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The Effect of Neighborhood Disadvantage and Parental Involvement on
African American Adolescent's Externalizing Behavior and Academic Outcome

A Thesis

Presented in

Partial Fulfillment of the
Requirements for the Degree of
Master of Arts

The Department of Psychology
DePaul University

By

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June, 2013

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BIOGRAPHY

The author was born in Guadalajara, Jalisco, Mexico, on January 23, 1976. He studied in the Seminary of Guadalajara, where he received a solid humanistic and community-oriented formation. He received his Bachelor of Arts degree in Philosophy from the University of Valle of Atemajac in 2002. In Mexico, the author worked as a journalist and teacher. In 2006, the author moved to the United States to pursue a career in Psychology. In 2009, he received a Master of Arts in Clinical Counseling from The Chicago School of Professional Psychology.

TABLE OF CONTENTS

Thesis Committee.....	ii
Acknowledgements.....	iii
Biography.....	iv
List of Tables.....	vii
List of Figures.....	viii
ABSTRACT.....	ix
CHAPTER I. INTRODUCTION.....	1
Neighborhood Disadvantage in Relation to Academic Outcome.....	3
Poverty and Academic Outcomes.....	5
Unemployment and Academic Outcomes	7
Population Turnover and Academic Outcomes	8
Community Violence and Academic Outcomes.....	9
Neighborhood Disadvantage in Relation to Externalizing Behavior.....	11
Poverty and Externalizing Behavior	12
Unemployment and Externalizing Behavior.....	13
Population Turnover and Externalizing Behavior	14
Community Violence and Externalizing Behavior	15
Externalizing Behavior and Academic Outcome	16
Parental Involvement as Moderator between Neighborhood Disadvantage and Externalizing Behavior	17
Rationale.....	19
Statement of Hypotheses	20

CHAPTER II. METHOD	22
Participants.....	22
Setting and procedure	23
Assessment design	24
Measures	25
CHAPTER III. RESULTS.....	27
CHAPTER IV. DISCUSSION	39
Parental Involvement as a Protective Factor against Neighborhood Disadvantage.....	42
The effects of Poverty in the low Parental Involvement (PI) Group	43
Population Turnover and Academic Outcome in the High PI Group.....	46
Externalizing Behavior and Academic Outcome.....	48
Implications of the Present Study	49
Strengths of the Present Study	52
Limitations of the Present Study.....	53
Future Directions	55
CHAPTER V. SUMMARY	57
References.....	60
Appendix A. Demographic Questionnaire.....	82
Appendix B. Parental Involvement Measure	84
Appendix C. Externalizing Behavior Measure	86

LIST OF TABLES

Table 1. Participation Rates of Students and Teachers from 9 th Grade to 11 th Grade.....	24
Table 2. Means, Standard Deviations, and Correlations among Study Variables.....	28
Table 3. Means, Standard Deviations, and Correlations for Low and High Parental Involvement (PI).....	30
Table 4. Chi-square Differences between Freely Estimated and Constrained Models.....	38

LIST OF FIGURES

Figure 1. Theoretical Model	20
Figure 2. Overall Mediation Model	31
Figure 3. Mediation Model with Nonsignificant Paths Constrained to Zero.....	32
Figure 4. Moderated Mediation Model for the Low Parental Involvement Group	35
Figure 5. Moderated Mediation Model for the High Parental Involvement Group.....	36

ABSTRACT

African American adolescents are more likely to live in disadvantaged neighborhoods than their European American counterparts. The impact that neighborhood disadvantage such as poverty, unemployment, population turnover, and community violence exerts on youth's behavior becomes more prevalent as they grow older, increasing the risk for engaging in externalized behavior and hindering academic outcomes. Consistent with the developmental theory, an examination of parental involvement (PI) as moderator between neighborhood disadvantage and externalizing behavior is warranted. There is a dearth of longitudinal research that examines how neighborhood disadvantage operates and, to what extent influences, directly or indirectly, behaviors and academic outcomes of African American high school students. A sample of 519 students, 9th to 11th grade (45% females) with a mean age of 14.8 years ($SD \pm 0.35$), participated in the present study. Nearly half of the participants (45.6%) were eligible for free or reduced lunch. A moderated mediation model was proposed in which externalizing behavior mediates the association between neighborhood disadvantage and academic outcomes, and parental involvement moderates the association between neighborhood disadvantage and externalizing behavior. Path analysis employing maximum likelihood was conducted using Mplus7 to examine the associations between study variables. Results from the moderated mediation analysis supported that parental involvement (PI) served as a protective factor against neighborhood disadvantage exposure. Specifically, in the low (PI) group, poverty and community violence in 9th grade predicted externalizing behavior in 10th grade, whereas in the high PI group, unemployment in 9th grade predicted externalizing behavior in 10th grade. With regard to academic outcomes, in the low PI

group, population turnover in 9th grade predicted low academic outcomes in 11th grade. In contrast, in the high PI group, none of the neighborhood disadvantage variables was related to academic outcomes in 11th grade was which in turn predicted negative academic outcomes in 11th grade. The only significant path that remained significant in both, low and high PI groups, was the strong association between externalizing behavior in 10th grade and academic outcomes in 11th grade. Mediation analysis using Bootstrapped standard errors procedure indicated indirect effects from poverty to academic outcome via externalizing behavior, and community violence to academic outcome via externalizing behavior in the low PI group, whereas there was no significant indirect effects in the high PI group. These results are a robust support for moderated mediation effects. The use of a defined epidemiological sample facilitates generalization of findings to individuals from the same ethnic group living in similar neighborhoods. Preventive interventions need to capitalize on specific characteristics of the African American community, such as strong family ties and collectivism to enhance the social fabric. Promotion of social capital through increased collaboration between families, community agencies and institutions may provide more resources for youth to achieve academic outcomes.

Keywords: Neighborhood disadvantage, social disorganization, parental involvement, externalizing behavior, academic outcome, path analysis, social capital, collective efficacy.

CHAPTER I

INTRODUCTION

Adolescence is, by definition, a period of physical and emotional growth, self-discovery, and emerging independence (Gutman & Midgley, 2000). But this period may be more challenging for those living in disadvantaged neighborhoods. In the particular case of African Americans, the long history of social disadvantage has hindered their chances to achieve optimal academic outcomes (Halle, Kurtz-Costes, & Mahoney, 1997).

Data released by the United States (U.S.) Census revealed that, in 2010, only 54% of African American students had completed high school on time. However, among those who graduated from high school, 35% were currently enrolled in a 4-year degree program (U.S. Census Bureau, Current Population Survey, 2011). High school graduation rates for this population have steadily increased, from 78.5% in 2000 to 84.2% in 2010, and dropout rates from high school decreased, from 13.1% in 2000 to 9.3% in 2009 (National Center for Education Statistics, 2011). However, the decline in drop out rates coincides with an increased incarceration rate among African American male adolescents, thereby biasing these estimates (Western & Pettit, 2002). Discrepancies in high school graduation and dropout rates, relative to the aforementioned outcome need to be explored, as well as environmental and educational disparities that contribute to the academic gap in this population (Barbarin, 1993; Burchinal, Roberts, Zeisel, & Rowley, 2008; Garibaldi, 1997; Mello & Swanson, 2007; Proctor & Dalaker, 2003).

African American adolescents are more likely than any other ethnic group to grow up and develop in a disadvantaged neighborhood (Hurd, Stoddard, & Zimmerman, 2013; Sharkey, 2008). The physical aspect of these neighborhoods, such as the low quality of housing and the scarcity of basic services (e.g., health care, food and retail stores, and reliable public transportation), undermine the well-being of its residents (Cutrona, Wallace, & Wesner, 2006). Over the past two decades, more research has been focused on the influence of individuals in their neighborhoods than in the structural neighborhood factors that influence individual growth (Cutrona, Wallace, & Wesner, 2006). Specifically, there is a dearth of studies that examine the impact of neighborhood risk factors on adolescent's academic outcomes (Elias & Haynes, 2008). Several studies have found that African American adolescents living in disadvantaged neighborhoods experience lower grade point average (GPA) and an increase on school absences as they grow older and exposure to neighborhood disadvantage increases (Gutman, Sameroff, & Cole, 2003). The negative trend continues throughout the school years, particularly during school transitions (Barber & Olsen, 2004; Burchinal et al., 2008), increasing the likelihood for dropout and low graduation rates among these youth (Leventhal & Brooks-Gunn, 2000).

The assessment of neighborhood characteristics involves multidimensional factors, with poverty level (Brody et al., 2001; Kozol, 1991; Leventhal & Brooks-Gunn, 2000; Wilson, 1987) being the most salient feature. African American adolescents are three times more likely to live in poverty (U.S., Census, 2010) and to reside in underserved areas (Aneshensel & Sucoff, 1996). Similarly, African

American adolescents experience more community violence than their European American counterparts (Gorman-Smith & Tolan, 1998; Lambert, Ialongo, Boyd, & Cooley, 2005; Schwartz & Gorman, 2003; Thompson & Massat, 2005).

Additionally, high rates of unemployment (Elliot et al., 1996) have doubled for African Americans, from 7.6% in 2000 to 16% in 2010 (U.S. Census, 2010).

Unemployment, in turn, increases population mobility in disadvantaged neighborhoods (Shaw & McKay, 1942; Wilson, 1987), affecting 16.7% of African Americans last year (U.S. Census Bureau, 2010). In sum, the influence of the aforementioned contextual factors has been found to contribute to an academic achievement gap among African American adolescents (Busby, Lambert, & Ialongo, 2013; Gutman & Midgley, 2000; McLoyd, 1998).

Neighborhood Disadvantage in Relation to Academic Outcome

Neighborhood represents, for adolescents, their social and geographical limits. Each neighborhood is characterized by specific economic, political, and cultural factors within a determined area (Roosa, Jones, Tein, & Cree, 2003). Neighborhood is defined as “a transactional setting that influences individual behavior and development, both directly and indirectly” (Elliot et al., 1996, p. 391). A theoretical assumption that guides our study is that exposure to neighborhood disadvantage is partially responsible for negative educational outcomes among African American students. Our approach, then, opposes the traditional model that associates adolescent negative outcomes with African American family pathology (Elliot et al., 1996).

Most of the research examining neighborhood effect on adolescent outcome is influenced by the social disorganization (Shawn & Mckay, 1942) and neighborhood disadvantage theory (Wilson, 1987; Sampson & Wilson, 1995). These approaches propose that neighborhood contextual factors influence individual's interaction with other individuals and social services, which, in turn, is related to adolescent's developmental outcomes (Sampson, Raudenbush, & Earls, 1997). Several articles assert that the impact of neighborhood disadvantage on children is weak, but it becomes more relevant as children grow into adolescence (Burchinal et al., 2008; McLeod & Shanahan, 1994). For example, Elliot et al. (1996) suggests that neighborhood influence is stronger in 15 to 18 year olds than in 12 to 14 year olds. Generally, for African American adolescents, exposure to disadvantaged environmental conditions has been found to be detrimental for African American adolescent's cognitive and social development (Burchinal et al., 2008; Elias & Haynes, 2008; Gutman, Sameroff, & Eccles, 2002; Leventhal, & Brooks-Gunn, 2000; McLoyd, 1998).

Prevention science literature suggests neighborhood contextual factors may influence adolescent academic outcome through mediation and moderation processes (Roosa et al., 2003). Elliot et al. (1996) suggests that some studies of neighborhood disadvantage report weak effects because the mediating and moderating processes have been ignored. Therefore, the current study will use a mediator-moderator model to examine the impact of neighborhood disadvantage on the academic outcome of urban African American youth via externalizing behavior. Additionally, the present study will explore the role of parental

involvement as a moderator of the association between neighborhood disadvantage and externalizing behavior.

