

<RRH>Interscholastic Athletics and Investment in Human Capital

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<ABS>

*Objectives.* Several studies, such as Hoberman (1997) and Leeds (2003), have claimed claim that success in the athletic arena has distorted the human capital decisions of young black men. We test this hypothesis by determining how participation in interscholastic athletics affects the study habits of black and white youths. *Methods.* We build a theoretical model that allows youths to invest in athletic or academic human capital. We test this model using data from the National Educational Longitudinal Survey and accounting for possible self-selection bias. *Results.* We find that athletic participation does not have a statistically significant impact on the amount of time young black men and women spend studying. The impact for young white men and women is positive and significant, though the impact of playing football and basketball does have a negative impact for young white men. *Conclusions.* Participating in interscholastic athletics does not have the pervasive negative impact on young black men that Hoberman (1997) and Leeds (2003) claim. The expected negative impact of basketball and football—the so-called money

sports—exists for young white men, though this is offset by the positive impact of participation in athletics per se.

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In their controversial books, Hoberman (1997) and Entine (2000) examined the contrast between the success that African Americans have had in the athletic arena and the continuing struggle of many African Americans to join mainstream society. Entine suggests that underlying physical differences underlie black athletic achievement. Hoberman focuses on the incentives facing black Americans, particularly young men. He claims that the prominence of blacks in nonmainstream fields such as sports and entertainment provides a misleading set of role models. As a result, black youth are led to invest in areas that offer little chance of success but provide huge rewards to the few people that do succeed. The rise of the “ghetto” athletic persona, as exemplified by such players as Allen Iverson, has brought this disconnect into stark relief.

Our research differs from previous work in several ways. First, we look at how participation in athletics affects the study habits of high school students. In addition to helping students master material, good study habits can send important signals to instructors. Farkas et al. (1990) claim that teachers base their evaluation of students partly on their perception of students’ study habits. Studying in itself may therefore be important. Second, we examine how both race and sex affect a student’s investment in human capital. Third, we look directly at investment in human capital rather than at indirect measures of investment, such as later earnings or employment status. Finally, we account for the possibility that particularly motivated or intelligent students may self-select into (or out of) athletics using the Heckman correction for selection bias.

We find no evidence that participation in athletics discourages studying by young black men. We find that it increases time spent studying by young white women and, to a lesser extent, by young white men. We also find no evidence of self-selection.

In the next section of this article we place the impact of athletic participation in the larger context of race and scholastic performance. After a literature review, we present a theoretical model of how students allocate their time between sports and their studies. We next develop an

empirical model to test the predictions of the theoretical model. A conclusion follows our presentation of the results of the estimation.

### **<A>Previous Studies of Nonacademic Motivation**

As noted above, our study consists of two basic questions. First, does participation in athletics motivate students to study more? Second, how does this motivation differ by race and sex? In this section, we show that the extensive literature on nonacademic motivation has only recently taken race and gender into account and has said relatively little on sport as a motivating factor.

Early studies of educational achievement were based on the status-attainment model developed largely by sociologists at the University of Wisconsin in the 1960s (Sewell and Hauser, 1980). The model was constructed and elaborated on using data from predominantly white male subsamples (Alexander and Eckland, 1974; Alexander, Eckland, and Griffin, 1975; Duncan, Haller, and Portes, 1968; Haller and Portes, 1973; Sewell, Haller, and Strauss, 1957; Sewell and Shah, 1967, 1968a, 1968b).<sup>1</sup>

Until the mid-1970s, researchers tacitly assumed that findings based predominantly on white males could be generalized to all students. Even the major analyses of the “High School and Beyond” data (Alexander and Pallas, 1985; Coleman and Hoffer, 1987; Coleman, Hoffer, and Kilgore, 1982; Hoffer, Greeley, and Coleman, 1985; Jencks, 1985; Williams, 1985) shed little light on the effects of race and sex on educational achievement or expectations because they were treated as variables whose effects could be eliminated through statistical control rather than as effects of interest in themselves.

