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# The Effect of Neighborhood Context on the College Aspirations of African American Adolescents

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Previous research on educational aspirations has focused almost exclusively on micro-level predictors of educational aspirations. Notably absent from these studies are measures reflecting the neighborhood context in which adolescents live. Drawing on Wilson's theory of neighborhood effects, the present study examines the extent to which neighborhood structural disadvantage predicts college aspirations among African American adolescents. The results show that concentrated neighborhood disadvantage exerts a significant influence on college aspirations, even when accounting for the micro-level context of adolescents. Overall, the findings suggest that living in a disadvantaged context lowers college aspirations among African American adolescents.

**KEYWORDS:** African American adolescents, college aspirations, neighborhood context

Past research has established that educational aspirations influence student outcomes such as academic achievement and, eventually, one's educational and occupational attainment (Campbell, 1983; Caplan, Choy, & Whitmore, 1992; Hill et al., 2004; Sewell, Haller, & Ohlendorf, 1970; Sewell, Haller, & Portes, 1969). Educational aspirations are a student's view and perceptions of his or her intention to pursue or obtain additional education (Campbell, 1983). A number of past studies have included measures of student aspirations (Flowers, Milner, & Moore, 2003; Hanson, 1994; Hauser & Anderson, 1991; Hill et al., 2004; Kao & Tienda, 1998; Smith-Maddox, 1999). Findings from this research suggest that most youth report extremely high educational aspirations and that the expectation of the vast majority of these youth is that they will complete college (Kao & Thompson, 2003).

Furthermore, much of the research on educational aspirations has found that individual-level factors such as a student's personal characteristics, family socioeconomic background, social class, academic history, curriculum track placement, ability level, peer groups, and teachers, as well as numerous other social and cultural resources found in a youth's social network, influence the formation of aspirations (Bohon, Johnson, & Gorman, 2006; Brooks-Gunn, Duncan, & Aber, 1997; Campbell, 1983; Davies & Kandel, 1981; Flowers et al., 2003; Floyd, 1996; Freiberg, 1993; Howard, 2003; Kao & Tienda, 1998; Lee & Bryk, 1989; Sewell, 1971; Sewell & Shah, 1968; Smith-Maddox, 1999; Wang & Gordon, 1994).

While this research has generated an impressive set of individual-level results, we know little about how neighborhood characteristics influence educational aspirations beyond individual-level predictors. Studies of educational aspirations often fail to investigate the types of neighborhoods that students live in and the influence that these neighborhoods have on educational aspirations. Community studies have documented that neighborhoods are stratified by race, place, and social and economic inequality and vary drastically along a number of dimensions (Logan & Molotch, 1987; Massey & Denton, 1993; Massey, Gross, & Shibuya, 1994; Wilson, 1987). Some neighborhoods have low poverty and unemployment levels, quality housing, access to good schools, low crime, low population turnover, and offer an abundance of resources and services. Other neighborhoods are overwhelmed with high crime rates, poverty, joblessness, residential instability, and lack of resources (Squires & Kubrin, 2005; Wilson, 1987). Such findings suggest that students' educational aspirations may be shaped by neighborhood structural characteristics (Flowers et al., 2003). Investigating this possibility is important, as educational trajectories have major implications for social mobility over the life course (Ainsworth, 2002; Brooks-Gunn et al., 1997; Duncan, 1994; Duncan, Yeung, Brooks-Gunn, & Smith, 1998; Roscigno, 1998).

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In the present study, we draw on Wilson's (1987, 1996) theory of neighborhood effects to examine the extent to which neighborhood structural disadvantage influences college aspirations among African American adolescents. Our focus on African American adolescents is important given the paradox that African Americans place high value upon education as a vehicle for upward social and economic mobility (J. D. Anderson, 1988; Hochschild, 1996; Howard, 2003; Marable, 2000; Mickelson, 1990; Rowley, 2000); however, African American students are not faring well in the American educational system (Mickelson, 1990: Smith-Maddox, 1999), On average, African Americans' academic performance (e.g., performance on standardized tests) is lower than that of their White and Asian American counterparts (Jencks & Phillips, 1998; Kao, Tienda, & Schneider, 1996; Miller, 1995). It is important to understand the source of this disconnect. We believe that our focus on African American students' college aspirations provides a vital starting point, as educational aspirations serve as critical precursors to educational and occupational attainment (Campbell, 1983; Caplan et al., 1992; Hill et al., 2004; Howard, 2003; Sewell et al., 1969, 1970).

## Theoretical Background

## Wilson's Theory of Neighborhood Effects

In recent years, the sociological literature on neighborhood effects has focused on explaining why neighborhoods matter (Sampson, Morenoff, & Gannon-Rowley, 2002). Neighborhoods and "neighborhood effects" have been important units of analysis for studying social interactions and social problems (Sampson et al., 2002). The term *neighborhood effects* commonly refers to the study of how the neighborhood-level social context influences an individual outcome in a way that is not reducible to individual-level characteristics (Lee & Bryk, 1989; Leventhal & Brooks-Gunn, 2000; Morenoff, 2003). Research on the contribution of neighborhood effects has grown rapidly, especially with respect to youth development (Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993; Duncan & Raudenbush, 1999; Garner & Raudenbush, 1991; Leventhal & Brooks-Gunn, 2000; Sampson et al., 2002).

The most influential theoretical explanation of how neighborhoods influence adolescent trajectories comes from William J. Wilson's (1987, 1996) theory of neighborhood effects and his work on the "truly disadvantaged." Wilson's (1987) work has focused on the "concentration effects" of neighborhood economic disadvantage and racial isolation on various adolescent outcomes. Wilson (1987, 1996) argued that structural changes in the American economy (e.g., the loss of well-paying manufacturing jobs) have weakened the employment base in many African American inner-city urban neighborhoods. As jobs become increasingly scarce in inner-city neighborhoods, many residents lose access to the formal labor market, resulting in the depopulation of working- and middle-class families from predominantly African

American neighborhoods (Wilson, 1987). These neighborhood structural changes have led to a concentration of the most spatially concentrated and racially segregated disadvantaged populations—especially poor, African American, female-headed families with children—often characterized by acute poverty, joblessness, and a sense of alienation from mainstream society (Massey & Denton, 1993; Sampson & Wilson, 1995; Wilson, 1987, 1996).

