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## **Untangling the Links among Athletic Involvement, Gender, Race, and Adolescent Academic Outcomes**

**Kathleen E. Miller, Merrill J. Melnick, Grace M. Barnes,  
Michael P. Farrell, and Don Sabo**

Although previous research has established that high school sports participation might be associated with positive academic outcomes, the parameters of the relationship remain unclear. Using a longitudinal sample of nearly 600 western New York adolescents, this study examined gender- and race-specific differences on the impact of two dimensions of adolescent athletic involvement ("jock" identity and athlete status) on changes in school grades and school misconduct over a 2-year interval. Female and Black adolescents who identified themselves as jocks reported lower grades than did those who did not, whereas female athletes reported higher grades than female nonathletes. Jocks also reported significantly more misconduct (including skipping school, cutting classes, having someone from home called to the school for disciplinary purposes, and being sent to the principal's office) than did nonjocks. Gender moderated the relationship between athlete status and school misconduct; athletic participation had a less salutary effect on misconduct for girls than for boys.

Quoique les écrits aient établi que la participation sportive à l'école secondaire peut être associée positivement aux résultats scolaires, les paramètres de cette relation demeurent incertains. Fondée sur un échantillon longitudinal de 600 adolescents de l'ouest de New York, cette étude porte sur les différences de race et de sexe en ce qui a trait à l'impact de deux dimensions de l'implication sportive (le statut d'athlète et l'identité de sportif) sur les changements dans les résultats scolaires et dans la mauvaise conduite à l'école. Les adolescentes ainsi que les adolescents noirs qui se sont identifiés comme sportifs ont rapporté des résultats scolaires plus faibles que ceux qui ne se sont pas identifiés comme sportifs. Les athlètes féminines ont rapporté de meilleurs résultats scolaires que les non athlètes. Les sportifs ont rapporté plus de mauvaise conduite (e.g., faire l'école buissonnière, manquer des cours, appel aux parents pour des raisons de discipline, être appelé au bureau du directeur) que les non sportifs. La variable sexe modère la relation entre le statut d'athlète et la mauvaise conduite ; la participation sportive a eu un effet salutaire moins grand sur la mauvaise conduite des filles que sur celle des garçons.

Since James Coleman (1961) first wrote about the lives of U.S. youth more than four decades ago, adolescents' enthusiasm for sports has remained remarkably constant. Athletic participation is still the single most popular school-sponsored extracurricular activity, regardless of race, ethnicity, or gender (Eccles & Barber,

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1999; Eide & Ronan, 2001). Despite substantial empirical investigation and ongoing theoretical debate, however, some aspects of the relationship between adolescent sports participation and academic performance remain unclear. In particular, relatively little attention has been paid to how different dimensions of athletic involvement affect adolescents' scholastic behavior. The roles played by gender and race in defining the linkages between sports and subsequent educational outcomes also call for further analysis. The purpose of this study is to examine the gender- and race-specific relationships between two dimensions of athletic involvement (athlete status and "jock" identity) and two academic outcomes (average grades and frequency of school misconduct).

Coleman (1961) argued that high school students face a zero-sum situation in which time and energy devoted to sports comes at the cost of other activities, such as academic performance. Subsequent research, however, has found that high school sports participation is associated with several positive academic outcomes such as higher GPA, fewer disciplinary referrals, lower absenteeism and dropout rates, higher college aspirations and attendance, and stronger commitment to school (Eccles & Barber, 1999; Marsh, 1993; Sabo, Melnick, & Vanfossen, 1989; Snyder & Spreitzer, 1992; Whitley, 1998). Upon finding that athletic participation had significant positive effects on 14 of 22 senior and postsecondary educational outcomes and no negative impact on the others, Marsh concluded that, contrary to Coleman's zero-sum expectations, "participation in sport apparently adds to—not detracts from—time, energy, and commitment to academic pursuits" (1993, p. 35).

It has also become increasingly apparent, however, that the protective effects of sports with respect to academic outcomes are neither universal nor indisputably causal in nature. Involvement in athletics, like academics, is subject to strong selection effects; for example, athletes disproportionately hail from socioeconomically advantaged backgrounds (Crosnoe, 2002). Moreover, students with better grades tend to self-select into high school sports programs (Sabo et al., 1989), although some studies have also identified a positive academic trajectory for athletes over time relative to their nonathletic peers (Crosnoe, 2002; Eccles & Barber, 1999; Marsh & Kleitman, 2003). The reasons for this linkage are likely to be, at least to some degree, pragmatic; that is, student athletes who have disciplinary problems or who perform poorly in the classroom risk being dropped from the team. It is likely that institutional eligibility requirements accounted for Laughlin's (1978) finding that athletes had lower rates of absenteeism and higher GPAs during their playing seasons than out of season. Similarly, Larson (1994) found no support for the supposition that athletic participation reduces delinquent behavior, concluding instead that delinquent adolescents were more likely to voluntarily self-select out of sports.