Poverty and Academic Outcome

Poverty is a distal factor that affects the academic aspirations of many adolescents, due to the lack of resources associated with poverty (Johnson, 1992). The U.S. Census measures this construct through the use of a money income threshold that varies depending on family size and composition. The Census Bureau defines, as poor, any individual living on an income of less than \$11,139, or any family of four living on less than \$22,314 (U.S. Census Bureau, 2010). The official poverty definition, developed over 40 years ago, considers money income before taxes and excludes assets, gains and governmental benefits, such as Medicaid, public housing, and food stamps (U.S. Census, Housing and Household Economic Statistics Division, 2010). This definition has been widely criticized because it does not take into account the large differences in the cost of living in different parts of the country or expenses such as childcare (Cutrona et al., 2005).

The majority of the studies of neighborhood disadvantage have consistently associated poverty with poor academic outcomes (Burchinal et al., 2008; Wilson, 1987). Adolescents who experience poverty are less prone to have their basic needs met than their more affluent counterparts (Jensen, 2009). Some of the implications of living in poverty include a) deficits in the production of new neurons and b) emotional and social underdevelopment, thereby predisposing adolescents to behavioral dysfunction (Gunnar, Frenn, Wewerka, & Van Ryzin, 2009; Miller, Seifer, Stroud, Sheinkopf, & Dickstein, 2006).

Additionally, low socioeconomic status (SES) adolescents living in high poverty neighborhoods are likely to contend with multiple stressors, due to financial constraints (Gutman & Midgley, 2000) and inequalities in educational opportunities (Kozol, 1991). A stressor refers to anything that disrupts somatic and environmental stability in adolescents, including: (a) peer rejection, (b) social exclusion, (c) physical neglect or abuse, (d) trauma, (e) abuse, (f) malnutrition, and (g) exposure to toxins (Jensen, 2009). Adolescents who grow in impoverished neighborhoods often experience emotional dysregulation due to the life stressors, undermining their school performance. For instance, adolescent students experiencing stress may get frustrated more quickly and give up on a task (Jensen, 2009). Emotional dysfunction also may hinder students' ability to work in groups, thus impact their academic performance (Dodge & Pettit, 2003).

According to the neighborhood disadvantage approach (Wilson, 1987), poverty at an individual level and also exposure to poverty in the neighborhood affect academic outcomes. Wilson (1987) found that low SES adolescents living in neighborhoods with a high poverty level are more likely to have negative academic outcomes than low SES adolescents living in more affluent neighborhoods. Several studies have found that African American adolescents living in poverty experienced a significant decline in grade point average from fifth to sixth grade (Gutman & Midgley, 2000) and after the middle school (Seidman, Allen, Aber, Mitchell, & Fienman, 1994) and high school transition (Barber & Olsen, 2004). Particularly, it was found that African American youth in middle school who were more exposed to social disadvantage showed lower

reading and math proficiency on standardized tests, based on teacher reports (Sameroff & Fiese, 2000). Similar findings are reported by the National Center for Education Statistics (2009) for African American students, in 8th and 12th grade, who were eligible for free or reduced-price lunch.

Poverty also indirectly influences African American adolescent's school outcome because of its adverse effects on parents and it is associated with lower parental involvement in school (Burchinal et al., 2008; Gutman, Sameroff, & Cole, 2003). For African Americans living in disadvantaged neighborhoods, high poverty levels significantly hinder parental academic support to their adolescents (McLoyd, 1990), especially from being emotionally available (Clark, 1983). Rankin and Quane (2002) found that parents receiving welfare were less emotionally available for their children. It is not uncommon that low-income parents contend with long and inconvenient work schedules, lacking basic resources, transportation issues, and facing high levels of stress (Santiago, Wadsworth, & Stump, 2011).

Unemployment and Academic Outcome

Unemployment is another contextual factor that impacts African American adolescent's academic outcome, through the perpetration of the poverty cycle (Elliot et al., 1996). The U.S. Census, through the Bureau of Labor Statistics (BLS) classifies as unemployed a person who is able and willing to take a job, yet jobless and has been actively looking for a job for more than a month (U.S. Census, 2010). Historically, the lack of job opportunities for African Americans has contributed to a continuous deterioration of their communities. For instance,

schools located in disadvantaged neighborhoods are more likely to have fewer resources and to hold lower academic expectations for students (Gregory, Skiba, & Noguera, 2010).

High unemployment rates also translate into less social services and resources available within the neighborhood, as well as illicit economy, violence, and gangs (Shawn & McKay, 1942). Neighborhoods with high levels of unemployment offer alternative sources of income that may discourage adolescents from attending school, increasing school dropout (Elliot et al., 1996). However, it is important to mention that not all disadvantaged neighborhoods are similar in their level of disorganization nor do they promote illegitimate economy and gangs (Brody et al., 2003; Rankin & Quane, 2002).

Population Turnover and Academic Outcome

Since the 1920's, urban social researchers acknowledged the impact of residential instability, also referred to as population turnover, on the attitude of residents (Rankin & Quane, 2002). Population turnover refers to the migration from one neighborhood or area to another (Webster Dictionary, 2011). The U.S. Census considers as movers all people who reside in a different house at the end of the annual survey. This seems to particularly affect those who live in underserved neighborhoods, having direct implications in the local economy and public policy and provision of social services (Roosa et al., 2003; U.S. Census Current Population Survey, 2010).

Low SES families experiencing financial strain may be forced to relocate to more affordable neighborhoods that may offer less social services and experience

high levels of community violence (Evans & English, 2002). Several articles indicate that frequent poverty-related moves hinder students' ability to engage in pro-social interactions and academic performance (Schafft, 2006). Often moves of low-SES families are not voluntary, increasing uncertainty and stress levels among adolescents (Schafft, 2006). The constant flux of residents in disadvantaged neighborhoods hinders the amount of social networks an individual has access within their neighborhood and school (Elliot et al., 1996). Population turnover reduces the likelihood for residents to establish social ties with neighbors and schools (Wilson, 1987).

The decline of neighborhoods due to accumulation of social disadvantage significantly impairs the academic performance of African American adolescents (Leventhal & Brooks-Gunn, 2000). For instance, adolescents living in these areas are more likely to obtain lower grade point averages (GPA), low achievement test scores, more school detentions, more absences and school dropout, and course failures (Gutman, Sameroff, and Eccles, 2002; McLoyd, 1998). In a cross-sectional study, Gutman, Sameroff, and Eccles (2002) found a significant association between GPA, the number of absences, and neighborhood disadvantage. However, there is support that neighborhood instability alone does not adequately explain the within-group variation that leads to academic behaviors among low SES African American adolescents (Adams & Singh, 1998; Chavous et al., 2003).

Community Violence and Academic Outcome

There has been an increased interest in examining the relationship between

community violence exposure and academic outcome (Schwartz & Gorman, 2003). African American adolescents living in disadvantaged neighborhoods are more exposed to community violence than their European American counterparts due, in part, to historical and socioeconomic inequalities (Gorman-Smith & Tolan, 1998).

Cross-sectional studies have revealed that community violence exposure has a direct negative relationship with adolescents' academic performance (Busby, Lambert, & Ialongo, 2013; Gutman, Sameroff, & Eccles, 2002; Lambert et al., 2005; Salzinger et al., 2002; Schwab-Stone et al., 1995; Schwartz & Gorman, 2003) and academic adjustment at school (Overstreet, 2000). For example, in a 1-year study using 120 African American junior high school students, Gonzalez, Cauce, Friedman, and Mason (1996) found that students' rates of community violence exposure were negatively associated with academic performance.

Extant studies have found a positive association between community violence exposure and anxiety (Cooley-Quille, Boyd, Frantz, & Walsh, 2001) and the associated anxiety interferes with children's ability to concentrate, thus, potentially disrupting their academic performance (Cooley-Strickland, Griffin, Darney, Otte, & Ko, 2011; Moore, Gleib, Driscoll, Zaslow & red, 2002). Adolescent students constantly concerned about safety tend to experience lower academic performance (Pratt, Tallis, & Eysenck, 1997). Stressors like bullying and school violence undermine students' attention span, impair test scores, and increases absenteeism and tardiness (Hoffman, 1996). Specifically, cognitive

studies indicate that exposure to chronic stress due to community violence undermines adolescent's working memory (Faraha et al., 2006; Otero, Pliego-Rivero, Fernandez & Ricardo, 2003). Klein and Boas (2001) found that children experiencing high stress levels have difficulties manipulating or retrieving newly acquired information, affecting their performance on reading and math tasks.

It is reported that, in disadvantaged neighborhoods, the most dangerous time of the day is from noon to 6 PM, coinciding with the time students commute from school to their homes (Salzinger, Feldman, Stockhammer, & Hood, 2002). Community violence may persuade students to skip classes and stay home (Jensen, 2009). Consequently, the lack of afterschool programs and the proliferation of gangs in the school and in the neighborhood may discourage students from attending school (Reese, Vera, Simon, & Ikeda, 2000).

Neighborhood Disadvantage in Relation to Externalizing Behavior

Externalizing behavior in adolescence represents a major concern for American society (Dodge & Petit, 2003). Adolescents residing in a disadvantaged neighborhood are at an increased risk for externalizing behaviors (Elliott et al., 1996). Externalizing behavior is defined as the group of antisocial features and aggressive behavioral problems that reflect the individual's response toward the *external* environment (Eisenberger et al., 2001). Despite the existing literature on African American adolescents, there is a dearth of research on the influence of community-level factors in the ethological processes of externalizing behaviors (Ge, Brody, Conger, Simons, & Murry, 2002).

Some studies suggest that externalizing behaviors in disadvantaged neighborhoods may be seen as a normal reaction, as self-protection (Liu, 2004). For instance, Massey and Denton (1993) described endorsement of antisocial behaviors as a *culture of opposition*, as a response to despair elicited by poverty and segregation. It is not uncommon that conduct disorder tends to be over diagnosed among African American adolescents from disadvantaged neighborhoods, whereas it is less likely to be diagnosed in European American adolescents from middle to upper class neighborhoods (Aneshensel & Sucoff, 1996). Therefore, the inclusion of neighborhood contextual factors when assessing externalizing behavior is recommended to avoid further stigmatization of this population (Robinson, personal communication).

Poverty and Externalizing Behavior

Literature has found that concentrated poverty decreases social networks and integration in disadvantaged neighborhoods (Elliot et al., 1996), affecting adolescent behavioral responses and prosocial competencies (Barbarin, 1993). The lack of social capital and socialization patterns contribute to the reduction of social control, or the regulation of individual's behavior based on conventional norms (Rankin & Quane, 2002). Lower levels of social control, in turn, may facilitate the prevalence of externalizing behaviors (Elliot et al., 1996).

Cross-sectional studies indicate that unsupervised peer contact increases the likelihood for adolescents to *wander* on the streets (Brody et al., 2003; Peterson, Dishion, & Yoerger, 2000). A longitudinal study conducted by Pettit, Bates, Dodge, & Meece (1999) found that early adolescents who spent more time

in unsupervised activity with peers were more prone to exhibit high levels of externalizing behaviors, after controlling for sociodemographic factors. Evident social inequalities in disadvantaged neighborhoods, coupled with the lack of monitoring from parents may promote adolescent's endorsement of externalizing behaviors to adapt to the context (Brody et al., 2003).