According to Wilson (1996), the depopulation of middle-class families influences the collective socialization of adolescents by shaping the types of role models youth are exposed to in their neighborhoods (Ainsworth, 2002). The presence of working- and middle-class neighbors provides varied benefits to the community. As Wilson (1987) argued, middle-class families serve as positive role models and contribute time and money to organizations that operate as social controls and promote conventional behavior. Their presence contributes financial and psychological resources that increase the quality of schools, social ties and networks, and recreational facilities and enhance police protection within a neighborhood. When middle-class families are present, they provide a "social buffer" that deflects the impact of high unemployment and poverty among those who are truly disadvantaged. However, the absence of working- and middle-class neighbors isolates poor families, and it is this concentrated neighborhood disadvantage that is likely to have important implications for adolescents' socialization, which largely occurs within their neighborhoods. In sum, Wilson's theory of neighborhood effects indicates that adolescents from disadvantaged neighborhoods are likely to be exposed to a number of risk factors that can derail positive adolescent development and thereby lead to an oppositional culture that tolerates deviant values and behaviors (Sampson & Wilson, 1995).

## Wilson's Theory of Neighborhood Effects and College Aspirations

The high concentration of poverty, racial segregation, unemployment, crime, and social isolation observed in extremely disadvantaged areas has created an environment in which deviance and problem behaviors are tolerated (E. Anderson, 1999; Kubrin, Wadsworth, & DiPietro, 2006; Kubrin & Weitzer, 2003; Sampson & Wilson, 1995; Wilson, 1996). As Wilson (1996) suggested, disadvantaged neighborhoods provide a fertile backdrop in which problem behaviors (e.g., violence, school dropout, and school failure) and oppositional values are allowed to flourish and spread in an epidemic fashion among young adolescents (Crane, 1991). Furthermore, Wilson (1987) argued that these oppositional values in disadvantaged neighborhoods lower future expectations, including educational endeavors.

With the out-migration from inner-city neighborhoods of working- and middle-class African American families who serve as role models, adolescents in high-poverty neighborhoods seldom interact on a sustained basis with individuals that represent mainstream society. According to Wilson (1996), this can be especially troubling for adolescent development. Because adolescents are sporadically interacting with employed and financially secure

neighbors, they are routinely shown that there are few benefits to achieving success in school, and there is no need to hold high educational aspirations (South & Baumer, 2000). These views thereby breed sentiments of fatalism and hopelessness about the benefits of education and what can be accomplished with additional schooling (Anderson, 1999; MacLeod, 1995; Wilson, 1996). As a result, problem behaviors such as dropping out of high school, grade-level failure, and low educational aspirations are normative (Brooks-Gunn et al., 1993; Crane, 1991; Crowder & South, 2003; Duncan, 1994). According to Wilson (1996), the increasing social isolation and disorganization of African American inner-city neighborhoods "contributes to the formation and crystallization" (p. 66) of widely transmitted attitudes and behaviors favorable to educational underperformance.

Moreover, adolescents living in these disadvantaged areas have few opportunities for exposure to different mainstream environments. The exception is schooling. While schools are thought of as mainstream institutions, it is possible that schools in neighborhoods characterized by concentrated disadvantage, social disorganization, and racial isolation reflect the social ills found within their neighborhood environment. As Browning and Burrington (2006) pointed out, "the potentially positive effects of school environments are often compromised in disadvantaged neighborhoods and may serve as contexts for the transmission of problem behaviors" (p. 237). Exposure to widespread problem behaviors (e.g., dropout, school failure) in school and in the neighborhood is likely to create a culture of uncertainty for minority adolescents, thereby resulting in educational underperformance and devaluation, as they are unsure of the benefit of educational achievement as a means to status attainment or upward mobility (Crane, 1991; Fordham & Ogbu, 1986; Massey, 1996; Ogbu, 1991; Wilson, 1987, 1996). In other words, youth have low educational aspirations because they do not expect educational success to equate to economic success (Kao & Tienda, 1998). In turn, the conditions in these neighborhoods lead youth to question the long-term pay-off of schooling and to scale back their educational or occupational aspirations (MacLeod, 1995).

Furthermore, Wilson's (1987, 1996) arguments have important implications for understanding neighborhood effects on adolescent outcomes. While researchers have rarely focused on how neighborhood context affects educational aspirations, they have focused on other developmental outcomes. Drawing on Wilson's arguments, researchers have observed that the economic context of a neighborhood appears to affect adolescent development (Brooks-Gunn et al., 1993, 1997; Chase-Lansdale & Gordon, 1996; Dornbusch, Ritter, & Steinberg, 1991; Duncan, 1994; Garner & Raudenbush, 1991; Simons, Murry, et al., 2002). These multidisciplinary studies explore the impact of neighborhood characteristics, especially neighborhood socioeconomic status, on adolescents' developmental trajectories. They have linked neighborhood characteristics to a number of cognitive and behavioral outcomes, such as low academic achievement, educational failure, dropping out of high school, teenage childbearing, and delinquency (Ainsworth, 2002; E. Anderson, 1999;

Brooks-Gunn et al., 1993, 1997; Bursik & Grasmick, 1993; Catsambis & Beveridge, 2001; Crane, 1991; Duncan, Brooks-Gunn, & Klebanov, 1994; Simons, Simons, Burt, Brody, & Cutrona, 2005; South & Baumer, 2000; South, Baumer, & Lutz, 2003; Sucoff & Upchurch, 1998). Thus, scholars are increasingly recognizing that neighborhoods matter and that more attention should be focused on understanding why neighborhood context matters for adolescent development (Connell & Halpern-Felsher, 1997; Sampson et al., 2002).