Several researchers have noted that the relationships between adolescent athletic involvement and academic outcomes cross racial and gender lines (e.g., Marsh, 1993; Whitley, 1998). Most agree, however, that the effects are not identical or equally strong across these demographic categories. For example, Wells and Picou (1980) found that athletic participation was consistently associated with socialization for educational achievement (e.g., educational ambition, better academic performance, or association with a college-oriented crowd) only for White male adolescents; the link was weaker for White females and Black males, and weakest of all for Black females. Sabo and his colleagues (1989) reached a similar conclusion with respect to post-high school educational mobility. Although Black and Hispanic athletes reported better grades and greater involvement in

school activities than did their nonathletic peers, the effects were more short-lived than for Whites, for whom high school sports participation was associated with higher rates of college attendance and completion. Finally, Crosnoe (2002) found that gender and athlete status both predicted initial high school academic performance, with female athletes reporting the highest GPAs and male nonathletes reporting the lowest. Over the course of high school, both gender and athlete status had protective effects on academic achievement; only male nonathletes saw overall declines in achievement over time.

Although a small number of studies have explored the link between peer crowd identification as a jock and school outcomes (Brown, Mounts, Lamborn, & Steinberg, 1993; Clasen & Brown, 1985; Urberg, Degirmencioglu, Tolson, & Halliday-Scher, 2000), few researchers have attempted to disaggregate the academic effects of objective athletic participation (what one does) from the effects of subjective athletic identity (whom one perceives oneself to be). The notable exceptions were Eccles and her colleagues (Eccles & Barber, 1999; Barber, Eccles, & Stone, 2001), who found that both high school athletic participation and identification as a jock predicted higher levels of post-secondary educational attainment. The researchers noted, however, that educational achievement was more closely associated with athlete status, whereas jock identity was more closely related to positive psychological adjustment. These differences suggest that measures of "athlete status" and "jock identity" tap distinct, if overlapping, constructs.

The fact that high school athletes tend to perform better in school than their peers is well established, but the parameters of this relationship remain obscured in several important respects. The present analysis seeks to untangle the gender- and race-specific linkages between adolescent athletic involvement and subsequent academic outcomes. Specifically, we address three research questions: (a) Is the relationship stable over time (i.e., are athletic involvement and academic performance positively linked when measured several years apart)? (b) Does the relationship differ by dimension of athletic involvement (athlete status vs. jock identity)? (c) Does the relationship operate differently by gender and/or race?

## Methodology

Beginning in 1989 and ending in 1996, the longitudinal Family and Adolescent Study collected data in six waves from western New York adolescents and their families. Using a computer-assisted telephone network, researchers employed random-digit-dial procedures to generate a regionally representative sample of 699 households containing at least one adolescent age 13 to 16 years and at least one biological or surrogate parent at Wave 1. Trained interviewers conducted face-to-face interviews in respondents' homes, with additional data on sensitive issues collected via a private, self-administered questionnaire. Black families were oversampled to facilitate testing of hypotheses about racial differences in substance use and other health-risk behaviors. Stringent follow-up procedures resulted in Wave 1 response rates of 71% overall and 77% for Black families, with retention rates of over 90% in each subsequent wave (Barnes, Farrell, & Dintcheff, 1997; Barnes, Reifman, Farrell, & Dintcheff, 2000). In the present analysis, we use data from Waves 1 and 3, which were collected approximately 2 years apart. In Wave 1, most respondents were in grades 8 to 11; by Wave 3, with the exception of a few outliers, nearly all were in high school (grades 9 to 12) or had just completed it.

After weighting to compensate for the oversampling of Black families, the characteristics of the overall sample closely matched census demographics in the area. After excluding respondents who had dropped out of school by the third wave of data collection, our Wave-1 sample included 586 adolescent participants ranging in age from 14 to 19, with a mean age of 14.4 years. Approximately 55% of the respondents were female. Black adolescents made up 30% of the unweighted sample and 15% of the weighted sample.

The analysis included four sociodemographic measures, two dimensions of athletic involvement, and two academic outcomes. All independent measures were derived from Wave 1 data; all dependent variables were derived from Wave 3. Gender was coded 0 = male, 1 = female. Race was coded into two categories: Black = 1 and White/other = 0. Because they collectively constituted too small a subsample to analyze independently ( $n = 13$ ), respondents identified as Asian American, Hispanic, Native American, or “other race” were coded with White participants.

Family socioeconomic status was assessed using a measure that combined family income, mother’s education, and father’s education ( $\alpha = .74$ ). Family income was reported by the adolescent’s parents; if only one parent was available for the interview, the available parent provided an estimate of the income of the absent parent. Family income categories included (a) \$0–\$14,999; (b) \$15,000–\$34,999; (c) \$35,000–\$49,999; and (d) \$50,000 or more. Parental education categories included (a) 0–11 years; (b) 12 years; (c) 13–15 years; and (d) 16 or more years. We calculated the mean of these three measures in order to derive a comprehensive indicator of family socioeconomic status, which ranged from a low of 1.00 to a high of 4.00.

