

# The College Sports Project: What Have We Learned?

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## **Abstract**

The College Sports Project gathered data prospectively on over 200,000 students at 77 NCAA Division-III colleges between years 2005 and 2011. A goal of the CSP is to provide reports to presidents of participating institutions that can lead to better alignment of athletic programs and core academic missions of the institutions. The outcomes measured include college graduation, grade point averages, choice of major, and withdrawal from college. The analyses compare athletes to non-athletes at the same institution using regression models for GPA, with entering qualifications of students and their demographic characteristics as covariates. Non-athletes have higher grades than athletes; males give larger differences than females. Students recruited as part of the admissions process have lower grades than non-recruited athletes. After adjusting for student qualifications and demographic characteristics, the differences between recruited male athletes and their non-athlete counterparts are as great as 0.4 percentile units at highly selective institutions. Athletes graduate at rates comparable to non-athletes.

**Key Words:** educational outcomes; prospective longitudinal study; college sports

## **1. Introduction**

Intercollegiate athletics is a valued part of college and university life. But university athletic programs have come under unprecedented public scrutiny in recent months. The tragic child-abuse events in 2011 and 2012 surrounding Penn State football and veteran coaches Jerry Sandusky and Joe Paterno received a level of news coverage rivaling that for a Football Super Bowl, a Baseball World Series, or a Basketball Final Four tournament. Sadly, other scandals involving alleged child sexual abuse, use of illegal substances by players on some highly visible athletic teams, and an elaborate Ponzi scheme to support illegal payments and perks to players have also shared media headlines.

The National Collegiate Athletic Association Division I Board of Directors and NCAA President Mark Emmert have publicly and “emphatically recommitted (the NCAA) to reforming collegiate athletics” and to “make change in a measured but decisive way.” (Hosick, April 2012). The focus of reform efforts appears to be broad; proposals under consideration relate to admission criteria, academic standards, and financial aid for athletes, as well as sanctions for rules infractions.

The world of intercollegiate athletics at small liberal arts colleges and other Division III institutions may seem far removed from the difficulties found at the Division I level. Claims for the educational value of college sports are articulated most clearly in Division III (Emerson, Brooks, and McKenzie, 2009). In 2012 NCAA Division III has 442 member institutions, of which 81 percent are private (NCAA 2012). Enrollments average

2625 students and 20 percent of these students are intercollegiate athletes. Jim Schmotter, Chair of the Division III President's Council, contrasts the Division III experience with that at the other NCAA divisions (Schmotter, 2012). He notes that "some of the value of (athletic) participation can be measured in academic achievement", and he points to a higher graduation rate for DIII athletes than for the overall student bodies at these institutions (67 percent vs. 64 percent for students entering college in 2004).

In the early years of the 21st Century, the results of two large-scale multi-institutional longitudinal studies suggested that the evolving circumstances surrounding athletic programs in Division III pose serious questions. The extent of preference for prospective athletes given in the admissions process, the widening differences in academic outcomes between athletes and their peers at their own institutions, and the growing impact of athletics programs on the student experience raised questions about whether Division III athletic programs were properly aligned with the institutions' core values and mission (Shulman and Bowen, 2001; Bowen and Levin, 2003). The findings and questions generated lively debate and conflict, and probing discussions ensued at many institutions among faculty members, coaches, administrators, and board members; see, for example, Gerdy (2002).

A broad group of educational leaders at the types of institutions most closely identified with the 2003 findings, concerned that the debate risked providing more heat than light, asked themselves what might be done to respond constructively to the challenges. Two answers emerged: they would support an effort to open lines of communication between the athletic and academic sides of the institutions ("integration"); and they would find a way to provide college and university presidents with reliable empirical data about how student athletes compared with their peer non-athletes on various student outcomes ("representativeness").

The College Sports Project (CSP), an initiative of The Andrew W. Mellon Foundation, was conceived as a response to these goals. The CSP represented colleges and universities in the NCAA's Division III that are committed to strengthening the bonds between intercollegiate athletics and educational values. In addition to extensive data collection, the College Sports Project sponsored workshops for athletic directors, faculty, coaches, and campus officials to work together toward better integration of the academic, athletic, and student life dimensions of colleges and universities as they seek to align athletic programs with educational missions.

