years of data collection.

### **Aggressive Behavior**

Child-reported aggression will be measured yearly using a combination of the Things I Do scale (TID) and aggression items from the Juvenile Delinquency Scale (JDS). The 9 items of the TID reflect aggressive and oppositional behavior (e.g., “How often do you push or shove others?”) on a 4-point rating of occurrence from 0 (*never*) to 3 (*a lot*). The JDS was adapted from the Delinquency Self-Report measure by Tolan & Lorion (1988) and the Self-Report of Early Delinquency Scale by Moffit and Silva (1988). The JDS consists of twenty-three items that reflect serious rule-breaking and violent behavior rated on a 6-point scale of occurrence from 0 (“Never”) to 5 (“5 times or more”). Seven items that reflect aggression were selected from this measure (e.g., “I have attacked someone with a weapon in order to hurt or kill them”). The TID and JDS were significantly correlated for years one ( $r = .36, p < .001$ ), two ( $r = .28, p < .001$ ), and three ( $r = .40, p < .001$ ). Therefore, using a procedure similar to that of Li, Nussbaum, and Richards (2007), items from these two measures were standardized and combined to create the child-report of aggression variable. Reliability analyses were conducted and four items were removed due to low corrected item-total correlations ( $r < .25$ ) across the

three time points. The resultant scale consisted of 12 items (8 TID items and 4 JDS items) with adequate internal consistency for Time 1 ( $\alpha = .82$ ), Time 2 ( $\alpha = .81$ ), and Time 3 ( $\alpha = .81$ ).



## **CHAPTER FOUR**

### **RESULTS**

#### **Preliminary and Correlation Analyses**

The means and standard deviations for reports of aggression, perceptions of neighborhood cohesion, perceptions of neighborhood disadvantage, and objective characteristics of neighborhood disadvantage at all three data points were examined to check for outliers. After checking for outliers, standardized scores were computed for each of the variables. Standardizing the variables served a dual purpose. First, it allowed for a comparison of variables that were not measured on a similar metric. Secondly, standardizing the variables made the mean of each of the variables equal to zero, which allowed for an accurate assessment of the hypothesized moderation effects. In other words, by translating the variables' means to zero, any positive coefficients that resulted in the moderation analysis would be considered above the mean, and any negative coefficients would be considered below the mean, thereby indicating whether high or low levels of the moderator were predictive of the changes in aggression.

After computing standardized scores and checking for outliers, preliminary analyses suggested that the hierarchical linear modeling would be difficult to compute, given the large number of independent variables. Therefore, correlations between the subscales were examined to determine if composite variables could be computed. The correlation analysis determined that there were significant correlations between the

independent variables that comprise the larger constructs (e.g. youth and parent perceptions of neighborhood cohesion, youth and parent perceptions of neighborhood disadvantage, and objective neighborhood characteristics) at each of the three years of data analysis. Thus, composite variables composed of significantly correlated and conceptually related subscales were used to reduce the number of independent variables from thirteen to five, and increase the power of the hierarchical linear modeling analyses.

The subscales that constituted positive youth perceptions or perceptions of neighborhood cohesion were *support*, *activity*, and *friendliness*. These subscales had significant positive correlations ranging from .51 to .61 for each of the three years of data collection. The subscales that described youth perceptions of neighborhood disadvantage were *behavior problems* and *gang problems*. These two subscales had significant positive correlations ranging from .68 to .76 for each of the three years. The parent perceptions of neighborhood disadvantage variable was comprised of the *neighborhood problems* and *neighborhood decay* subscales. These variables were also significantly and positively correlated (ranging from .70 to .81) for the three years. The *neighborhood involvement* and *neighborhood cohesion* subscales described parent perceptions of neighborhood cohesion, which were also significantly and positively correlated (ranging from .52 to .68) at each of the three years. Finally, composite variables of the objective neighborhood characteristics were also created using reported crime statistics from the Chicago Police Department and 2000 Census data assessing the percentage of families living below poverty, percentage of families headed by single mothers, and percentage of neighborhood residents not graduating high school (Eno & Shaker, 2011). As expected, correlation analyses for the objective neighborhood characteristics revealed that the

variables comprising the composite variable were significantly and positively correlated at rates ranging from .89 to .98 for each of the three years.

The correlation analyses from each of the three years are reported in Tables 1, 2, and 3, respectively. Notably, the correlation analyses from years 1, 2, and 3 indicated that youths' perceptions of neighborhood disadvantage were significantly and positively correlated with their reported aggression (see Tables 1 to 3). These results indicated that for each of the 3 years, the more neighborhood disadvantage youth perceived, the more aggression they reported. With regards to positive perceptions of neighborhood, youth perceptions of neighborhood support and cohesive neighborhood activity were significantly and positively correlated with aggression at year 2, which indicated that the more supportive and cohesive youth perceived their neighborhoods, the more aggression they reported as well. Parent perceptions were not significantly correlated with youth aggression for any of the years.

Interestingly, youth perceptions of cohesive neighborhood activity and youth perceptions of friendliness towards neighborhoods were significantly and positively correlated with youth perceptions of neighborhood disadvantage at year 2. This indicated that as youth perceptions of cohesive neighborhood activity and friendliness towards neighbors increased, so did youth perceptions of neighborhood disadvantage. However, by year 3 these correlations were no longer significant. In fact, year 3 youth perceptions of neighborhood support were significantly and negatively correlated with youth perceptions of neighborhood disadvantage, which signified that as youth perceptions of neighborhood support increased, youth perceptions of neighborhood disadvantage decreased.

Table 1. Correlations, means, and standard deviations year 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>1. Obj Neigh Comp</b>	1														
<b>2. YouthCoh Comp</b>	0.03	1													
3. Supportl	-0.06	.086**	1												
4. Activityl	0.04	.083**	0.58**	1											
5. Friendl	0.08	.083**	0.58**	0.51***	1										
<b>6. YouthDis Comp</b>	0.05	-0.03	-0.09	0.01	0.01	1									
7. Gangdrug	0.12	-0.02	-0.05	0.00	0.01	0.92**	1								
8. Behprob	-0.02	-0.03	-0.12	0.02	0.01	0.92**	0.68**	1							
<b>9. ParentCoh Comp</b>	-0.06	0.12	0.12	0.08	0.10	-0.01	-0.03	0.01	1						
10. Neigh Cohes	0.02	0.05	0.04	-0.00	0.08	0.00	-0.02	0.03	0.89**	1					
11. Neigh Involv	-0.12	0.16	0.18*	0.14	0.08	-0.04	-0.05	-0.03	0.89**	0.58**	1				
<b>12. ParentDis Comp</b>	0.14*	0.00	-0.02	-0.09	0.12	0.09	0.07	0.09	-0.04	0.15*	-0.20**	1			
13. Neigh Prob	0.10	-0.03	-0.05	-0.10	0.09	0.08	0.08	0.07	-0.09	0.13	-0.28**	0.95**	1		
14. Neigh Decay	0.17*	0.04	0.01	-0.06	0.14	0.09	0.06	0.10	0.02	0.15*	-0.09	0.95**	0.80**	1	
<b>15. Aggression</b>	0.08	-0.07	-0.11	0.05	-0.11	0.25**	0.26**	0.21**	0.02	0.02	0.00	0.07	0.08	0.07	1
Mean	0.00	0.00	5.42	4.17	7.06	0.00	6.42	9.86	0.00	13.51	8.52	0.00	16.73	7.78	0.00
SD	0.743	0.840	3.8	2.73	3.82	0.92	5.67	5.79	0.89	5.52	3.96	0.95	7.69	4.98	0.58

