

Schoolmate Context in Early Adolescence and the Educational Attainment of African American Males

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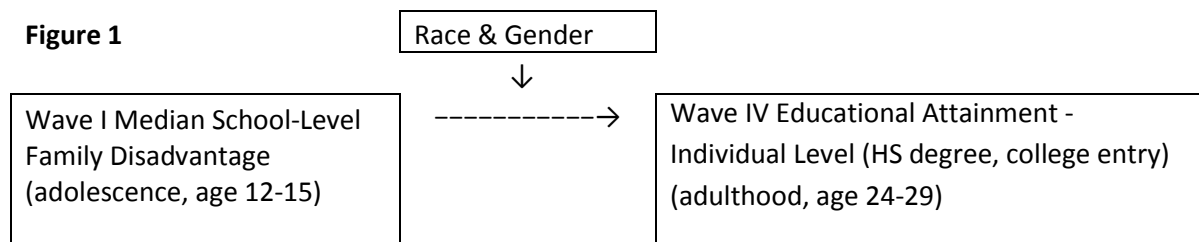
Extended Abstract

Background

Despite many decades of research on the black-white achievement gap, we lack an understanding of how gender and race intersect to influence educational attainment in different contexts, such as in families and schools. In spite of progress in reducing the race achievement gap, African American males have lower educational attainment than other groups. The gender gap in educational attainment is highest among African Americans.

Taking a life-course (Elder, 1985) and ecological approach (Bronfenbrenner, 1979), this paper uses the National Longitudinal Study of Adolescent Health to investigate how the level of family disadvantage of schoolmates in grades 7-8 (school-level index based on parents' education, poverty status, family structure, and teenage parenting) relates to the educational attainment of African American males in early adulthood. (Figure 1.) I make strategic comparisons with black females and white youth. This study focuses on early to middle adolescence, age 12 to 15, because this period of adolescence is a critical time of transition both developmentally and academically. The onset of adolescence and transition to middle school is characterized by growing focus on peer relationships, and time with peers increases. By age 16, many at-risk youth will have already dropped out of high school.

Figure 1



Brief Summary of Literature

Since publication of the influential 1966 Coleman report, Equality of Educational Opportunity, many studies have examined the effects of schoolmates' family backgrounds on individual students' educational outcomes. The Coleman report found the social composition of the school to be more strongly related to student achievement than any other school factor, after accounting for student's own social background. A large body of research has subsequently confirmed Coleman's findings that high poverty schools and neighborhoods are negatively associated with educational outcomes (Crane 1991; Harding; 2003; South, Baumer and Lutz, 2003), while socioeconomically advantaged schools predict positive outcomes (Brooks-Gun et al. 1993; Entwistle, Alexander and Olson, 1994; Entwistle, Alexander and Olson, 2005). For example, in a longitudinal study of Baltimore children, Entwistle, Alexander and Olson (2005) found that the SES level of school is related to average test scores and percentage of children held back. In schools where 90 percent of children received subsidized meals, the majority of students had been held back or assigned special education by the fifth grade.

Nationally, over 60 percent of African American and Latino students attend schools where a majority of the students are poor as compared with 18 percent of white students who attend high poverty schools (Orfield and Lee, 2005). Black children are more likely than other racial and ethnic groups to live in both poor families (National Center for Children in Poverty, 2010) and high-poverty urban neighborhoods (Shonkoff and

Phillips, 2000; McLoyd, 1998). High school dropout is concentrated in predominantly minority schools in large cities, mostly in segregated schools with high poverty rates (Orfield and Lee, 2005).