Unemployment and Externalizing Behavior

There is a paucity of literature on the association of unemployment and externalizing behavior. Literature indicates that residing in a neighborhood with high unemployment rates and chronic economic constraints place adolescents at risk for conduct problems (Brody et al., 2001; Brooks-Gunn, Duncan, & Aber, 1997; Elliott et al., 1996; Tandon, Dariotis, Tucker, & Sonenstein, 2013). The lack of jobs in the community increases the likelihood for adolescents to engage in illicit activities and violence (Wilson, 1987). The social disorganization approach indicates that the lack of occupational opportunities alienates African American students, resulting in hostile behavior (Ford & Harris III, 1996). In other words, African American students living in disadvantaged conditions tend to rebel against authority figures and adopt unconventional behaviors that are distinct from those valued by mainstream society (Ogbu, 1987). According to the social learning theory (Bandura, 1986), adolescents residing in disadvantaged neighborhoods have more chances than adolescents residing in less disadvantaged contexts to be exposed and to adopt aggressive behaviors in their day-to-day interaction with neighbors and in the school (Brody et al., 2001). Thus, deviant

peer influence and the economic deprivation place adolescents at risk to externalize behavior (Brody et al., 2003; Ford & Harris III, 1996).

Population Turnover and Externalizing Behavior

There is considerable evidence that externalizing behavior in African American adolescents is associated with neighborhood economic disadvantage and residential mobility that are linked to less social capital (Coleman, 1988; Leventhal & Brooks-Gunn, 2000; Wilson, 1987). Social capital is defined as the networks and norms available in the neighborhood that facilitate communication among its residents (Coleman, 1988). Disadvantaged neighborhoods with few collective ties and informal social controls promote access to deviant activities (Sampson & Raudenbush, 1999), and adherence to alternative norms needed to survive in such disadvantaged context (Cutrona, Russell, Hessling, Brown, & Murry, 2000; Elliot et al., 1996).

Literature on social disorganization (Shawn & McKay, 1942; Wilson 1987) indicates that, in disadvantaged neighborhoods, the flux of residents truncates the development of support networks within neighbors and community agencies, undermining the social capital available for adolescents (Elliot et al., 1996). It is not uncommon that residents with fewer resources are more likely to remain in the neighborhood, whereas other individuals with unstable income and deviant lifestyle move in (Wilson, 1987). As a result, disadvantaged neighborhoods become heterogeneous and disorganized, impeding cooperation among residents and institutions and promoting deviant behavior (Aneshensel & Sucoff, 1996). This phenomenon is described as a “deviance amplification process” (Stark, 1987).

Community Violence and Externalizing Behavior

A wealth of literature indicates the negative impact of community violence on African American adolescent behavior (Brody et al., 2001; Gorman-Smith, & Tolan, 1998; Lambert et al., 2005). Empirical evidence indicates that deterioration of neighborhoods due to poverty, unemployment, and population turnover propitiates an increase in community violence in these areas (Leventhal & Brooks-Gunn, 2000; Rankin & Quane, 2002). There is consistent support on the association of community violence exposure and aggressive behavior and other significant impairments in regulation of behavior (Gorman-Smith & Tolan, 1998; Schwartz & Gorman, 2003; Schwartz & Proctor, 2000). For instance, exposure to community violence generates high levels of stress, anxiety, and fear that interfere with the ability to form social relationships (Overstreet, 2000). As a result, the emotional distress associated to community violence can undermine adolescents' self-regulation skills and facilitate adherence to deviant behavior (Cutrona et al., 2000; Salzinger et al., 2002; Wilson, 1987).

Studies suggest that the effects of community violence are minimal in children; however there is a strong influence on adolescents living in disadvantaged neighborhoods (Elliot et al., 1996). Farrell and Bruce (1997) found, in a large sample of low SES African American sixth graders, that witnessing community violence was associated with the occurrence of externalizing behavior in adolescence. Gorman-Smith and Tolan (1998) found similar results, in which community violence exposure was associated to aggression after a year of the incident, even after controlling for previous externalizing behavior. Similarly,

Dempsey (2002) suggested that adolescents constantly surrounded by violence learn to use negative coping behaviors to adapt to the context. Then, the link between exposure to community violence and externalizing behavior remains significant, even after controlling for family violence and previous behavioral problems (Lambert et al., 2005).

Externalizing Behaviors and Academic Outcome

Studies of externalizing behavior mediating the association between neighborhood disadvantage and academic outcome in adolescents has not been explored thoroughly (Schwartz & Gorman, 2003). On the other hand, several studies have examined the association between externalizing behavior and adolescent academic performance (Brook & Newcomb, 1995; Brody et al., 2003; Hinshaw, 1992; Schwartz & Gorman, 2003). Cross-cultural studies consistently support that adolescents with externalizing behavior problems are less likely to acquire social skills needed to develop positive peer relationships (Davis-Kean, 2005; Nettles, Caughy & O'Campo, 2008; Schwartz & Gorman, 2003), which may lead to peer rejection (Rodney & Mupier, 1999) and school dropout (Brody et al., 2003), even after controlling for SES (Hinshaw, 1992). As a result, adolescents with low social skills are more likely to be rejected by conventional peers and to engage in unconventional behavior (Brody et al. 2003).

Studies indicate that failure completing academic assignments predict later conduct problems (Dodge & Pettit, 2003; Roeser & Eccles, 2000). It is not uncommon that detained students are labeled by teachers and peers as *difficult*, placing them at risk for antisocial outcomes (Dodge & Pettit, 2003; Plummer &

Graziano, 1987). For instance, Sameroff and Fiese (2000) found that African American adolescents with more problem behaviors experienced academic problems, according to their elementary and middle school teachers, even after controlling for maternal IQ and gender. To add to the complexity of this phenomenon, the majority of students displaying externalizing behaviors are referred for special education classes without providing further interventions to reinforce social skills (Dodge & Petit, 2003).

Parental Involvement as a Moderator of Neighborhood Disadvantage and
Externalizing Behavior

Parental support represents the primary foundation of socialization for children and adolescents (Gutman & Midgley, 2000). Without it, adolescents residing in disadvantaged neighborhoods are less likely to embrace conventional norms and more likely to engage in deviant behavior (Elliot, Huizinga, & Ageton, 1985). Traditionally, research on parental involvement on adolescents' externalizing behavior was conducted on European Americans (Conger, Ge, Elder, Lorenz, & Simons, 1994; Pettit et al., 1999). During the last two decades studies have been replicated in African Americans with similar main effects (Brody et al., 2003; Salzinger et al., 2002). Empirical evidence suggests that fluctuations in parental involvement due to neighborhood characteristics contribute to disparities in students' academic achievement within and across socioeconomic status groups (Clark, 1983; Comer, 1980; Ford, Wright, Grantham, & Harris III, 1998; Gutman & McLoyd, 2000).

Emerging studies indicate that parental guidance in ways to handling social interactions remains important for adolescents (Ladd & Pettit, 2002), especially for those who are more exposed to neighborhood hazards (Rutter, 1985). African American adolescents whose parents are not involved and supportive are less likely to embrace conventional norms and more likely to adopt deviant behavior (Brody et al., 2001; Gutman & McLoyd, 2000). For instance, Pettit, Bates, Dodge, & Meece (1999) found that African American adolescents residing in disadvantaged neighborhoods are more likely to display externalizing behaviors due to the lack of monitoring and unstructured time. In another study, Gorman-Smith & Tolan (1998) found that interactions between levels of parental involvement and neighborhood type account for increased exposure to violence in 13 to 17 year old inner city African American boys. These researchers added that even supportive families couldn't entirely protect adolescents against severe exposure to violence and other neighborhood disadvantages' effects.

Positive parental involvement is associated with protective influence on adolescent externalizing behavior (Beyers, Bates, Pettit, & Dodge, 2003; Brody, Flor, & Gibson, 1999; Formoso, Gonzalez, & Aiken, 2000; McWayne, Hampton, Fantuzzo, Cohen, & Seniko, 2004). Dodge and Pettit (2003) found that parental involvement in the form of teaching of social skills help reduce externalizing behavior in adolescence. Additionally, these researchers found that parents who monitor and supervise their children in early childhood are more prone to remain involved in their adolescence years (Pettit, Laird, Bates, Dodge, & Criss, 2001). Of particular relevance is the support provided by extended family to African

American students (Brody et al., 2003). For instance, uncles and grandfathers serve as masculine role models for those families where the father is absent (Rodney & Mupier, 1999). Overall, the presence of aunts and uncles provide adolescents with a nurturing family environment that helps decrease behavior problems.

Several studies on African Americans have found that adolescents residing in disadvantaged environments may benefit from high levels of parental control (Furstenberg et al., 1999; Gonzales, Cauce, Friedman, & Mason, 1996). Rankin and Quane (2002) suggest that parental involvement in adolescents' activities is more significant when there is little social support available in the neighborhood to help supervise adolescents. Thus, parents that set regulations at home and a positive parent-child relationship with at least one parent may serve as a protective factor against disruptive behavior (Hill & Taylor, 2004).

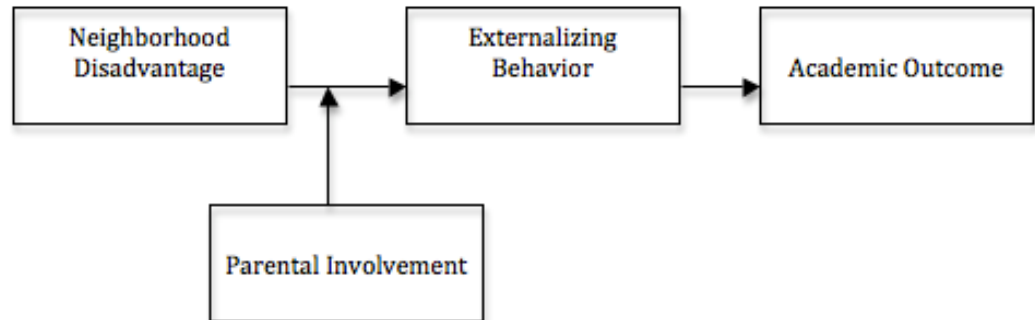
Rationale

The focus of the current study is to examine the relation between neighborhood disadvantage (i.e., poverty, high unemployment rates, population turnover, and community violence) and the academic outcomes of African American students from 9th to 11th grade. According to Roosa et al. (2003), not a single contextual factor, rather the analysis of multiple influences renders sufficient explanatory power when examining neighborhood variables. There is a need for longitudinal studies among African American high school students to examine the contribution of environmental risk factors to academic outcomes. A longitudinal analysis will offer more solid inferences about causality than

previous cross-sectional studies. In addition, most of the existing research conducted on neighborhood disadvantages focus on poverty with limited age ranges, such as childhood or early adolescence. To address the aforementioned research gaps, the present study will explore the influence of neighborhood disadvantage on the academic outcome of African American students in 9th to 11th grade.

Figure 1

Theoretical model.



Statement of Hypotheses

As illustrated in figure 1, the primary hypothesis is that the proposed moderating mediation model will be a good fit for the data.

Hypothesis I: The present model will test the mediating role of externalizing behavior in the association between neighborhood disadvantage and academic outcome. Specifically, we hypothesize that (a) neighborhood disadvantage (i.e., poverty, unemployment, community violence and population turnover) in 9th grade will have a direct effect on academic outcome in 11th grade, after controlling for academic outcomes in 9th grade and gender; (b) externalizing

behavior in 10th grade will have a direct effect on academic outcomes in 11th grade, after controlling for academic outcomes in 9th grade and gender; and (c) neighborhood disadvantage in 9th grade will have an indirect effect on academic outcomes in 11th grade via externalizing behavior.

Hypothesis II: The association between neighborhood disadvantage in 9th grade and externalizing behavior in 10th grade as well as the association between externalizing behavior in 10th grade and academic outcomes in 11th grade will be moderated by parental involvement, after controlling for academic outcomes in 9th grade and gender. Direct and Indirect effects in both, low and high parental involvement will be examined as well.

