DOCUMENT RESUME

ED 361 450 UD 029 462

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TITLE Athletic Investment and Academic Resilience among African-American Females and Males in the Middle Grades. Research Report #3.

INSTITUTION Cleveland State Univ., OH. Urban Child Research Center.

PUB DATE Dec 92
NOTE 32p.
AVAILABLE FROM Urban Child Research Center, Levin College of Urban Affairs, Cleveland State University, Cleveland, OH 44115.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Academic Achievement; Academic Aspiration; *Academic Persistence; *Athletics; *Black Students; Black Youth; Grade 8; Junior High Schools; *Junior High School Students; Middle Schools; National Surveys; School Holding Power; Sex Differences; Statistical Analysis; *Student Participation
IDENTIFIERS *African Americans; Middle School Students; National Education Longitudinal Study 1988; *Resilience (Personality)

ABSTRACT

This study looks at the relationship between athletic participation among middle grade African American students and academic achievement, particularly athletics, as an instrument through which students gain academic resilience and attachment to academic goals. The data for the analysis were drawn from the base year of the National Education Longitudinal Study of 1988 (NELS:88), a nationally representative sample of 24,599 eighth graders. The African-American subsample included 1,105 male and 1,112 female public school students. Multiple regression analyses were used to estimate the net or direct effect of interscholastic and intramural athletic participation on the academic resiliency of African American students as measured by educational aspiration, investments in pro-academic behaviors, and social status among their school peers. The analysis found that sports participation is positively associated with black eighth grade male aspirations to enroll in academic or college preparatory programs in high school, with having definite plans to complete high school and with plans to attend college. This pattern is similar for females, although their educational plans are more strongly influenced by intramural participation than by interscholastic participation. In addition, the data show positive links between athletic participation and several indicators of pro-academic investment behaviors and attitudes. Four tables are included. (Contains 53 references.) (JB)

Athletic Investment and Academic Resilience Among African-American Females and Males in the Middle Grades

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December, 1992

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Introduction

Considerable educational policy debate centers around what can be done to prevent academic failure and increase academic success among African-American students, particularly prior to or at the onset of adolescence. Researchers, parents, and teachers seem to agree that if youngsters are not reached before or during early adolescence, there is great danger of students later becoming "unreachable" by conventional means. In recent years the discussion about the adolescent experience, particularly in schools, has emphasized the view that the inability of children to cope with different forms of stress in their environment lies behind such "youth problems" as delinquency, teenage pregnancy, and withdrawal from school. In this literature, unfortunately, African-American youth are used to symbolize these problems and, little attention has been given to the many ways in which African-American children can be taught and encouraged to develop the habits of persistence and resilience (Winfield, 1991). Neither has there been a concerted effort to determine the extent to which different orientations to problem-solving and collective work that may have a cultural basis can be incorporated into effective middle school practices.

Of particular concern to educators is the problem of identifying and implementing strategies that provide new incentives or capitalize on existing ones as early as possible to motivate students in pro-academic behaviors such as doing homework, exerting effort in class, coming to class regularly (on time and prepared), and concentrating on high academic achievement. In addition, there is growing concern over how to find new ways to reach students who have never shown sufficient attachment to academic tasks and how to re-attract students who have lost interest in academic pursuits over the years. A wide range of interventions have been proposed toward these and other ends, including uniforms as a required form of dress, single-sex schools (or homerooms), and fines or "classroom sentences" imposed on parents who are not able to insure that their children attend school. But these types of policies do not address the question of how student interests can be linked to academic investments, or how schools can provide academic opportunities for students to express and expand upon pursuits in which they already show a willingness to exert considerable effort.

Much of the research suggests that efforts to prevent students from being retained in grades, falling behind in class and dropping out of school altogether must be initiated no later than the middle school years and preferably earlier. The growing awareness of (early) adolescence as a "period of peril or promise" has led many educational researchers to focus on the middle grades as a distinct area of study (Childrens' Defense Fund, 1988; Epstein & MacIver, 1990). This movement is based on the premise that, if the middle (sixth, seventh and eighth) grades represent a time of "crisis" in students' development and educational experiences, they can also provide the structure in which critical interventions can be implemented to help more students stay and succeed in school. Thus, the middle grades are not a mere extension of the elementary grades or an obligatory prelude to high school. Instead, effective middle school organization is that which matches educational curriculum and practice with early adolescents' developmental needs, including the need for diversity, for self-exploration and self-definition, for meaningful participation in school and community, for positive social interaction with peers and adults, for physical activity, for competence and achievement, and for structure and clear limits (Dorman, 1987). Put simply, as the cultural and demographic backgrounds of school children in the United States change, effective middle schools must invoke more inclusive notions of education if they are to be effective in engaging and challenging students, and in channelling their considerable energies and interests.

In this context, the wisdom of interscholastic athletics for middle graders has been hotly debated (McEwin, 1981; Magill, 1983; Riemcke, 1988). For some, no other extracurricular activity offered to middle school children so sharply conflicts with the notion of education as an intellectual (or rational) exercise than does athletic participation; indeed, some critics see athletic involvement as anathema to the development of academic skills (Conant, 1959; McEwin, 1983). We suggest that athletic participation may provide unique opportunities for students--especially African-American males and females who tend to devote considerable time, energy and resources to athletic pursuits--to learn and practice strategies that help students to make greater investments in academic pursuits and to recover from disappointing performances by re-investing academically and making constructive improvements in performance. In a recent study (Braddock et al. 1991), we

examined the relationship between academic resilience and athletic involvement for African-American males, particularly those "at-risk", in the middle grades. This paper extends our earlier analysis to African-American females, with the view that athletic involvement is an instrument through which they too develop increased academic resilience and attachment to school and academic goals.