Gender and Race

In spite of extensive research on how school and neighborhood disadvantage relate to educational outcomes, limited research examines how these relationships may be conditional on race and gender. A few studies have found gender variation in the effects of having disadvantaged neighbors on educational outcomes. When variation by gender has been observed, neighborhood disadvantage appears to show a stronger relationship to academic achievement for black males than females (Ensminger et al, 1996; Crane, 1991; Entwisle, Alexander and Olson, 1994; Crowder and South, 2003). Crowder and South (2003) found the risk of dropping out to be similar for African American males and female adolescents, but in the most highly disadvantaged neighborhoods, black males were twice as likely to dropout as black females.¹ Recent evaluations of the Moving to Opportunity experimental demonstration have shown how the same neighborhoods and schools may be experienced differently according to gender, leading to different risk factors and worse outcomes among low-income minority boys (Kling, Ludwig, and Katz, 2005; Clampet-Lundquist et al., 2006). More research is needed on the effects of school peer disadvantage for different groups.

Effects of schoolmate disadvantages on educational attainment can vary by gender for many reasons. Gender affects the social environment, including socialization, expectations, and treatment by parents, teachers, other adults, and peers. How gender influences educational outcomes may vary depending on race/ethnicity and class and how these interact with the contexts experienced by these different groups.

In terms of socioeconomic environment, boys are exposed to more delinquent and violent peers in highly disadvantaged neighborhoods and schools. Some research has found that gender differences in social and behavioral problems may be stronger for boys living in higher-stress circumstances such as low-income and single-parent families (Kupersmidt et al, 1995). Low-income and single-parent families are also not able to be as involved and provide as much monitoring as more affluent two-parent parents.

Race may also shape the influence of gender in education. Compared to other racial/ethnic groups, African American parents give boys relatively more freedom and girls less freedom, according to one study (Bulcroft, Carmody, and Bulcroft, 1996). African American female youth may benefit from protective effects of the historically strong female role models in black families, including relatively high labor participation rates of black women.

Many studies have found that African American students value education at least as much as their white peers of similar socioeconomic and family backgrounds (Mickelson, 1990; Ainsworth-Darnell, and Downey, 1998; Spencer et al., 2001.) However, some scholars have argued that norms and expectations surrounding masculinity can intersect with race, class, and neighborhood and school contexts in ways that interfere with education (Anderson, 1999; Thomas and Stevenson, 2009; hooks, 2004; Davis, 2001, 2003; Noguera, 2003). Some research has found that that African-American youth view black girls as more achievement oriented than black boys (Hudley and Graham, 2001), and that among low-income black children, mothers and teachers hold this same view (Wood et al, 2007; Ross and Jackson, 1991). Many scholars argue that black males are treated differently than other groups in school (e.g., Davis, 2003; Noguera, 2003; Skiba et al., 2002; Ferguson, 2001; Lopez, 2003). Black males—especially low-income black males—are more likely than other groups to be placed in special education, suspended, and expelled—factors related to disengagement, school failure, and drop-out (Noguera, 2003; Davis, 2003; Skiba et al, 2002).

¹ Crowder and South report that among white youth, neighborhood disadvantage has a much stronger effect on risk of dropout for white females than males. White males are more likely than white females to drop out in most levels of disadvantage, but in extremely disadvantaged neighborhoods, females are at higher risk for dropout than males.

Based on the disproportionately large and historic gender gap among African Americans and some of the factors discussed above, I hypothesize that having disadvantaged schoolmates will show a more negative relationship to the educational attainment of black males than females.

Data

This paper uses data from Waves I and IV of the National Longitudinal Study of Adolescent Health (Add Health), a representative longitudinal survey of U.S. adolescents. The primary sampling unit for Add Health was high schools, with a total of 80 high schools and 52 middle schools participating. Wave I, administered in 1994-1995, included an in-school survey (n=90,118), in-home survey (n=20,745), parent survey (n=17,670), and a survey of school administrators. Follow-up Wave IV in-home interviews were conducted in 2008-2009, when study participants were age 24-32 (n=15,701). The primary sample for this study is comprised of non-Hispanic black and white students who were in the 7th to 8th grade at Wave I and completed both Wave I and Wave IV interviews.

Measures

Dependent Variables. The study outcome is educational attainment. Educational outcomes include high school degree completion (versus a GED or dropping out) and college entry (versus high school degree).