*Note.* YouthCoh Comp = Composite variable of youth perceptions of neighborhood cohesion, YouthDis Comp = Composite variable of youth perceptions of neighborhood problems, ParentCoh Comp = Composite variable of parent perceptions of neighborhood cohesion, ParentDis Comp = Composite variable of parent perceptions of neighborhood problems.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 2. Correlations, means, and standard deviations year 2

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>1. Obj Neigh Comp2</b>	1														
<b>2. YouthCoh Comp2</b>	0.12	1													
3. Support2	0.07	0.84**	1												
4. Activity2	0.12	0.86**	0.55**	1											
5. Friend2	0.10	0.88**	0.61**	0.65**	1										
<b>6. YouthDis Comp2</b>	0.08	0.11	-0.02	0.17**	0.14*	1									
7. Gangdrug2	0.07	0.15*	0.01	0.21**	0.17**	0.94**	1								
8. Behprob2	0.07	0.06	-0.06	0.12	0.10	0.94**	0.76**	1							
<b>9. ParentCoh Comp2</b>	0.12	-0.08	-0.21**	0.01	-0.02	0.21**	0.20**	0.18*	1						
10. Neigh Cohes2	0.05	-0.13	-0.24**	-0.04	-0.06	0.19*	0.20*	0.17*	0.91**	1					
11. Neigh Involv2	0.16*	-0.02	-0.14	0.05	0.03	0.18*	0.18*	0.17*	0.91**	0.66**	1				
<b>12. ParentDis Comp2</b>	0.08	-0.22**	-0.21**	-0.25**	-0.11	0.09	0.09	0.08	0.25**	0.25**	0.19*	1			
13. Neigh Prob2	0.04	-0.21**	-0.19*	-0.25**	-0.10	0.15	0.17*	0.12	0.25**	0.24**	0.21**	0.92**	1		
14. Neigh Decay2	0.11	-0.20*	-0.20*	-0.22**	-0.09	0.03	0.01	0.04	0.21**	0.23**	0.14	0.92**	0.70**	1	
<b>15. Aggression2</b>	0.03	0.09	-0.07	0.15*	0.14*	0.25**	0.28**	0.19**	0.11	0.08	0.12	0.01	0.02	-0.01	1
Mean	0.00	0.00	5.19	4.03	6.96	0.00	6.13	8.83	0.00	14.26	7.22	0.00	15.99	7.67	0.00
SD	0.74	0.86	3.74	2.86	3.77	0.94	5.97	6.01	0.91	5.42	3.64	0.92	8.19	4.90	0.58

*Note.* YouthCoh Comp = Composite variable of youth perceptions of neighborhood cohesion, YouthDis Comp = Composite variable of youth perceptions of neighborhood problems, ParentCoh Comp = Composite variable of parent perceptions of neighborhood cohesion, ParentDis Comp = Composite variable of parent perceptions of neighborhood problems. A dash (--) indicates the diagonal.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 3. Correlations, means, and standard deviations year 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>1. Obj Neigh Comp3</b>	1														
<b>2. YouthCoh Comp3</b>	0.02	1													
3. Support3	-0.01	0.87**	1												
4. Activity3	0.03	0.85**	0.61**	1											
5. Friend3	0.04	0.84**	0.60**	0.55**	1										
<b>6. YouthDis Comp3</b>	0.13*	-0.09	-0.18**	0.04	-0.08	1									
7. Gangdrug3	0.18**	-0.10	-0.18**	0.02	-0.09	0.93**	1								
8. Behprob3	0.07	-0.06	-0.16*	0.06	-0.06	0.93**	0.73**	1							
<b>9. ParentCoh Comp3</b>	0.10	-0.11	-0.10	-0.06	-0.11	0.23**	0.21**	0.22**	1						
10. Neigh Cohes3	0.09	-0.07	-0.05	-0.04	-0.09	0.20**	0.18*	0.18*	0.88**	1					
11. Neigh Invol3	0.08	-0.12	-0.14	-0.07	-0.09	0.22**	0.20**	0.21**	0.88**	0.52**	1				
<b>12. ParentDis Comp3</b>	0.04	-0.17*	-0.22**	-0.19*	-0.03	0.23**	0.23**	0.19*	0.21**	0.19*	0.16*	1			
13. Neigh Prob3	-0.01	-0.15	-0.20**	-0.17*	-0.01	0.24**	0.24**	0.21**	0.25**	0.24**	0.19*	0.95**	1		
14. Neigh Decay3	0.07	-0.17*	-0.21**	-0.18*	-0.05	0.19*	0.20**	0.15*	0.14	0.11	0.11	0.95**	0.81**	1	
<b>15. Aggression3</b>	0.02	-0.03	-0.12	0.07	-0.02	0.37**	0.35**	0.34**	-0.04	-0.07	-0.01	0.03	0.06	0.01	1
Mean	0.00	0.00	5.32	3.95	6.73	0.00	7.3	9.8	-0.02	13.70	7.02	-0.00	14.86	6.84	0.00
SD	0.74	0.85	3.66	2.75	3.59	0.93	5.91	6.27	0.88	6.67	3.50	0.95	7.61	4.87	0.57

Note. YouthCoh Comp = Composite variable of youth perceptions of neighborhood cohesion, YouthDis Comp = Composite variable of youth perceptions of neighborhood problems, ParentCoh Comp = Composite variable of parent perceptions of neighborhood cohesion, ParentDis Comp = Composite variable of parent perceptions of neighborhood problems. A dash (--) indicates the diagonal.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

The final noteworthy correlations were between parent and youth perceptions. Year 1 youth perceptions of neighborhood support were positively and significantly correlated with parent perceptions of neighborhood involvement. This suggested that parents and youth had parallel views of their neighborhoods' positive engagement at year 1. However, year 2 and 3 youth and parent perceptions were more variable. For instance, year 2 youth perception of neighborhood support was significantly and negatively correlated with parent perceptions of neighborhood cohesion. Additionally, youth perceptions of neighborhood disadvantage were significantly and positively correlated with parent perceptions of neighborhood cohesion for year 2, and there was also a significant negative correlation between youth perceptions of neighborhood cohesion and parent perceptions of neighborhood disadvantage. These results indicated that youth and parents had significant discrepant views of their neighborhoods' support at year 2.

Similar correlations were found in year 3. For example, year 3 youth perceptions of neighborhood cohesion were significantly and negatively correlated with parent report of neighborhood disadvantage, and year 3 youth perceptions of neighborhood disadvantage were significantly and positively correlated with parent report of neighborhood cohesion and neighborhood disadvantage. Overall, the correlation analyses indicated there was an increase in the significant correlations between parent and youth report of neighborhood perceptions from years 1 to 3, and that despite being correlated, youth and perceptions were not always consistent.

### **Hierarchical Linear Modeling Analysis**

Given the longitudinal and repeated measures design of the data, hierarchical linear modeling (HLM) using HLM 6.08 was used to analyze the study's primary aims. HLM accounts for shared variance in within-subjects designs with multiple data points across time, allows for the estimation of different numbers of individual observations, and provides estimates of variance for individual and inter-individual variance across time (Wood & Zhu, 2006). Specifically, HLM allows for the examination of nested data. In this study's case, individual perceptions and reports of aggression were nested in the neighborhoods in which the participants lived. Thus, this study constructed two-level hierarchical (or nested) models. The first level examined the parent and youth individual perception variables, as well as youth reported aggression. The second level examined the objective neighborhood characteristics.