Brief Review of Research on African-American Female Adolescents

Very little research has been done on the effects of sport participation for early adolescents, less about African-American children in the middle grades, and even less about African-American females in the middle grades. The vast majority of research on sport in the educational environment focuses on the effects of high school athletic participation on European and African-American males, emphasizing "black-white" differences in athletic participation and outcomes such as status, academic achievement, and educational attainment (Picou, 1978; Braddock, 1980; 1981; Thornton, 1982; Trent & Braddock, 1992). Empirical studies that have examined sport participation among children in the middle grades generally focus on the physical consequences of intense athletic activity for early adolescents rather than the academic consequences (Coop & Rotella, 1991).

The relative absence of research on African-American females in both the athletic and academic spheres (along with many others) may result from a larger ideological problem--a society built upon the primacy of race presupposes an equality between race and gender. Such a theoretical orientation to African-American social development discourages research specifically focused on the lives of African-American females and encourages the view that it is redundant or even unscientific. In any case, the social development of African-American females does not receive the same attention from researchers as that of their "ethnic-gender" peers.

However, the meanings of gender and race are being engaged and examined in various literatures (Collins, 1992). Some educational researchers have pointed out that African-American females are not either female or black but are simultaneously and

inseparably part of another shared and lived experience, and they help make and occupy distinctive positions within the structure of schools (Grant, 1984). For example, African-American females tend to occupy the middle of the grading (achievement) structure, above African-American males but below European-American females and males (Hare, 1979). Other studies of African-American females in the educational context report that their educational/occupational aspirations are higher than those of black males and white females (Smith, 1982); their aspirations tend to remain high through their school experience even as they become less focused in the later grades (Coates, 1987); they are likely to have fewer male friends or friends of other ethnic backgrounds; they feel more socially isolated than other ethnic-sex subgroups in desegregated schools and feel this isolation is reinforced by teaching practices and the school structure (Shofield & Francis, 1982; Damico & Scott, 1985; Scott-Jones & Clark, 1986); and their coping styles and behaviors are more consistent, stable, and broader than those of their male peers (Fahs, 1987). Comparison of the effects of athletic investment on academic persistence and resilience for African-American males and females is a first step in distinguishing the patterns of sport participation and its effects on young African-American students in general and more specifically delineating some of the academic consequences of an aspect of school life that has been virtually ignored among young African-American females.

Persistence and Academic Resilience

Rutter (1987) defines resilience as an individual's positive response to situations of stress and adversity. From this viewpoint, it is seen as a protective mechanism which is likely to emerge from specific personality features such as self-esteem or from family cohesion and the availability of external support systems which reinforce coping efforts. Within this study, however, academic resilience is viewed not as a personality or individually-held trait which emerges in response to academic failure but as akin to a kind of persistence which develops out of students' own athletic investments (Campbell, 1983). In this sense, academic resilience and attachment parallel the athletic persistence and determination which is generated in the day-to-day activities of coming to practice, stretching and conditioning the body, competing, and finally, starting the process all over again despite occasional losses.

Rutter (1987) argues that there has been a shift from concentrating on risk-vulnerability toward examining the processes of negotiating risk situations, and that future research should focus more on protective mechanisms and processes and examine the interaction of different background characteristics such as sex and race in determining individual variations in risk-response.

Although much of the research literature suggests that young African-American males are particularly "at-risk" for school failure, a factor which may predate later difficulties is the risk of not becoming attached to academic goals. Several studies have shown that although African-American male students begin their studies with high levels of enthusiasm, they lose their early enthusiasm over time and respond less and less to academic demands (Garibaldi, 1988; Simmons & Grady, 1990). This academic resignation seems to set in after initial difficulties go unnoticed or unassisted, to the point that eventually students no longer hold enough attachment to academic goals to make educational plans or affect academic success strategies. Plans and aspirations are related to later educational attainment, particularly among African-American males (Wilson et al., 1991).

Academic resilience or persistence may be seen as the opposite of academic resignation, but just as academic resignation occurs in the interaction between students and teachers, resilience mechanisms must be employed by both students and their teachers. Neither academic resilience nor academic resignation emerges at a specific point in time but rather over time, as opportunities for capturing students' interests and for nurturing persistence are cultivated or lost.

Athletic Involvement as a Resilience Mechanism

Rutter distinguishes four types of mechanisms which help individuals to mediate adverse circumstances or demonstrate resilient behaviors. Included are mechanisms which (1) reduce the impact of risks, (2) reduce the likelihood of negative chain reactions associated with adversity, (3) establish and maintain self-esteem and self-efficacy, and (4) create new opportunities for success. Sport involvement is ideally suited to each of these four tasks in a variety of ways.

In athletic participation, the major risks involved are competitive losses. However, the structure of sport competitions generally guarantees several chances to "place" before losses take on a permanent status. Examples include pre-season games and scrimmages and even early season losses. This structure reduces the impact of the risk of competing--students are able, between risks, to re-group, re-strategize and practice in order to make a better showing in the next competition (Dane, 1990). Each effort to prepare anew is a resilience mechanism which could be applied within the academic setting. If, for example, students had several opportunities to master certain academic tasks and were given time between tasks to analyze weaknesses and to practice, then academic performance and mastery would very likely improve.