Independent Variable. The key independent variable is median family disadvantage at the level of schools. This study focuses on four demographic factors of family disadvantage, outlined below. These factors, which predict children's educational attainment, are summarized in an index of cumulative risk (Rutter, 1979). This risk index of individual family disadvantage has a total of 7 points, with 7 representing the greatest disadvantage. Then a median score was created for each school to summarize the level of family disadvantage of its students. At the level of schools, the school medians of family disadvantage range from 1 (lowest disadvantage) to 5 (highest disadvantage).

Index of Family Disadvantage:

- 1) *Parent's education*, based on the education of most highly educated parent, where 3= less than high school, 2=high school degree, and 1=some college or trade school, but no degree. (Reference group is having at least one parent with a college degree or more, score of 0.)
- 2) *Poverty status* – Score 2 if household income in the past year (1994) was below the Federal poverty threshold or the family received welfare within past month (AFDC, Food Stamps, or housing assistance). Score 1 if household income was between poverty threshold and 150% of poverty threshold (based on parent survey).
- 3) *Nonintact family structure*- Score 1 if not living with 2 biological parents. (Including all types of nonintact family status predicted educational attainment notably more than single parent status alone.)
- 4) *Teenage mother* – Score 1 if Add Health participant was born to a teenage mother. (This variable was only computed for youth whose biological mother completed the parent survey.)

Control Variables. This study uses extensive family, individual, school, and community-level controls to address potential confounding variables, including selection into schools:

Individual-level control variables:

- Picture vocabulary test (PVT). This test measures verbal ability, partially capturing crystallized intelligence. Ability is an important individual determinant of educational attainment.

Family control variables:

- Individual-level family disadvantage index. Includes multiple demographic disadvantages that predict educational attainment: poverty status, highest education of parent, intact family status, whether student was born to a teenage mother.
- Immigrant status – either parent born outside of the U.S.
- If parents' chose their neighborhood because of school quality. This variable is included to try to address parent characteristics that may be associated with school choice.

- Quality of parent-child relationship – parent’s report of how often parent/child get along well.
- Parental aspirations for child’s education - measured by parent’s report of how disappointed parent would be if her child did not graduate from college.

School control variables:

- School region (west, Midwest, south, northeast)
- Type of school (public vs. private)
- School size (small, medium, large)
- Urbanicity (urban, suburban, rural)
- Racial composition (percentage minority)
- Measures of school quality: a) Percentage of full-time classroom teachers holding master’s degrees; b) Large class size (average class size over 30 students)

Community control variables:

- County crime rate (average county level total crime rate per 100,000 population)
- Census tract poverty rate.

Analytical Approach

For each educational outcome, I ran separate logistic models by race and gender to examine the relationship between the level of family disadvantage among schoolmates (school-level index) and educational attainment at the individual level. The subpopulation eligible to enter college must have completed either a high school diploma, GED, or certificate of high school completion.

I also compared predicted probabilities at different levels of the median of schoolmate disadvantage.² Models were statistically adjusted for weighting and clustering to address sampling by school and school effects on the individual.

Results

Descriptive Statistics. School medians range from 1 to 5 (where half the student body has a score of more than 5, and half has a score less than 5). The modal score is 2 for white students; black students have a bimodal distribution, with 5 as the most common score, closely followed by 2. Thirty percent of black youth attend schools in which the median level of family disadvantage is 5, the highest level, as compared with 2% of white youth. African American youth disproportionately attend schools with disadvantaged peers.

Regression Models. Results from logistic regression models show a stronger relationship between level of schoolmate disadvantage and educational attainment (completing high school and entering college) among African American males than females. Gender patterns among white youth vary depending on the educational outcome.

Among African American males, schoolmate disadvantage, but not individual family disadvantage, negatively predicts high school graduation after accounting for individual, family, school, and community factors, including census tract poverty rate. Among black females, the reverse is true: only individual family disadvantage predicts high school graduation (versus dropping out or obtaining a GED).