Gender, race, age, and socioeconomic status are collectively powerful predictors of adolescent academic performance, but they cannot adequately account for the selection process identified previously: namely, the tendency for good students to self-select into athletic programs. In order to minimize the impact of this effect, a Wave-1 measure of each of the two school outcome variables (GPA and school misconduct) was also included in analyses predicting the same outcome variables at Wave 3. The inclusion of these measures as Wave-1 controls means that in effect, the analysis assesses the impact of athletic involvement on changes in GPA and school misconduct between Waves 1 and 3.

Athletic involvement was measured in two ways. First, in order to measure school athlete status, respondents were asked about participation in a list of school activities. One of these activities was designated as “sports (football, basketball, baseball, swimming, track, etc.),” with responses coded 0 = no, 1 = yes. Adolescents who responded affirmatively to this question were coded positively for athlete status. A second measure of athletic involvement emphasized respondent self-perception rather than behavior. Respondents were asked, “Teenagers sometimes characterize one another on the basis of their attitudes toward school, clothes, music, partying, and so forth. Some people give names to these types, such as jocks, preps, airheads, burnouts, and so forth. How well does each type fit you?” Those responding that the *jock* label fit them *very well* or *somewhat* were coded as having a jock identity; those who responded *a little*, *not at all*, or *never heard of this group* were coded as not having a jock identity.

Student self-reports of grades and school misconduct in the past year served as the dependent variables in this analysis. To estimate GPA (grade-point average), respondents were asked their GPA for the year before the survey, with responses ranging from 1 (*mostly Fs, < 65*) to 7 (*mostly As, 90–100*). The variable school

misconduct (alpha = .64) summed responses to four questions about skipping school, cutting a class, having someone called to the school from home for disciplinary reasons, and being sent to the principal's office. Categorical responses were recoded to midpoint values on each question. For the question about skipping school, responses included 0 (*never*), 1 (*once*), 2.5 (*2–3 times*), 4.5 (*4–5 times*), 7.5 (*6–9 times*), and 15 (*10+ times*). For each of the remaining questions, the available responses were 0 (*never*), 1 (*once*), 2.5 (*2–3 days*), 6.5 (*4–9 days*), 14.5 (*10–19 days*), 29.5 (*20–39 days*), and 48 (*40+ days*). Summing responses to the four school misconduct questions yielded a potential response range from 0 occasions of misconduct to 159 occasions of misconduct. Because many students reported no occasions of misconduct, we performed a log transformation on this variable to approximate a more normal distribution (skewness = 2.93 before transformation, –0.69 afterward; kurtosis = 10.27 before transformation, –1.056 afterward). Descriptive statistics (Table 1) employed the untransformed version of the school misconduct variable for ease of interpretation; all multivariate analyses, however, were conducted using the log-transformed variable.

**Table 1** Descriptive Characteristics of the Wave-3 Sample<sup>a</sup> by Race and Gender

	All <sup>b</sup> ( <i>N</i> = 586)	Female <sup>b</sup> ( <i>n</i> = 321)	Male <sup>b</sup> ( <i>n</i> = 264)	Black ( <i>n</i> = 173)	White ( <i>n</i> = 411)
Background characteristics (Wave 1)					
female	.55			.55	.55
Black	.14	.14	.14		
age	14.38	14.41	14.35	14.34	14.39
SES	2.61	2.64	2.57	2.09***	2.69
jock identity	.35	.23***	.50	.22***	.37
athlete	.65	.57***	.75	.65	.65
GPA	5.24	5.45***	4.98	4.97*	5.28
misconduct	5.39	4.53 <sup>†</sup>	6.43	5.85	5.31
Academic outcomes, past year (Wave 3)					
GPA (1 = <i>mostly Fs</i> ; 7 = <i>mostly As</i> )	5.07	5.30***	4.78	4.49***	5.17
misconduct (4-pt. variable scale)	9.67	7.48***	12.32	10.07	9.60
days skipped school	2.44	1.95**	3.03	2.22	2.48
days cut class	4.53	4.22	4.92	3.38 <sup>†</sup>	4.72
days someone called from home	.86	.49**	1.30	1.90**	.68
days sent to principal's office	1.86	.83***	3.11	2.63 <sup>†</sup>	1.73

*Note:* SES = socioeconomic status; GPA = grade point average.

<sup>a</sup>All means are derived from the Wave 3 in-school sample; twenty-eight available Wave-3 cases were excluded because the respondents had dropped out of school. <sup>b</sup>Whole-sample and gender-specific means are weighted to correct for oversampling of Black adolescents; race-specific means are not.

<sup>†</sup> $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  significant mean differences by gender or by race (one-way ANOVA).

Multiple regression analysis of the unweighted sample was used to examine the relationships among individual background characteristics, athletic involvement, and academic outcomes. Although data were weighted to compensate for racial oversampling in the initial descriptive analyses, this was not necessary in the multivariate analyses because race measures were included as independent variables (Winship & Radbill, 1994). For each dependent variable, an initial model examined main effects of all independent variables. In order to assess subgroup-specific differences in these relationships, a second model examined the two-way interactions of each measure of athletic involvement (athlete status and jock identity) with gender and with race. Significant two-way interactions were subsequently probed by conducting subgroup-specific analyses of the academic outcome in question.