## **2. Representativeness by Athletes**

The notion that college athletes should be similar to the non-athletes at their own institutions, especially with regard to their academic experiences and outcomes, has been a guiding principle at many Division-III colleges. Athletes live in residence halls with non-athletes, take their meals in the same dining halls, are eligible for the same financial aid programs, and ideally should be similar to their peers in their academic motivation, contributions in the classroom, and achievement. In short, athletes should be "representative" of their own student bodies (Bowen and Levin 2003, Chapter 7; Emerson, Brooks, McKenzie, 2009).

The College Sports Project "representativeness initiative" established and operated a data collection and analysis center at Northwestern University to study college athletes and

their peers prospectively. The information assembled and analyzed by the CSP has enabled participating colleges and universities to assess and monitor their progress in bringing intercollegiate athletic programs into better alignment with their core academic missions. Extensive annual reports provided to each college president were designed to enable institutional leaders to learn about the representativeness (and non-representativeness) of various groups of their own athletes. The reports also enabled them to compare representativeness by athletes at their own institutions to that at peer D-III institutions and, in many cases, to institutions in their own athletic conferences. By providing comparative data to institutional leaders, the CSP has supported instructional improvement and enhanced collegiate education at the participating colleges and beyond.

### **3. Study Design**

In 2005 The Andrew W. Mellon Foundation invited the more than 400 NCAA Division-III institutions to participate in the CSP. The first-year analysis for the earliest 2005-06 entering student cohort included data from 71 institutions. The number of CSP member institutions fluctuated and grew as high as 87 institutions by the third year of the analyses. An institution joining the project late was expected to submit data retroactively on earlier student cohorts. Participation in the CSP was voluntary and determined by the institution's president, so the participants were not a random sample of D-III institutions. Nonetheless, the participants reflected much of the diversity of the D-III institutions, with very small colleges to medium-size universities, private and publicly-supported institutions, and non-selective through very highly-selective colleges and universities all represented in the CSP data base.

Institutional research offices at participating institutions annually submitted data for the newest student cohort as well as updated data on students in the cohorts already under study. The CSP assembled: (1) institutional data (e.g., grading scale used, admissions policy for standardized tests, type of athletic recruitment used); (2) student demographic data (e.g., student date of birth, permanent address, high school of graduation, gender, racial-ethnic category); (3) student academic and admissions background when entering college (e.g., standardized test scores, high school grades, high school class rank, status as a recruited athlete); and (4) student status and progress in college (e.g., year in college, athletic participation, sport(s) played, academic major, enrollment status, and cumulative college grade point average).

The final year of CSP data collection in 2011 assembled data on more than 200,000 students in five cohorts (2005-06 through 2009-10) at 77 NCAA Division-III colleges. The outcomes measured and reported include college grade point averages, choice of major, withdrawal from college, and college graduation.

### **4. CSP Analyses and Reports**

The CSP annually provided each institution with many summary statistics and plots that gave comparisons among student subgroups at that institution and parallel comparisons using combined data from all CSP institutions. The analyses were done separately for each cohort. When an athletic conference participated in the CSP, an institution could also compare its own data to that for all data-submitting colleges in the conference.

The students in a cohort were partitioned into six subgroups defined by gender (male and female) and by athletic participation (non-athlete, recruited athlete, and non-recruited athlete). Summary statistics were provided for each of the six groups on many variables of interest: for example, cumulative college GPA, choice of academic major, college withdrawal rates, and college graduation status. To aid in understanding differences found among the six groups, parallel summary data were also provided on student background variables such as high school combined SAT scores, high school grades, graduating rank in high school class, and student ethnic distribution.