Three levels of schoolmate disadvantage show an increasingly negative relationship to high school graduation among black males. Compared with low levels of schoolmate disadvantage (median score of 1-2), medium-high schoolmate disadvantage (median of 3-4) is associated with a 52% decline in the odds of graduation (OR=.48, p<.10), while the highest level of disadvantage (median of 5) is associated with a 79% decline in the odds of graduation (OR=.21, p<.01). (Most African American 7-8th graders attend a school in which the median schoolmate disadvantage is at least 3.) I also ran predicted probabilities of high school graduation at these three levels of median schoolmate disadvantage. African American males attending

² The predicted probabilities allow simulation of different levels of median schoolmate disadvantage, while keeping other variables at their actual values. Comparing predicted probabilities among groups also avoids the problem of possible unequal residual variance among groups.

schools with low levels of schoolmate disadvantage (median score of 1-2) have a 78% probability of high school graduation; those attending schools with medium-high levels of schoolmate disadvantage (score of 3-4) have a 67% probability of graduation, while those experiencing the highest levels of schoolmate disadvantaged (median score of 5) have a 50% probability of graduation. By contrast, the predicted probabilities of high school graduation among black females remain around 80% regardless of the level of schoolmate disadvantage.

Looking at the outcome of college entry, conditional on completing high school, schoolmate disadvantage negatively predicts college entry among black youth, but only when the disadvantage is highly concentrated—at the highest threshold of 5. Attending 7-8th grade with highly disadvantaged schoolmates (school median score= 5 versus <5), is associated with a 92% decline in the odds of entering college among black males (OR=.08, $p<.001$) and a 61% decline among black females (OR=.39, $p<.01$), after accounting for individual, family, school, and community factors. Translating this into predicted probabilities, black males attending schools with the highest level of schoolmate disadvantage (median=5) have a 14% probability of entering college, while those attending less disadvantaged schools (median<5) have a 50% probability of entering college, conditional on completing high school. By contrast, black females attending schools with the most disadvantaged schoolmates (median=5) still have a 55% probability of entering college, conditional on completing high school, with that probability increasing to 71% in less disadvantaged schools (median<5).

Discussion and Significance

Black youth are more likely than white youth to experience multiple family disadvantages, such as low socioeconomic status and nonintact family structure, and to attend schools with children who also have multiple family disadvantages. This study finds support for the hypothesis that concentrated schoolmate disadvantage more negatively predicts educational attainment among African American males than females. Black males and females may be experiencing a different environment within the same disadvantaged school contexts. Black females may also have some protective factors increasing their academic resilience.

This research makes several contributions. It adds to current knowledge about how relationships among family disadvantage, school context, and educational attainment vary by race and gender, in particular for African American males in early to middle adolescence. This study uses a more comprehensive measure of family background factors than is typical in education research, such as measures of peer poverty or free/reduced lunch status. In addition, most studies focus on educational achievement (test scores) rather than attainment. I also examined multiple levels of educational attainment outcomes, finding that some patterns differed depending on the level of educational outcome. Finally, I used available survey data to control for selection into schools to reduce selection bias in the study results. Although the analysis controls for Census tract poverty rate and many school factors, it is possible that other unmeasured school factors associated with having disadvantaged schoolmates could contribute to the relationship between schoolmate disadvantage and educational attainment.

The findings of my study echo patterns identified in the neighborhood effects literature. Some studies of race and gender patterns found that dimensions of neighborhood socioeconomic composition showed a stronger relationship to academic outcomes (high school graduation and math scores) for black males than for females (Ensminger et al, 1996; Crane, 1991; Entwisle, Alexander and Olson, 1994; Crowder and South, 2003).

Gender differences among African Americans and other racial/ethnic groups warrant more attention. Individual status configurations influence positions in social structures, including in schools and the economy, and affect micro interactions. The gender gap in educational attainment among blacks has long historic roots. This national population-based study complements existing qualitative research related to the gender gap among African Americans. More research is needed to explain the large gender gap in educational attainment among African Americans.