## Results

Most students in the weighted sample (73%) reported at least one instance of school misconduct during the year before the survey. Illegal absences were particularly common, with 52.5% of students reporting that they had skipped at least 1 day of school without a legal excuse and 58.2% reporting cutting class at least once. Disciplinary action for a school infraction was less common; 20.1% of students had had someone from home called to the school at least once, and 30% had been sent to the principal's office. Most students, however, also reported good grades, with nearly two-thirds (65.5%) estimating their past-year GPA as 80 or better.

One-way analyses of variance tests were performed to test the significance of gender and race differences in reported grades and school misconduct. As shown in Table 1, gender and racial variations in these school outcomes were in keeping with prevailing patterns. Boys reported lower grades and more school misconduct than did girls. Boys were more likely to skip school ( $p < .01$ ), have someone called from home ( $p < .01$ ), and be sent to the principal's office ( $p < .001$ ) than were girls. Blacks reported lower grades than did Whites ( $p < .001$ ). There were no significant race differences in school misconduct overall, although when the components of the scale were disaggregated, Blacks reported fewer illegal absences but more disciplinary referrals than did Whites. Specifically, Blacks were marginally less likely to cut class ( $p < .10$ ) but were more likely to have someone called from home ( $p < .01$ ) and marginally more likely to be sent to the principal ( $p < .10$ ) than were Whites.

Table 1 also shows self-reported athletic involvement. Consonant with existing evidence that athletic participation is the single most popular school-sponsored extracurricular activity among adolescents regardless of gender, race, and ethnicity (see U.S. Department of Education, 1995; Eccles & Barber, 1999), adolescents in our sample reported high rates of athletic involvement at Wave 1. Nearly two-thirds (65%) reported participating in school sports. More than one-third (35%) identified themselves as jocks. In general, athletic involvement was higher for boys than girls. Black and White respondents reported comparable rates of participation in school sports (65% and 65%, respectively), but self-identification as a jock was markedly more prevalent among Whites (37%) than among Blacks (22%).

Comparisons of athletes and nonathletes (data not shown) revealed several key gender differences, with female (but not male) athletes reporting a higher GPA at Wave 3. Female athletes also engaged in significantly more Wave-3 school misconduct than female nonathletes, particularly with respect to cutting class. In contrast, male athletes engaged in less misconduct than male nonathletes; there were



significant differences on three of the four misconduct measures (skipping school, someone called from home, and sent to the principal's office).

Comparisons of jocks and nonjocks (data not shown) revealed significant differences with respect to GPA but not school misconduct. Female jocks reported a higher GPA at Wave 1 (concurrent with measurement of jock identity) than female nonjocks but lost this advantage by Wave 3. (Waves 1 and 3 might be understood as roughly corresponding to median Grade 9 and median Grade 11, although the sample actually spanned a more than 4-year age distribution at any given point in time.) Black jocks reported significantly lower Wave-3 GPAs than did Black nonjocks.

Multiple regression analyses were employed to predict adolescent GPA and school misconduct in Wave 3. In order to control for the potentially confounding effects of age and socioeconomic status in predicting the race- and gender-specific relationships between athletic involvement and school outcomes, two regression equations were modeled for each academic outcome variable. Model 1 included main effects of gender, race, age, socioeconomic status, jock identity, and athlete status at Wave 1, as well as a Wave-1 measure of the academic outcome in question. In the second model, two-way interactions of each athletic-involvement variable with race and with gender were added to the equation. A third model including three-way product terms for race, gender, and each of the athletic involvement variables was tested but discarded as a result of the unreliability of results based on such small cell sizes. Because the effects of race were controlled for in each of these models, all multivariate analyses were performed on the unweighted sample (Winship & Radbill, 1994). Results are presented in Table 2. Where significant cross-product terms were found among gender, race, and/or athletic involvement, additional group-specific analyses were conducted to probe the interactions.

### **GPA**

Unsurprisingly, the strongest predictor of Wave-3 GPA in our sample was GPA at Wave 1. Being female, White, or of high socioeconomic status were also associated with a higher Wave-3 GPA. Taking into account the effects of gender, race, age, socioeconomic status, and Wave-1 GPA, neither jock identity nor athletic participation significantly predicted student GPA 2 years later, although both measures of athletic involvement interacted significantly with gender with respect to their impact on GPA. We conducted separate, gender-specific analyses to probe these analyses (data not shown in tabular form). Female athletes reported higher grades than did female nonathletes ( $\beta = .12, p < .01$ ), whereas male athletes reported marginally lower grades than did male nonathletes ( $\beta = -.09, p < .10$ ), as shown in Figure 1.