The above discussion highlights Wilson's (1987, 1996) theory of neighborhood effects across a variety of adolescent domains and points to the continued importance of deciphering neighborhood context on adolescent development, which is a key aspect of the current study. The primary question that motivates this research is whether and to what extent an association exists between neighborhood structural disadvantage and college aspirations among African American adolescents. In particular, guided by Wilson's theory of neighborhood effects, we hypothesize that living in a disadvantaged neighborhood context lowers African American adolescents' college aspirations.

#### Method

## Sample

This study is based on data from the Family and Community Health Study (FACHS), a multisite investigation of neighborhood and family effects on health and development (Simons, Lin, Gordon, Brody, & Conger, 2002). FACHS was designed to identify neighborhood and family processes that contribute to school-age African American children's development in families living in a wide variety of community settings. Data were collected in Georgia and Iowa using similar research procedures. Interviews were conducted with the target children, who were in fifth grade at the time of recruitment; their primary caregivers; and secondary caregivers when present in the home. The first wave of data was collected in 1997, the second in 1999, and the third in 2001, when the target children were in the ninth grade. In Wave 1, the participants were 867 African American children (400 boys, 467 girls; 462 in Iowa, 405 in Georgia) and their primary caregivers. In Waves 2 and 3, 738 of the children and their caregivers were interviewed again. This was a retention rate of 85%. Analyses indicated that the families that did not participate in Wave 3 did not differ significantly from those that participated with regard to caregiver income and education or target child's age, gender, and school performance. In the current study, we used data from Wave 3 because we were most interested in understanding how students in high school viewed their college aspirations. As Hill et al. (2004) point out, "adolescence is a critical time for forming aspirations for the future" (p. 1491). High school students are more likely than middle school and elementary students to understand their academic ability and assess their understanding of the educational process, thereby influencing their college aspirations. Our final sample consists of 720 participants who had complete data on our variables of interest.

Most of the primary caregivers (84%) were the children's biological mothers, 6% were the children's fathers, 6% were the children's grandmothers, 3% were foster or adoptive parents, 2% were other relatives, 1% were stepparents, and fewer than 1% fell into nonrelative categories (e.g., babysitters). Overall, 93% of the primary caregivers were female. Their mean age was 37.1 years (SD = 8.18 years) and ranged from 23 to 80 years. Education among primary caregivers ranged from less than high school (19%) to advanced graduate degrees (3%). The mode was a high school degree (41%).

## Sampling Strategy

A central goal of the larger study was to investigate the effects of neighborhood characteristics on the functioning of children and families. Families were recruited from neighborhoods that varied on demographic characteristics, specifically, racial composition (i.e., percentage African American) and economic level (i.e., percentage of families with children living below the poverty line). In selecting neighborhoods from which to draw the sample, neighborhood characteristics at the level of block group areas (BGAs) were used. A BGA is a cluster of blocks within a census tract. When delineating BGAs, the U.S. Census Bureau attempts to use the naturally occurring neighborhood boundaries. BGAs average about 452 housing units or 1,100 people. A typical census tract contains four or five BGAs. Using 1990 census data, BGAs were identified for both Iowa and Georgia in which the percentages of African American families were high enough to make recruitment economically practical (10% or higher) and in which the percentages of families with children living below the poverty line ranged from 10% to 100%. Using these criteria, 259 BGAs were identified (115 in Georgia, 144 in Iowa). The study families were recruited from these BGAs. As a result of this sampling strategy, the final sample of families and neighborhoods recruited involved participants who ranged from extremely poor to middle class. Past research on community effects shows that the most powerful contrasts are between poor and middle-income communities (Jencks & Mayer, 1990).

We believe that our sampling strategy yielded a relatively representative set of communities, with sufficient variability on economic status to allow the detection of significant relations between community characteristics and the outcome variables.

In Georgia, families were selected from BGAs that varied in terms of economic status and ethnic composition. Families were recruited from metropolitan Atlanta areas, such as South Atlanta, East Atlanta, Southeast Atlanta, and Athens. Within each BGA, African American community members were hired to serve as liaisons between the University of Georgia researchers and the communities. The liaisons compiled rosters of children who met the sampling criteria from school districts within each BGA. In Iowa, all BGAs that met the study criteria were located in two metropolitan urban communities: Waterloo and Des Moines. Families with African American children within the age criterion were identified through the Waterloo and Des Moines public

school districts. In both Georgia and Iowa, families were drawn randomly from rosters and contacted to determine their interest in participation. Of the families that could be located, interviews were completed with 72% of eligible Iowa families and just over 60% of eligible Georgia families. These recruitment rates are comparable with those obtained in earlier community studies of families using intensive measurement procedures (Capaldi & Patterson, 1987; Conger & Elder, 1994). Respondents were reimbursed for participating in the study. Primary caregivers received \$100, and target children received \$70. The reimbursement levels reflected the different amounts of time required of each family member for participation.