CHAPTER II

METHOD

Participants

Participants for this study are part of a larger parent longitudinal study, the Second Generation Baltimore Prevention Program at Johns Hopkins University. The Second Generation Baltimore program is a school-based prevention project aimed to decrease early risk behaviors and poor academic achievement (Ialongo, Poduska, Werthamer, & Kellam, 2001). The parent study, beginning Autumn 1993, recruited and randomly assigned student participants from twenty-seven 1st grade classrooms, across 9 Baltimore City public elementary schools. A total of 678 children, their families, and teachers were randomly assigned to three intervention conditions: a) the Family School Partnership, aiming to reduce aggressive/disruptive behavior by improving parent discipline practices, b) the Classroom-Centered intervention, focusing on teacher classroom behavior management practices (Ialongo et al., 1999), and c) classrooms with no intervention program, serving as control condition. Implementation of the preventive interventions occurred during the first grade only. However, in addition to the pre-and-post intervention assessments, students, their parents/guardians and teachers were intermittently assessed through the students' 12th year in school. The present sub-study used data for the 9th to 11th grade student participants, their families and teachers.

There are 519 African American students in the 9th – 11th grade sample, 317 males (55%) and 262 females (45%), representing 86.3% of the initial sample of

1st graders total sample. At the 9th grade assessment, participants ranged in age from 13.5 to 16.5 years with a mean age of 14.8 years ($SD \pm 0.35$). Nearly half of the participants (45.6%) were eligible for free or reduced lunch.

For the current study, assessments were collected during the years participants were in grades 9th to 11th. Neighborhood information was obtained from national and city databases. Active parental/guardian consent and children assent will be required for participation. Consent forms were sent to parents and guardians via the United States postal service or through teachers and students. The Follow-up telephone calls and home visits were conducted to respond to parents' concerns and questions about their child's participation. Assent was obtained from the participant students at the time of the interview.

The percentage of students and teacher reports collected through 9th to 11th grade is considerably significant. Students participating in the study ($N = 519$) who completed measures ranged from 100% to 82.9% (see Table 1). Similarly, teachers' completion of assessments ranged from 66% to 75.7%, within these school years (see Table 1). No significant differences were observed in attrition or refusal rates between or across intervention conditions.

Setting and Procedure

Selected schools were located in the eastern side of Baltimore City and defined by census track data and public records obtained from the Baltimore City Planning Office. Neighborhoods comprising this area varied by type of housing, family structure, ethnicity, unemployment, crime rate, and school dropout rates.

Table 1

Participation rates of students and teachers from grade 9th to 11th grade.

Grade	9 th	10 th	11 th
	%(n)	%(n)	%(n)
Students' Participation Rate	100(519)	89.8(466)	82.9(430)
Teacher's Participation Rate	91.3(474)	82.8(430)	66.7(346)

The population living within each area was comparatively homogeneous with respect to each of the aforementioned characteristics. There were no significant differences in terms of socio-demographic characteristics between consenting and non-consenting parents.

Participants and teachers were interviewed in a private location within their school or in a public location of their preference, if they had been removed from school, unable to attend, or dropped out of school. Face-to-face interviews were carried out for those living within a 350-mile round-trip from Baltimore. Students reported each academic year about their parents' management strategies. Teachers were also prompted to report on participants' conduct problems and academic performance.

Assessment Design

This study employed a randomized block design, using schools as the blocking factor. For the parent study, a pre-intervention assessment and three additional assessments were conducted for a total of four times during the intervention year (i.e., 1st grade), including the immediate post-intervention assessment. The pre-intervention assessment was conducted prior to assigning participants to interventions and control group. Annual follow-up assessments occurred each year through 12th grade.

Measures

Demographics

A demographic questionnaire was used to assess participants' age, gender, neighborhood, grade, school location, and lunch status. Demographic information was gathered through 9th to 11th grades.

Neighborhood Disadvantage

Census tracts were retrieved from the 2002 U.S. Census Bureau to describe neighborhoods characteristics in terms of (a) poverty (b) unemployment, and (c) population turnover. Data from the Baltimore City Community Statistical Areas and Police records, specifically percentage of adult arrest, adult violent and non-violent offenses, juvenile arrests for violent crimes and drug-related crimes (ages 10-17), and deaths to children age 0 to 17 due to firearms, suicide and narcotics was accessed to create an index of community violence.

Parental Involvement

The Structured Interview of Parent Management Skills and Practices- Youth Version (SIPMSP; Patterson, Reid, & Dishion, 1992). The SIPMSP- Youth Version, parental discipline subscale is a 5-item, 5-point Likert scale, ranging from *all of the time* to *never* scale that assesses enforcement of rules and consequences. A sample item includes "When you break rules and your parents know about it, how often will you get away with no punishment?" The SIPMSP- youth version has adequate test-retest reliability and internal consistency for the aforementioned subscale (Capaldi & Patterson, 1994; Chilcoat, 1992).

Externalizing Behavior

Teacher Observation of Classroom Adaptation-Revised (TOCA-R; Werthamer-Larsson et al., 1991), Conduct Disorder subscale, was utilized to assess participants' externalizing behavior in the classroom and school setting. The TOCA-R is a structured interview designed to assess participants' adequacy of performance on the core tasks in the classroom as rated by the teacher. The TOCA-R assesses the following domains: Accepting authority, attention/concentration and readiness for work, and students' self-regulation. The subscale to measure behavior problems includes "Student started physical fights with classmates" and "Student bullied classmates into getting his/her way." Items were largely drawn from the DSM-III-R and IV for all the subscales. The coefficient alpha for the TOCA-R, Conduct Disorder subscale was .91.

Academic Outcome Measures

The Kaufman Test of Educational Achievement-Comprehensive Form (K-TEA; Kaufman & Kaufman, 1998) is a standardized diagnostic battery that measures reading, mathematics, and spelling skills. The comprehensive form of the K-TEA provides a global assessment of achievement in each of the latter areas. In the present study, we will use the Reading sub-test from the brief form and the Mathematics Computation sub-test from the comprehensive form. Both forms provide age and grade-based standard scores ($M = 100$, $SD = 15$), grade equivalents, percentile ranks, and normal curve equivalents. The K-TEA is normed on a national sample of over 3,000 children from Grades 1 to 12.

CHAPTER III

RESULTS

Preliminary analyses

Preliminary analyses, using pairwise deletion to address the issue of missing data, were conducted to determine descriptive statistics ($N = 678$). Chi-square tests were conducted between students participating in our study ($n = 519$) and non-participants (i.e., those who refused or could not be located to complete the annual assessment in 9th grade [$n = 159$]). Chi-square tests revealed that both groups did not differ in terms of (a) gender, (b) lunch status (i.e., a proxy for poverty), and (c) intervention status (i.e., the Family School Partnership, the Classroom-Centered intervention, and classrooms with no intervention program). Similarly, *t*-tests revealed no differences between participants in the study and those who did not participate, in terms of (a) age, (b) teacher ratings of externalizing behavior, and (c) math and reading scores. Thus, there was no substantial difference attributed to attrition. Subsequent chi-square tests revealed no statistical significance among participants involved in the classroom intervention, parent intervention and in the control group in terms of (a) gender and (b) lunch status. Additionally, Analysis of Variance (ANOVA) tests conducted among the classroom and family intervention and control groups revealed no differences in (a) age, (b) percentage of neighborhood poverty, (c) unemployment, (d) population turnover, (e) community violence, (f) teacher ratings of externalizing behavior, as well as (g) reading and math scores.

Table 2

Means, Standard Deviations, and Correlations among Study Variables.

	1	2	3	4	5	6	7	8	9
1. Poverty Level	--								
2. Population Turnover	.16**	--							
3. Unemployment	.31**	-.08	--						
4. Community Violence	.09*	-.15**	.03	--					
5. Parental Involvement	.04	-.01	.02	.01	--				
6. Externalizing Behavior	.14**	-.02	.11*	-.04	.09	--			
7. Academic Outcome 11 th	-.11*	-.09	-.08	-.04	-.16**	-.37**	--		
8. Gender	.02	-.04	-.04	.03	.14**	.21**	-.04	--	
9. Academic Outcome 9 th	-.11*	-.04	-.12	-.04	-.16**	-.37**	.91**	-.08	--
<i>M</i>	20.02	39.03	5.63	44.15	2.34	1.48	42.41	.55	38.49
<i>SD</i>	10.77	9.88	2.68	11.96	.55	.56	6.73	.50	6.87

Note: Poverty level, population turnover, unemployment, community violence and parental involvement were measured in grade 9. Externalizing behavior was measured in grade 10. Academic achievement was measured in grade 11.

** $p < .01$

* $p < .05$

$N = 519$, except parental involvement ($n = 517$), externalizing behavior ($n = 430$), and academic outcome ($n = 418$).

Thus, the final sample used for the model analysis was 519 participants (55.1% male, 44.9% female) in 9th grade, with a mean age of 14.8 years ($SD = .35$). Of the 519 participants, 466 students (89.8%) completed most measures in 10th grade, and 430 students (82.9%) completed measures in 11th grade (see Table 1). Means, standard deviations and intercorrelations for all study variables are presented in Table 2. Bivariate correlations indicated that, consistent with the model, neighborhood concentrated poverty was significantly positively associated with (a) increased population turnover, (b) high unemployment rates, and (c) community violence. In addition, neighborhood poverty and high unemployment rates were significantly positively associated with externalizing behavior. Conversely, community violence and population turnover were negatively associated with externalizing behavior. As hypothesized, academic outcome was significantly negatively correlated with neighborhood poverty and externalizing behavior. In addition, bivariate correlations for the low and high parental involvement (PI) groups were conducted to examine if both groups followed the hypothesized direction (see Table 3). In general, similar associations were observed between the two groups, except a significant positive association between poverty and externalizing behavior in the low PI group. Conversely, significant negative associations between community violence and population turnover, and between unemployment and academic outcome were observed in the high PI group. With the exception of community violence and population turnover in the high PI group, associations between study variables followed the proposed direction as hypothesized in the model.

Table 3

Correlations for Low and High Parental Involvement (PI).

	1	2	3	4	5	6	7
1. Poverty Level	--	.15*	.31**	.06	.10	-.12	.06
2. Population Turnover	.18**	--	-.08	-.18**	.03	-.07	-.01
3. Unemployment	.30**	-.08	--	.01	.11	-.17*	-.02
4. Community Violence	.12	-.12	.06	--	-.01	-.04	.06
5. Externalizing Behavior	.18*	-.05	.09	-.10	--	-.38**	.23**
6. Academic Outcome	-.10	-.11	.02	-.03	-.36**	--	-.02
7. Gender	-.03	-.07	-.07	.01	.16*	-.04	--

** $p < .01$.

* $p < .05$.

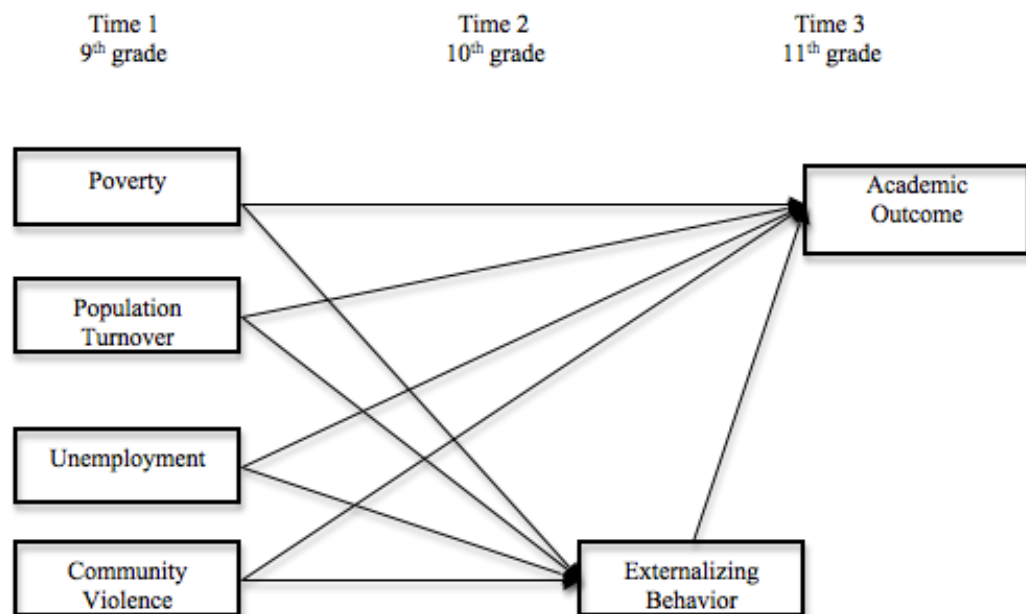
Note. Correlations for low PI ($n = 255$) are below the diagonal; correlations for high PI ($n = 262$) are above the diagonal. Poverty level, population turnover, unemployment, community violence and parental involvement were measured in grade 9. Externalizing behavior was measured in grade 10. Academic achievement was measured in grade 11.