In contrast, self-identified female jocks reported lower grades than did female nonjocks ( $\beta = -.14, p < .01$ ), whereas the grades of male jocks did not differ significantly from those of male nonjocks (see Figure 2). The cross-product term for race and jock identity reached marginal significance only. Follow-up analyses of separate race-specific samples did show that Black jocks reported lower grades than did Black nonjocks ( $\beta = -.15, p < .05$ ), whereas jock identity had no significant effect on grades for White adolescents.

Again, the best predictor of Wave-3 school misconduct (unsanctioned absences from a class or for an entire day of school, having someone from home called to the school, being sent to the principal's office) was misconduct at Wave 1. Female gender was also associated with less frequent misconduct. After controlling



**Table 2 Unweighted Regression Analyses Predicting Wave-3 Adolescent Academic Outcomes**

Independent Variables <sup>b</sup>	GPA ( <i>N</i> = 580)		Misconduct <sup>a</sup> ( <i>N</i> = 579)	
	$\beta$	( <i>R</i> <sup>2</sup> )	$\beta$	( <i>R</i> <sup>2</sup> )
Model 1: main effects only		(.39)		(.10)
female	.08*		-.10*	
Black	-.11**		.01	
age	.01		.14**	
SES	.15***		-.05	
GPA	.52***		—	
misconduct	—		.20***	
jock identity	-.05		.10*	
athlete status	.02		.02	
Model 2: two-way interactions added		(.41)		(.11)
female by jock identity	-.14**		.02	
female by athlete	.21**		.22*	
Black by jock identity	-.08 <sup>†</sup>		.08	
Black by athlete	.03		.03	

Note: SES = socioeconomic status; GPA = grade point average.

<sup>a</sup> The misconduct measure sums responses to four continuous, past-year variables: skipped school, cut class, parent/guardian called to school, and sent to principal. It has been log transformed to normalize distribution. <sup>b</sup> All independent variables are measured at Wave 1; dependent variables are measured at Wave 3.

<sup>†</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

for gender, race, age, socioeconomic status, and Wave-1 misconduct, athletic participation was not a significant predictor; jock identity, however, was significantly and positively associated with misconduct at Wave 3. Moreover, a significant two-way interaction term suggested that the relationship between athlete status and misconduct differed significantly by gender (Figure 3). Further probes using separate girls-only and boys-only samples indicated that athletic participation had a stronger buffering effect on misconduct for boys than for girls. For girls, athletic participation at Wave 1 was associated with a tendency toward more frequent misconduct at Wave 3, although this tendency reached marginal significance only ( $\beta = .09$ ,  $p < .10$ ). Male athletes tended to report fewer instances of Wave-3 misconduct than did male nonathletes, although again the significance of this tendency was only marginal ( $\beta = -.11$ ,  $p < .10$ ).

## Discussion

Although a preponderance of extant research has linked high school sports participation with positive academic outcomes, this study suggests that the relationship might not be as robust as previously believed. In fact, its strength and

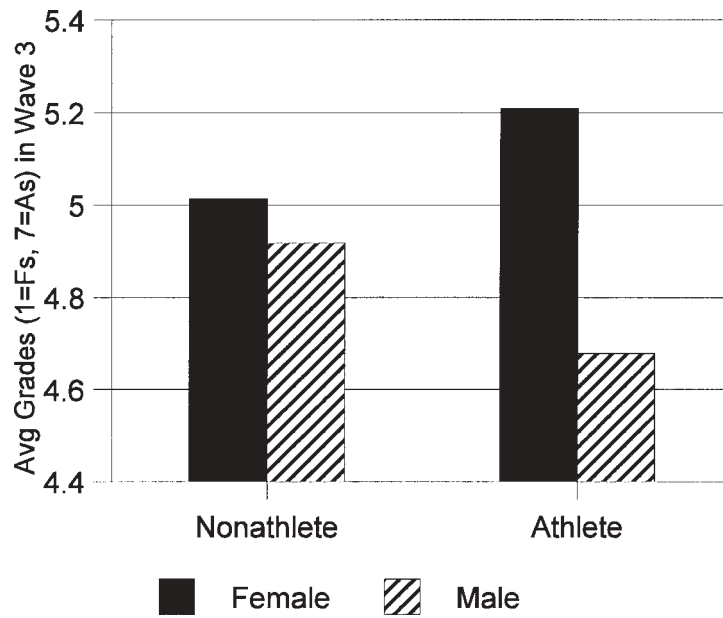


Figure 1 Predicted average grades in the past year (1 = mostly Fs, 7 = mostly As), by gender and athlete status.