At many participating institutions, the athletes (especially recruited athletes) differ from their peers in academic and other background characteristics. Students recruited as a part of the college admissions process have lower high school grades and test scores than do non-recruited athletes and non-athletes. These findings lead to a question about whether college outcomes for athletes differ from those for non-athletes having the same academic and other background characteristics. Do college athletes achieve academically at a level that can be predicted by their characteristics and academic backgrounds?

To address this question, the CSP used regression models for college GPA in analyses comparing athletes to non-athletes at the same institution, with entering qualifications of students and their demographic characteristics as covariates. The models use data on all students in the cohort, both athletes and non-athletes, to predict how well a student with given academic and demographic characteristics is likely to do at that college. Athletes may have GPAs somewhat lower than their peers because they have different qualification and characteristics than many of their peers. But when athletes do less well than their characteristics predict they will, we describe this as “academic underperformance.” More than a few CSP institutions have focused much of their attention on underperformance and its possible sources and remedies.

## **5. A Role for Institutional Selectivity**

The extensive studies by Shulman and Bowen (2001) and Bowen and Levin (2003), although not limited to D-III institutions, focused on colleges and universities that are highly selective in their admissions processes. The present study focused on D-III institutions, which do not permit athletic scholarships and which represent a wide range of selectivity in admissions. We explored whether and how selectivity in admissions might relate to ultimate differences between athletes and non-athletes in their college outcomes.

Preliminary analyses partitioned more than 80 participating institutions into four categories; using the Carnegie Classification we placed institutions not classified as liberal arts colleges in a separate group, and then assigned the liberal arts colleges to three levels of selectivity. The analyses for these groups revealed that differences in average GPAs for colleges with the highest selectivity were greatest, and that there were no notable differences in academic outcomes between athletes and non-athletes in the group with lower selectivity. The medium-selectivity group fell in between, and athlete-to-non-athlete differences were generally less than those for the most highly selective colleges. [Emerson, Brooks, and McKenzie, 2009, Table 6.1].

This paper presents comparative analyses for students from all CSP institutions combined, and for more than 6000 students in a group of ten colleges and universities we

regarded as very highly selective in their admissions practices. For convenience we refer to the group as the “Selectives”. In light of our guidelines for confidentiality of findings, both for individual students and teams and for individual institutions and conferences, we do not identify the institutions that comprise this group of ten.

## 6. Findings for Intercollegiate Athletes

Many dozens, even hundreds, of findings from the CSP analyses over the years are unique to the individual colleges and conferences, and to individual athletic teams. Nonetheless, we have identified underlying patterns, and we illustrate these key results in this section. Our goal is to identify and present messages that have emerged at a high-level perspective.

**Participation in Sports** College athletes represent a substantial part of their student bodies at D-III institutions. More than one in three male students and around one in five female students are on an intercollegiate team at least once during their college careers, typically during the first year [see Figure 1]. The corresponding percentages for the selective institutions are even higher. By the fourth year of college, the participation levels have fallen to a level that is half to two-thirds of the overall level of athletic participation. However, not all recruited athletes ever play on an intercollegiate team; by the fourth year of college just 47 percent of recruited males and 46 percent of recruited females are playing an intercollegiate sport.

The substantial portions of the student bodies that participate in intercollegiate programs mean that the impact of these students and of athletic programs is potentially much greater than that at large universities, where intercollegiate athletes make up a percentage of the student bodies that is measured in single digits (Makekoff, 2005). The Division-I institutions with nationally visible teams tend to have policies and practices that effectively segregate intercollegiate athletes from the rest of the students.

**College grades** Figure 2 gives the final grade point averages for six student groups, expressed in percentile units. With this scale, a percentile of 50 corresponds to the middle GPA, 0 to the lowest and 100 to the top GPA. The college grades for women are generally 9 to 10 percentile units higher than those for males. Within gender, recruited athletes have the lowest grade averages, and non-recruited athletes – “walk-ons” – have average grades slightly below those for the non-athletes [see Figure 2].