A related aspect of athletic participation involves how losses are interpreted and negotiated. After games are lost, coaches and players usually review the overall game strategy, note problem areas, and devise a plan for practice to improve performance in problem areas. This kind of strategy significantly reduces the likelihood of negative chain reactions following game losses and promotes constructive analysis of strengths and weaknesses with an eye toward improvement. We see the coaching strategy as a particularly effective classroom strategy, allowing teachers and students to analyze academic strengths and weaknesses and work out plans of action together which may prevent consecutive failures and encourage continuous positive interactions between students and teachers.

Winning in sport competitions is commonly thought to enhance self-esteem and self-efficacy among students, but even losses may convey a sense of accomplishment. A well-played game tends to generate respect between teams and players and the wider student population, which not only reduces the impact of loss but also contributes to the self-esteem and self-efficacy of players. Rutter contends that self-esteem and efficacy are in large measure based upon an individual's successful accomplishment of tasks which are important to that individual. Sport is clearly important to the many youngsters who devote considerable time, energy, and other resources to its pursuit. Sport involvement has even been conceptualized as investment and is, unlike many other adolescent activities, usually a function of a student's own decision rather than the decision of parents and teachers (Nettles, 1989).

Finally, sport creates important opportunities for students to excel and to fit into the school community in a meaningful way (Coleman, 1990; Wilson, 1990; Dane, 1990). These opportunities are especially important for African-American males, who may lack legitimate opportunities to invest their skills and efforts outside of the school setting (Trent, 1982; Seagrave & Hastad, 1984; Nettles, 1989). In addition, sport involvement may be the primary sphere of investment which provides young African-American males with social rewards both in the wider social environment and among their peers. This intersection of peer/societal endorsement is of considerable importance to young men (Clark, 1991) and may help to provide additional opportunities for future legitimate pursuits in both educational and economic arenas (Dane, 1990; Wilson, 1990).

Athletic Involvement and Academic Performance and Attachment

Debate continues on the relationship between athletic involvement and academic performance among students, even though reviewers have consistently noted a positive association between athletic participation and educational attainment (Braddock, 1980; 1981; Taylor & Chiogioji, 1988; Trent, 1982; Trent & Braddock, 1992). Two studies (Picou, 1978; Braddock, 1980) that have focused on race as a variable in the relationship between athletic participation and educational attainment found significant positive associations between athletic participation and educational performance, attitudes, and future goals among African-American males. Braddock (1981) has shown that athletic participation, controlling for effects of social class and academic aptitude, is positively associated with academic self-esteem, curriculum placement, grades and college plans for both African- and European-American males.

In Braddock et al. (1991) we examined the effect of interscholastic and intramural athletic participation on educational outcomes, plans, peer status and investment behaviors among African-American male eighth graders. Our analysis showed that, consistent with general patterns in the literature on this topic (Dawkins, 1982; Dawkins & Braddock, 1982; Harris & Hunt, 1982; Trent & Braddock, 1992), sport participation (interscholastic sports only) is positively associated with aspirations of African-American eighth-grade

males to enroll in academic or college preparatory programs in high school, to have definite plans to complete high school, and to attend college. We also found that both interscholastic and intramural sport participants derive social status advantages--popularity and a sense of importance--among their schoolmates which is directly related to their involvement in athletics. This is not surprising, given the special prominence that researchers have found athletes to occupy within the adolescent subculture of schools (Coleman, 1961; Braddock, 1982). In addition, these data showed positive links between athletic participation and several indicators of pro-academic investment behaviors and attitudes. Athletes were less likely to be involved in school-related social misconduct (interscholastic only), more likely to look forward to their core curriculum classes (interscholastic only), and less likely to be judged by their teachers as not giving full effort in their class work (intramural only). These positive associations appear to be largely direct and unmediated when other important student background factors (age, Socioeconomic Status (SES), standardized test scores, and family composition) and school characteristics (urbanicity[1], enrollment size, poverty concentration, and students' ability group placement) are statistically controlled. Taken together, these data offer evidence that athletic participation can and often does have a positive impact on African-American male eighth-graders' motivation and engagement in traditional pro-academic norms and behaviors.

Our aims here are (1) to examine the impact of gender on the association between sport participation and students' educational opportunities and outcomes by comparing African-American male and female eighth graders by student background and school demographic and organizational characteristics, and (2) to investigate the link between interscholastic and intramural athletic participation and academic resilience for African-American eighth-grade females and males using educational plans, peer status, and academic investments as indicators of academic attachment or resilience.

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[1]In this report, the term *urbancity* refers to U.S. Census categories, urban=central city; suburban=area surrounding a central city within a metropolitan statistical area; or rural=outside a metropolitan statistical area (see p. 14).

Data

The data for these analyses are drawn from the base year of the *National Education Longitudinal Study of 1988 (NELS:88)* conducted by the U.S. Department of Education's National Center for Education Statistics. The base-year study design used a two-stage procedure to select a nationally representative sample of schools containing eighth graders and a random sample of eighth-grade students within each of these schools. Collection of in-school surveys from students, teachers, and school administrators took place between February and June, 1988. The data collected from the 24,599 eighth-grade students in 1,052 participating schools in the core sample include family background variables, achievement test scores, students' attitudes and aspirations, and personal and school-related measures. The African-American male public school subsample employed in the present analysis included 1,105 respondents, 58 percent of whom participated in interscholastic sports and 52 percent intramural sports. Of the 1,112 African-American females also in this subsample, 40 percent were involved in interscholastic athletics and 37 percent were involved in intramural sports programs.