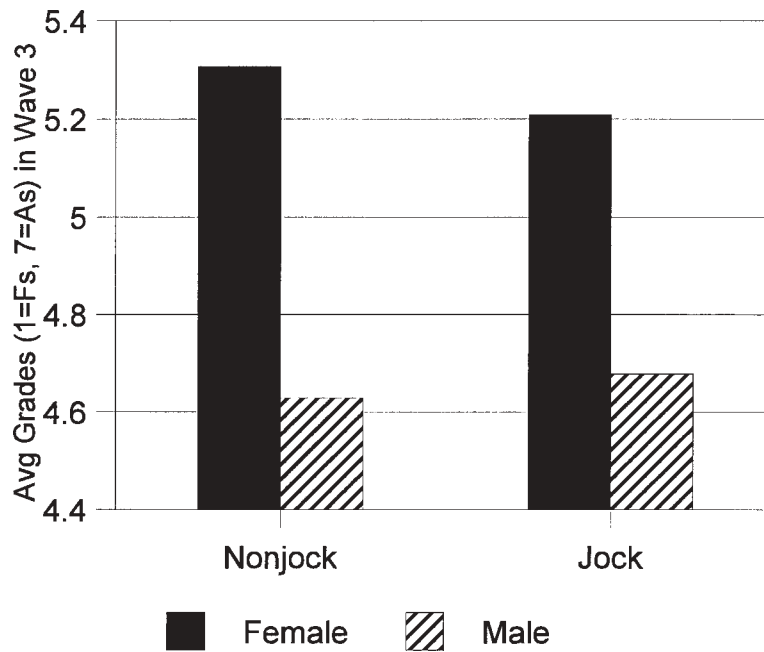
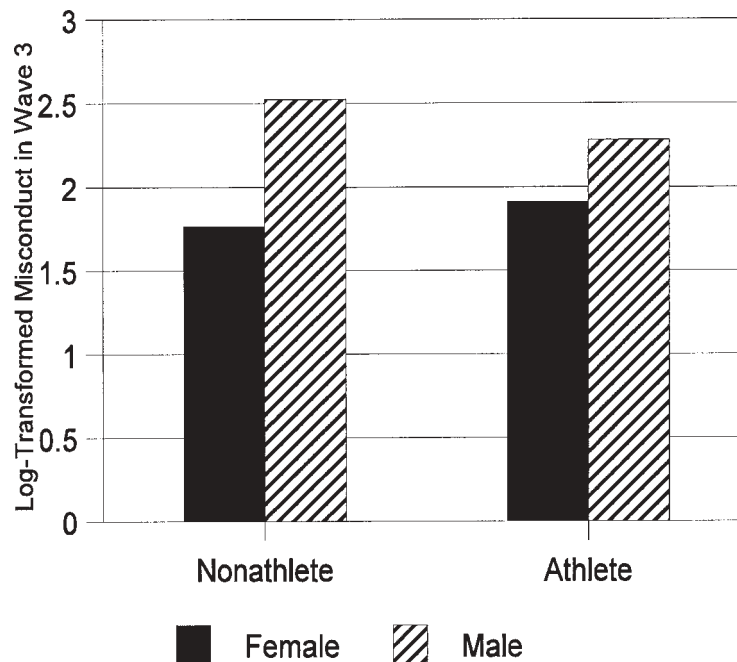


Figure 2 Predicted average grades in the past year (1 = mostly Fs, 7 = mostly As), by gender and jock identify.



**Figure 3** Predicted frequency of log-transformed school misconduct occasions (skipping school, cutting a class, being sent to the principal's office, and having someone from home called to the school) in the past year, by gender and athlete status.

direction appear to be contingent on the gender and race of the adolescent, the dimension of athletic involvement under consideration, and the time span over which predictor and outcome are measured. Examining differences in the impact of two dimensions of adolescent athletic involvement (jock identity and athlete status) on changes in school grades and school misconduct approximately 2 years later, we found that adolescents who claimed the label of *jock* reported more subsequent misconduct than those who did not. Moreover, female (and to a lesser extent Black) jocks reported lower grades than did their nonjock peers, whereas female athletes reported higher grades than did female nonathletes. Athletic participation also had a significantly less salutary effect on girls than on boys with respect to school misconduct. These findings raise questions, and point to several promising directions for future inquiry, within the context of the larger debate on the linkage between sports and the adolescent school experience.

Considerable scholarly attention has been devoted to the relationship between adolescent athletic participation and educational outcomes such as academic achievement, absenteeism, misconduct, and school attachment. Most studies can be clearly located on either side of a long-standing theoretical divide, favoring or opposing interscholastic sports (see Braddock, 1981, and Marsh, 1992, for a review of the debate). Developmental theorists argue that athletic participation contributes to better academic performance by developing skills, habits, and values transferable to the classroom; integrating students into a prosocial network of adults

and peers; providing tangible incentives to stay in school and get good grades; and increasing commitment to the school (Marsh & Kleitman, 2003; Snyder & Spreitzer, 1990). Zero-sum theorists counter that the resources adolescents devote to competing pursuits are finite; when young athletes' time and energy, as well as the resources of their schools and communities, are diverted from the classroom to extracurricular activities such as sports, academic objectives are undermined (Coleman, 1961; Hauser & Lueptow, 1978).