The recognition of racial and gender differences prompted further study of student achievement. Broadly speaking, genetic deficiencies were used to explain racial and gender differences until the 1960s, when appeals to cultural deficiencies within the student’s microenvironment began to appear. In the 1970s, the discourse was expanded to include the larger social context (Bourdieu, 1974; Bowles and Levin, 1968; Giroux, 1983; Ogbu, 1974, 1979;

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<sup>1</sup> Sewell and Hauser (1980:85) reported that the Wisconsin data included less than 2 percent minorities.

Willis, 1977). Mickelson (1990), building on Ogbu's (1987) position regarding the lasting effects of forced migration and slavery, identified a paradox regarding the good attitude but poor achievement among African-American male adolescents. Other researchers found that the paradox applies to other types of students as well (Rigsby, Stull, and Morse-Kelly, 1997).

The appearance of data sets that look at a wider array of educational inputs has, according to Peng, Wright, and Hill, "revealed that multiple variables of home, school, and individual students are related to student learning" (1995:5). For example, according to Kantor and Brenzel, "growing up in a poor family increases the likelihood that a student will experience academic difficulties, [and] increases in the proportion of low-income students in a school are associated with decreases in achievement even after individual and family characteristics have been taken into account" (1992:29). Using school-level data, Yancey and Saporito (1997) found that the social-class composition of the school is a determining factor in understanding the differential patterns of achievement in two large cities, Philadelphia and Houston. Battistich et al. (1995) found that a supportive community context could compensate for stressful family situations.

Several explanations have been posited for the racial and gender differences in educational achievement. Studies have shown that higher levels of poverty among African Americans can account for some of the achievement differences relative to whites. Nearly all impoverished students enter kindergarten with basic mathematical skills (i.e., they can count and recognize basic shapes) (West, Denton, and Reaney, 2002). Many, however, do not succeed in rigorous college preparatory mathematics courses in high school (Balfanz, McPartland, and Shaw, 2002). Parenting practices that support educational achievement have been shown to affect both racial/ethnic and gender differences. Yao (1985) found the highly structured family life of Asian-American students accounted for their high achievement. Hunt and Hunt (1979) found that broken homes lower the achievement of African-American females but not males. Steinberg et al. have shown that the parenting practices that most effectively support school performance vary by race and ethnicity.<sup>2</sup>

Long and Caudill (1991) were among the first to look at how athletic participation affects human capital accumulation. They found that men who participated in varsity athletics at the

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<sup>2</sup> See Steinberg (1986), Lamborn et al. (1991), Steinberg, Dornbusch, and Brown (1992), and Steinberg et al. (1992).

collegiate level had higher [AUTHOR: Higher what?] 10 years after graduation. Since then, several studies, most notably Eide and Ronan (2000) and Barron, Ewing, and Waddell (2000), have extended this inquiry to the high school level.

Eide and Ronan (2000) use the “High School and Beyond” data set to study the returns to participating in high school athletics for white, black, and Hispanic boys and girls. They recognize that participating in athletics may be a jointly dependent variable and use the height of students at age 16 as an instrumental variable (IV) to capture any endogeneity. The IV causes the impact of athletics on drop-out rates, college-completion rates, and future earnings to be statistically insignificant. Eide and Ronan admit, however, that their IV is imperfect (e.g., height is a weak measure at best for many girls’ sports). Moreover, Persico, Postlewaite, and Silverman (2001) find that height has an independent impact on wages, which suggests that it is an inappropriate instrument for athletic participation. Finally, Eide and Ronan do not include family or school characteristics that could affect either participation in athletics or later earnings.

Barron, Ewing, and Waddell (2000) claim that participation in athletics could reflect any of four personal characteristics: greater returns to athletics than to other activities; a higher discount rate that reduces the value of future earnings; greater overall talent; and a low value of leisure. They used the NLS72 and NLSY data sets to see how participating in interscholastic athletics affected class rank, future academic achievement, the likelihood of future employment, and future earnings. This study did not consider the impact of athletics on women at all (because opportunities for women were so limited in 1972) and accounted for the impact of race only by including dummy variables. Their results were mixed, finding some evidence that athletic participation improved class rank and increased the likelihood of pursuing education. They also found a positive impact on future wages but no impact on the likelihood of future employment.