## Neighborhood Clusters

To operationalize neighborhood context in a meaningful way for our participants, we combined the 259 geographically proximal BGAs in Iowa and Georgia with similar levels of racial composition, socioeconomic status, poverty, family organization, housing density, and employment status into 39 larger "neighborhood clusters" (Sampson, Morenoff, & Earls, 1999; Sampson, Raudenbush, & Earls, 1997; Simons, Lin, et al., 2002). In forming these neighborhood clusters, the clear consideration was that they be ecologically meaningful areas composed of proximal and internally homogeneous BGAs with regard to a variety of census indicators (Sampson et al., 1997). Following the lead of Sampson et al. (1997, 1999), we used cluster analyses on the census data to place the BGAs into homogeneous neighborhood clusters within each geographic region. This process generated 39 neighborhood clusters, 20 in Georgia and 19 in Iowa. The number of study families in a neighborhood cluster ranged from 9 to 36, with most clusters (26) including 15 to 27 families. Furthermore, the neighborhoods within a cluster are internally homogeneous and shared a common set of socioeconomic and geographic characteristics (i.e., racial composition, socioeconomic status, poverty, family organization, housing density, and employment status). Thus, the study families assigned to particular neighborhood clusters were considered to be living within roughly similar community contexts (Sampson et al., 1997, 1999).<sup>1</sup>

#### **Procedures**

Before data collection began, four focus groups in Georgia and four in Iowa examined and critiqued the self-report instruments. Each group was composed of 10 African American families that lived in neighborhoods similar to those from which the study participants were recruited. Group members suggested modifications of items that they perceived to be culturally insensitive, intrusive, or unclear. After the focus groups' revisions were incorporated into the instruments, the protocol was pilot tested on 16 families, 8 from each site. Researchers took extensive notes on the pilot-test participants' reactions to the questionnaires and offered suggestions for further changes. The focus groups and pilot tests did not indicate a need for changes in any of the instruments used in the present article.

To enhance rapport and cultural understanding, African American university students and community members served as field researchers to collect data from the families in their homes. Prior to data collection, the researchers received 1 month of training in the administration of the self-report instruments. The training was ongoing to calibrate the skills of the researchers, as well as to sustain the consistency and ensure the reliability of the methods used during the visits. Two home visits were made to each family. The second visit occurred within 7 days of the first visit. At each home visit, self-report questionnaires were administered to the caregiver and the child in an interview format.

#### Measures

## Dependent Variable

College aspirations assesses the importance respondents attached to obtaining a college education. Higher scores on this measure represent greater importance of college aspirations among the respondents in the sample. Participants responded to the following question: "How important is it to you to have a college education?" The response format was as follows: not at all important = 1 (12%), not very important = 2 (14%), somewhat important = 3 (15%), very important = 4 (19%), and extremely important = 5 (40%). Most of the respondents indicated that obtaining a college education is extremely important. Furthermore, 26% percent of the respondents indicated that obtaining a college education was not important. The variation across categories on college aspirations raises the question of which predictors account for these differences. We attempt to account for this variation by assessing whether neighborhood structural disadvantage explains variation in college aspirations net of individual-level effects.

## Independent Variables

Individual-level characteristics. Although our primary interest is in whether neighborhood structural disadvantage influences college aspirations, it is important that we account for individual influences on our outcome. If we fail to account for individual-level characteristics that have been linked to the educational outcome, we run the risk of estimating models that suffer from potential "omitted-variable bias," which could result in cross-level misspecification (Duncan & Raudenbush, 2001; Leventhal & Brooks-Gunn, 2000). Omitted-variable bias results from the unmeasured individual or family characteristics associated with the community that might account for observed neighborhood effects on our educational outcome (Crowder & South, 2003; Duncan, Connell, & Klebanov, 1997; Tienda, 1991). Fortunately, the FACHS data set includes a wide range of family- and individual-level characteristics, allowing us to isolate the net effect of neighborhood context in our regression models.

In the current study, we account for 18 individual-level characteristics that have been associated with educational outcomes (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Crowder & South, 2003; Duncan & Raudenbush, 2001; Gottfredson, 2001; Leventhal & Brooks-Gunn, 2000; Rumberger & Palardy, 2005).<sup>2</sup> Family income-to-needs ratio measures family economic status by dividing each family's total annual income by its corresponding poverty threshold. Parental education reflects the number of years of school completed by the primary caregiver. Parental employment is a dichotomous variable assessing whether the primary caregiver is employed (0 = not employed. 1 =employed).3 Family structure is a dichotomous variable denoting households in which there are two caregivers in the home, in comparison with singlecaregiver homes (0 = single-caregiver family, 1 = two-caregiver family). Target gender is a dichotomous variable with female (0) as the comparison group. Public school is a dichotomous variable that assesses whether the target child attends a public school (0 = does not attend public school, 1 = attends public school). Parental school involvement assesses the extent to which parents were involved in their children's schooling. Parents were asked to indicate how often they talked with their children's teachers and attended meetings at their children's schools (1 = never, 5 = several times a week). Parental monitoring of school and homework is measured by three questions that assess how much time parents spend monitoring their children's academic work at school and home. Parents responded to the following questions: "How often do you talk to your child about his/her schoolwork?" "How often do you help your child with his/her homework?" and "How often does your child do his/her homework at the same time each day or night during the week?" The response format ranged from *never* (1) to *every day* (4). The  $\alpha$  coefficient was .71. Class failure assesses whether the target child failed a class in the past year. The target child responded to this question. Perceptions of academic ability taps how the target children view their academic ability. They were asked to indicate what kind of students they were (1 = a far below average student, 5 =a superior student). 4 School commitment was measured using three scales. The target child was asked to indicate his or her commitment to the educational process (1 = strongly disagree, 4 = strongly agree). The three items were "I try hard at school," "It is important to work hard for good grades," and "Even when there are other interesting things to do, I keep up with my schoolwork." The  $\alpha$  coefficient was .72. School attachment measures the extent to which the target child indicated that he or she cares about school and has positive feelings for school. The four items were "In general, I like school a lot"; "School bores me" (recoded); "I get along well at school"; and "I do not feel like I really belong at school" (recoded). The response format for the items ranged along a 4-point continuum (1 = strongly disagree, 4 = strongly agree). The  $\alpha$  coefficient was .74.