At the high school level, links between sports involvement and academic outcomes have for the most part been largely positive; student athletes tend to have higher grades, less absenteeism, fewer discipline referrals, a stronger internal locus of control, and better odds of aspiring to—and completing—a college education (Eccles & Barber, 1999; Fejgin, 1994; Marsh, 1993; Videon, 2002). This body of findings, however, has been plagued by small effect sizes and, in some cases, puzzling inconsistencies. For example, Hauser and Lueptow (1978) found that, although athletes' grades improved over the course of their high school careers, the gains were smaller than those of nonathletes. More recently, Hanson and Kraus (1998) observed that athletic participation had a positive effect on the science-related experiences of White female adolescents but the opposite effect for Black female adolescents. Fisher, Juszczak, & Friedman (1996) found no association at all between athletics and the academic performance of inner-city adolescents.

One reason for weak or inconsistent findings might be that the relationships between athletic participation and positive school outcomes are selective rather than causal; that is, those adolescents who do well in high school are also those who choose to participate in school sports (Barron, Ewing, & Waddell, 2000). Studies that take into account background characteristics tend to find weaker correlations between sports participation and GPA (Holland & Andre, 1987). There is also considerable uncertainty regarding the shelf life of athletic effects. Strong positive associations between sports participation and concurrent academic performance might dissipate or even turn negative if predictor and outcome variables are measured several years apart.

A second explanation is that the relationship between sports participation and school outcomes is not monolithic. Some studies have examined the role of gender (Hanson & Kraus, 1998; Videon, 2002) or race (Melnick, Sabo, & Vanfossen, 1992; Snyder & Spreitzer, 1990; Wells & Picou, 1980) as potential moderators of the link between athletic participation and academics. Eide and Ronan (2001) found disparate effects of high school sports participation on educational attainment for White males (negative impact), White females and Black males (positive impact), and Black females and Hispanics of either gender (no significant impact). Except for Eccles and her colleagues (Eccles & Barber, 1999; Barber et al., 2001), however, most previous research on academic performance has not addressed the distinction between what athletes do (e.g., participation in sports) and how they perceive themselves (e.g., identification as a jock). The present study has examined how gender and race interact with dimensions of athletic involvement to predict academic outcomes.

Several tentative conclusions could be derived from careful examination of these findings. First, the lagged effects of athletic involvement on academic outcomes several years later were far less favorable than contemporaneous, cross-sectional effects widely documented in the extant literature. Neither jock identity nor athlete status was unequivocally associated with improved subsequent academic performance. Developmental theorists posit that participation in organized

sports enhances attachment to school, provides constructive guidance and adult supervision, reinforces prosocial values, and teaches skills that spill over into the classroom. In light of our results, however, it might be that the short-term athletic benefits identified by developmental researchers derive more from the immediate context of participation (e.g., team rules about absences or minimum GPA requirements) than from longer-term developmental processes. Another powerful influence on positive school outcomes lies in the pre-existing characteristics of adolescents who self-select into athletic programs.

Second, the potentially beneficial effects of athletic involvement appear to be contingent on the dimension of involvement under consideration. For example, female athletes enjoyed a small but significant GPA advantage over female nonathletes, but female and Black respondents who identified themselves as jocks reported lower GPAs than those who did not. It is not entirely surprising that a jock identity is not conducive to enhanced academic performance for these adolescents. A limited body of previous research has documented troubling links between jock identity and such problem behaviors as heavy drinking and binge drinking (Ashmore, Del Boca, & Beebe, 2002; Miller, Hoffman, Barnes, Farrell, Sabo, & Melnick, 2003), violence and bullying (Miller, Melnick, Farrell, Sabo, & Barnes, in press; Wilson, 2002), and sexual risk-taking (Miller, Farrell, Barnes, Melnick, & Sabo, 2005). To date, however, this emerging picture has seemed to suggest a “toxic jock” effect that is strongest for White boys. In the present analysis, conversely, White boys actually proved the exception; a jock identity had no significant adverse effect on grades for this subgroup. This finding was unexpected. It might be that where academic performance is concerned, the *jock* label constitutes less of a departure from the norm for White boys than it does for female or Black adolescents, thus weakening its negative impact on their educational outcomes.<sup>1</sup>

Third, the relationships among athlete status, gender, and adolescent school misconduct were inconsistent. Participation in sports was associated with marginally more misconduct for girls and marginally less misconduct for boys. Although neither finding alone was statistically remarkable, the gender difference was statistically significant. This unexpected finding has no clear precedent; in fact, the few previous studies that have directly examined links between female athletic participation and school misconduct found that female high school athletes were less likely to break school rules and regulations than their nonathlete peers (Buhrmann, 1977; Buhrmann & Bratton, 1978; Fejgin, 1994). Assuming that our results can be replicated in future studies, these findings might indicate the interplay of several developmental and psychosocial processes. First, school-based sports place the participant at the center of a social network that reinforces commitment to the school (Marsh, 1992, 1993) and mandates conformity to conventional expectations. Because nonconformity with school and team norms might result in suspension or even expulsion from the team, misconduct thus becomes a criterion for selection out of sports. This combination of restraints helps explain the negative relationship between athletic participation and school misconduct for boys.