The first aim of the study was to determine whether there were changes in aggression over time among the urban, low-income African American youth who were sampled. In order to do this an unconditional random coefficients model was constructed to obtain the average initial levels of aggression and the average slope of aggression. This model also determined if there was significant variation in the intercept and slope for aggression. The following model was used to test hypothesis 1:

$$\begin{array}{ll} \text{Level 1:} & Y_{it} = \pi_{0i} + \pi_{1i}(\text{Year}) \\ \text{Level 2:} & \pi_{0i} = \beta_{00} \\ & \pi_{1i} = \beta_{10} \end{array}$$

Results indicated that there was a negative correlation between the intercept and slope (-.34), suggesting that there was a moderate relation between where participants



started and how quickly their reported levels of aggression changed over time. In other words, the higher the initial level of aggression youth reported, the less change the youth experienced in his/her level of aggression. Examination of fixed effects indicated that the average initial level of aggression for all participants,  $\beta_{00} = 0.005$ ,  $SE = 0.06$ , was not significantly different from zero,  $t(302) = 0.087$ ,  $p = .93$ . However, since the youth aggression variable was standardized, the average initial rate of aggression was not expected to be different than zero. In other words, these results should not be interpreted to mean that youth aggression was non-existent. The average slope for aggression across individuals,  $\beta_{01} = 0.019$ ,  $SE = 0.037$ , was also not significantly different from zero,  $t(302) = 0.504$ ,  $p = .61$  (see Table 4). This indicated that although there was a negative relationship between initial levels of youth aggression and rate of change, on average, there was no change in aggression over the course of the three years, when averaging all youth reports of aggression. Interestingly, examination of variance components revealed that both the intercept,  $\tau_{00} = .53$ ,  $\chi^2 = 528.69$  ( $df = 253$ ,  $p < .01$ ) and slope terms varied across participants,  $\tau_{10} = .07$ ,  $\chi^2 = 314.14$  ( $df = 253$ ,  $p < .01$ ), indicating that participants differed significantly in initial levels of aggression as well as their rate of change across time (see Table 5 and Figure 1). The significant variability in initial levels of aggression and in the changes in aggression across the three years merited an examination of the predictors of aggression.

In order to test the second aim of the study, determining which factors contributed to the differences in levels of initial aggression as well as the rate of change in aggression across time, a second unconditional model was constructed to include individual level

Table 4. Fixed effects for the unconditional level 1 model (aggression across the 3 years)

Fixed effect	Coefficient	SE	t ratio
Mean initial status, $\beta_{00}$	.01	.06	.09
Mean growth rate, $\beta_{10}$	.02	.04	.50

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 5. Random effects for the unconditional level 1 model (aggression across the 3 years)

Fixed effect	Coefficient	SE	t ratio
Initial Status, R0	.53	253	528.69***
Growth Rate, R1	.07	253	314.13**
Level 1, E	.48		

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

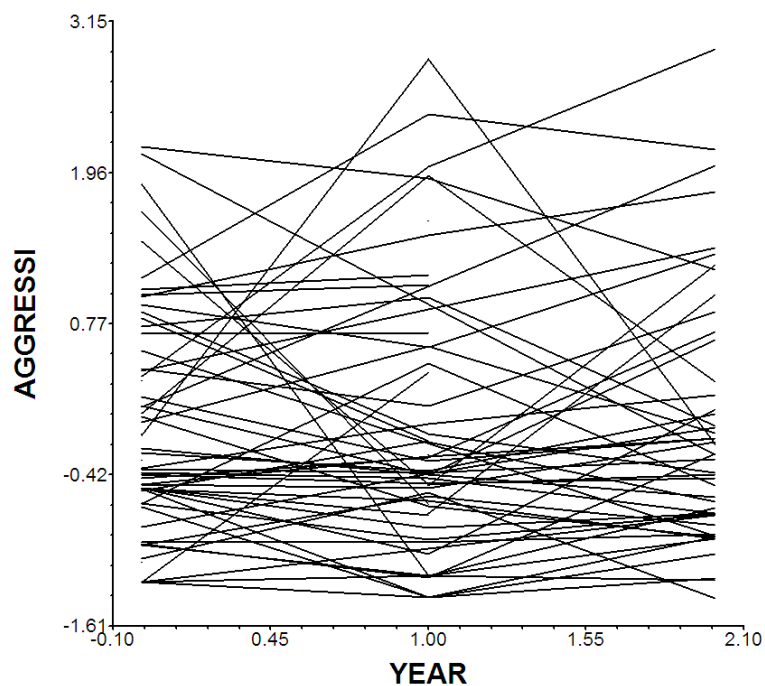


Figure 1. Individual slopes of youth aggression for a random sample of cases.

predictors. Thus, at the first level, the youth and parent perception composite variables (one for each year) were added. The following model was used:

$$\begin{array}{ll} \text{Level 1:} & Y_{it} = \pi_{0i} + \pi_{1i}(\text{Perception Variable}) \\ \text{Level 2:} & \pi_{0i} = \beta_{00} \\ & \pi_{1i} = \beta_{10} \end{array}$$

Examination of fixed effects revealed that, on average, there was no effect of youth perceptions of neighborhood cohesion,  $\beta_{00} = 0.04$ ,  $t(297) = 0.88$ ,  $p = .38$ , youth perceptions of neighborhood disadvantage,  $\beta_{00} = 0.01$ ,  $t(299) = 0.27$ ,  $p = .79$ , parent perceptions of neighborhood cohesion,  $\beta_{00} = 0.07$ ,  $t(248) = 1.21$ ,  $p = .23$ , or parent perceptions of neighborhood disadvantage,  $\beta_{00} = 0.06$ ,  $t(248) = 1.14$ ,  $p = .26$  on the initial level or intercept of aggression (Table 6). When examining the changes in aggression across the three years, neither youth perceptions of neighborhood cohesion,  $\beta_{10} = 0.05$ ,  $t(297) = 0.98$ ,  $p = .33$ , parent perceptions of neighborhood cohesion,  $\beta_{10} = 0.41$ ,  $t(248) = 1.01$ ,  $p = .31$ , nor parent perceptions of neighborhood disadvantage,  $\beta_{10} = 0.06$ ,  $t(248) = 1.31$ ,  $p = .19$ , were significant predictors. Interestingly, youth perceptions of neighborhood disadvantage was the only significant predictor of changes in aggression,  $\beta_{10} = .26$ ,  $t(299) = 6.56$ ,  $p < .001$ , indicating that as negative youth perceptions increased, so did youth aggression across the three years. Furthermore, examination of variance components revealed that the variance in the slope of aggression was no longer significant,  $\tau_{10} = .02$ ,  $\chi^2 = 256.84$  ( $df = 253$ ,  $p = .35$ ) when the negative youth perceptions variable was in the model, indicating that negative youth perceptions explained most of the variability in the changes in aggression (Table 7).