Figure 3 re-expresses the data of Figure 2 as differences between groups of athletes and their non-athlete counterparts of the same gender. Negative values mean that athletes have lower average percentile ranks for GPAs than do the non-athletes. College selectivity has an impact on the differences in average grades between recruited athletes and non-athletes. These differences are greater at the highly selective institutions. Numbers not reported here suggest that for institutions at lower selectivity levels, any differences between athletes and non-athletes nearly disappear. We note that at some of these institutions, the recruiting of athletes by coaches serves an institutional goal of “filling beds” that might otherwise be empty; this purpose may be just as important as that of finding good athletes who help field competitive teams [see Figure 3].

By far the largest GPA differences are for the recruited male athletes, and these differences are typically greatest at the selective institutions. It is noteworthy that

although the non-recruited athletes have the same practice schedules, travel to the same games, and generally share the time commitments to their sports that collegiate athletes generally have, the non-recruited athletes exhibit only modest differences from non-athletes in their final GPAs.

***Five-Year Longitudinal Data on GPA*** The CSP collected data on five student cohorts that entered the institutions from 2005-6 through 2009-10. We examined first-year GPAs for the six student groups to assess possible trends. Table 1 gives the summary data for recruited athletes only. The differences in average GPA between recruited athletes and non-athletes are stable over time. Differences for males are uniformly greater than for female athletes. The athlete-to-non-athlete differences are typically five to six percentile units greater at the highly selective institutions than at all CSP institutions (which include the Selectives).

**Table 1:** Difference in Percentile Rank GPA Between Recruited Athletes and Non-Athletes at the End of One Year of College

<i>Cohort:</i>	<i>05-06</i>	<i>06-07</i>	<i>07-08</i>	<i>08-09</i>	<i>09-10</i>
<i>Selective Male Recruited:</i>	-15	-16	-15	-16	-15
<i>Selective Female Recruited:</i>	-10	-12	-11	-11	-11
<i>All-CSP Male Recruited:</i>	-10	-10	-10	-10	-10
<i>All-CSP Female Recruited:</i>	-4	-4	-5	-5	-5

***Standardized Test Scores*** We wondered whether athletes earn somewhat lower college grades because their academic preparation and strengths were weaker when they started college. Figure 4 uses data on combined SAT scores on a scale from 400 to 1600, and it presents differences in averages between athletes and their non-athlete counterparts. When students did not take the SATs but had results from the ACT tests, these results were converted to their SAT equivalents using a conversion supplied by the College Board. The data suggest that academic differences among the various student groups could possibly be explained in part by differences in academic credentials when students enter college; we explore this possibility below [see Figure 4].

***Racial diversity*** CSP athletes exhibit less racial and ethnic diversity than do students in general. Figure 5 gives the percentages of student groups that are recorded as Caucasian, so that higher values indicate less diversity. Male and female groups are combined, and results both for the highly selective institutions and for all CSP institutions are presented for the newest student cohort which entered college in 2009-10 [see Figure 5].

Recruited athletes have the highest percentage of Caucasian students, and non-recruited athletes have intermediate levels of diversity. The highly selective group of colleges has greater racial diversity than do the D-III institutions in general; this finding may be a result both of geographical location and of the most selective institutions aggressively recruiting minority students. The finding that recruited athletes are less racially-diverse than their peers has surprised many observers.

***Academic underperformance*** Using SAT scores, high school grades and class rank, (indirect) measures of the academic quality of the high school attended by a student, and demographic data including gender, ethnicity, and other variables, we developed multiple regression models to explain a significant portion of the academic variation in college

grades. We used these models to predict what the GPAs of a group of athletes would have been if athletes had the same academic outcomes as non-athletes with explanatory variables at the same levels.

To illustrate the meaning of “underperformance”, let us suppose that a group of recruited male athletes had an average GPA of 2.8 on a 4-point scale, and that their non-athlete counterparts had an average GPA of 3.1. Suppose also that a multiple regression model finds that non-athletes whose backgrounds (e.g., test scores, high school grades, racial status, quality of high school) were identical with the athletes would have had GPAs averaging 3.0. Then of the 0.3 units of difference between athletes and non-athletes, 0.2 units would be attributable to “underperformance” and 0.1 units of the difference would be “explained” by the differences in the prior characteristics of the students. In this hypothetical scenario, the regression model indicates that we could reasonably have expected the athletes to have had an average GPA of 3.0 (given their known characteristics), but that they underperformed by 0.2 GPA units.