The present analyses are limited to the public school sample. School administrators who participated in the base-year survey provided information about the availability in their schools of various types of student activities, including interscholastic and intramural sports. They also reported whether their schools had a minimum academic requirement for participants in extracurricular activities and provided other descriptive information about their schools including total enrollment, grade span, percentage of students receiving free or reduced lunch, and school's urbanicity. Teacher data analyzed in this study include ratings of individual students' academic effort (i.e., performs below ability) and reports of the average overall ability levels of students' classes in the core academic subjects--English, mathematics, science, and social studies (i.e., above average, average, below average, or widely-differing abilities). The response rates for this survey have been excellent, exceeding 90 percent for all categories of respondents (students = 93%; school administrators = 99%; and teachers = 96%).

Measures

Athletic Participation

The *NELS:88* student survey provided the basis for the athletic participation measure. Students were asked to report their level of participation in both interscholastic and intramural sports (where 1 = did not participate; 2 = participated as a member; and 3 = participated as a leader). For this study, "participated as a member" and "participated as a leader" are coded "1"; "did not participate" was coded "0".

Resilience

To measure academic resilience, it was necessary to identify and develop indicators of key components of this construct. The use of the terms *resilience* and *persistence* as applied to African Americans has a particular socio-political reference and meaning in the United States, and it is only in these terms that their educational progress can be reasonably understood. Although there has been a decline in high school completion and college enrollment among African-American youth in recent years (e.g., from 1977-87), academic motivation and educational aspirations among these children have remained high despite the occasional, sometimes major, obstacles they endure. For many students the refusal to quit school comes out of a family/community-based inspiration to "make something of themselves," while others are motivated to excel by opportunities (and mentors) within schools and a desire to be perceived as important by significant others, especially peers.

This type of motivation can be manifested in such academic investments or behaviors as avoiding trouble or making a genuine effort to meet educational requirements. Thus, educational aspirations, peer status, and academic investments are good indicators of students' attitudinal and behavioral attachment to conventional academic values because these measures are based on students' own decisions about what they will strive for academically, how their previous investments have paid off socially, and whether they believe continuing to invest in academic pursuits is worthwhile. Thus, three broad dimensions of academic resilience or persistence are examined here: **educational**

aspirations as measured by students' plans to enroll in a high school academic or college preparatory curriculum program (where academic program = 1; otherwise = 0), graduate from high school (where definitely graduate = 1; otherwise = 0), and attend college (where college attendance as student's minimum educational goal = 1; otherwise = 0); **peer status** as measured by student reports of how "popular" and "important" they are viewed to be among their schoolmates; and **academic investments** as measured by student reports of (1) "social misconduct"--a six-item index indicating the frequency with which students were sent to the office because of misbehavior, problems with schoolwork, fights with other students, or because their parents received warnings about the students' behavior, attendance, or grades (where never = 0; once or twice = 1; more than twice = 2); (2) "attendance problems"--a three-item index of the frequency with which students are reported absent (number of school days missed), tardiness (number of times the student was late) and number of times students played hooky over the past four weeks (where none = 0; 1 or 2 days = 1; 3 or 4 days = 2; 5 to 10 days = 3; more than 10 days = 4); (3) "academic unpreparedness"--a three-item index representing the frequency with which students came to class without pencils or paper, books, and homework when needed or assigned (where usually = 1; often = 2; seldom = 3; never = 4); (4) "interest in class"--a single-item measure average of the four core subjects (English, mathematics, science and social studies) representing student reports of the degree to which they usually look forward to their classes in each subject (where strongly agree = 1; agree = 2; disagree = 3; strongly disagree = 4); and (5) "academic effort"--a single-item measure average of two core-subject teachers for each student representing teacher estimates of whether the student is performing below his or her ability (where yes = 1; no = 0).

Student background and school demographics

The student background and school demographic control measures employed in our model are important for several reasons. In part because of its relation to physical development, age determines students' abilities and readiness for participation in competitive athletics. Older students are likely to be more mature and physically developed and thus better equipped to participate in school sports programs than are younger students.

Thus, age is included in the analyses of student academic resilience ruling out alternative explanations of students' physical and social maturation levels. Social class is believed to be an important correlate of students' academic resilience, although its relation to athletics may have less to do with participation in sports *per se* and more to do with student involvement in different types of sports activities. Nevertheless, because of the strong association of social class with factors such as students' educational plans, its effects must be statistically controlled when estimating the impact of athletic participation on academic resilience. Similar reasoning applies to students' standardized achievement test scores and their relation to outcomes such as educational plans and academic investment behaviors. Finally, family structure is also included here as a statistical control because of the widely-held view that students from single-parent households, and perhaps especially African-American males, are at-risk of school failure. Therefore, estimates of athletic effects on the academic resilience of African-American males should include this factor.

Among the set of school variables employed as statistical controls in this analysis, school size is important when assessing the availability of all extracurricular program activities, including athletics, and intramural sports in particular. School size also indirectly affects key aspects of the overall school climate and classroom learning environments that mediate academic resilience (e.g., student alienation and engagement). School social class composition--percentage receiving free lunch--may also affect certain elements of school climate, but just as importantly may determine a school's level of resources to support and make available interscholastic and intramural sports programs. Similarly, urbanicity of school location is included as a statistical control because of its relation to available options for athletic participation and its potential association with those aspects of school climate that mediate academic resiliency. Finally, student ability-group placement is included in this analysis because of its well-documented relation to peer status, educational aspirations, and academic investment behaviors--our measure of academic resilience. These independent variables, in addition to the athletic participation measures already discussed, are operationalized as follows:

Student Socio Economic Status (SES) (Males: Mean = 1.92; SD = 1.00; Females: Mean = 1.89; SD = 0.97). The social class measure used from *NELS:88* in this study is a quartile index which pools data on mother's and father's education levels, family income, father's and mother's occupations, and the presence of various household items indicative of personal wealth (where 1 = low; 2 = middle; 3 = high; and 4 = very high).