Table 6. Fixed effects for the unconditional level 1 model (perception variables as predictors)

Fixed effect	Coefficient	SE	t ratio
<u>Model for initial aggression, P0</u>			
YouthCoh, $\beta_{00}$	.04	.05	.89
YouthDis, $\beta_{00}$	.01	.05	.27
ParentCoh, $\beta_{00}$	.07	.05	1.21
ParentDis, $\beta_{00}$	.06	.05	1.14
<u>Model for growth rate of aggression, P1</u>			
YouthCoh, $\beta_{10}$	.05	.05	.98
YouthDis, $\beta_{10}$	.26	.04	6.68***
ParentCoh, $\beta_{10}$	.04	.04	1.02
ParentDis, $\beta_{10}$	.06	.04	1.32

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 7. Random effects for the unconditional level 1 model (for youthdis: Youth perception of neighborhood disadvantage)

Fixed effect	Variance component	df	$\chi^2$
Initial Status, R0	.38	249	492.43***
Growth Rate, R1	.02	249	256.84
Level 1, E	.54		

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

In order to further probe the predictive value of the individual youth and parent perceptions of neighborhood cohesion, the individual cohesion subscales were then independently placed in the unconditional model. This analysis demonstrated that none of the five individual youth and parent perception variables were significant predictors of the initial levels of aggression; youth perception of cohesive neighborhood *activity*,  $\beta_{00} = 0.04$ ,  $t(297) = 0.82$ ,  $p = .42$ ; youth perception of neighborhood *support*,  $\beta_{00} = 0.04$ ,  $t$

(297) = 0.74,  $p = .46$ ; youth perception of *friendliness* towards neighbors,  $\beta_{00} = 0.05$ ,  $t$  (297) = 0.77,  $p = .44$ ; parent perception of *neighborhood cohesion*,  $\beta_{00} = 0.07$ ,  $t$  (247) = 1.29,  $p = .20$ ; parent perception of *neighborhood involvement*,  $\beta_{00} = 0.07$ ,  $t$  (248) = 1.23,  $p = .22$ . Fixed effects of the slope of aggression indicated that four of the five individual perception variables were not significant predictors of aggression, and therefore, did not significantly predict the changes in aggression across the three years; youth perception of *neighborhood support*,  $\beta_{10} = -.06$ ,  $t$  (297) = -1.58,  $p = .12$ ; youth perception of *friendliness* towards neighbors,  $\beta_{10} = 0.03$ ,  $t$  (297) = 0.84,  $p = .40$ ; parent perception of *neighborhood cohesion*,  $\beta_{10} = 0.03$ ,  $t$  (247) = .82,  $p = .42$ ; parent perception of *neighborhood involvement*,  $\beta_{10} = 0.03$ ,  $t$  (508) = .78,  $p = .44$  (see Table 8). However, there

Table 8. Fixed effects for the unconditional level 1 model (perception of neighborhood cohesion subscales as predictors)

Fixed effect	Coefficient	SE	$t$ ratio
<u>Model for initial aggression, P0</u>			
YouthCohActivity, $\beta_{00}$	.04	.05	.82
YouthCohSupport, $\beta_{00}$	.04	.05	.74
YouthCohFriend, $\beta_{00}$	.04	.05	.77
ParentNeighCoh, $\beta_{00}$	.07	.05	1.29
ParentNeighInvol, $\beta_{00}$	.07	.05	1.23
<u>Model for growth rate of aggression, P1</u>			
YouthCohActivity, $\beta_{10}$	.10	.04	2.62*
YouthCohSupport, $\beta_{10}$	-.06	.04	-1.58
YouthCohFriend, $\beta_{10}$	.03	.04	.84
ParentNeighCoh, $\beta_{10}$	.03	.04	.82
ParentNeighInvol, $\beta_{10}$	.03	.04	.78

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

To determine whether objective neighborhood characteristics contributed to the initial level or changes in aggression, a conditional model was created to include the neighborhood characteristic composite (NC) variables at level 2.

$$\begin{aligned} \text{Level 1: } & Y_{it} = \pi_{0i} + \pi_{1i}(\text{Time}) \\ \text{Level 2: } & \pi_{0i} = \beta_{00} + \beta_{01}(\text{NC Yr1}) + \beta_{02}(\text{NCYr2}) + \beta_{03}(\text{NCYr3}) \\ & \pi_{1i} = \beta_{10} + \beta_{11}(\text{NC Yr1}) + \beta_{12}(\text{NCYr2}) + \beta_{13}(\text{NCYr3}) \end{aligned}$$

Table 9. Random effects for the unconditional level 1 model (for youthactivity: Youth perception of cohesive neighborhood activity subscale)

Fixed effect	Variance component	<i>df</i>	$\chi^2$
Initial Status, R0	.44	246	532.80***
Growth Rate, R1	.07	246	296.69*
Level 1, E	.48		

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

This analysis showed that neighborhood characteristics significantly predicted both the initial level of aggression and the rate of change in aggression (see Table 10) across the three years; neighborhood characteristics year 1,  $\beta_{01} = -48.12$ ,  $t(299) = -2.25$ ,  $p < .05$ ,  $\beta_{11} = 40.34$ ,  $t(299) = .63$ ,  $p < .01$ ; neighborhood characteristics year 2,  $\beta_{02} = 77.20$ ,  $t(299) = 2.19$ ,  $p < .05$ ,  $\beta_{12} = -65.11$ ,  $t(299) = -2.93$ ,  $p < .01$ ; neighborhood characteristics year 3,  $\beta_{03} = -28.74$ ,  $t(299) = -2.08$ ,  $p < .05$ ,  $\beta_{13} = 24.53$ ,  $t(299) = 2.82$ ,  $p < .01$ . These results revealed that over the three years, objective neighborhood characteristics accounted for significant variability in both the average initial start of aggression and the changes in aggression. Generally, the HLM coefficients indicated that there was a positive relationship between objective neighborhood characteristics and youth aggression, meaning that as objective neighborhood disadvantage increased, so did

Table 10. Fixed effects for the conditional level 2 model (neighborhood characteristics; NC)

Fixed effect	Coefficient	SE	t ratio
<u>Model for initial aggression, P0</u>			
Intercept, $\beta_{00}$	-.01	.06	-.20*
NC Yr1, $\beta_{01}$	-48.12	21.38	-2.25*
NC Yr 2, $\beta_{02}$	77.20	35.26	2.19*
NC Yr 3, $\beta_{03}$	-28.74	13.80	-2.08*
<u>Model for growth rate of aggression, P1</u>			
Intercept, $\beta_{10}$	.02	.04	.63
NC Yr1, $\beta_{11}$	40.34	13.49	2.99**
NC Yr2, $\beta_{12}$	-65.11	22.24	-2.93**
NC Yr3, $\beta_{13}$	24.53	8.70	2.82**

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

youth aggression. Notably, several of the HLM coefficients were negative, which indicated the inverse relationship. However, because the objective neighborhood characteristics were highly correlated, the negative coefficients could likely be due to multicollinearity, and should thus, be interpreted with caution. Nonetheless, even after adding these neighborhood-level variables, there was still significant variation in initial aggression scores and in the rate of change in aggression (see Table 11).

Table 11. Random effects for the conditional level 2 model (neighborhood characteristics)

Fixed effect	Variance component	df	$\chi^2$
Initial Status, R0	.50	250	512.11***
Growth Rate, R1	.05	250	299.35
Level 1, E	1.33		

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

The final aim of the study was to examine the interaction between neighborhood characteristics and the parent and youth perception variables in predicting youth aggression. Examining the interaction between perceptions of neighborhood cohesion and objective neighborhood disadvantage in the development of aggression was a particularly important part of this analysis because neighborhood cohesion was hypothesized to provide a buffer against the development of youth aggression. In order to evaluate these research questions, the previous conditional model was replicated to include youth and parent perception variables at level 1 and neighborhood characteristic variables at level 2.

$$\begin{aligned} \text{Level 1: } & Y_{it} = \pi_{0i} + \pi_{1i}(\text{Perception Variable}) \\ \text{Level 2: } & \pi_{0i} = \beta_{00} + \beta_{01}(\text{NC YrX}) \\ & \pi_{1i} = \beta_{10} + \beta_{11}(\text{NC YrX}) \end{aligned}$$

The final estimation of fixed effects analysis revealed that the youth and parent perceptions of neighborhood cohesion composite variables did not interact with objective neighborhood characteristics to predict neither initial levels of aggression nor changes in aggression across the three years (see Table 12). However, youth perceptions of neighborhood disadvantage were marginally significant moderators of the relationship between neighborhood objective characteristics and aggression at year 3, but only with regard to the slope, or change in aggression,  $\beta_{11} = .09$ ,  $t(298) = 1.68$   $p = .09$ . This indicated that the relationship between objective neighborhood characteristics and youth perceptions of neighborhood disadvantage marginally interacted to predict the increases in youth aggression in year 3 or eighth grade. That is, higher levels of youth perceptions of neighborhood disadvantage were marginally related to steeper increases in the slope of



objective neighborhood characteristics and youth aggression. The parent perceptions of neighborhood disadvantage variable was also trending towards significance in year 3 as a moderator of the relationship between neighborhood characteristics and youth aggression, (both slope and intercept),  $\beta_{01} = .13$ ,  $t(247) = 1.72$ ,  $p = .086$ ,  $\beta_{11} = .10$ ,  $t(247) = 1.63$ ,  $p = .10$ , indicating that the higher the parent perceptions of neighborhood disadvantage, the stronger the relationship between neighborhood characteristics and youth aggression. Collectively, these results suggest that youth and parent perceptions of neighborhood disadvantage were the variables most likely to interact with objective neighborhood characteristics in the development of youth aggression. Additionally, interaction effects seemed to be stronger in 8<sup>th</sup> grade, as opposed to 6<sup>th</sup> and 7<sup>th</sup> grade.