Teacher attachment measures the extent to which the target child cares about his or her teachers and believes that the teachers care about him or her. The three items were "I feel very close to at least one of my teachers," "I get

along well with my teachers," and "My teachers think that I am a good student." The response format for the items ranged along a four-point continuum (1 = strongly disagree, 4 = strongly agree). The  $\alpha$  coefficient was .75. School suspension measures the number of times the target child was suspended from school for violating school rules. The target child responded to this question. Positive peer network measures the target child's association with positive peers. Respondents were asked to indicate how their friends would react if they engaged in certain behaviors (1 = encourage you to do it again, 3 =encourage you to stop). The items were "If you did things at school that could get you into trouble, what would your close friends do?" "If you skipped school without an excuse, what would your close friends do?" and "If you cheated on a test, what would your close friends do?" The  $\alpha$  coefficient for the scale was .74. Personal arrest assesses whether the target child had been arrested in the past year by the police. The target child responded to this question. Urban is a dichotomous variable indicating neighborhoods located in urban areas with nonurban neighborhoods as the reference group. South is a dichotomous variable indicating neighborhoods located in the southern United States, with midwestern neighborhoods (0) as the reference group.

Neighborhood-level characteristics. Neighborhood disadvantage reflects racially segregated economic disadvantage (Sampson et al., 1997, 1999). Following Sampson et al. (1997, 1999), the disadvantage index is composed of five census variables: proportion of households that were female headed, proportion of persons on public assistance, proportion of households below the poverty level, proportion of persons unemployed, and proportion of persons who were African American. Previous studies have used some combination of these variables to assess community socioeconomic status (Duncan, 1994; Sampson et al., 1997). These variables are strongly intercorrelated, and factor analysis indicated that these variables loaded (>.68) on a single factor in our sample. The items were standardized and combined to form a measure of disadvantage. We added a constant (10) to the term, which eliminated negative values. The α coefficient was .89.

To control for additional neighborhood characteristics, we included three neighborhood structural characteristics that may be confounded with neighborhood disadvantage: neighborhood violence, neighborhood stability, and neighborhood cohesion (Sampson et al., 2002). Neighborhood violence was included to capture variations in the violent crime rate for each neighborhood. This variable was measured using reported incidents of homicide from police records. We selected homicide because it is widely considered to be the most reliable measure of violent crime that is least sensitive to underreporting (Sampson et al., 1997). We analyzed the natural logarithm of violent crime rates per 1,000 neighborhood residents. Neighborhood stability was included to assess the continuity of residence. This scale was constructed on the basis of factor analysis of the proportion of housing occupied by owners and the median tenure of residents. We added a constant (4.42)

to the term, which eliminated negative values. The factor loadings exceeded .75. Neighborhood cohesion was captured using a cluster of conceptually related items adapted from the Project on Human Development in Chicago Neighborhoods (see Sampson et al., 1997). The scale required primary caregivers to indicate whether 13 statements described conditions in their neighborhood (0 = false, 1 = true). The items asked the respondent whether neighbors get together to deal with local problems, their neighborhood is close knit, there are adults in the neighborhood children can look up to, people are willing to help their neighbors, people do not get along (reverse scored), people provide social support to each other (three items), people share the same values, people can be trusted, people do favors for each other, people in the neighborhood know who the local children are, and people watch over each others' property when they are away. The items were summed to form a composite measure of neighborhood cohesion. The  $\alpha$  coefficient was approximately .92.5

## **Analytic Strategy**

We used multilevel modeling techniques to examine the effects of individual- and neighborhood-level factors on college aspirations. Multilevel models are appropriate in this case because we are interested in an individual outcome that is affected by both individual- and neighborhood-level characteristics. Multilevel modeling has become customary for estimating contextual effects when individuals are clustered within neighborhoods (Goldstein, 2003; Kreft & De Leeuw, 1999; Rabe-Hesketh & Skrondal, 2005; Raudenbush & Bryk, 2002). These models explicitly recognize that individuals within a particular neighborhood may be more similar to one another than individuals in another neighborhood and therefore may not provide independent observations.

Statistically, this suggests that the residual errors are likely to be correlated within neighborhoods in nested data, which violates the assumption of independence of observations fundamental in traditional ordinary least squares analysis (Raudenbush & Bryk, 2002). Consequently, failure to account for nonindependence of observations can result in standard errors that are biased downward, increasing the chances of reaching incorrect conclusions (Goldstein, 2003; Kreft & De Leeuw, 1999; Raudenbush & Bryk, 2002). Multilevel models avoid violating the assumption of independence of observations that traditional ordinary least squares analysis commits in analyzing hierarchical data and produce correct estimates of standard errors (Raudenbush & Bryk, 2002). Furthermore, multilevel modeling techniques also allow for simultaneous investigations of both individual- and neighborhoodlevel variance components on the outcome variable of interest (college aspirations), while still maintaining the appropriate level of analysis for the independent variables. To estimate our theoretical models, we used hierarchical linear modeling (HLM) (Raudenbush & Bryk, 2002).6

Table 1

Correlations, Means, and Standard Deviations for the Study Variables

Variable	М	SD	Range	Correlation
Dependent variable				
College aspirations	3.679	0.660	1.00-5.00	_
Individual level				
Family income/needs	1.715	0.572	0.38-4.87	.092
Parental education	12.670	2.267	1.00-20.00	.037
Parental employment	0.745	0.436	0.00-1.00	.010
Family structure $(1 = two parents)$	0.530	0.492	0.00-1.00	001
Target gender (1 = male)	0.480	0.461	0.00-1.00	028
Public school	0.921	0.224	0.00-1.00	.106
Parental school involvement	2.330	1.315	1.00-5.00	.091
Monitor school/homework	5.087	1.504	4.00 - 12.00	.147
Class failure	0.394	0.048	0.00-1.00	135
Academic ability	2.705	0.703	1.00-5.00	.119
School commitment	6.322	1.599	3.00-12.00	.183
School attachment	6.668	2.115	4.00 - 16.00	.187
Teacher attachment	6.541	1.698	4.00 - 12.00	.161
Positive peer network	4.589	1.849	3.00-9.00	.117
School suspension	1.357	1.552	0.00-6.00	148
Personal arrest	0.110	0.298	0.00 - 1.00	.019
Urban $(1 = urban)$	0.580	0.493	0.00 - 1.00	.004
South $(1 = South)$	0.440	0.428	0.00 - 1.00	.024
Neighborhood level				
Neighborhood disadvantage	8.851	2.685	0.00 - 17.02	146
Neighborhood violence	2.218	1.043	0.570-6.810	102
Neighborhood stability	3.359	1.988	0.00-7.790	.099
Neighborhood cohesion	6.161	2.019	0.00-13.00	.161