Student Age (Males: Mean = 14.66; SD = 0.73; Females: Mean = 14.54; SD = 0.68). The age measure was derived by subtracting the year of birth from the student questionnaire from the year of administration of the base year survey.

Student Test Scores (Males: Mean = 1.72; SD = 0.91; Females: Mean = 1.84; SD = 0.94). The *NELS:88* composite achievement test battery is a composite quartile index made up of base year tests in reading and mathematics (where 1 = low; 2 = middle; 3 = high; and 4 = very high).

Students' Family Composition (Males: Mean = 0.53; SD = 0.50; Females: Mean = 0.54; SD = 0.50). This *NELS:88* measure describes the student's family or household composition (where 1 = mother and father; 2 = mother and male guardian; 3 = father and female guardian; 4 = mother only; 5 = father only; 6 = other relative/non-relative). For purposes of this analysis this variable was dichotomized into multiple parents or guardians = 1; otherwise = 0.

School Urbanicity (Males: Mean = 0.48; SD = 0.50; Females: Mean = 0.46; SD = 0.50). This measure uses U.S. Census categories to classify the students' school as urban (central city); suburban (area surrounding a central city within a metropolitan statistical area); or rural (outside a metropolitan statistical area). For purposes of this analysis this variable is dichotomized into urban = 1; otherwise = 0.

School Size (Males: Mean = 4.31; SD = 1.45; Females: Mean = 4.30; SD = 1.43). This measure characterizes the entire school enrollment as reported by the principal (where, 1 = 199 students; 2 = 200-399; 3 = 400-599; 4 = 600-799; 5 = 800-999; 6 = 1,000-1,199; 7 = 1,200 or more students).

School Poverty Concentration (Males: Mean = 4.56; SD = 1.74; Females: Mean = 4.56; SD = 1.66). This measure categorizes principals' reports of the percentages of free or reduced price lunch at the school (where, 0 = none; 1 = 1-5%; 2 = 6-10%; 3 = 11-20%; 4 = 21-30%; 4 = 21-30%; 5 = 31-50%; 6 = 51-75%; 7 = 76-100%).

Ability-Group Placement (Males: Mean = 2.26; S = 0.68; Females: Mean = 1.88; SD = 0.66). This measure characterizes teachers' descriptions of the achievement level of students' classes compared to the school average for eighth

graders in English, mathematics, science, and social studies (where 1 = higher than average achievement levels; 2 = average achievement levels; and 3 = below average achievement levels). For this analysis, heterogeneous classes with widely different achievement levels are excluded.

Analyses

Multiple regression analyses are employed to estimate the net or direct effect of interscholastic and intramural athletic participation on the academic resiliency of African-American eighth-grade males and females as measured by educational aspirations, investments in pro-academic behaviors, and social status among their school peers. This analytic technique allows us to assess the simultaneous and unique effects of athletic participation and other factors on academic resilience outcomes.

Results

Structures and Patterns of Athletic Participation

In this and a previous essay (Braddock, 1991), we distinguish between interscholastic athletic participation (where teams from different schools compete with one another) and intramural athletic participation (where teams from within the same school compete with one another). Student participation patterns differ by type of athletic activity, and the costs and benefits associated with intramural sports for students and schools may differ from those associated with interscholastic sports for early adolescents (Riemeke, 1988). When gender is specified in the analysis, as it is here, these distinctions become even more compelling because of deeply inscribed sex roles and prevalent gender discrimination in social structures.

Table 1 presents national distributions of male and female interscholastic participants and nonparticipants by student background and school demographic and organizational characteristics. These data show that among African-American males, participation in interscholastic sports is related to school size (higher participation levels in smaller schools), school urbanicity (lower participation in urban schools), and student age (higher levels of participation among older students), but is unrelated to socioeconomic status, achievement test scores, or ability-group placement. These patterns also describe female

Table 1

Interscholastic Athletic Participation Patterns Among African American Eighth Grade Males and Females by Selected Background and School Characteristics