Figure 6 shows the average underperformance for two successive student cohorts (pooled), where the underperformance calculations were made after two years (for the newer cohort) or three years of college (for the older cohort). For the highly selective colleges, the GPAs of recruited male athletes are 0.21 units below those for the male non-athletes. One-third of this difference is explained by differences in the students’ known characteristics, and two-thirds of it is termed “underperformance”. For the group of all CSP colleges, the part of the athlete-to-non-athlete difference that is underperformance is less than half [see Figure 6].

Recruited male athletes at the more highly selective institutions exhibit the greatest amount of academic underperformance – that is, they receive grades that are lower than their academic credentials and their demographic characteristics predict. After adjusting for student qualifications and demographic characteristics, the differences between recruited male athletes and their non-athlete counterparts are as great as 40 percentile units at some highly selective institutions.

***College graduation*** Division III contrasts sharply with Division-I athletics with respect to college completion rates. Athletes at the CSP institutions graduate at slightly higher rates than do their non-athlete peers. Women have higher completion rates than men, and for both genders the athletes are somewhat more likely to graduate than non-athletes of the same gender. It is not surprising that graduation rates are higher at the selective institutions than at the broader group of all CSP institutions.

***Academic major*** Intercollegiate athletes tend to differ somewhat from non-athletes in their selection of academic majors. Although there is wide variation in the majors offered by CSP institutions in general (e.g., business majors, technical and vocational majors may or may not be available), the highly selective liberal arts institutions tend to offer majors that are fairly homogeneous across institutions; we therefore provide results on choice of majors at the highly selective colleges.

Male and female recruited athletes at the selective institutions are less likely than other students to major in the humanities, and more likely to major in the social sciences. Male recruited athletes are less likely than other male students to major in the sciences or engineering. But women athletes are somewhat more likely than their non-athlete counterparts to be science or engineering majors.

## 7. Discussion

Analyses of five student cohorts from overlapping (but not identical) lists of self-selected D-III institutions have identified common themes. Intercollegiate athletes, especially recruited athletes, have college grades that are below those of their non-athlete peers. These GPA differences are greater for men than for women, and they are generally greater for students at the more selective institutions. Student academic credentials at the time of college admission help explain some but not all of the athlete-to-non-athlete differences in college grades; athletes at the more selective institutions typically exhibit greater academic underperformance.

The history of athletic reform efforts extends over more than 100 years (Bowen and Levin 2003, Chapter 11). Some current observers are cynical about possibilities for bringing intercollegiate programs and academic missions into better alignment. Yet CSP analyses have suggested that success in achieving such progress may be possible if institutional leaders are committed to a goal of athletes being more representative of their student bodies. We cite three reasons for optimism (Emerson, Brooks, and McKenzie, 2009):

1. Even at the most selective colleges, where differences in academic outcomes are greatest, non-recruited athletes often do nearly as well academically as non-athletes.
2. When individual sports are examined, athletes on some teams attain academic outcomes comparable to or better than those of their non-athlete classmates. (For men, these sports are cross country, indoor track, outdoor track, squash, and tennis, and for women they are cross country, indoor track, outdoor track, golf, and sailing.)
3. At many individual colleges, including some that are highly selective, athletes already do perform as well academically as non-athletes.

These findings would seem to imply that the time demands of intercollegiate participation, and the culture of college athletic programs, need not lead to lower academic achievement for college athletes. The successes cited argue against the inevitability of reduced academic achievement by collegiate athletes.

Although College Sports Project data collection had ended by early 2012, the NCAA Division III has undertaken a voluntary two-year pilot program of data collection, and at this writing a proposal to continue that program is under review (Brown, 2012). The NCAA reports have centered on graduation rates, and the finding of higher graduation rates by athletes assures that "...academic performance by student athletes is, at a minimum, consistent with that of the general student body" (Brown, 2012). Although the detailed CSP analyses have corroborated the findings of healthy graduation rates for intercollegiate D-III athletes, they have not found academic achievement to be comparable between athletes and non-athletes.