#### Results

Table 1 presents the descriptive statistics and correlations for the study variables used in the analysis. The mean value for college aspirations is 3.679, suggesting that most of the adolescents in the sample displayed high college aspirations. These observations are consistent with past research, which shows that African American adolescents tend to have high educational values (Kao & Tienda, 1998; Mickelson, 1990; Smith-Maddox, 1999). Neighborhood disadvantage has a mean value of 8.851, while the mean level of neighborhood violence is 2.218. The mean values for stability and cohesion are 3.359 and 6.161, respectively.

Table 1 also presents the correlation matrix for the individual and neighborhood variables in our analyses. The correlation for the primary study variables shows a significant bivariate relationship. For example, neighborhood disadvantage (r = -.146) is correlated with an aggregated measure of college aspirations, as expected. This association suggests that neighborhood context

is associated with aspirations. However, it remains to be seen whether neighborhood structural disadvantage influences college aspirations when accounting for other covariates in a multivariate model. To investigate these bivariate relationships more closely, we now turn to the HLM multivariate results.

## **HLM Multivariate Analyses**

We begin by investigating the relationship between college aspirations on individual-level and then neighborhood structural variables in a multivariate context. Table 2 reports the results of a series of HLM regression models of college aspirations on individual- and neighborhood-level haracteristics. Before estimating the HLM multivariate models, we estimated an unconditional, random analysis-of-variance model (i.e., a model with no predictors or control variables). This model, also known as the null model, provides an estimate of how much of the variance in the dependent variable, college aspirations, is within neighborhoods and between neighborhoods and provides a baseline for comparison with later models. The results of the analysis of variance are presented in Model 1 of Table 2. As the data in Model 1 show, the total variance in the dependent variable, college aspirations, is 1.783. The amount of variance within neighborhoods is 1.599. The between-neighborhood variance is 0.184. This implies that about 90% of the variance in college aspirations is within neighborhoods or at the individual level, while the remaining 10% is between neighborhoods or at the neighborhood level.

Furthermore, the null hypothesis of no variation in the average college aspirations score between the neighborhood was rejected ( $\chi^2$  = 903, p < .01). This finding suggests that while most of the variance in college aspirations is within neighborhoods (90%) rather than between neighborhoods (10%), there is significant between-neighborhoods variance that can be modeled. In addition, the reliabilities for the intercept range from .73 to .79 across the four models. This suggests that we are able to generate reliable HLM estimates.

Model 2 in Table 2 presents the results of the 18 individual-level characteristics on college aspirations. The individual-level covariates are grand mean centered.<sup>7</sup> Each effect is adjusted for all other effects in the model. The results show that 9 of the individual-level covariates are related to college aspirations. College aspirations are higher among adolescents who perceive themselves to have strong academic abilities, a strong commitment to school, a strong attachment to school and teachers, and strong associations with positive peers and whose parents have more education and monitor their schoolwork and homework. On the other hand, class failure and school suspension reduced college aspirations. This suggests that those adolescents who failed classes in the previous year and experienced disciplinary suspensions were less likely to have high college aspirations. Thus, part of the explanation for why some adolescents exhibit higher or lower levels of college aspirations is that some of the respondents have individual-level characteristics that influence how they view the role of education in their lives. It is important to keep in mind, however, that our theoretical argument

Table 2
Hierarchical Linear Modeling Regressions of Individual- and Neighborhood-Level Characteristics on College Aspirations

Variable	Model 1	Model 2	Model 3	Model 4
Intercept, $\gamma_{00}$	3.313* (0.297)	2.681* (0.297)	2.606* (0.303)	2.580* (0.367)
Independent variables		b	b	b
Family income/needs		.044 (.038)	.042 (.036)	.046 (.035)
Parental education		.015* (.006)	.018* (.007)	.018* (.008)
Parental employment		003 (.055)	004 (.051)	004 (.050)
Family structure				
(1 = two parents)		027 (.057)	023 (.057)	021 (.059)
Target gender (1 = male)	)	.002 (.049)	005 (.045)	018 (.047)
Public school		158 (.166)	131 (.164)	166 (.166)
Parental school				
involvement		004 (.025)	003 (.024)	009 (.022)
Monitor school/				
homework		.048* (.020)	.055* (.021)	.050* (.020)
Class failure		086* (.034)	069* (.031)	075* (.034)
Academic ability		.027* (.010)	.034* (.014)	.031* (.015)
School commitment		.051* (.024)	.061* (.024)	.057* (.023)
School attachment		.047* (.015)	.045* (.017)	.043* (.017)
Teacher attachment		.023* (.010)	.019* (.009)	.013* (.006)
Positive peer network		.017* (.008)	.015* (.007)	.011* (.005)
School suspension		066* (.025)	057* (.025)	059* (.026)
Personal arrest		129 (.086)	114 (.089)	132 (.090)
Urban $(1 = urban)$		037 (.055)	044 (.057)	041 (.054)
South $(1 = South)$		037 (.068)	057 (.066)	067 (.062)
Neighborhood variables				
Neighborhood				
disadvantage			099* (.037)	091* (.037)
Neighborhood violence				041 (.032)
Neighborhood stability				.030 (.019)
Neighborhood cohesion				.097* (.037)
Random effects				
Neighborhood-level $\sigma^2$	0.184	0.184	0.135	0.085
Individual-level $\sigma^2$	1.599	1.340	1.340	1.340
Total $\sigma^2$	1.783	1.524	1.475	1.425
Total explained variance	_	.145	.173	.201

Note: N = 720 individuals, n = 39 neighborhood clusters. Values in parentheses are standard errors.

stresses the importance of neighborhood structural characteristics on college aspirations, net of individual-level controls.