	Males				Females			
Characteristics	Participation	No Participation	Participation within category[1]	(n)*	Participation	No Participation	Participation within category	(n)
Standardardized Test Quartile								
Low	52.9	45.2	62.1	403	49.4	42.1	42.9	431
Medium	25.1	29.3	54.5	218	29.9	29.4	39.4	284
High	15.5	18.8	53.7	137	15.1	20.4	32.3	176
Very High	6.3	6.8	56.7	53	5.6	8.1	30.7	69
Ability Group Placement								
Below average in 2 subjects	32.3	33.3	56.8	253	21.1	23.9	36.6	202
Below average in 1 subject, average in 1 subject	14.5	12.2	61.8	105	13.8	13.8	39.6	122
Average in 2 subjects	32.8	32.5	57.9	253	38.8	37.0	40.8	335
Average in 1 subject, above average in 1 subject	8.1	7.4	59.8	61	11.6	9.2	45.4	90
Above average in 2 subjects	12.3	14.6	53.4	103	14.6	16.2	37.1	138
Socioeconomic Status Quartile								
Low	43.9	43.4	58.1	371	42.4	43.7	39.0	427
Medium	24.4	26.8	53.5	216	30.0	28.5	41.0	288
High	20.8	19.7	59.1	173	20.6	17.8	43.3	187
Very High	10.9	10.2	59.6	90	7.0	10.0	31.6	87
Age								
≤ 13 years old	.7	1.9	35.7	10	.2	1.0	13.5	7
14 years old	48.6	48.6	57.5	407	55.7	60.2	38.4	564
15 years old	35.1	35.1	56.4	300	35.7	29.0	45.3	306
16 years old	15.6	15.6	68.3	110	8.3	9.7	36.6	89
Family Composition								
One parent home	44.9	47.4	56.5	383	46.6	46.2	40.3	453
Two parent home	55.1	52.6	58.9	450	53.4	53.8	39.9	524
School Poverty Concentration								
0 - 10% free lunch	15.5	12.6	62.7	122	10.5	14.2	32.8	126
11 - 50% free lunch	51.7	53.6	56.9	447	57.5	53.0	41.7	542
≥ 51% free lunch	32.8	33.8	57.0	282	32.0	32.8	39.2	322
School Size								
> 600 students	38.5	31.4	62.6	302	34.2	29.7	43.5	311
600 - 999 students	41.0	44.4	55.8	361	45.2	48.4	38.1	466
≥ 1000 students	20.5	24.2	53.7	188	20.6	22.0	38.2	212
School Location								
Non-urban	55.7	46.9	61.9	442	55.9	50.4	42.3	520
Urban	44.3	53.1	53.3	409	44.1	49.6	37.0	469
Average sample size			*males = 831				*females = 968	

[1]percent of students participating in athletics within each category of the row variable
*row marginal

participation, except with regard to achievement test scores (higher participation levels among students with lower test scores) and school size (equal participation levels in small and large schools).

As shown in Table 2, African-American male participation in intramural sports is associated only marginally with school size (slightly higher participation levels in smaller schools) and unrelated to the other background and school conditions. African-American female participation in intramural sports is related to school poverty concentration (higher participation in poorer schools), school size (higher participation in smaller schools), and school location (higher participation in non-urban schools), but not related to achievement test scores, ability group level, socioeconomic status, age, and family composition.

Athletic Participation and Academic Resilience

Our data provide some supporting evidence of the association between athletic participation and academic resilience for both interscholastic and intramural sports activities among African-American male and female athletes. Generally, male and female athletes are more likely to have higher educational aspirations and hold higher social standing among their peers than non-athletes. The impact of athletic participation on academic investment behaviors is weaker and less consistent but, where there are significant differences, tends to favor athletes over non-athletes rather than one gender over another.

Interscholastic Athletics

Table 3 summarizes the multiple regression analyses for male and female interscholastic participants separately. To facilitate comparisons across subgroups for the same equations, unstandardized or metric regression coefficients are presented along with the standardized regression coefficients (partial betas). By comparing the relative size of the metric or unstandardized regression coefficients for the same variable across the two types of athletic programs, we can determine whether the effect on an indicator of academic resilience of athletic participation (for example, students' plans to graduate from high school) is greater for male or female athletes.

Table 2

Intramural Athletic Participation Patterns Among African American Eighth Grade Males and Females by Selected Background and School Characteristics

	Males				Females			
Characteristics	Participation	No Participation	Participation with category[1]	(n)*	Participation	No Participation	Participation with category	(n)
Standardardized Test Quartile								
Low	48.8	50.8	50.7	399	43.2	45.7	35.7	424
Medium	26.2	27.8	50.8	214	27.1	30.8	34.0	278
High	17.8	16.1	54.2	136	21.0	17.0	42.0	175
Very High	7.1	6.0	56.1	53	8.7	6.41	44.2	69
Ability Group Placement								
Below average in 2 subjects	32.5	32.5	52.8	249	23.7	22.4	37.7	200
Below average in 1 subject, average in 1 subject	12.0	15.0	47.1	103	11.5	15.4	29.9	122
Average in 2 subjects	35.0	30.9	56.0	253	35.5	38.0	34.9	324
Average in 1 subject, above average in 1 subject	8.4	6.6	58.7	58	11.4	9.5	40.7	89
Above average in 2 subjects	12.1	15.0	47.5	103	17.9	14.4	41.2	138
Socioeconomic Status Quartile								
Low	40.7	46.9	48.3	368	41.3	43.9	36.1	418
Medi .n	26.9	23.9	54.8	215	28.5	30.0	36.3	287
High	19.9	20.8	50.8	171	20.2	17.7	40.8	181
Very High	12.4	8.4	61.3	88	10.0	8.4	41.8	87
Age								
≤ 13 years old	.8	1.7	35.2	10	.2	1.0	13.5	7
14 years old	52.3	47.0	54.6	408	58.1	59.4	37.8	559
15 years old	34.1	37.3	49.6	292	33.1	30.5	40.1	298
16 years old	12.7	14.1	49.4	110	8.5	9.1	36.4	84
Family Composition								
One parent home	45.6	46.9	50.9	381	48.5	45.9	39.0	451
Two parent home	54.4	53.1	52.2	444	51.5	54.1	36.6	510
School Poverty Concentration								
0 - 10% free lunch	17.1	11.8	60.8	123	16.3	10.5	48.2	123
11 - 50% free lunch	51.3	55.1	50.0	448	54.2	54.5	37.4	529
≥ 51% free lunch	31.7	33.0	50.7	273	29.6	35.0	33.7	320
School Size								
> 600 students	38.6	31.6	56.8	297	36.1	28.9	42.9	308
600 - 999 students	42.2	42.8	51.6	359	44.1	48.9	35.2	458
≥ 1000 students	19.0	25.6	44.3	187	19.7	22.2	34.8	207
School Location								
Non-urban	50.6	53.6	50.3	439	56.4	50.4	40.2	572
Urban	49.4	46.4	53.4	404	43.6	49.6	34.6	461
Average sample size			*males = 823				*females = 952	