Hypothesis Testing

In order to test the hypotheses, a mediational path model (see Figure 2) was tested using the Mplus computer software, version 7 (Muthén & Muthén, 1998-2012). Maximum Likelihood analysis was employed to determine the overall fit of the model to the data. Model fit was evaluated using multiple indicators of fit, including the comparative fit index (CFI), the chi-square statistics, the Tucker Lewis Index (TLI), the root-mean-square residual error of approximation (RMSEA), and the standardized root mean square residual (SRMR). The CFI is an index that compares the specified model with a model, with the assumption that all variables are uncorrelated. The CFI and TLI range from 0 to 1 and values greater than .95 are considered indicative of adequate fit (Hu & Bentler, 1999). The chi-square is a statistical test of “badness of fit,” which

Figure 2

Overall Model

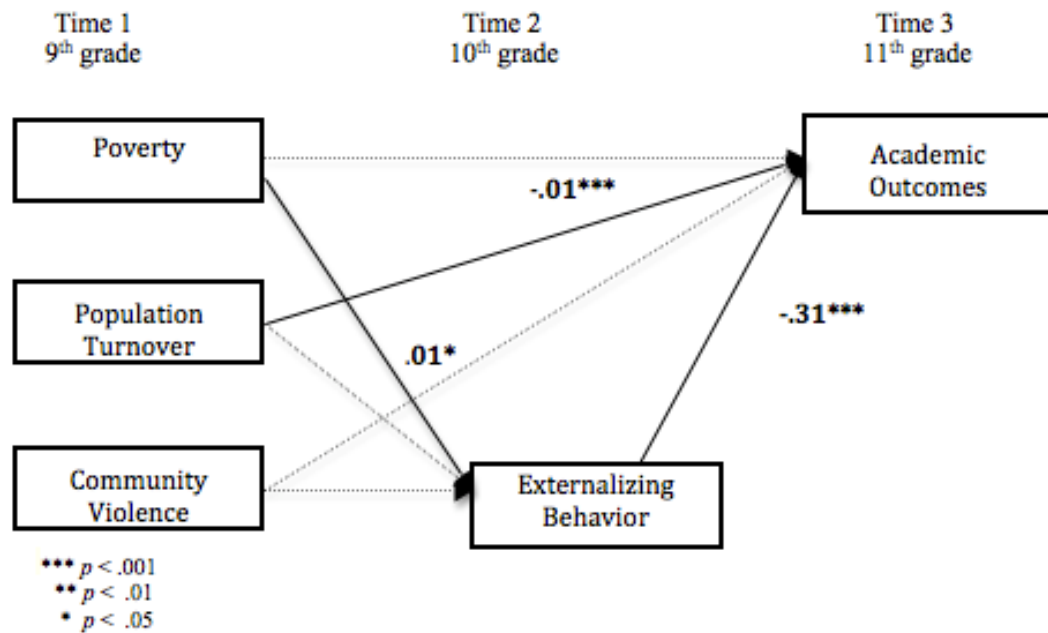


Is influenced by the model's degrees of freedom (Kline, 2011). The RMSEA is an index that is not influenced by model complexity and a value of .08 or less will be consistent with acceptable model fit (Hu & Bentler, 1999). The SRMR is the standardized average of the covariance residuals and values of .10 or lower are indicative of acceptable fit (Browne & Cudeck, 1993).

The proposed mediational model was tested and produced poor fit. The model modification approach was used to increase model sensitivity, particularly because of the shared variance among community-level factors. Then, three models were run excluding one community-level variable at a time. As a result, the model without unemployment yielded a better fit to the data ($\chi^2 = 0.00$, $df = 0$,

Figure 3

Mediational model with nonsignificant paths constrained to zero.



Note: Gender and academic outcome in 9th grade were used as covariates

$p = 0.00$, CFI = 1.00, TLI = 1.00, RMSEA = .00, RMSEA 90% C.I. = .00-.00, SRMR = .00). As hypothesized (see Figure 3), after controlling for academic Achievement in 9th grade and gender, poverty in 9th grade was significantly positively associated with externalizing behavior in 10th grade ($\beta = .01$, $p < .02$). Population turnover and community violence in 9th grade were not related with externalizing behavior in 10th grade ($p > .05$). Externalizing behavior in 10th grade ($\beta = -.30$, $p < .001$) was significantly negatively associated with academic outcome in 11th grade. Similarly, population turnover in 9th grade ($\beta = -.01$, $p < .001$) was significantly negatively associated with academic outcome in 11th grade. Neighborhood poverty and community violence in 9th grade were not related with academic outcome in 11th grade. Contrary to our hypothesis, community violence was not associated with externalizing behavior. The magnitude of the path between externalizing behavior and academic outcome indicate a medium effect, whereas the rest of the path coefficients show a small effect.

To test for mediation, indirect pathways were tested using the Bootstrapped standard errors procedure (Preacher & Hayes, 2004). The bootstrapped procedure has greater power to detect indirect effects than other tests and provides more accurate Type I error rates (MacKinnon, Lockwood, & Williams, 2004). Results indicated that the indirect paths from poverty in 9th grade to academic outcome in 11th grade via externalizing behavior in 10th grade (Estimate = -.003, 95% C.I. = -.006 - -.001) as significant. Then, academic outcome in 11th grade decreased by .02 SD unit for every one SD unit increase of neighborhood poverty. The remaining indirect paths from population turnover to

academic outcome and community violence to academic outcome were nonsignificant. Thus, according to the criteria for mediation, externalizing behavior in 10th grade mediates the association between neighborhood poverty in 9th grade and academic outcomes in 11th grade.

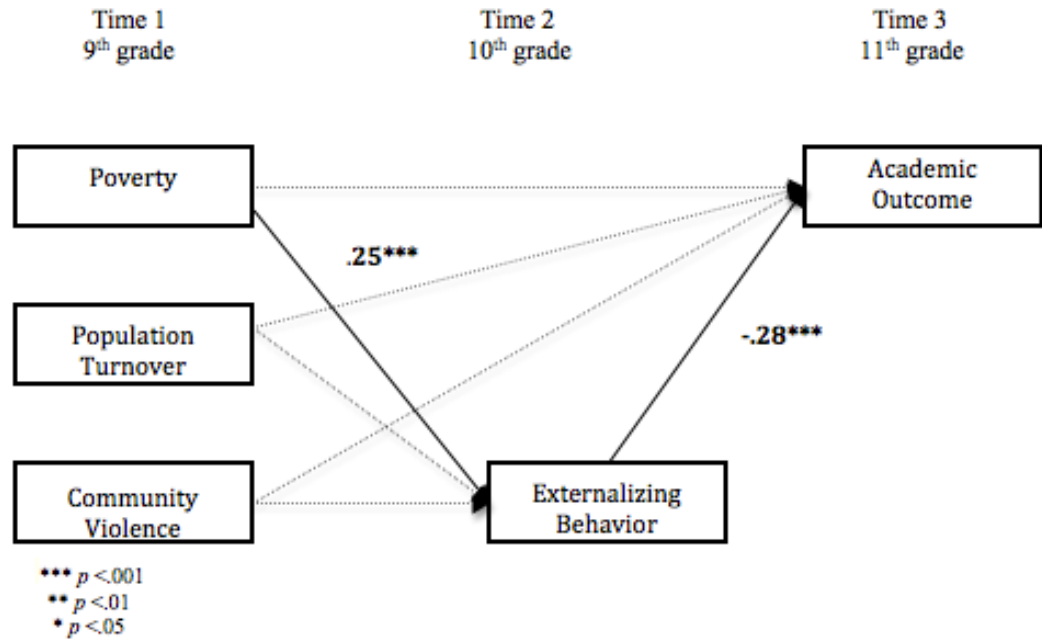
A multiple group model, with paths freely estimated, was used to test whether parental involvement in 9th grade moderated the association between neighborhood poverty, population turnover and community violence in 9th grade and externalizing behavior in 10th grade. The proposed model yielded a saturated model. Thus, further analyses were conducted to assess the model fit. Non-significant pathways were constrained to zero to test the strength of the significant paths. The constrained mediational model yielded an adequate fit to the data ($\chi^2 = 5.71$, $df = 10$, $p = 0.83$, CFI = 1.00, TLI = 1.05, RMSEA = .00, RMSEA 90% C.I. = .00-.04, SRMR = .02). Then, the model with parameters freely estimated was compared to the model with non-significant paths constrained to zero. The chi square difference test indicated that there was no statistical difference between the overall model and the constrained model, $\Delta\chi^2 = 5.71$, $\Delta df = 10$, $p = ns$, indicating that both models fit the data equally well. Thus, we retained the constrained model to examine the proposed hypothesis.

In the low parental involvement group (see Figure 4), using academic outcomes in 9th grade and gender as control variables, poverty in 9th grade was significantly positively associated with externalizing behavior in 10th grade ($\beta = .25$, $p < .001$). Population turnover and community violence in 9th grade were not

related with externalizing behavior in 10th grade. Similarly, externalizing behavior in 10th grade was significantly negatively associated with academic

Figure 4

Moderation model for the low parental involvement group

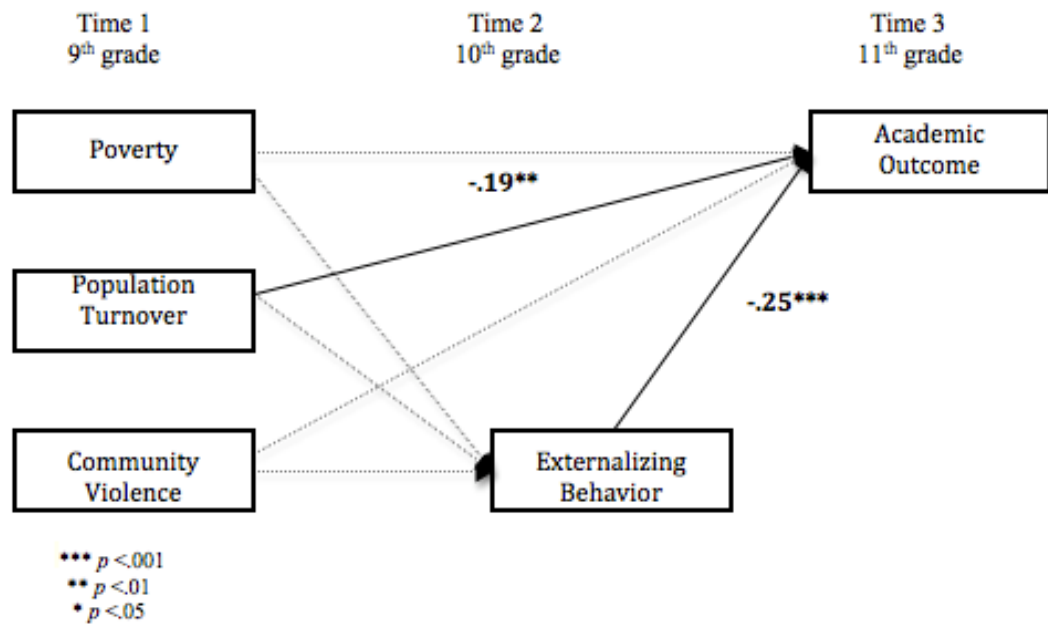


Note: Gender and academic outcome in 9th grade were used as covariates

outcomes in 11th grade ($\beta = -.28, p = .003$). Conversely, in the high parental involvement group (see Figure 5), after controlling for academic outcomes in 9th grade and gender, poverty, population turnover and community violence in 9th grade were not related to externalizing behavior in 10th grade. Externalizing behavior in 10th grade was significantly negatively associated with academic outcome in 11th grade ($\beta = .25, p < .001$), as well as population turnover in 9th grade was significantly negatively associated with academic outcomes in 11th grade ($\beta = -.19, p = .003$).