Leaders in the NCAA D-III research program may well hope to continue and expand their data-collection efforts, but such a decision is not without cost; the burdens of added data collection on local institutions and their institutional research offices are real (see Moltz, 2012). At this writing the NCAA D-III is weighing such factors as it moves toward a decision about the level of its own future data-collection activities (Brown, 2012). A hope remains that institutions will continue to monitor academic outcomes, and use the understandings gained to reduce any gaps in academic outcomes between athletes



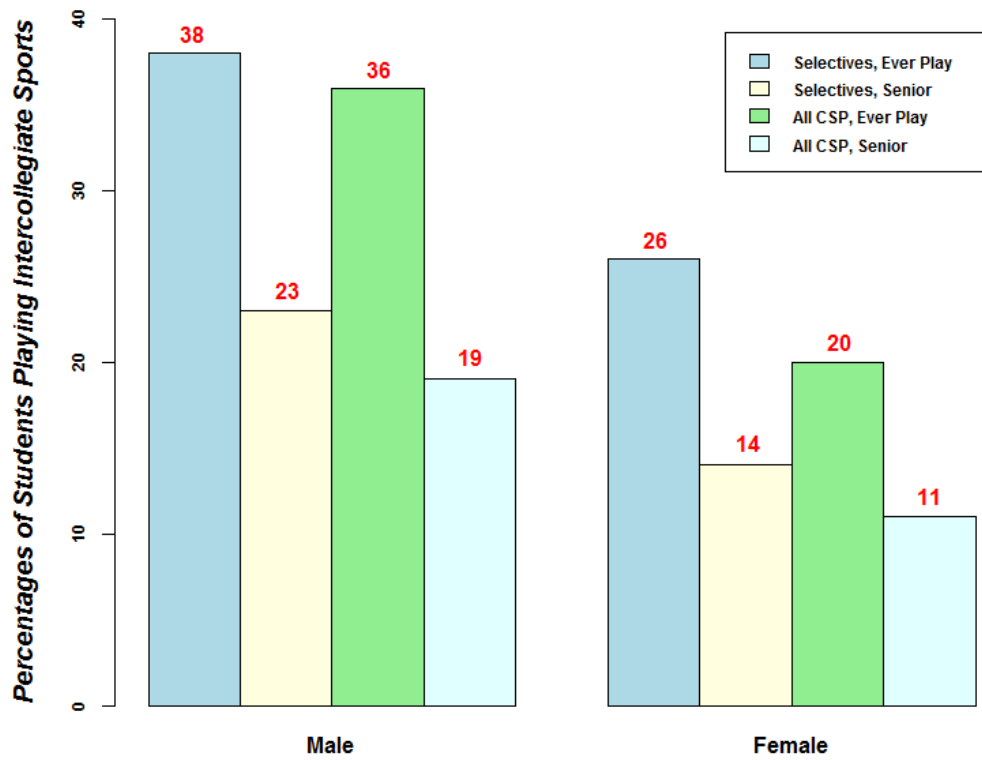
and non-athletes. We look to institutional leaders to ensure that our academic missions are not casualties of the competitive pressures so often present in athletic arenas.