Finally, all the above are essentially reduced-form studies. Although they implicitly assume that accumulating human capital results in positive labor market outcomes, Biddle and Hamermesh (1998) and Kuhn and Weinberger (2005) note other paths by which athletics might affect future earnings. Biddle and Hamermesh were the first to note a “beauty premium.” Although athletic participation does not guarantee physical beauty, a correlation between athletics, fitness, and attractiveness could result in a premium to athletes regardless of their motivation or intellectual abilities. Kuhn and Weinberger find that people who demonstrate

leadership while in school earn higher wages later in life, holding intellectual ability constant. Being captain of a sports team brings such a return, particularly for those without a college degree.

Leeds (2003) explicitly considers how the culture of “black celebrity” may have distorted young black men’s perceptions of the labor market. His model supports Hoberman’s hypothesis that success in sports has harmed black American youth by leading black youth to overinvest in sports and underinvest in academics. Means from the first followup of the National Education Longitudinal Survey of 1988 provide some support for this hypothesis. Table 1 shows that participating in athletics increases the mean hours young white men and all young women spend on homework each week. On average, young black men spend slightly less time on homework if they participate in athletics. Varsity athletes of both races and sexes average more time on homework than do nonathletes and nonvarsity athletes. Unlike the other groups, young black men who participate in athletics, particularly in basketball and football, spend less time on homework. Leeds, however, provides only a theoretical model of the investment. It is, moreover, what McCormick (2005) calls a “separate-track” model, in which one can invest in only one activity or the other.

**[NOTE: Place Table 1 near here.]**

In this article, we test Leeds’s hypotheses and find that participation in sports *per se* does not affect the amount of time young people spend on homework. In fact, participating in varsity athletics might increase the amount of time young white men and women spend on homework. However, competing in basketball and football, the sports young men most associate with professional careers, reduces the amount of time young white men spend on homework.

### **<A>Theoretical Model**

To test whether participating in sports leads students to study more (or less), we adapt the theoretical model presented in Leeds (2003). We start with a two-period utility maximization

model in which the individual invests in human capital in the first period and works in one of three markets in the second period. The utility function is thus:

$$U = U^1 + \frac{U^2}{(1+r)} = U(x_1, S, L_1) + \frac{U(x_2, L_2)}{(1+r)} .$$

The individual consumes the private composite commodity  $x_i$  in period  $I$  and spends his or her time working ( $H_I$ ), studying ( $A$ ), playing sports ( $S$ ), and consuming leisure ( $L_I$ ). We assume that playing sports serves two purposes. First, it serves as an investment in a specific form of human capital. Second, it serves as a consumption good, so, unlike  $A$  or  $H_I$ , it appears in the utility function. The time constraint in the first period is:

$$H_1 + A + S + L_1 = T ,$$

where  $T$  is the total amount of time available. Consumption of  $x_I$  is given by:

$$x_1 = \bar{x} + \bar{w}H_1 ,$$

where  $\bar{x}$  is autonomous consumption that is provided by the individual's parents and  $\bar{w}$  is the wage paid for work in the unskilled sector of the economy.

In the second period, the individual chooses a career path based on the investment decisions made in the first period. The first possibility is to choose a job in the unskilled sector of the economy and continue to earn  $\bar{w}$ . The second possibility is to enter the academic sector of the economy. In that case, the individual earns the wage  $w_2$ , which varies with the amount of investment in academic human capital. Specifically:

$$\begin{aligned}
x_2 &= w_2 H_2 \\
w_2 &= w_2(A) \\
\frac{\partial w_2}{\partial A} &> 0; \frac{\partial^2 w_2}{\partial^2 A} < 0
\end{aligned}$$

Finally, the individual could seek employment in the athletic sector of the economy, which effectively means that he or she enters a lottery with an uncertain payoff. The individual succeeds with some probability  $z$  and earns the wage  $w^*$ , which is greater than  $w_2(A)$  for all levels of  $A$ , or he or she earns the unskilled wage  $\bar{w}$ . The wage lottery thus looks like:

$$\begin{aligned}
w_2 &= w_2(S) = zw^* + (1-z)\bar{w} \\
w^* &\gg w_2(T)
\end{aligned}$$