Figure 5

Moderation model for the high parental involvement group



Note: Gender and academic outcome in 9th grade were used as covariates

Follow-up analyses were conducted in which each significant path was constrained to equal to test for moderation. Then, chi square difference tests were performed to ensure that differences between low and high levels of parental involvement were significant. Results indicated that the path from poverty and externalizing behavior was statistically different ($\Delta\chi^2 = 8.13, \Delta df = 1, p = .004$), whereas the paths from externalizing behavior to academic outcomes ($\Delta\chi^2 = .60, \Delta df = 1, p = ns$) as well as the path from population turnover to academic outcomes ($\Delta\chi^2 = 2.20, \Delta df = 1, p = ns$) were not significant. A summary of the chi-square difference tests conducted to assess the strength of significant pathways is presented in Table 4. Overall, findings from both models support the

hypothesis that parental involvement moderates the association between neighborhood poverty and externalizing behavior.

Table 4

Chi-square Differences between Freely Estimated and Constrained Models

<i>Paths</i>	<i>Unconstrained</i>		<i>Constrained</i>		$\Delta\chi^2$	Δdf	<i>p</i>
	χ^2	<i>df</i>	χ^2	<i>df</i>			
Overall multigroup model	0.0	0					
Model with non-significant paths constrained to zero			5.71	10	5.71	10	.83
Path from poverty to externalizing behavior constrained to equal			8.13	1	8.13	1	.004
Path from population turnover to academic outcomes constrained to equal			2.20	1	2.20	1	.13
Path from externalizing behavior to academic outcomes constrained to equal			0.60	1	0.60	1	.43

CHAPTER IV

DISCUSSION

The primary objective of the present study was to examine the association between community disadvantage in 9th grade and academic outcomes in 11th grade, within a large community sample of urban African American adolescents. The study also examined whether the association between neighborhood disadvantage and academic outcomes was mediated by externalizing behavior in 10th grade. Finally, whether parental involvement in 9th grade moderated the associations between neighborhood disadvantage and externalizing behavior and between externalizing behavior and academic outcomes were examined also. After removing the variable unemployment, the respecified model was tested and produced good fit, indicating exposure to neighborhood poverty in 9th grade predicted externalizing behavior in 10th grade which, in turn, predicted lower math and reading scores in 11th grade. Similarly, population turnover in 9th grade predicted lower academic outcome in 11th grade (i.e., lower reading and math scores).

There were marked differences between low and high levels of parental involvement, relative to the outcome of interest. In the low parental involvement group, neighborhood poverty in 9th grade was positively associated with externalizing behavior in 10th grade, whereas population turnover and community violence in 9th grade were not related to externalizing behavior in 9th grade, after controlling for academic outcomes in 9th grade and gender. For the high parental involvement group, none of the community-level factors was related to

externalizing behavior in 10th grade after controlling for academic outcomes in 9th grade and gender.

With regard to academic outcomes, none of the paths from community-level variables in 9th grade was significant, whereas externalizing behavior in 10th grade was negatively associated with academic outcomes in 11th grade among students in the low parental involvement group. In contrast, population turnover in 9th grade as well as externalizing behavior in 10th grade were significantly negatively associated with academic outcome in 11th grade in the high parental involvement group. The only significant pathway that remained significant in both low and high parental involvement models was the strong negative association between externalizing behavior in 10th grade and academic outcome in 11th grade.

Results from the multigroup model indicated that consistent parental involvement, in the form of discipline, served as a protecting factor against the deleterious influence of neighborhood disadvantage, except for population turnover. For participants whose parents were inconsistently enforcing rules or consequences, neighborhood poverty was positively associated with externalizing behavior, which, in turn, was associated with lower academic outcomes. In brief, indirect effects, from neighborhood poverty to academic outcomes through externalizing behavior and community violence to academic outcomes through externalizing behavior, illustrated the pathway through which distal factors and proximal factors undermine the academic outcomes of participants in the low parental involvement group.

Few, if any, studies have utilized census tracts to examine separately pathways from (a) poverty, (b) unemployment, (c) population turnover, and (d) community violence to academic outcomes via externalizing behavior. Previous studies exploring the influence of ecological risk factors have utilized indexes of neighborhood-level economic disadvantage to measure neighborhood disadvantage (Brody et al., 2003; Cutrona et al., 2005; Sucoff & Upchurch, 1998). Problematically, the aforementioned approach may fail to explain the complex mechanism through which community-level factors influence adolescent development. Additionally, the use of youth' data (i.e, self-report), teacher report, standardized scores, and U.S. census data, youth, teachers, and standardized scores enhances the operationalization of the construct of interest.

Overall, perhaps the most significant contribution of this study are the findings indicating that consistent parental involvement reduced the impact of neighborhood poverty on youth's externalizing behavior. These results expanded on the notion that parental involvement mediates the association between neighborhood disadvantage and externalizing behavior in African American children (Farver, Xu, Epps, Fernandez, & Schwartz, 2005; Mrug & Windle, 2009) and early adolescents (Burchinal, Roberts, Zeisel, & Rowley, 2008; Evans & Kim, 2007; Kliwer et al., 2004; Pettit, Bates, Dodge, & Meece, 1999). Thus, even for older adolescents, the importance of having parents enforcing rules may provide structure and consistency for their daily activities, buffering the effect of social disorganization.

Parental Involvement as Protective Factor against Neighborhood Disadvantage

There is growing empirical evidence supporting the protective role of parental involvement against socioecological risk factors (Caughy et al., 2011; Rankin & Quane, 2002). In a study conducted with African American and Latino middle adolescents exposed to community violence, consistent parenting practices were associated with less aggressive behavior than youth from less well-functioning families (Gorman-Smith, Henry, & Tolan, 2004). Despite the increasing peer and environmental influence, parental involvement continues to provide support and communicate values that are important for older adolescents' decisions about their future (Kerpelman, Eryigit, & Stephens, 2008). It is plausible that parents' perception of social disorganization may prompt more restrictions, set clear rules and increase supervision of their children's activities to ameliorate environmental and peer influence. Similarly, strict parental control may protect adolescents living in high-risk neighborhoods from modeling violent behavior (Simons, Lin, Gordon, Brody, & Conger, 2002). It is worthwhile to note that strict parenting is not necessarily negative, rather sometimes adaptive in nature to protect children from unstable environments.

Of particular interest are studies indicating the deleterious influence that neighborhood disadvantage exerts on parental involvement (Burchinal et al., 2008; Rankin & Quane, 2002; Sameroff & Fiese, 2000). These results are consistent with the findings of Beyers and colleagues (2003), suggesting that more unsupervised time in the community and less positive parental involvement are associated with increased externalizing behavior among early adolescents. It is

plausible that parents facing financial problems may be less available, particularly emotionally available for their children, leading unsupervised youth to endorsement of unconventional norms (Rankin & Quane, 2002; Sampson et al., 1997).

The Effects of Poverty in the Low Parental Involvement Group

The pathways from neighborhood poverty to externalizing behavior significantly contributed to the low parental involvement model. Among all the community-level factors, poverty is the most salient one found to affect the neighborhood and family structure (Evans, 2004; O'Hare & Mather, 2003; Tolan & Grant, 2009), hindering adolescents' emotional and cognitive development (Jensen, 2009; Yoshikawa, Aber, & Beardslee, 2012). Neighborhood poverty, or the lack of structural and economical resources, generates physical stress and psychological stress (Ross & Mirowsky, 2001), affecting social process occurring within the neighborhood and its residents (Aneshensel, 2010). Thus, increased stress and reduced informal social support undermine parental availability and involvement in youth's activities (Beyers, Bates, Pettit, & Dodge, 2003). Inconsistent parental discipline (Jones, Forehand, Rakow, Colletti, & McKee, 2008; Semke, Garbacz, Kwon, Seridan, & Woods, 2010) is linked with aggressive behavior (Su, Simons, & Simons, 2011). Not only do African American youth have to contend with developmental challenges proper of their age (Murry et al., 2011), but they are also challenged by increased family distress () as well as environmental stress from exposure to neighborhood poverty (Tolan & Grant, 2009; Wilson, 1987).

These findings support literature indicating that African American early adolescents whose parents exert inconsistent discipline were more likely to endorse externalizing behaviors (Ge, Brody, Conger, Simons, & Murry, 2002). The same study found that adolescents exposed to neighborhood disadvantage are more likely to affiliate with deviant peers (Ge et al., 2002). A recent study conducted in an ethnically diverse group of adolescents found that neighborhood disadvantage was significantly associated with teacher-reported social aggression in youth, after controlling for parental nurturance (Caughy et al., 2012).

It is plausible that exposure to neighborhood poverty and inconsistent discipline increase stress level (Conger, Ge, & Elder, 1994; Evans, 2004) which, in turn, impact the coping strategies adopted by adolescents (Kohen, Leventhal, Dahinten, & McIntosh, 2008; Mrug & Windle, 2009). Furthermore, exposure to social disorganization affects social processes that shaped emotion regulation in adolescents (Thompson & Meyer, 2007). Emotional regulation refers to internal and external processes that initiate, maintain, and modulate the occurrence, intensity, and expression of emotions (Thompson, 1994). Thus, adolescents who perceive their environment as stressful or threatening are likely to respond impulsively (Mullin & Hinshaw, 2007; Zeman, Cassano, Perry-Parrish, & Stegall, 2006).

These results also support findings from a study conducted in a sample of African American children, indicating that poverty and low family involvement was related to higher problem behaviors (Ackerman, Schoff, Levinson, Youngstrom, & Izard, 1999). It is plausible that adolescents living in high poverty

neighborhoods are exposed to structural and social disorganization, which are associated with proliferation of illicit activity (e.g., drug trafficking, gang activity, prostitution) and poor role models that affect perceived contingency. Sampson (1999) coined the term perceived contingency, referring to the perception that individuals create about the utility of social norms and the goals they can achieve and based on what other people in their social network and community have achieved. For African American adolescents and their families, limited job opportunities may lead to a lack of credibility in institutional resources and norms (Ross & Mirowsky, 2001). Consequently, African American youth may perceive conventional norms of little utility value in that following societal rules does not guarantee them stable employment (Eccles et al., 1983). Moreover, adolescents may perceive endorsing aggressive behavior as more effective, to fit in their neighborhood, as well as a reaction against the perceived social inequalities.