The "neighborhood effects" literature cited by Wilson (1987, 1996) and described earlier emphasizes that residing in a community characterized by disadvantage and other social ills could have a negative influence on a number of adolescent outcomes, including college aspirations. We assess this possibility

<sup>\*</sup>p < .05.

in the models that follow. In Models 3 and 4, we included the effect of neighborhood structural disadvantage on college aspirations, while accounting for individual-level covariates. We observed that neighborhood disadvantage is significantly correlated with college aspirations. This finding suggests that living in a disadvantaged neighborhood context reduced college aspirations for some African American adolescents by about –.099 points for each unit increase in the disadvantage index. The effect of neighborhood socioeconomic status appears to operate independently of the effects of individual characteristics. However, it is unclear whether disadvantage remains a significant predictor of aspirations when other important neighborhood covariates are introduced.

Model 4 in Table 2 includes neighborhood disadvantage, as well as the addition of neighborhood violence, neighborhood stability, and neighborhood cohesion to the predictive equation of college aspirations. Again, the model accounts for the individual-level effects, which remain largely unchanged from Model 2. As shown, neighborhood disadvantage and neighborhood cohesion are the only two neighborhood characteristics to influence college aspirations in the full model. Consistent with our predictions, living in a disadvantaged and resource-poor neighborhood is a risk factor that decreases the chances of viewing college as highly important above and beyond individual-level attributes and key neighborhood controls. In particular, a one-unit increase in the disadvantage index results in a -.091 decrease in college aspirations. This result provides important support for Wilson's (1987, 1996) argument that adolescents who are consistently exposed to concentrated disadvantage are likely to hold or develop limited educational aspirations. In contrast, the regression coefficient for the neighborhood cohesion measure is related to college aspirations, indicating that an adolescent living in a cohesive neighborhood is more likely to have high aspirations. This finding suggests that neighborhoods high in levels of social cohesion serve a critical protective function and increase aspirations.

Moreover, Figure 1 displays the predicted values of college aspirations for adolescents who reside in neighborhoods that differ on levels of disadvantage. The predicted values were computed using the coefficients from Model 4 in Table 2 and assume mean values for all other variables. The predicted values associated with the estimated neighborhood disadvantage effect suggest that college aspirations range from about 2.7 in neighborhoods with high disadvantage (+2 $\sigma$ ) to about 3.9 in neighborhoods with low disadvantage (-2 $\sigma$ ), assuming mean values for all other variables. This translates into a 31% increase in aspirations going from a high-disadvantage to a low-disadvantage neighborhood. Collectively, the results suggest that neighborhood structural characteristics are important factors for understanding college aspirations and that they vary depending on neighborhood characteristics.

## Discussion

Given the importance of students' academic achievement for their subsequent educational and occupational attainment, understanding the factors

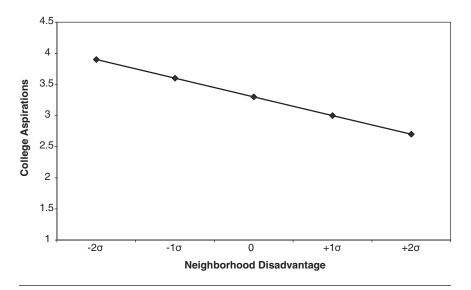


Figure 1. Predicted values of college aspirations at different levels of neighborhood disadvantage.

that influence achievement is critical. Researchers have shown a link between educational outcomes, such as academic achievement, and educational aspirations (Campbell, 1983; Caplan et al., 1992; Hill et al., 2004). These studies have focused almost exclusively on individual-level correlates to examine educational aspirations and have generated important findings. However, a consideration of the role of neighborhood context in influencing educational aspirations is noticeably absent. This lack of attention to contextual factors on educational aspirations is surprising given that neighborhood context has been shown to be an important predictor in shaping a variety of adolescent outcomes (Ainsworth, 2002; Brooks-Gunn et al., 1993; Crane, 1991; Crowder & South, 2003; Dornbusch et al., 1991; Duncan, 1994; Sampson et al., 2002; South & Baumer, 2000; Turley, 2003).

In the current study, we expanded on prior research by examining the impact of neighborhood context on college aspirations. Motivated by the work of Wilson (1987, 1996), we sought to determine the extent to which African American adolescents' college aspirations are influenced by neighborhood structural disadvantage. Wilson's (1987) work has focused on the effects of neighborhood disadvantage and racial isolation on various outcomes. We hypothesized that living in a disadvantaged neighborhood would lower adolescents' college aspirations. We expected this neighborhood effect to persist net of individual factors associated with college aspirations, and the results largely supported our expectation.