Table 12. Fixed effects for the conditional level 2 model (interaction effects)

Fixed effect	Coefficient	SE	t ratio	p value
<u>Model for initial aggression, P0</u>				
Intercept, $\beta_{00}$	.05	.05	.98	
ParentDis-NC Yr 3, $\beta_{01}$	.13	.05	1.72	.09
<u>Model for growth rate of aggression, P1</u>				
Intercept, $\beta_{10}$	.26	.04	6.72	
YouthDis-NC Yr 3, $\beta_{10}$	.09	.05	1.68	.09
Intercept, $\beta_{10}$	.04	.04	1.05	
ParentDis-NC Yr 3, $\beta_{10}$	.10	.06	1.63	.10

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## **CHAPTER FIVE**

### **DISCUSSION**

The present study had three primary goals. The first goal was to examine the trajectories of aggression among urban, low-income African American youth. Specifically, the purpose was to determine whether youth experienced increases in aggression across the three years of data collection. The two additional aims were to determine whether objective and subjective neighborhood characteristics predicted the changes in aggression, and whether they interacted in the development of aggression. The findings will be discussed with respect to each of these goals.

#### **Trajectories of Aggression**

The first goal of the study was largely exploratory, as research regarding the trajectories of aggression among youth who reside in urban low-income neighborhoods is scarce. Nonetheless, in contrast to the hypothesized increases in aggression across time, this study found that, on average and as a group, youth did not experience significantly different changes in aggression across the three years. Interestingly, there was a negative correlation between the average initial level of aggression and the average slope or change in aggression. This indicated that the higher the initial level of aggression youth reported, the less change the youth experienced in his/her level of aggression. Previous research has also found that youth with higher initial levels of externalizing behavior experience slower declines in aggressive behavior (Shaw, Gilliom, Ingoldsby, & Nagin,

2003). These findings are consistent with research on conduct disorder and oppositional defiant disorder. Youth who demonstrate extreme forms of conduct problems, delinquency, and aggression are more likely to suffer from pervasive psychopathology and exhibit more stable patterns of antisocial behavior across their development (Hinshaw & Lee, 2003; Moffit, 1993).

In addition to detecting a negative correlation between average initial level and slope of aggression, results showed that there was significant variability in both the initial levels of aggression and changes in aggression between participants. Similar findings are reported in the literature of externalizing behavior (Miner & Clarke-Stewart, 2008). The variable rates of change in externalizing behavior across development seem to depend on a variety of factors (Bongers et al., 2003; Miner & Clarke-Stewart, 2008). The existence of significant variability in aggression between the youth in this study merited an examination of factors that could be predictive of aggression.

### **Predictors of Aggression**

The second aim of the study was to examine the predictive effects of objective neighborhood disadvantage, and youth and parent perceptions of neighborhood cohesion and disadvantage. Although all of the six neighborhoods that were examined had much higher rates of poverty, crime, single-mother headed households, and residents not graduating high school than other communities in Chicago, there was still enough variability within these six neighborhoods to find a relationship with aggression (CPD, 1999, 2000, 2001; U.S. Census, 2000). Thus, objective neighborhood characteristics were examined in order to determine whether a composite of crime, poverty, education level, and single-mother headed households predicted youth aggression. In line with

decades of research on the effects of neighborhood on individual outcomes, this study found that the composite of objective neighborhood disadvantage significantly predicted the initial levels as well as the changes in aggression across the three years of data collection. More objective neighborhood disadvantage was predictive of higher initial levels of aggression and steeper increases in aggression. Again, this finding was expected given the robust literature supporting the link between objective neighborhood disadvantage and delinquency and aggression (Brooks-Gunn et al., 1993; Sampson et al., 2002; Shaw & McKay, 1942). However, it should be noted that there are both direct and indirect links between the objective neighborhood characteristics and youth outcomes (Garbarino, 1982; Sampson et al., 2002). As discussed earlier, neighborhoods are thought to influence individual behavior through mechanisms, such as perceptions of neighborhood (Jencks & Mayer, 1990; Sampson, Morenoff, & Gannon-Rowley, 2002). The results from this study support the research regarding neighborhood mechanisms of change; indeed, variance components revealed that there was still significant variability to be explained in aggression despite the highly predictive role of objective neighborhood disadvantage.

The two mechanisms that affected the youths' reported aggression were youth perceptions of neighborhood disadvantage and youth perceptions of cohesive neighborhood activity. The composite of youth perceptions of neighborhood disadvantage was the primary predictor of the changes in youth reported aggression. Specifically, the urban low-income African American youth in this sample were more aggressive if they perceived their neighborhood to be more disadvantaged. Past research has also found a positive relationship between perception of neighborhood disadvantage

and youth aggression (Byrnes et al., 2007; Colder et al., 2000). Unlike the studies by Byrnes et al. (2007) and Colder et al. (2000), the results of this study indicated that youth perceptions of neighborhood disadvantage were consistent predictors of youth aggression across 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade. This finding is important because according to the literature on conduct disorder, youth typically begin to experience a decline in aggressive behavior before early adolescence (Hinshaw & Lee, 2003; Shaw et al., 2003). Thus, it seems that youth who perceive their neighborhoods to be disadvantaged exhibit more aggression despite the developmental tendency for aggressive behavior to taper off at this age.

To further probe this finding, post-hoc analyses were conducted examining correlations between the individual items on the measures that comprised the youth perceptions of neighborhood disadvantage and youth aggression. This analysis revealed that youth perceptions of gang and drug activity in their neighborhood were significantly and positively correlated with their reports of aggression. Specific items that were highly correlated with youth aggression were “drugs are sold” in my neighborhood and there is “street gang activity” in my neighborhood. These findings highlight the fact that perhaps youth perceptions of specific types of problematic and delinquent neighborhood activities are more related to aggression. Interestingly, perceptions of social disorganization among incarcerated adult male gang members have been linked to increased reported offending behavior (Fox, Lane, & Akers, 2010), which supports this study’s finding that perceptions of neighborhood disadvantage predict aggression.

The final perception variable that significantly predicted changes in aggression was youth perceptions of cohesive neighborhood *activity*. Youth who endorsed more perceptions of cohesive neighborhood activity (e.g. “there is a place for kids my age to

hang out in my neighborhood”) reported more aggression. Although this finding was not expected, it is sensible considering the findings from the literature on social mechanisms of behavior and on social learning theory.