### Acknowledgements

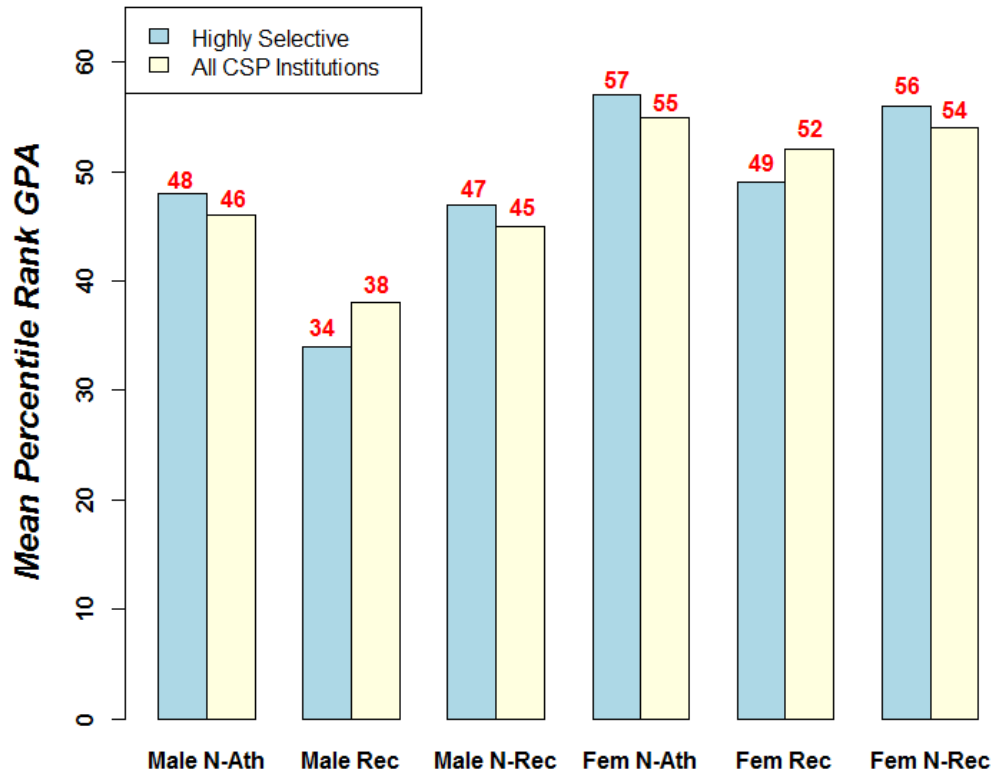
Dr. Rachelle Brooks served as the Director of the Center for Data Collection and Analysis, College Sports Projection, at Northwestern University from 2005 through 2011; her leadership and direction contributed immeasurably to the project. Elaine Croft McKenzie, Klara Mueggenburg, and Claudia Youakim contributed to analyses on which some of this report is based. Staff members at the CSP Center served the Project with dedication and skill. Eugene Tobin and Michael McPherson provided invaluable guidance and support throughout the years of the College Sports Project. This research was made possible through the generous support of The Andrew W. Mellon Foundation.