On the basis of our findings, neighborhood structural conditions do matter in the formation of college aspirations for African American adolescents. Our investigation shows that the structural characteristics of neighborhoods can indeed negatively shape students' college aspirations (Flowers et al., 2003). For example, our analysis shows that neighborhood disadvantage had an impact on lowering adolescents' college aspirations and suggests that these contextual effects operate largely independent of individual-level characteristics. Our findings are consistent with those of ecological researchers, who have shown that neighborhood socioeconomic inequality is a strong correlate of negative attitudes and problem behaviors (Sampson et al., 2002). Thus, neighborhood economic inequality combined with neighborhood racial isolation leads to poor educational and behavioral outcomes (Brooks-Gunn et al., 1993; Crane, 1991; Crowder & South, 2003; Dornbusch et al., 1991; Duncan, 1994; South & Baumer, 2000). Some researchers argue that economic deinvestment and inequality lead to a sense of hopelessness that pervades urban life to the point that the meaning of conventional beliefs and behaviors, such as college aspirations, is drastically altered (E. Anderson, 1999; Ogbu, 1991; MacLeod, 1995; Wilson, 1996). Our results lend support to this proposition.

Although a neighborhood control variable, our results support the theoretical argument that neighborhood cohesion is an important protective feature of neighborhoods that could improve adolescent outcomes (Sampson et al., 1999, 2002). Adolescents living in neighborhoods in which high levels of social cohesion exist had higher levels of college aspirations. This underscores the importance of adolescents' being integrated into social networks in their neighborhood. Neighborhood-level social cohesion appears to exert an important socialization function, possibly through informal social controls that foster communication between parents, neighbors, and adolescents about the importance of education, which influences beliefs and behaviors (Coleman, 1988; Sampson et al., 1999). Moreover, we observed that violence and stability are not directly associated with college aspirations.

Even as we stress the importance of examining neighborhood context, we must also note the importance of accounting for individual-level predictors. Although not the primary focus of this research, we found several individual-level characteristics that influence college aspirations. Consistent with prior research, parental education, parental monitoring of school and homework, class failure, academic ability, school commitment, school attachment, teacher attachment, positive peer network, and school suspension were all significant predictors of college aspirations (Campbell, 1983; Caplan et al., 1992; Hill et al., 2004; MacLeod, 1995). Specifically, those adolescents who perceive themselves to be good students, are committed to school, are attached to school and teachers, associate with positive peers, and have parents with higher levels of education who monitor their schoolwork have high college aspirations. On the contrary, those adolescents who failed classes in the previous year and experienced disciplinary suspensions were more likely to have lower college aspirations. Together, these individual-level characteristics

serve as important social processes that influence aspirations and should be included in any analyses of neighborhood effects.

The larger implications of our results suggest that policies and efforts to improve educational outcomes should not focus solely on individual-level factors but should also incorporate efforts that focus on neighborhood features. Our findings offer evidence of contextual effects influencing educational outcomes, which highlights the need to incorporate neighborhood context for understanding college aspirations (Ainsworth, 2002; Leventhal & Brooks-Gunn, 2004). Wilson's (1987, 1996) theory of neighborhood effects provides an important framework for understanding neighborhood structural disadvantage on adolescent outcomes. The effects of neighborhood disadvantage on college aspirations reinforce the importance of accounting for the social context in which adolescents reside.

One of the most pressing needs for future research on neighborhood effects is to identify the mechanisms through which contextual characteristics influence college aspirations. We were only able to estimate the direct effects of neighborhood influences on college aspirations. It is possible that neighborhood characteristics influence educational outcomes by interacting with individual-level characteristics. Although not significant in our results. future studies could examine whether individual-level characteristics moderate harsh neighborhood conditions on college aspirations. It is possible, for example, that school commitment, school attachment, teacher attachment, academic ability, and positive peer associations serve as social buffers to neighborhood structural disadvantage and increase benefits for neighborhoods high in cohesion. Thus, research that includes the interactions between individual- and neighborhood-level characteristics on college aspirations, as well as other outcomes, may help refine theories of neighborhood effects and enhance our understanding of how social context influences adolescent social behavior. Although the present study was able to identify neighborhood factors that were predictive of college aspirations, it provides only a piece of the larger puzzle. Further research is needed to understand the relationship between neighborhood characteristics and college aspirations.

#### Notes

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<sup>1</sup>To assess whether our findings were influenced by the creation of the neighborhood clusters, we replicated all estimated models in Stata (Version 9.2) using the original 259 BGAs and accounted for within-BGA (block group area) clustering of individuals. The results provided an identical set of substantive findings as those presented in the tables.

<sup>2</sup>As an astute reviewer correctly pointed out to us, estimating neighborhood effects is difficult and always involves some degree of unknown selection factors that may be confounded with neighborhoods; our study is no exception.

<sup>3</sup>Secondary caregiver employment status data were also collected for this study. However, when both primary and secondary caregiver employment status were entered into the model, they were highly collinear. We also estimated a model in which we interchanged primary caregiver employment status with that of secondary caregivers. The variable remained nonsignificant in the model.

<sup>4</sup>We acknowledge that grade point average (GPA) would be a better measure to tap academic performance than academic ability. However, because of data collection restrictions and privacy concerns, we were unable to collect GPA data from the students. To account for some level of academic performance, we used academic ability as a proxy for GPA.

<sup>5</sup>To assess multicollinearity among the predictor variables, we examined the variance inflation factor. In the current study, multicollinearity does not appear to be a problem, as none of the variance inflation factors was greater than 2.0, suggesting that the variables are theoretically and empirically distinct constructs (Fisher & Mason, 1981).

<sup>6</sup>It could be argued that our dependent variable is ordinal in nature and could be biased by treating the outcome as a continuous variable (Long, 1997). We reestimated all models using ordered logistic regressions, which assume proportional effects. The results of the ordered logistic models generated a pattern that was substantively identical to the results we obtained by treating our outcome as continuous in our models presented in this article. We present the results of the continuous outcome variable because the coefficients are easily understood and do not require estimating odds ratios or interpreting threshold estimates.

<sup>7</sup>In preliminary analyses, we explored random-slope models and cross-level interactions. However, the slopes did not vary, and the results reported are based on fixed-slope models. Furthermore, no significant cross-level interactions were observed.

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