We further assume that the probability of success increases with the investment in athletic human capital but is strictly bounded below 1.

$$z'(S) > 0; z''(S) < 0; z(T) < 1$$

Regardless of the career path chosen, the individual faces the second-period time constraint:

$$H_2 + L_2 = T.$$

One can solve this set of equations for the optimal allocation of time conditional on the second-period career choice and obtain three indirect utility functions,  $V_U$ ,  $V_A$ , and  $V_S$ . The highest value of  $V_i$  determines the career path and the specific values of  $A$ ,  $S$ ,  $L_i$ , and  $H_i$ . The choice of the career path depends on the functional form of the utility function—the tastes and values of the individual—and on parameters such as:

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The perceived impact of investment in academic human capital on the wage.

The perceived impact of investment in sports human capital on the wage.

The level of autonomous consumption in the first period.

The discount rate.

<end BL>

Leeds (2003) notes that, for an extended period of time, black youth may have correctly perceived that they had a higher return to investing in sports-specific human capital and lower return to investing in academic-specific human capital than white youth. This could have led to distorted investment decisions that continue to this day.

In this restricted model, investment in academics is worthless if the individual chooses a sports (or unskilled) career path. Like the extreme form of Schwarz's (2002) model of investment tournaments, any investment in the path not chosen is wasted. An aspiring athlete will therefore minimize his or her investment in academics. This means not going beyond the bounds set by regulatory bodies like the NCAA or state educational authorities. Those interested in an academic career will participate in sports only to the degree that it brings intrinsic rewards. However, the marginal value of sports to such individuals is very low (far less than the value to those who see it as a career path), while the marginal value of investment in academics is much greater. The optimization decision for an individual on the academic career paths weighs the inherent pleasure from sports against the impact of studying on future earnings:

$$\frac{\partial U}{\partial S} = \frac{\left(\frac{\partial U}{\partial x_2}\right)\left(\frac{\partial w_2}{\partial A}\right)}{(1+r)} H_2.$$

Ignoring the minimum bounds set by the authorities, a person hoping to follow a sports career path invests in sports until the sum of the marginal value of participating in itself and the marginal impact on expected earnings is zero, in effect the corner solution given by:

$$\frac{\partial U}{\partial S} + \frac{\left(\frac{\partial U}{\partial x_2}\right)\left(\frac{\partial z}{\partial S}\right)}{(1+r)} H_2 = 0.$$

Thus, any differences in the parameters that affect career choice also affect the individual's allocation of time in the first period of life. Although the differences are not as stark as the extreme form of Schwarz's model of investment tournaments predicts, they are still very large.

A more moderate form of the model results if we allow second-period earnings to depend on both forms of investment. Those following the sports career path may view the increased options that investing in academics brings as an insurance policy against being relegated to the unskilled sector or as an investment in earnings after their sports career ends. In terms of our model, second-period earnings become:

$$w_2 = w_2(A, S)$$

$$\frac{\partial w_2}{\partial A}, \frac{\partial w_2}{\partial S} > 0,$$

for those seeking an academic career, and:

$$w_2 = w_2(A, S) = z(S)w^* + (1 - z(S))w_2(A),$$

with similar first derivatives, for those seeking a sports career. Those who believe that participating in sports provides skills that are valuable in later life think that the partial derivative  $\frac{\partial w_2}{\partial S}$  is very large. If sports cause students to develop better study habits, then there is a cross-

partial derivative,  $\frac{\partial^2 w_2}{\partial A \partial S} > 0$ , that is large enough to increase the amount of time spent studying by students who are serious athletes.