In their comprehensive review of the neighborhood-level mechanisms that promote individual behavior, Sampson and colleagues (2002) underscored the importance of social cohesion (“social ties”) and perceived neighborhood disorder. Specifically, they identified studies that found a direct link between perceived disorder and crime (Sampson & Raudenbush, 1997), as well as between social cohesion and gang/criminal activity (Morenoff, Sampson, & Raudenbush, 2001; Pattillo-McCoy 1999). What do perceptions of neighborhood/social cohesion and perceptions of neighborhood disorder/disadvantage have in common? Simply put, both sets of thoughts or mechanisms of behavior are working under the principles of social learning theory (Bandura, 1978) and the contagion or epidemic model (Jencks & Mayer, 1990).

Bandura (1978) was among the first to suggest that aggression is learned and maintained through social processes. First, aggression is modeled by senior residents, then replicated by those who observed the aggression (typically children), and finally socially reinforced through social interactions, and thus, perpetuated. Therefore, it seems that residents who live in communities with high rates of aggression likely emulate the aggression they observe because it has become a common learned behavior. Similarly, epidemic or “contagion” models of aggression also theorize that aggressive behaviors are shared among members of a community. Jencks and Mayer (1990) argue that residents of a confined geographical space are likely to share the same attitudes, beliefs, and behaviors even if they are deemed inappropriate or illegal by the majority of the

population. Thus, in close-knit communities where aggression is common, aggressive activity is propagated because it represents a connection or a shared characteristic among community members. These two theories explain the three main effect findings of this study. First, objective neighborhood disadvantage is observed by residents. Second, social learning theory suggests that the aggressive behaviors related to objective neighborhood disadvantage (e.g. crime) are modeled by senior members of the neighborhood and learned and replicated by junior members. Finally, the aggressive and socially maladjusted behaviors are maintained through models of social contagion because they represent a commonality or cohesion among neighbors.

Findings regarding the third aim of this study provide further support that individual perceptions and objective neighborhood characteristics interact in the development of youth aggression. The results of the interaction analysis found that the higher the youth and parent perceptions of neighborhood disadvantage, the stronger the relationship between objective neighborhood characteristics and youth aggression. Although these results were not statistically significant, they trended towards significance suggesting that further analyses are needed to determine the degree to which the variables interact.

Further exploration of youth and parent perceptions is also merited, given that the correlation analysis revealed that youth and parent perceptions, although at times correlated, were not always consistent. Many studies examine parent perceptions and parent report of youth aggression exclusively (Deng et al., 2006; Miner et al., 2008). This study's findings suggest that youth perceptions are more accurate predictors of aggression. The developmental time period during which data were collected could have

influenced these results. Early adolescence, which is when youth and parents were surveyed, represents a time during which youth begin to encounter experiences that are independent of their parents and caregivers (Holmbeck, 1996). Therefore, it seems that during preadolescence and adolescence, youth may be more accurate reporters of their own behavior and of the individual-level variables influencing their behavior.

Collectively, the current study's results suggest that youth perceptions are perhaps more important in the development of aggression than parent perceptions. These findings have implications for research on prevention and intervention of youth aggression, especially with regards to community engagement or community-based participatory research. These topics will be discussed in the conclusions and implications section.

### **Strengths, Limitations, and Future Directions**

The present study had several strengths. First, it contributed to the dearth of literature on the trajectories of aggression among urban low-income African American youth. Not only did the study examine the trajectory of aggression across three years (i.e. longitudinal data), but also the three years that were examined (6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade) represent a pivotal point with regard to youth socialization and aggression (Vazsonyi & Keiley, 2007). This study determined that 8<sup>th</sup> grade seemed to be the most influential year with regard to youth aggression. Secondly, this is the first known study that examined the effects of individual youth and parent perceptions of neighborhood in relation to youth aggression. As mentioned earlier, most studies that examine the predictors of youth aggression rely solely on parent report. This study demonstrated that perhaps youth are more reliable reporters of their behavior and of the factors that influence their behavior. Third, this is the only known study that employed a multi-level



analysis to examine the role of individual perceptions of neighborhood along with objective neighborhood characteristics in the development of youth aggression.

Regression analysis is the typical statistical procedure utilized when examining predictors of individual outcomes. However, regression does not take into account the interdependent nature of variables that represent different contexts. The ability of HLM to account for variance in nested data makes it a superior method of analysis (Roosa et al., 2003). Finally, this study highlighted the importance of developmental context when examining youth outcomes. Indeed, child outcomes are based on how parents and children organize, adapt to, and shape their immediate environments (Bronfenbrenner, 1979; Garbarino, 1982, 1995). This study demonstrated the effects of multiple environmental mechanisms in the development of youth aggression, and thus, emphasized the need to continue examining role of context in the development of youth aggression.

Despite the contributions this paper makes to the literature on youth aggression, several limitations should be discussed. The first limitation concerns the external validity of the sample. Although it was the intention of this project to examine the predictors of aggression among urban low-income African American youth, a lack of a diverse sample prevents comparisons from being made across groups, and thus, makes it difficult to generalize the findings to other populations. Second, because the data from this study were part of a larger study that was conducted several years ago, it was impossible to include ideal measures of aggression. Ideally, multiple reporters (e.g. parents and teachers) of youth aggression should have been examined in order to acquire a complete picture of the youths' behavior. The third limitation deals with the composite perception

and objective neighborhood characteristic variables that were developed. Composite variables are beneficial because they capture the multiple factors that contribute to a construct. However, when composite variables are used, it is assumed that all the factors comprising the composite are equally important and influential to the construct. This assumption prevents the detection of the variables that are most influential to the construct. The final limitation involves the sample size as well as the levels of analysis that were employed by the HLM software. The sample size in this study provided sufficient statistical power to examine the composite perception and objective neighborhood characteristic variables. Nonetheless, the interaction effects of the individual perception subscales could not be examined because there were not enough respondents to detect an effect across the 2-level models.

To combat these limitations, future studies should collect data from larger and more diverse samples, assess aggression through multi-reporter methods, and examine variables that are both aggregated composites and appropriately weighted. Furthermore, to make the full use of the HLM analysis, and to acquire an even broader picture of children's contextual development, variables from a third level should be examined. An examination of family characteristics and/or school environment could further elucidate the development of aggression among urban low-income African American youth. Finally, the recent link that was found between antisocial behavior and certain genetic traits, such as the neurotransmitter-metabolizing enzyme monoamine oxidase A (MAOA; Caspi et al., 2002) merit an evaluation of the chronosystemic (Bronfenbrenner, 1990) influences that affect youth aggression.

### **Conclusions and Implications**

The findings from this study emphasize the need to understand the mechanisms that influence aggression among urban low-income African American youth. In particular, the relationship between youth perceptions of neighborhood and objective neighborhood characteristics should be fully understood so that prevention and intervention efforts can appropriately target youth aggression. Interventions that implement community-based participatory action research (CBPAR) models would likely benefit from this study's findings because CBPAR models provide youth with a voice and with an opportunity to discuss how their perceptions affect their behavior (Bryant, 2000; Caldwell, Rafferty, Reischl, Loney, & Brooks, 2010; Marcus et al., 2004).