Our findings are consistent with the social learning theory (Bandura 1977, 1986) in that adolescents living in high poverty neighborhoods affected by social disorganization are likely to perceive deviant behaviors as the norm (Kohen, Leventhal, Dahinten, & McIntosh, 2008; Mrug & Windle, 2009). It is plausible that participants may learn how to cope with environmental stressors by modeling their peers' emotional and behavioral response in order to learn how to react in similar situations (Denham, Mitchell-Copeland, Strandberg, Auerbach & Blair, 1997; Morris, Silk, Steinberg, Myers, & Robinson, 2007). Moreover, youth may adopt deviant behaviors as a way to fit in their environment (Cutrona, Russell, Hessling, Brown, & Murry, 2000; Salzinger, Feldman, Stockhammer, & Hood,

2002; Sampson et al., 1997). Thus, through social modeling, participants may emulate unconventional coping strategies endorsed by their deviant peers (Evans, 2007; Mrug & Windle, 2009).

Overall, the influence that neighborhood disadvantage exerts on adolescents is bidirectional in that (a) increases exposure to social disorganization and stressful events (Santiago, Wadsworth, & Stump, 2012); and (b) limits access to structural, economic, social and family resources (Wheaton & Clarke, 2003), hindering the acquisition of social, academic and occupational skills needed to succeed later in mainstream society (Aneshensel, 2010; Rankin & Quane, 2002).

Population Turnover and Academic Outcomes in the High Parental Involvement Group

Population turnover also contributes to the model and is associated with academic outcome. Although criteria for moderation were not met, the strength of the path between population turnover and academic outcomes in the high parental group deserves consideration. This result suggests that, adolescents who have moved recently or that live in neighborhoods affected by frequent population mobility, have poor academic outcomes despite consistent parental discipline. It is plausible that parents exert more behavioral control over their children as to compensate for the lack of social organization. Similarly, consistent parental discipline may be perceived as harsh by youth, posing additional stress in youth, and potentially hindering their ability to focus on task.

These results are consistent with Wilson's theory of neighborhood effects (1987). This term refers to the study of how community-level factors impact

individual outcomes (Leventhal & Brooks-Gunn, 2000; Morenoff, 2003). Wilson (1987) argued that neighborhood structural changes, particularly the depopulation of working and middle-class families have led to a higher concentration of poor, jobless, and socially alienated African American families. Consequently, the absence of working and middle-class families in disadvantaged neighborhoods may reduce the presence of role models, having important implications for African American youth's socioemotional development (Wilson, 1996).

Studies have documented the degree to which population mobility, particularly when adolescents move to high poverty neighborhoods may negatively impact their academic outcomes (Burchinal et al., 2008; Garibaldi, 1997). Crowder and South (2003) found that adolescents who are new to a high-poverty environment are more likely to dropout of school than those who are long-term residents. Similarly, the presence of new residents in the neighborhood or school setting, particularly deviant peers, may increase distrust among adolescents (Mennis et al., 2011; Salzinger, Feldman, Stockhammer, & Hood, 2002). Thus, increased stress levels due to unstable and changing social settings and networks as well as adolescents' perception of the neighborhood as unsafe may discourage students from attending school or focusing on academic tasks (Burchinal et al., 2008).

Population turnover is a byproduct of social inequality in which family resources dictate the academic, occupational and residential options available for adolescents. Neighborhoods with high population mobility are characterized by instable social networks, and overcrowded and underperforming schools (Kim &

Sunderman, 2005; Uwah, McMahon, & Furlow, 2008) which, in turn, affect academic outcomes (Evans, 2004; Gonzalez, Cauce, Friedman, & Mason, 1996; Rankin & Quane, 2002). Almost sixty years after Brown vs. Board of Education (1954), the racial segregation observed in many high schools across urban areas in the U.S. illustrates the institutionalized racism that persists, reinforcing the cycle of poverty among low SES American Americans (Williams & Williams-Morris, 2000).

Externalizing Behavior and Academic Outcome

The association between externalizing behavior and academic outcomes was the most significant association in both low and high parental involvement groups and it is widely supported in the literature (Dodge & Pettit, 2003; Maguin & Loeber, 1996; Masten et al., 2005; Saunders, Davis, Williams, & Williams, 2004). These findings are congruent with developmental literature, indicating the association between endorsement of aggressive behavior and low cognitive development (Burchinal, Roberts, Zeisel, & Rowley, 2008). In a study examining behavioral and academic changes when moving from high poverty to low poverty neighborhoods, adolescents obtained significantly higher achievement test scores than those in the control group (Leventhal & Brooks-Gunn, 2004). Similarly, the amount of time engaging in homework and safe school climate mediated the effects on academic outcome among low SES children and adolescents who moved to low-poverty neighborhoods (Leventhal & Brooks-Gunn, 2004).

In a longitudinal study following 205 children from childhood to early adulthood, externalizing behavior predicted changes in academic outcome during

the first 10 years (Masten et al., 1995). Our results also support findings from a study conducted with K-12 students, where participants who exhibit externalizing behavior were more likely to experience academic deficits, particularly in reading and math scores, compared to those endorsing internalizing behavior (Nelson, Benner, Lane, & Smith, 2004).

The numerous roadblocks that low SES African American students encounter may discourage them from pursuing academic goals (Spencer, 2001). According to the 2004 achievement report from the Baltimore Public school system, the reading and the math proficiency gap between low income and non-low income students was 22 and 21 points, respectively (Baltimore City Public School System, 2008). African American students, particularly males, are more likely than other minority groups to be suspended or be labeled as behaviorally disordered (Burchinal et al., 2008; Gregory, 1997). The perception of school as a hostile environment may lead to disengagement among students with behavioral problems (Midgley et al., 1996). Developmental literature suggest that academic alienation among low SES students may start early in elementary school. The increasingly challenging curriculum affect academically disengaged students, undermining their confidence in their intellectual abilities and sense of worth (Saunders, Davis, Williams & Williams, 2004).

Implications of the Present Study

The findings that parental involvement buffers the impact of poverty in African American youth' externalizing behavior has important implications. Through parental involvement in the form of discipline, adolescents learn and

practice rules and norms, thereby fostering social control. This positive influence can be strengthened by the inclusion of informal social networks. In the African American community, it is not uncommon to have extended family helping parents, particularly single mothers, in the child-rearing process. In addition, teachers and school staff may collaborate with parents to connecting them with resources and extracurricular activities. Thus, African American youth can acquire the social and academic skills needed to succeed in today's society.

The remnants of the financial crisis continue to affect the more disadvantaged. With an unstable labor market and an increasing number of people living below the poverty threshold, stakeholders from community agencies, religious organizations, schools, and legislators need to establish mechanisms to promote social organization. Social organization can be achieved by the promotion of social capital (Coleman, 1988; McKenzie, Whitley, & Weich, 2002) and collective efficacy (Sampson, Raudenbush, & Earls, 1997). Collective efficacy, which refers to the mutual trust and cohesion among neighbors, enhance willingness to intervene and collaborate for the betterment of the community (Sampson et al., 1997, p.18). In order to propose effective strategies to promote collective efficacy, it is necessary to draw on the strengths of the African American community. Among other characteristics, the sense of community, religiosity, and ethnic identity endorsed by many African Americans may set the foundation for a collaborative and active community.

The process of promoting collective efficacy in disadvantaged neighborhoods can be divided into structural and cognitive components

(McKenzie, Whitley & Weich, 2002). Structural components refer to the existing conventional rules, norms, roles, and social networks that assist neighbors to bond into groups, negotiate conflicts between groups, and navigate through the existing institutions, leading to social inclusion. The use of cost-effective resources, including public service announcements (PSAs), social media and flyers at train and bus stations may be used to promote resources available within the neighborhood. In addition, social activities may be promoted through schools, community-based organizations, and word-of-mouth to enhance social cohesion.

Conversely, cognitive components refer to the perception, values, and beliefs that promote collective-oriented behavior (Colletta & Cullen, 2000). Existing or new interventions should capitalize on the values endorsed among the African American community. The interaction between structural and cognitive collective efficacy may vary based on the location, policies, and resources available in the community (Sampson et al., 2002). It is precisely collective efficacy that can empower African American communities to build informal social networks, foster a sense of community and cooperation among neighbors. The promotion and sustainability of healthy communities is considered one of the best protective factors to prevent externalizing behaviors in youth (De Silva, McKenzie, Harpham, & Huttly, 2005). Promotion of collective efficacy among African American youth living in disadvantaged communities may provide access to informal networks, civic engagement, sense of belonging, solidarity, cooperation, and trust. Overall, the premise is that by strengthening the social

fabric available for African American adolescents, more human and material resources would be available to support their academic and occupational goals.

Strengths of the Present Study

The present study is unique in that it (a) used longitudinal data (i.e., three data points) to support the establishment of causal links, as well as the direction and impact of community variables on academic outcomes; (b) used a well defined epidemiological sample that facilitates generalization to similar individuals residing in comparable neighborhoods; (c) included multiple neighborhood factors that contribute to explain the within group variability in academic outcome.

The main contribution of this study is the use of a moderated mediation model that reflects the increasing environmental influence in adolescents, while acknowledging the role that African American parents play in their children's development. Additionally, the proposed model adequately determined the mechanisms by which neighborhood effects influence adolescents' developmental and academic outcomes. Secondly, our results expanded on previously reported findings on children and early adolescents exposed to neighborhood disadvantage. Third, the use of a multiple data sources (i.e., U.S. Census data, standardized scores, self-report and teacher's report) reduced the possibility that the outcome may be biased by common method variance. Most importantly, the proposed model aimed to depathologize the study of externalizing behaviors among African American adolescents by taking into account the contextual factors affecting their coping response and academic outcomes.

Limitations of the Present Study

There are several limitations on the present study. The result indicating that population turnover is associated with lower academic outcomes for the high parental involvement group should be interpreted with caution. For the present study, parental involvement refers to rules and consequences enforced by parents. However, parental discipline is only one aspect of parental involvement, which also includes parental reinforcement and monitoring. Further studies should explore the different aspects of parental involvement, like positive reinforcement, supervision and discipline on African American youth's behavior and academic outcomes.

The proposed moderated mediation did not include measures of social characteristics, like social cohesion or collective efficacy. Although the present study used structural characteristics, social characteristics also contribute to explain neighborhood differences and how they impact youth's behavior (Caughy et al., 2011). Additionally, the complexity of the model did not allow for the inclusion of measures of perceived control and perceived contingency, variables that contribute to academic outcome (Eccles & Wigfield, 2002). In the present study, gender was used as a covariate. Further analysis to describe the impact of neighborhood disadvantage on boys and girls' academic outcome is warranted. Although the use of U.S. Census Tracts serve to illustrate the impact of socioecological risk factors, the exclusion of individual indicators of neighborhood disadvantage does not allow for explaining the contributions of

distal and proximal factors. Thus, the mechanisms through which distal and proximal factors operate needs to be further investigated.

The use of secondary data posits several limitations, including information about data collection and lack of flexibility to assess study variables. We acknowledge that the use of teacher's scores of externalizing behavior only captured what occurred in the school setting, not including behaviors displayed by participants on their way home or in the neighborhood. It is plausible that teacher's reports of externalizing behavior may increase as perceptions of racism or discrimination become more salient among students. Particularly when African American students interact with teachers and school staff who are European American, exacerbating the use of aggressive behaviors both in the school and community (Fenning & Rose, 2007; Weinstein, Tomlinson-Clarke, & Curran, 2004). Additionally, participants' exposure to neighborhood disadvantage may vary in intensity and frequency. It is plausible that those who attended high schools outside their neighborhood may be exposed to more or less community violence.

We acknowledge that neighborhood effects may vary depending on the number of areas assessed and indicators. For the present study, we only consider urban neighborhoods. Testing a full range of neighborhoods (i.e., suburban and urban) in different cities and regions would render a better explanation of neighborhood effects. In addition, the use of census tracts as a proxy for neighborhood indicators many not correspond with the actual neighborhood

boundaries. Moreover, we do not take into account the way residents define and delimit their “neighborhood” (Sampson, 1999).