### <A>Estimation Framework and Data

The above model sets out conditions that allow us to test how participation in athletics affects study patterns. Specifically, the model predicts that youths invest less in academic human capital if they perceive a higher expected net return to an athletic career than to an academic

career. They also invest less if they are under greater financial pressure to sustain consumption in the current period. They are less likely to specialize in athletics if the complementarity between investment in sports and in academics, expressed by the cross-partial derivative  $\frac{\partial^2 w_2}{\partial A \partial S}$ , is strongly positive. This suggests the empirical model:

$$HC_i = \beta_0 + \beta'_S X_i + \beta'_F Y_i + \beta'_Z Z_i + \varepsilon_i$$

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$HC_i$  is the amount of investment in academic human capital by student  $i$ .  $X_i$  is a vector of variables relating the quality of the school the student attends. As noted above, work by Peng, Wright, and Hill (1995), by Yancey and Saporito (1997), and by Battisch et al. (1995) suggest that school characteristics are vital determinants of student achievement. As numerous studies suggest (e.g., Farkas et al., 1990), student achievement depends on student effort. Schools that emphasize athletics might not elicit such effort.

$Y_i$  is a vector of variables related to the student's family. As Yao (1985), Kantor and Brenzel (1992), and Steinberg's many studies show, family income, values, and parenting practices all affect students' motivation and achievement.

$Z_i$  includes measures particular to the individual student. In this context, we look at various aspects of interscholastic athletic participation.

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We ran separate regressions for white males, white females, black males, and black females. This allows us to see whether participation in interscholastic athletics affects the races and sexes differently. Statistically significant, negative coefficients on the variables related to athletic participation would support the hypothesis that athletics discourage investment in academic skills, while positive coefficients would support the hypothesis that the two are complementary.

Finally, we tested for the presence of selection bias. It is possible that students who choose to participate in athletics differ systematically from those who do not. Athletes might have little aptitude for academics (negative selection) and would not study even if they did not participate in athletics. Alternatively, the discipline that leads athletes to work particularly hard in

their sport might also cause them to be especially diligent students (positive selection) even if they never played a sport. We used the Heckman procedure as modified by Willis and Rosen (1979) to correct for the possibility that the impact of participating in athletics reflects underlying heterogeneity in the sample.

We use data from the National Educational Longitudinal Survey of 1988 (NELS:88; National Center for Education Statistics, 1988). NELS is a nationally representative panel study of high school students conducted by the National Center for Education Statistics (NCES). In the NELS:88 data set, a multilevel sampling frame was used to select students in 1988, when the eligible student population was in the eighth grade. First, schools were chosen, then students within the schools were randomly selected. Although the number of students remained constant over time (to compensate for dropouts, new students with similar characteristics were added), the specific schools attended did not because most students changed schools by the 10th grade. In each wave of data collection, the selected students, some of their teachers, and school administrators or their designated agents filled out the relevant questionnaires. Respondents were resurveyed in four followups in the years 1990, 1992, 1994, and 2000. The first followup (1990), which we use here, surveyed the students as high school sophomores. To account for sampling effects, all data were weighted according to NCES specifications.

NELS is particularly appropriate for several reasons. First and foremost, it has detailed questions regarding athletic participation, which allows us to measure the depth and breadth of a student's commitment to athletics. Like other studies, NELS asks students whether they participate in athletics. It also differentiates between varsity, junior varsity, and intramural (not considered here) athletics, and it asks about participation in specific sports. Because some teens might see sports as a stepping stone to a professional career, it is important to differentiate participation in football and basketball from participation in other sports. To measure the breadth of participation, we used the number of interscholastic sports in which a student participated, both in general and at the varsity level.

School-level data included information on the type and location of the school. We created dummy variables that indicated whether the school was a Catholic school or a private non-Catholic institution, with the default being a public school. We also created indicator (dummy) variables that identified a school as suburban or an inner-city school. Consistent with Kantor and

Brenzel (1992), we expected suburban schools to have particularly high-achieving students and inner-city schools to have low achievers. We used several variables to measure the academic intensity of a school. These included the percent of students who went on to college, whether the school has a high graduation rate (90 percent or higher) or a low graduation rate (25 percent or lower), whether teachers pressed students to achieve, and whether students were expected to do their homework. Finally, we used school administrators' responses to a survey question that asked how important they felt sports were to their schools. We expected that schools that emphasized athletics might allow or even encourage students to neglect their studies.