Finally, this study highlights the need to acquire a comprehensive view of youth development before making conclusions about youth outcomes. Youth do not develop as a result of just one environmental influence; their perceptions and individual characteristics need to also be considered in order to adequately capture their experiences (Bronfenbrenner, 1979; Garbarino, 1982; Roosa et al., 2003)

## REFERENCES

- Abada, T., Hou, F., & Ram, B. (2007). Racially mixed neighborhoods, perceived neighborhood social cohesion, and adolescent health in Canada. *Social Science & Medicine*, 65(10), 2004–2017.
- Aber, L. L. (1994). Poverty, violence, and child development: Untangling family and community level effects. In C. Nelson (Ed.), *Threats to optimal development: Integrating biological, psychological, and social risk factors* (vol. 27; pp. 229–272). Hillsdale, NJ: Erlbaum.
- Acosta, O., Albus, K. E., Reynolds, M. W., Spriggs, D., & Weist, M. D. (2001). Assessing the status of research on violence-related problems among youth. *Journal of Clinical Child Psychology*, 30(2), 152–160.
- Anderson, E. (1994, May). The code of the streets. *Atlantic Monthly*, 273, 81–93.
- Babinski, L. M., Hartsough, C. S., & Lambert, N. M. (1999). Childhood conduct problems, hyperactivity-impulsivity, and inattention as predictors of adult criminal activity. *Journal of Child Psychology and Psychiatry*, 40(3), 347–355.
- Bandura, A. (1978). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bongers, I. L., Koot, H. M., van der Ende, J., & Verhulst, F. C. (2003). The normative development of child and adolescent problem behavior. *Journal of Abnormal Psychology*, 112(2), 179–192.
- Broidy, L. M., Nagin, D. S., Tremblay, R. E., Bates, J. E., Brame, B., Dodge, K. A., . . . Vitaro, F. (2003). Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross-national study. *Developmental Psychology*, 39(2), 222–245.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U., & Evans, G. W. (2000). Developmental science in the 21st century: Emerging questions, theoretical models, research designs and empirical findings. *Social Development*, 9(1), 115–125.
- Brooks-Gunn, J., Duncan, G., Klebanov, P., & Sealander, N. (1993). Do neighborhoods affect child and adolescent development? *American Journal of Sociology*, 99(2), 353–295.

- Bryant, T. T. (2000). Together by choice: Black girls creating opportunities to empower themselves through participatory action research. *Dissertation Abstracts International* (UMI No. AAT 9967533).
- Buckner, J. C. (1988). The development of an instrument to measure neighborhood cohesion. *American Journal of Community Psychology, 16*(6), 771–791.
- Burton, L. M., Obeidallah, D. A., & Allison, K. (1996). Ethnographic insights on social context and adolescent development among inner-city African American teens. In D. Jessor, A. Colby, & R. Shweder (Eds.), *Ethnography and human development: Context and meaning in social inquiry* (pp. 395–418). Chicago, IL: University of Chicago Press.
- Burton, L. M., Price-Spratlen, T., & Beale Spencer, M. (1997). On ways of thinking about measuring neighborhoods: Implications for studying context and developmental outcomes for children. In J. Brooks-Gunn, G. J. Duncan, & J. L. Aber (Eds.), *Neighborhood poverty: Policy Implications in studying neighborhoods* (pp. 132–144). New York: Russell Sage.
- Byrnes, H. F., Chen, M., Miller, B. A., & Maguin, E. (2007). The relative importance of mothers' and youths' neighborhood perceptions for youth alcohol use and delinquency. *Journal of Youth and Adolescence, 36*(5), 649–659.
- Cairns, R. B., Cairns, B. D., Neckerman, H. J., Ferguson, L. L., & Garipey, J. (1989). Growth and aggression: Childhood to early adolescence. *Developmental Psychology, 25*(2), 320–330.
- Caldwell, C., Rafferty, J., Reischl, T., Loney, E., & Brooks, C. (2010). Enhancing parenting skills among nonresident African American fathers as a strategy for preventing youth risky behaviors. *American Journal of Community Psychology, 45*(1/2), 17–35.
- Caspi, A., McClay, J., Moffitt, T. E., Mill, J., Martin, J. Craig, I. A., . . . Poulton, R. (2002). Role of genotype in the cycle of violence in maltreated children. *Science, 297*, 851–854.
- Chipuer, H. M., Pretty, G. H., Delorey, E., Miller, M., Powers, T., . . . Laurent, K. (1999). The neighbourhood youth inventory: Development and validation. *Journal of Community & Applied Social Psychology, 9*(5), 355–368.
- Colder, C. R., Mott, J., Levy, S., & Flay, B. (2000). The relation of perceived neighborhood danger to childhood aggression: A test of mediating mechanisms. *American Journal of Community Psychology, 28*(1), 83–103.

- Cooley-Quille, M., Boyd, R., Frantz, E., & Walsh, J. (2001). Emotional and behavioral impact of exposure to community violence in inner-city adolescents. *Journal of Clinical Child Psychology, 30*, 199–206.
- Cradock, A. L., Kawachi, I., Colditz, G. A., Gortmaker, S. L., & Buka, S. L. (2009). Neighborhood social cohesion and youth participation in physical activity in Chicago. *Social Science & Medicine, 68*(3), 427–435.
- Deng, S., Lopez, V., Roosa, M. W., Ryu, E., Burrell, G. L., . . . Crowder, S. (2006). Family processes mediating the relationship of neighborhood disadvantage to early adolescent internalizing problems. *The Journal of Early Adolescence, 26*(2), 206–231.
- Fowler, P. J., Tompsett, C. J., Braciszewski, J. M., Jacques Tiura, A. J., & Baltes, B. B. (2009). Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology, 21*(1), 227–259.
- Fox, K. A., Lane, J., & Akers, R. L. (2010). Do perceptions of neighborhood disorganization predict crime or victimization? An examination of gang members versus non-gang member jail inmates. *Journal of Criminal Justice, 28*, 720–729.
- Furstenberg, F. F., & Hughes, M. E. (1995). Social capital and successful development in early adulthood. *Journal of Marriage and the Family, 57*(3), 580–592.
- Garbarino, J. (2001). An ecological perspective on the effects of violence on children. *Journal of Community Psychology, 29*(3), 361–378.
- Garbarino, J. (1999). *Lost boys*. New York, NY: Free Press.
- Garbarino, J. (1995). *Raising children in a socially toxic environment*. San Francisco, CA: Jossey-Bass.
- Garbarino, J. (1982). *Children and families in the social environment*. New York, NY: Aldine.
- Garbarino, J., Burston, N., Raber, S., Russell, R., & Crouter, A. (1978). The social maps of children approaching adolescence: Studying the ecology of youth development. *Journal of Youth and Adolescence, 7*(4), 417–428.
- Garbarino, J., Kostelny, K., & Dubrow, N. (1991). What children can tell us about living in danger. *American Psychologist, 46*(4), 376–383.
- Garner, C. L., & Raudenbush, S. W. (1991). Neighborhood effects on educational attainment: A multilevel analysis. *Sociology of Education, 64*, 251–262.