[1]percent of students participating in athletics within each category of the row variable
*row marginal

Table 3

Effects of Interscholastic Athletic Participation on African-American Male and Female Eighth-Graders' Educational Plans, Academic Investment Behaviors, and Peer Status

	Males						Females					
	Background Controls			School and Background Controls			Background Controls			School and Background Controls		
	b	B	t	b	B	t	b	B	t	b	B	t
Educational Plans												
Enroll in Academic Track	.097	.090	2.50[c]	.083	.077	2.13[b]	.059	.030	.843	.041	.042	1.21
Graduate from High School	.068	.055	1.97[b]	.064	.051	1.78[a]	.103	.134	4.28[d]	.095	.123	3.81[c]
Attend College	.114	.096	3.40[d]	.119	.100	3.45[d]	.031	.039	1.24	.030	.037	1.14
Peer Status												
Popular	.128	.120	3.68[d]	.123	.115	3.45[d]	.117	.133	4.17[d]	.115	.132	3.91[d]
Important	.051	.045	1.44	.050	.044	1.39	.068	.077	2.36[b]	.060	.067	2.00[b]
Academic Investments												
Social Misconduct	.059	- .054	1.76[a]	- .059	- .054	1.72[a]	.005	.007	.251	.017	.024	.754
Attendance Problems	- .025	- .016	.74	- .008	- .005	.24	- .039	- .067	2.12[b]	- .029	- .049	1.51
Academic Unpreparedness	.008	.005	.22	.003	.002	.09	- .020	- .030	.942	- .019	- .029	.841
Interest in Classes	.090	.055	2.56[c]	.097	.059	2.69[c]	.091	.150	4.70[d]	.089	.145	4.45[d]
Academic Effort (Teacher Rating)	- .053	- .044	1.58	- .044	- .037	1.29	- .026	- .035	1.12	- .014	- .019	.585

[1]Background controls include students' age, achievement test scores, family structure, and socioeconomic status.
[2]School demographic and organizational controls include school enrollment size, percentage of free lunch enrollment, urbanicity, and students' ability group placement.
[a]$p \leq .10$; [b]$p \leq .05$; [c]$p \leq .01$; [d]$p \leq .001$.

The standardized partial betas for males in Table 3 indicate that interscholastic (varsity) athletic participation has a significant influence on (educational) plans to enroll in an academic or college preparatory track in high school (B = .077; $t = 2.13$; $p \leq .05$) and attend college (B = .100; $t = 3.45$; $p \leq .001$), and a statistically marginal effect on plans to graduate from high school (B = .051; $t = 1.78$; $p \leq .10$), controlling for effects of social background (students' age, SES, family structure, and composite achievement test scores) and school demographic and organizational factors (school size, poverty concentration, urbanicity, and students' ability group placement). Among females, however, varsity athletic participation more strongly influences plans to graduate from high school (B = .123; $t = 3.81$; $p \leq .05$), controlling for effects of all background and school factors, and is not related to other educational plans.

For peer status, the effect of athletic participation on African-American females' social status among their schoolmates, controlling for effects of student background and school demographic and organizational factors, is statistically significant and positive on both measures, while among varsity males the effect is limited to one indicator, being regarded as important. Among females (B = .132; $t = 3.44$; $p \leq .01$) and males (B = .115; $t = 3.45$; $p \leq .001$), interscholastic athletic participation is related to being seen as popular. For interscholastic females, it is also related to whether they are regarded as important by their schoolmates (B = .067; $t = 2.00$; $p \leq .05$). For males, being an interscholastic athlete has no appreciable influence on whether one is seen as important by one's peers (B = .044; $t = 1.39$; $p > .10$).

Multiple measures of academic investments (bottom half of Table 3) provide convincing evidence that interscholastic participation is a positive influence on academic resilience as measured by the available indicators of student attachment to positive academic norms and behaviors. Moreover, the impact seems to be positive and strong among both males and females, though in slightly different ways. Female (B = .145; $t = 4.45$; $p \leq .001$) and male (B = .059; $t = 2.69$; $p \leq .01$) interscholastic athletes express an interest in classes. In addition, male athletes report somewhat less social misconduct (B = -.054; $t = 1.672$ $p \leq .10$), controlling for effects of student background and school demographics.

Intramural Athletics

Our data show that the effects of intramural sport participation on male and female students' educational plans and peer status are similar to those associated with interscholastic sport participation. But for both males and females, our measures of academic investment behavior are virtually unrelated to this kind of athletic involvement.

Table 4 indicates that the effect of intramural sport participation on males' plans to attend college (B = .064; t = 2.20; $p \leq .05$), is virtually identical to that for females (B = .064; t = 1.91; $p \leq .10$), controlling for effects of background and school factors. Among males, participation is related to plans to enroll in a college preparatory track (B = .079; t = 2.22; $p \leq .05$); among females, participation is related to plans to graduate from high school (B = .036; t = 1.09; $p \leq .01$).

The effect of intramural participation on being seen as popular among females (B = .084; t = 2.42; $p \leq .05$) and males (B = .111; t = 3.35; $p \leq .001$) is unmediated, positive and significant, with one exception: intramural participation has a strong direct effect on being seen as important for males (B = .076; t = 2.39; $p \leq .05$), but there is no similar effect among females. Overall, intramural participation appears to carry more peer status for males than for females in the middle grades.