NELS also provided a useful way to quantify investment by high school students in academic human capital. We used the number of hours a student spent doing homework in a typical week. This measure is actually the weighted sum of several different variables. NELS asked students how much time they spent on homework on a typical weekday and a typical Saturday or Sunday. It broke homework on weekdays into homework done at home and homework done in school. We multiplied the total amount of time spent on a typical weekday by five, multiplied the time spent on a typical weekend by two, and then added the two to get the time spent on homework in a typical week. Because students might not have control over how much homework they do in school, we used the amount of time spent at home on homework as our dependent variable.

Finally, NELS contains a wide array of family-based variables. These help us control for the socioeconomic status of the student and the values of the family (as a wide literature says one must). In particular, we used variables that measured educational attainment of the parents and their aspirations for their children. To capture parents' education, we used indicator variables for whether the parents had a high school degree, a college degree, or a postgraduate degree. Because of the sometimes-confused family structure of many families, we used only the aspirations of the mother in this study. We also used a composite variable that measured the socioeconomic status of the student's family.

## <A>Results

Our results showed no evidence of selection bias for any of the four groups. The Heckman lambdas in all equations (available on request) were statistically insignificant, suggesting that interscholastic sports did not attract students who were inherently different from nonathletes.<sup>3</sup>

The results for the OLS regressions appear in Table 2. The regressions were not the most parsimonious possible. We show specifications with variables that had a  $t$  statistic of at least 1.00 and denoted those whose coefficients were significant at the 10, 5, and 1 percent levels.

**[NOTE: Place Table 2 near here.]**

In general, the regression for young black men stands out as particularly weak. The adjusted  $R^2$  and other measures of fit were well below those for the other three groups. As this would suggest, fewer individual variables had a statistically significant effect on the study hours of young black men.

We break the independent variables into three basic groups: parental variables, school variables, and athletic variables. The parental variables generally had the expected effect, especially for white women. Young white women spent increasing amounts of nonschool time on homework as the education of their parents rose. This was true for all the indicator variables for education. (Parents without a high school degree formed the default group.) Young black women showed the same basic pattern, though the results for them were not statistically significant. Young white men spent more home time on homework if their parents had advanced degrees, but the other shift variables had no statistically significant impact. Parental education had no detectable effect on the time spent by young black men. Parental preferences, specifically, whether the mother wanted her child to go to college, had the expected positive, statistically significant effect for all groups. The impact for whites was somewhat larger than for blacks, a difference that was statistically significant at the 10 percent level.

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<sup>3</sup> Supporting equations for sample selection are available on request.

The most consistent of the school-level results was the positive, significant impact of attending a private school. It added more than an hour of homework for all groups and was statistically significant for all but young black men. Private school had the greatest impact on the behavior of young black women, adding more than three hours per week of homework.

A school's standards had a strong effect on whites but not on blacks. The percent of students that a high school sent to college had a statistically significant, positive impact for young white men and women. Attending a school from which at least 90 percent of the students graduated added more than an hour of homework for young white men and women. In addition, young white women spend more time on homework at schools in which teachers expect their students to do homework, while young black men do less homework when attending inner-city schools.

A school's size had differing impacts on young black women and young black men. Young black women spend more time on homework in larger schools while young white men spend less time. A school's emphasis on sports also had inconsistent effects, increasing the amount of time spent on homework by young white men but decreasing the amount spent by young white women.

Participating in athletics had a statistically significant, positive impact for young white women and young white men, adding almost an hour for the young men and close to a half-hour for the women. The impact was also positive, but insignificant, for young black women. The impact was so small for young black men (the  $t$  statistic was less than 0.1) that we did not include it in the final regression. The point estimate for participating in an individual sport, such as tennis, was positive but statistically insignificant for young white women, while the impact of playing varsity basketball was negative, but also insignificant, for young men of both races, though it was of borderline significance for whites. The only other athletic variable with a statistically significant impact was playing football, which had a negative effect on the time spent on homework by young white men that almost offset the impact of being an athlete.