- Gilligan, J. (2001). *Preventing Violence*. New York, NY: Thames & Hudson.
- Gorman Smith, D., & Tolan, P. (1998). The role of exposure to community violence and developmental problems among inner-city youth. *Development and Psychopathology*, *10*(1), 101–116.
- Guerra, N. G., Huesmann, L. R., Tolan, P. H., Van Acker, R., & Eron, L. D. (1995). Stressful events and individual beliefs as correlates of economic disadvantage and aggression among urban children. *Journal of Consulting and Clinical Psychology*, *63*(4), 518–528.
- Henry, D. B., Tolan, P. H., & Gorman Smith, D. (2001). Longitudinal family and peer group effects on violence and nonviolent delinquency. *Journal of Clinical Child Psychology*, *30*(2), 172–186.
- Hinshaw, S. P., & Lee, S. S. (2003). Conduct and oppositional defiant disorders. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (2nd ed.; pp. 144–198). New York, NY: Guilford Press.
- Holmbeck, G. N. (1996). A model of family relational transformations during the transition to adolescence: Parent-adolescent conflict and adaptation. In J. A. Garber, J. Brooks-Gunn, & A. C. Petersen (Eds.), *Transitions to adolescence: Interpersonal domains and context* (pp. 167–199). Mahwah, NJ: Erlbaum.
- Hyson, M. C., & Bollin, G. G. (1990). Children's appraisal of home and neighborhood risks: Questions for the 1990s. *Children's Environments Quarterly*, *7*(3), 50–60.
- Jencks, C., & Mayer, S. E. (1990). The social consequences of growing up in a poor neighborhood. In I. Tyrus & M. Geary (Eds.), *Inner-city poverty in the United States* (pp. 111–186). Washington, DC: National Academy Press.
- Kliewer, W., Cunningham, J. N., Diehl, R., Parrish, K. A., Walker, J. M., . . . Mejia, R. (2004). Violence exposure and adjustment in inner-city youth: Child and caregiver emotion regulation skill caregiver-child relationship quality, and neighborhood cohesion as protective factors. *Journal of Clinical Child and Adolescent Psychology*, *33*(3), 477–487.
- Lambert, S. F., Brown, T. L., Phillips, C. M., & Ialongo, N. S. (2004). The relationship between perceptions of neighborhood characteristics and substance use among urban african american adolescents. *American Journal of Community Psychology*, *34*(3–4), 205–218.
- Lee, B. A., & Campbell, K. E. (1997). Common grounds? Urban neighborhoods as survey respondents see them. *Social Science Quarterly*, *78*, 922–936.
- Loeber, R., & Farrington, D. P. (2001). *Child delinquents*. Thousand Oaks, CA: Sage.

- Marcus, M., Walker, T., Swint, J., Smith, B., Brown, C., Busen, N. (2004). Community-based participatory research to prevent substance abuse and HIV/AIDS in African-American adolescents. *Journal of Interprofessional Care, 18*(4), 347–359.
- Mason, C. A., Cauce, A. M., Gonzales, N., Hiraga, Y., & Grove, K. (1994). An ecological model of externalizing behaviors in African American adolescents: No family is an island. *Journal of Research on Adolescence, 4*, 639–655.
- Miner, J. L., & Clarke-Stewart, A. (2008). Trajectories of externalizing behavior from age 2 to age 9: Relations with gender, temperament, ethnicity, parenting and rater. *Developmental Psychology, 44*(3), 771–786.
- Mistry, R. S., Vandewater, E. A., Huston, A. C., & McLoyd, V. C. (2002). Economic well-being and children's social adjustment: The role of family process in an ethnically diverse low-income sample. *Child Development, 73*(3), 935–951.
- Moeller, T. G. (2001). *Youth aggression and violence: A psychological approach*. Mahwah, NJ: Erlbaum.
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674–701.
- Morenoff, J. D., Sampson, R. J., & Raudenbush, S. W. (2001). Neighborhood inequality, collective efficacy, and the spatial dynamics of homicide. *Criminology, 39*(3), 517–560.
- Ogders, C. L., Moffitt, T. E., Tach, L. M., Sampson, R. J., Taylor, A., . . . Caspi, A. (2009). The protective effects of neighborhood collective efficacy on british children growing up in deprivation: A developmental analysis. *Developmental Psychology, 45*(4), 942–957.
- Ortiz, V., Richards, M., Kohl, K., & Zaddach, C. (2008). Trauma symptoms among urban African American young adolescents: A study of daily experience. *Journal of Child & Adolescent Trauma, 1*(1), 1–18.
- Owens, E. B., & Shaw, D. S. (2003). Predicting growth curves of externalizing behavior across the preschool years. *Journal of Abnormal Child Psychology: An Official Publication of the International Society for Research in Child and Adolescent Psychopathology, 31*(6), 575–590.
- Patillo-McCoy, M. (1999). *Black picket fences: Privilege and peril among the Black middle class*. Chicago, IL: University Chicago Press.
- Raudenbush, S. W. Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage.



- Richters, J. E., & Martinez, P. E. (1993). Violent communities, family choices, and children's chances: An algorithm for improving the odds. *Development and Psychopathology*, 5(4), 609–627.
- Roosa, M. W., Jones, S., Tein, J., & Cree, W. (2003). Prevention science and neighborhood influences on low-income children's development: Theoretical and methodological issues. *American Journal of Community Psychology*, 31(1–2), 55–72.
- Ross, C. E., & Jang, S. J. (2000). Neighborhood disorder, fear, and mistrust: The buffering role of social ties with neighbors. *American Journal of Community Psychology*, 28(4), 401–420.
- Sampson, R. J. (1987). Urban black violence: The effect of male joblessness and family disruption. *American Journal of Sociology*, 93, 348–382.
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing neighborhood effects: Social processes and new directions in research. *Annual Review of Sociology*, 28, 443–78.
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277(5328), 918–924.
- Shaw, D. S., Gilliom, M., Ingoldsby, E. M., & Nagin, D. S. (2003). Trajectories leading to school-age conduct problems. *Developmental Psychology*, 39(2), 189–200.
- Shumow, L., Vandell, D. L., & Posner, J. (1998). Perceptions of danger: A psychological mediator of neighborhood demographic characteristics. *American Journal of Orthopsychiatry*, 68(3), 468–478.
- Silk, J. S., Sessa, F. M., Sheffield Morris, A., Steinberg, L., & Avenevoli, S. (2004). Neighborhood cohesion as a buffer against hostile maternal parenting. *Journal of Family Psychology*, 18(1), 135–146.
- Stouthamer-Loeber, M., Loeber, R., Wei, E., Farrington, D. P., & Wikstrom, P. H. (2002). Risk and promotive effects in the explanation of persistent serious delinquency in boys. *Journal of Consulting and Clinical Psychology*, 70(1), 111–123.
- Tolan, P. H., & Lorion, R. P. (1988). Multivariate approaches to the identification of delinquency proneness in adolescent males. *American Journal of Community Psychology*, 16(4), 547–561.
- Tolan, P. H., & Thomas, P. (1995). The implications of age of onset for delinquency risk II: Longitudinal data. *Journal of Abnormal Child Psychology: An Official Publication of the International Society for Research in Child and Adolescent Psychopathology*, 23(2), 157–181.

- Tremblay, R. E. (2004). Decade of behavior distinguished lecture: Development of physical aggression during infancy. *Infant Mental Health Journal, 25*(5), 399–407.
- U.S. Department of Justice. (2006). *Juvenile offenders and victims: 2006 national report* (OJP06043). Washington, DC: U.S. Government Printing Office.
- U.S. Department of Justice. (2009). *Juvenile justice bulletin* (2008–JF–FX–K071). Washington, DC: U.S. Government Printing Office.
- Vazsonyi, A. T., & Keiley, M. K. (2007). Normative developmental trajectories of aggressive behaviors in african american, american indian, asian american, caucasian, and hispanic children and early adolescents. *Journal of Abnormal Child Psychology: An Official Publication of the International Society for Research in Child and Adolescent Psychopathology, 35*(6), 1047–1062.
- Wood, T. M., & Zhu, W. (2006). *Measurement theory and practice in kinesiology*. Champaign, IL: Human Kinetics.

## VITA

Edna Romero is a doctoral student in clinical psychology specializing in child, adolescent, and family issues. She received her B.A. in Psychology from Purdue University in 2006. Following her undergraduate education, Edna worked for three years at Children's Memorial Hospital in Chicago as a research associate and project administrator. Since beginning her graduate career at Loyola University Chicago, Edna has completed a year-long therapy practicum at the Wellness Center. She is currently an extern at Loyola University Medical Center's Pediatric Neuropsychology Clinic. Edna's work focuses on the impact of neighborhood characteristics on aggression outcomes among African American youth from urban low-income environments. Additionally, Edna is involved in the development and administration of intervention programs that reduce stress and promote psychological well-being among middle school youth who live in impoverished urban neighborhoods.