The processes that might account for reduced misconduct by male athletes, however, do not explain why female athletes actually tended toward more frequent misconduct than did female nonathletes. We speculate that the institutional fit between adolescent girls and the athlete role might be less comfortable than it is for boys. Mainstream acceptance of girls as *bona fide* athletes is a relatively new phenomenon. Traditional, hegemonic cultural scripts for feminine behavior—what Connell (1995) described as “emphasized femininity”—left little room for the dirt,

sweat, and overt physical competition of organized sports. Even though such behavior has grown more acceptable in recent years, it might well be that female athletes still experience more role conflict between the demands of the playing field and the demands of the classroom than their male counterparts do, one manifestation of that conflict being school misconduct. Ironically, it might also be the case that, whereas boys who get into trouble are selectively filtered out of sports, girls who get into trouble are selectively filtered into sports because they are disproportionately amenable to violating conventional gender norms regarding assertiveness, competition, and physicality.

In the absence of more data, this interpretation remains purely speculative. The present study is nonetheless consistent with previous findings that other nonacademic concomitants of school athletic participation and jock identity differ by gender (e.g., Miller, Sabo, Farrell, Barnes, & Melnick, 1998; Sabo, Miller, Farrell, Melnick, & Barnes, 1999) and race (e.g., Miller, Farrell, Barnes, Melnick, & Sabo, 2005). Future researchers will need to address how gender and/or racial differences specifically affect the relationship between athletic involvement and academic outcomes.

This study also confirms the importance of distinguishing among dimensions of athletic involvement. In addition, it highlights the need to develop better instruments for doing so. In particular, jock identity is a more nebulous construct than most other sport-related measures. Unlike athlete status or frequency of athletic activity, which are subject to faulty recollection but lend themselves to objective assessment, jock identity relies on the adolescent's more subjective, self-reported perception. Furthermore, although there are distinct and mutually exclusive literatures that examine the behavioral implications of athletic participation (e.g., Crosnoe, 2002; Marsh & Kleitman, 2003; Snyder & Spreitzer, 1990), athletic identity (e.g., Brewer, Van Raalte, & Linder, 1993; Horton & Mack, 2000; Webb, Nasco, Riley, & Headrick, 1998), and affiliation with the jock peer crowd (e.g., Brown, Eicher, & Petrie, 1986; Eckert, 1989; La Greca, Prinstein, & Fetter, 2001), little formal theorization (and almost no empirical research) has been devoted to understanding the differences between an *athlete* and a *jock*. The few researchers who have explicitly drawn this distinction have generally found that the two constructs overlap less than might be expected (e.g., Barber et al., 2001; Miller, Farrell, Barnes, Melnick, & Sabo, 2005).

Athletes and jocks are not the same. Athletes are valorized in popular culture; in contrast, the label of jock is perceived by many as a derogatory term that connotes ignorance (e.g., "dumb jock"). Together they represent the two faces of sport: one ascetic and disciplined, the other gregarious and risk oriented. In this study, we have examined some of the contrasting implications of these distinct and often conflicting constructs. However, our measure of jock identity, although conventionally used in peer crowd research, did not directly probe the participants' interpretation of the jock label or its confirmation by others. We were thus unable to explore how or if the meanings conventionally assigned to this label might differ between genders or races, or indeed even within a single gender (Miller, Farrell, Barnes, Melnick, & Sabo, 2005; Miller, Melnick, Farrell, Sabo, & Barnes, 2005; Pascoe, 2003). Future data collection might profitably frame jock identity by developing a multi-item indicator comparable to Brewer and colleagues' 1993 Athletic Identity Measurement Scale. Likewise, our dichotomous measure of objective athlete status could not capture nuances such as the intensity, frequency, or type of athletic activity, all of which might condition the relationship between sports participation and educational outcomes.



This study examined how race and gender interact with two dimensions of athletic involvement to predict academic outcomes. The issues raised are of particular importance today as more school districts and communities face fiscally imposed decisions about which extracurricular activities and programs to cut. Previous research has suggested that school-sponsored athletic programs might help promote favorable academic outcomes. Our findings constitute a warning sign that such programs are no panacea, particularly when they promote a “jock” ethos, and that they must be considered time-sensitive as well. To the extent that athletic programs are designed to enhance the adolescent educational experience, they must be tailored in such a way as to discourage engendering a jock identity among the participants.

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### Note

<sup>1</sup>Preliminary analyses indicated that White athletes were more likely to perceive themselves in "jock" terms than Black athletes. In fact, three-way cross tabulations showed a significant association of jock identity and athlete status for Whites ( $p < .001$ ) but only a marginally significant association for Blacks ( $p = .075$ ). We did not pursue this finding in the present study because follow-up regression analyses did not find significant three-way interactions among race, jock identity, and athlete status, possibly the result of unavoidable statistical artifact from small cell sizes. The possibility that Black and White adolescents use different jargon with respect to athleticism, and the implications of such differences for identifying links between athletic involvement and academic outcomes, however, invite closer attention by future researchers.

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