## **<A>Conclusion**

The results of this study support many of the conclusions of previous studies on student achievement, as we show that students achieve more when their parents and teachers value academic success. Our results shed further light on this observation by showing that one crucial input, the time students spend on homework, also increases when more is demanded of them. These findings, however, are not uniform across demographic groups. Young whites seem more sensitive to parental expectations.

Our findings regarding the central focus of this article are mixed. Contrary to the predictions in Hoberman (1997) and Leeds (2003), we do not find clear evidence that sports reduce the academic efforts of young black men. In fact, no measure of athletic participation has a statistically significant impact on the study hours of young black men or young black women. We find some evidence to support the claim that participating in sports inspires young white women and young white men to work harder in school. This increase in effort, however, is roughly offset if the young white men play football. Men's basketball, the other "money sport," has no statistically significant impact on homework time.

Because we find no evidence of self-selection, we are confident that our results show the impact of athletic participation on study habits and do not reflect the fact that young people who are more (or less) studious are drawn to athletics. Additional study time by athletes thus reflects a net addition to human capital and does not compensate for less academic ability. The results lead us to reject the hypothesis that participating in sports comes at the expense of a young person's study time. Because we find no self-selection, we also reject the interpretation that young white men and women who participate in athletics need to study more because they are inherently less intelligent. Athletics, however, has an unambiguously positive effect only for young white women. Ironically, football—the sport that is most often cited as "building character"—is the one sport that has a negative impact on study time.

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**TABLE 1**  
**Mean Hours per Week Spent on Homework by 10th Graders**

	African Americans		Whites	
	Males	Females	Males	Females
Nonathletes	5.45	5.80	6.31	7.85
Athletes	5.19	6.59	8.07	9.50
Basketball players	4.96	6.8	8.64	9.41
Football players	4.72	N/A	7.13	N/A
Varsity athletes	5.72	6.95	8.25	10.04
Varsity basketball players	5.11	7.65	7.85	9.75
Varsity football players	5.33	N/A	7.65	N/A
<i>N</i>	302	306	3,082	2,585

**TABLE 2**

**Determinants of Time Spent at Home on Homework by Young Men and Women**

Coefficient	Black Men	Black Women	White Men	White Women
Constant	2.76*** (6.17)	1.41** (2.53)	1.46*** (5.33)	2.10*** (5.05)
<i>School Characteristics</i>				
Private school	1.55 (1.18)	3.40*** (3.48)	1.19*** (2.64)	1.28*** (2.60)
Catholic school			0.43 (1.02)	
Inner-city school	-0.80* (1.78)			0.69 (1.31)
Suburban school		0.64 (1.27)		
Percent of graduates in college	-0.01 (1.47)		0.02*** (2.91)	0.01** (2.44)
Graduation rate of at least 90%			1.57*** (3.50)	1.14** (2.23)
Graduation rate of at most 25%		0.54 (1.19)		
Number of students (thousands)		0.20* (1.88)	-0.12* (1.94)	
School emphasizes sports			0.29* (1.71)	-0.38** (2.07)
Teachers expect students to do homework				0.44** (2.08)
Teachers push students to achieve				-0.36

				(1.61)
<i>Parental Characteristics</i>				
Parents graduated from high school		0.68 (1.29)		0.70* (1.91)
Parents graduated from college	0.59 (1.21)	1.19 (1.53)	0.34 (1.46)	1.00*** (4.04)
Parents hold advanced degree		1.32 (1.33)	0.69** (2.50)	0.67** (2.28)
Mother wants child to go to college	1.10*** (2.93)	1.19*** (2.94)	1.44*** (7.77)	1.47*** (7.30)
<i>Athletic Participation</i>				
Participates in athletics		0.44 (1.04)	0.94*** (4.69)	0.40** (2.05)
Participates in individual sport				0.42 (1.44)
Plays varsity basketball	-0.46 (1.18)		-0.59 (1.63)	
Plays football			-0.80*** (3.53)	
Adjusted $R^2$	0.037	0.152	0.170	0.145
<i>N</i>	316	410	2,584	2,626

\*Significant at the 10 percent level; \*\*significant at the 5 percent level; \*\*\*significant at the 1 percent level.