Future Directions

Despite the unprecedented progress in many areas of society, social inequalities continue to affect the academic and occupational outcomes of many African American adolescents. With the U.S. economy still in recovery and the draconian budget cuts on social services, future research needs to utilize the existing human and social resources available in the African American communities. To that end, community-based participatory research that involves community-based organizations, stakeholders, and community members is critical to identify the needs and strengths of each particular community. It is clear that the African American community is rich in social capital, as evidenced by the strong family ties and religiosity among its members. However, the challenge is how to promote social connections between the various groups and forces within neighborhoods. Paradoxically, as communication becomes faster and easier, individuals become more isolated, particularly the more disadvantaged. Therefore, further research on the role of informal social networks among older adolescents, specifically the networking process that takes place between and within groups, is needed to promote collective efficacy.

New models are needed to investigate the bidirectional influence that neighborhood disadvantage exposure exerts on adolescents through increased exposure to social disorganization (e.g., poverty, community violence) and limited access to structural, economic, and social resources (e.g., discrimination,

limited social network, perceived social exclusion). The use of ecological (Bronfenbrenner, 1979) and transactional ecological (Felner, 2005) frameworks is suggested to better understand the contribution of the environment in human behavior as well as to *depathologize* underserved minority populations. Future research on this population needs to explore the association between social disorganization, perceived control and perceived contingency and academic outcome. Perceived social exclusion is an indicator of disempowerment, which limits the acquisition of social, academic and occupational skills needed to succeed later in mainstream society (Rankin & Quane, 2002).

SUMMARY

CHAPTER V

In the last two decades, more studies have explored the impact of neighborhood contextual factors on adolescents' behaviors and academic outcomes (McLoyd, 1998; Schwartz & Gorman, 2003). African American adolescents are three times more likely to live in poverty (U.S., Census, 2010), reside in underserved areas (Aneshensel & Sucoff, 1996; Mello & Swanson, 2007), and witness and experience more community violence than their European American counterparts (Gorman-Smith & Tolan, 1998; Fitzpatrick et al., 2005; Kaynak, Lepore, & Kliever, 2011; Lambert, Ialongo, Boyd, & Cooley, 2005; Schwartz & Gorman, 2003; Thompson & Massat, 2005). Among racial and ethnic groups, African American youth experience the highest rates of serious violent crime (Bureau of Justice Statistics, 2012). Additionally, high rates of unemployment affect adolescents and their families' access to services and resources. Unemployment, in turn, is associated with population mobility in disadvantaged neighborhoods (Shaw & McKay, 1942; Wilson, 1987).

Living in a disadvantaged neighborhood has been associated with increased risk for exposure to stressful events (Leventhal & Brooks-Gunn, 2011) and increased externalizing behaviors (Herrenkohl, Kosterman, Mason, Hawkins, McCarty, & McCauley, 2012; Overstreet & Braun, 2000). Several articles assert that the impact of neighborhood disadvantage in children is weak, but it becomes more relevant as adolescents grow older (Elliot et al., 1996; McLeod & Shanahan, 1994). Thus, neighborhood disadvantage influences adolescents' perception and

interaction with other individuals and social services, which, in turn, is related to adolescent's developmental and academic outcomes (Sampson, Raudenbush, & Earls, 1997).

Based on the neighborhood disadvantage literature (Wilson, 1987) and the ecological model (Bronfenbrenner, 1976), the present study examined the complex mechanism by which neighborhood disadvantage influence academic outcomes of African American students through externalizing behavior. Specifically, the proposed model included pathways from poverty, unemployment, population turnover, and community violence to externalizing behavior, isolating the unique contribution of each variable. The present study used a moderated mediation model to understand how neighborhood risk factors operate and, to what extent influence, directly and indirectly, coping mechanisms and/or behaviors. The proposed model also examined the protective role of parental involvement as a mediator of the association between neighborhood disadvantage and externalizing behavior as well as between externalizing behavior and academic outcomes. An understanding of the role that parental involvement plays in promoting healthy adjustment among adolescents exposed to community disadvantage is at the heart of risk and resilience research.

Results indicate that externalizing behavior in 10th grade mediated the association between neighborhood poverty in 9th grade and academic outcomes in 11th grade. Additionally, parental involvement in 9th grade moderated the association between neighborhood poverty in 9th grade and externalizing behavior in 10th grade in the low parental involvement group. Findings in the high parental

involvement group revealed that consistent parental discipline decreased the adverse impact of neighborhood poverty among participating youth. Although not statistically different, the association between population turnover and academic outcomes in the high parental involvement group deserves consideration.

These findings shed light on the mechanism through which neighborhood disadvantage operates and, to what extent influence, directly and indirectly, adolescents' behaviors and academic outcome. Furthermore, results from the present study provide a better understanding of the buffering effects of parental involvement on adolescents' externalizing behavior. Preventive interventions need to capitalize on the strengths of the African American community, such as strong family ties and collectivism to enhance the social fabric. The combination of cost-effective, family-based interventions with community-based interventions may increase the social capital available for African American youth living in disadvantaged neighborhoods. This may entail policy changes to improve schools, create jobs in the community, provide more resources for youth and their families, and involve stakeholders and community leaders to promote collective efficacy.

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Appendix A

Demographic Questionnaire

Child/Family Demographics, Structure and Caregivers
1. Begin Time parent interview
2. End Time
3. Total Minutes
4. Sex of respondent
5. Is R child's birth mother
6. Is R child's birth father
7. Any other adults parenting child
8. Relationship code, 1st
9. Relationship code, 2nd
10. Relationship code, 3rd
11. Relationship code, 4th
12. Birth mother alive
13. Lived with birth mother 3 months or longer
14. Number of years lived with birth mother
15. Age of child when last lived with mother
16. Child has seen mother in past year
17. Time child spent with mother
18. Birth father alive
19. Lived with birth father 3 months or longer
20. Number of years lived with birth father
21. Age of child when last lived with father
22. Child has seen father in past year
23. Time child spent with father
24. Child in care since birth
25. Taken care of child most of life
26. Age of child when R first took care of
27. Specify time child spent with father
28. What is respondent in B13s relationship to child
29. Specify time child spent with mother
30. Respondent relationship to child other
31. Respondent education other
32. Name of adult who lives in household not mother or father
33. Highest grade of education for P2B
34. Child's birthday
35. Child's gender
36. Parent interview date
37. Child's birth month
38. Child's birth day
39. Child's birth year
40. Child's birth month, day and year
41. Month of parent interview
42. Day of parent interview

43. Year of parent interview
44. Child's age as of parent interview
45. Child receives free or reduced lunches
46. Respondent's age
47. Respondent's birth date
48. Respondent's MONTH OF BIRTH
49. Respondent's DAY OF BIRTH
50. Respondent's YEAR OF BIRTH
51. Respondent's Sex
52. R's relationship to child
53. R's marital status
54. R's level of education completed
55. R's main activity
56. Age of 2nd adult caregiver
57. Sex of 2nd adult caregiver
58. Relationship of 2nd adult caregiver
59. Second caregiver marital status
60. Second caregiver education completed
61. Second caregiver main activity
62. Age of 3rd adult caregiver
63. Sex of 3rd adult caregiver
64. Relationship of 3rd adult caregiver
65. Third caregiver marital status
66. Third caregiver education completed
67. Third caregiver main activity
68. Age of 4th adult caregiver
69. Sex of 4th adult caregiver
70. Relationship of 4th adult caregiver
71. Fourth caregiver marital status
72. Fourth caregiver education completed
73. Fourth caregiver main activity
74. Age of 5th adult caregiver
75. Sex of 5th adult caregiver
76. Relationship of 5th adult caregiver
77. Fifth caregiver marital status
78. Fifth caregiver education completed
79. Fifth caregiver main activity

Items: 5, 6, 7, 12, 13, 15, 18, 19, 22, and 24: 1 =YES, 2 =NO, 9 =DON'T KNOW or REFUSED

Items: 4, 35, 51, 57, 63, 69, and 75: 1 =Male, 2 =Female, 9 =DON'T KNOW REFUSED

Item 17 and 23: 1 =SEVERAL TIMES A WEEK, 2 =1 PER WEEK, 3 =1 PER MONTH, 4 =3-4 TIMES A YEAR, 5 =1-2 TIMES A YEAR, 6 =TWICE PER MONTH, 7 =NEVER, 97 =OTHER, 98 =DON'T KNOW, 99 =REFUSED

Appendix B

Parental Involvement Measure: The Structured Interview of Parent Management

Skills and Practices- Youth Version

Parent Discipline	All of the time	Most times	Sometimes	Hardly ever	Never	Never Possible
1. If your parents say you will get punished if you don't stop doing something and you keep on doing it, how often will they punish you?	1	2	3	4	5	6
2. When you break rules and your parents know about it, how often will you get away with NO punishment?	1	2	3	4	5	6
3. How often do your parents get angry when they punish you?	1	2	3	4	5	6
4. How often do you know what kind of punishment to expect when you have done something wrong?	1	2	3	4	5	6
5. How often do you think that the punishment you get depends upon how your parents feel at the time?	1	2	3	4	5	6

Parent Involvement	All of the time	Most times	Sometimes	Hardly ever	Never	Never Possible
1. How often do you talk with your parents about your plans for the coming day, such as your plans about what will happen at school or what you are going to do with your friends?	1	2	3	4	5	6

Parent Reinforcement	All of the time	Most times	Sometimes	Hardly ever	Never	Never Possible
1. On a day-to-day basis, how often do your parents notice you are doing a good job and let you know about it?	1	2	3	4	5	6
2. How often do your parents show you they like it when you help around the house without being told?	1	2	3	4	5	6

Parent Monitoring	All of the time	Most times	Sometimes	Hardly ever	Never	Never Possible
1. How often would your parents or a sitter know if you came home an hour late on weekends?	1	2	3	4	5	6

2. How often before you go out, do you tell your parents when you will be back?	1	2	3	4	5	6
3. If your parents or a sitter are not at home, how often do you leave a note for them about where you are going?	1	2	3	4	5	6
4. How often do you check in with your parents or a sitter after school before going to play?	1	2	3	4	5	6
5. When you get home from school, how often is someone there within one hour? By someone, we mean an adult like your parents or a baby sitter.	1	2	3	4	5	6
6. If you are at home when your parents are NOT there, how often do you know how to get in touch with them?	1	2	3	4	5	6

Appendix C

Teacher Report of Classroom Behavior- Conduct Disorder Subscale

Teacher Report of Classroom Behavior- Checklist Form	Almost never	Rarely	Some-times	Often	Very often	Don't know	Almost always	Refused
1. Ready to fight over the smallest insult from a classmate	1	2	3	4	5	6	7	8
2. Coerced classmates with physical violence	1	2	3	4	5	6	7	8
3. Bullied classmates into getting his/her way	1	2	3	4	5	6	7	8
4. Got into fights at the slightest provocation	1	2	3	4	5	6	7	8
5. Disobeyed teachers and other adults	1	2	3	4	5	6	7	8
6. Used physical intimidation to get what s/he wanted	1	2	3	4	5	6	7	8
7. Started physical fights with classmates	1	2	3	4	5	6	7	8
8. Lied	1	2	3	4	5	6	7	8
9. Took others property without their permission	1	2	3	4	5	6	7	8
10. Hurt others physically	1	2	3	4	5	6	7	8
11. Talked back to teachers and other adults	1	2	3	4	5	6	7	8
12. Broke rules	1	2	3	4	5	6	7	8
13. Damaged other peoples property on purpose	1	2	3	4	5	6	7	8
14. Physically attacked other children over the slightest insult	1	2	3	4	5	6	7	8