Finally, intramural sport participation is negatively related to teacher ratings of students' giving poor academic effort, although the association is statistically significant for males only (B = -.089; t = 3.18; $p \leq .01$). That teachers generally perceive male and female athletes as giving full effort to their classroom academic pursuits reinforces the argument that the motivating potential of sport can extend from the playing field into the classroom.

Summary and Discussion

Consistent with general patterns in the literature on this topic (Braddock, 1982; Dawkins, 1982; Dawkins & Braddock, 1982; Harris & Hunt, 1982; Trent & Braddock, 1992), our analyses have shown that sports participation is positively associated with African-American eighth-grade male aspirations to enroll in academic or college

Table 4

Effects of Intramural Athletic Participation on African-American Male and Female Eighth-Graders' Educational Plans, Academic Investment Behaviors, and Peer Status

	Males						Females					
	Background Controls			School and Background Controls			Background Controls			School and Background Controls		
	b	B	t	b	B	t	b	B	t	b	B	t
Educational Plans												
Enroll in Academic Track	.087	.079	2.22[b]	.079	.072	2.02[b]	.053	.054	1.55	.045	.045	1.28
Graduate from High School	- .011	- .009	.33	- .017	- .014	.48	.024	.030	.940	.029	.036	1.09[c]
Attend College	.074	.062	2.20[b]	.077	.064	2.20[b]	.048	.058	1.81[a]	.054	.064	1.91[a]
Peer Status												
Popular	.119	.110	3.39[d]	.120	.111	3.35[d]	.073	.084	2.56[b]	.074	.084	2.42[b]
Important	.086	.075	2.41[b]	.087	.076	2.39[b]	.029	.032	.981	.030	.033	.964
Academic Investments												
Social Misconduct	- .011	- .010	.32	- .023	- .021	.66	.026	.034	1.07	.027	.035	1.06
Attendance Problems	.022	.014	.64	.017	.010	.48	- .009	- .015	.468	- .007	- .011	.352
Academic Unpreparedness	.006	.004	.18	- .004	- .003	.12	.008	.013	.407	.012	.018	.527
Interest in Classes	.047	.028	1.33	.049	.030	1.36	.025	.040	1.22	.031	.050	1.45
Academic Effort (Teacher Rating)	- .100	- .083	2.99[c]	- .018	- .089	3.18[c]	.035	.047	1.48	.035	.047	1.44

[1]Background controls include students' age, achievement test scores, family structure, and socioeconomic status.
[2]School demographic and organizational controls include school enrollment size, percentage of free lunch enrollment, urbanicity, and students' ability group placement.
[a]$p \leq .10$; [b]$p \leq .05$; [c]$p \leq .01$; [d]$p \leq .001$.

preparatory programs in high school, to have definite plans to complete high school (interscholastic sports only), and to attend college. This pattern of effects is similar for females; however, their educational plans to graduate from high school and attend college are more strongly influenced by intramural participation than by interscholastic participation.

We also find that male and female interscholastic and intramural sports' participants derive social status advantages--popularity and a sense of importance--among their schoolmates which is directly related to their involvement in athletics. This is not surprising, given the special prominence that researchers have found athletes to occupy within the adolescent subculture of schools (Coleman, 1961; Braddock, 1982).

Finally, our data show some positive links between athletic participation and several indicators of pro-academic investment behaviors and attitudes. Male athletes are less likely to be involved in school-related social misconduct problems (interscholastic only), more likely to look forward to their core curriculum classes (interscholastic only), and less likely to be judged by their teachers as not giving full effort in their class work (intramural only). Female athletes are less likely to miss classes and more likely to look forward to their core curriculum classes (interscholastic only). These positive associations appear to be largely direct and unmediated when other important student background (age, SES, standardized test scores, and family composition) and school characteristics (urbanicity, enrollment size, poverty concentration, and students' ability group placement) are statistically controlled. Taken together, these data offer evidence that athletic participation can and often does have a positive impact on student motivation and engagement in traditional pro-academic norms and behaviors, and that these positive benefits accrue to both male and female athletes.

Several aspects of athletic participation may facilitate the processes of academic resilience and school attachment for African-American male and female students. As noted earlier, participation in interscholastic and intramural sports is usually contingent on students meeting minimum achievement requirements set by school officials. For African-American male students, this adds an academic incentive to other intrinsic incentives

already associated with sport involvement. In addition, sport participation for African-American females may ease their social isolation in the school environment, as well as encourage teachers to give more attention to their physical and academic abilities.

Even more important, however, are behaviors and attitudes which can be imported from athletics into the academic arena. Serious athletic training requires consistent investment in the form of practice, conditioning and nutrition, an adherence to rules of fair competition, a willingness to work with other students for common goals, and the ability to persist in the face of losses and devise strategies to compensate for weaknesses. Thus, athletic participation may be seen as a mechanism which demands that the athlete respond to any given situation or problem, and it facilitates athletes' ability to marshal their resources to meet a variety of challenges. Athletics also provides schools with an opportunity to monitor closely not only the athlete's academic progress but, more importantly, his or her exposure and resilience to various risk factors in the social environment. The close relationship that commonly exists between coaches (as educators) and athletes provides the athlete a rationale and resources for sustained academic effort even in the face of difficulties.

The work reported herein was supported by the Center for Research on Effective Schooling for Disadvantaged Students at the John Hopkins University, a national research and development center funded by the Office of Educational Research and Improvement, U.S. Department of Education. The opinions expressed do not necessarily reflect the position or policy of OERI, and no official endorsement should be inferred.

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