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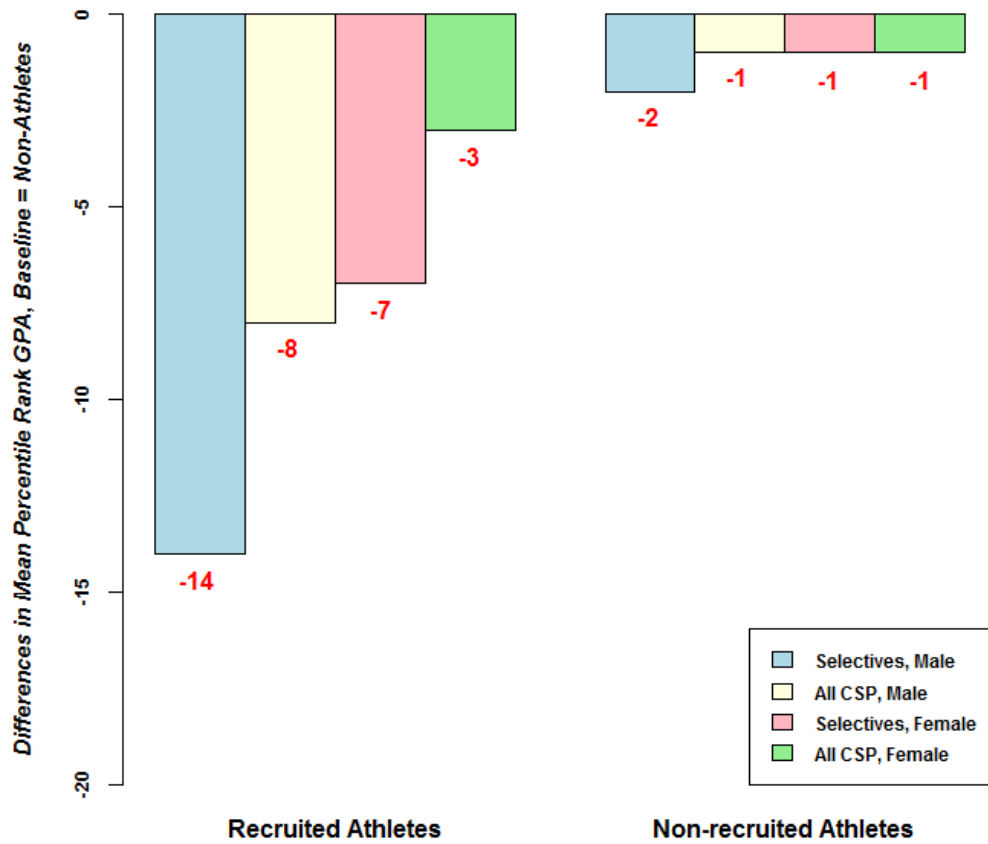
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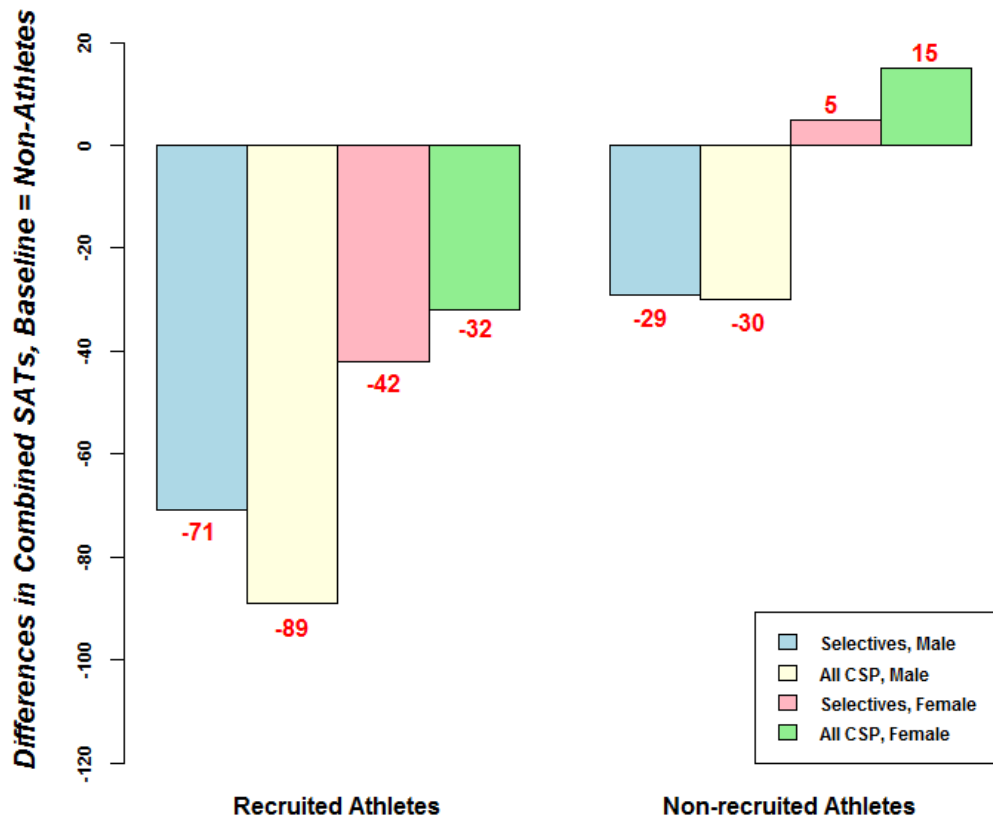
**Figure 1. Sports Participation, by Gender, 2006-7 Cohort.**  
Student 'played a sport' if name ever appeared on a team roster



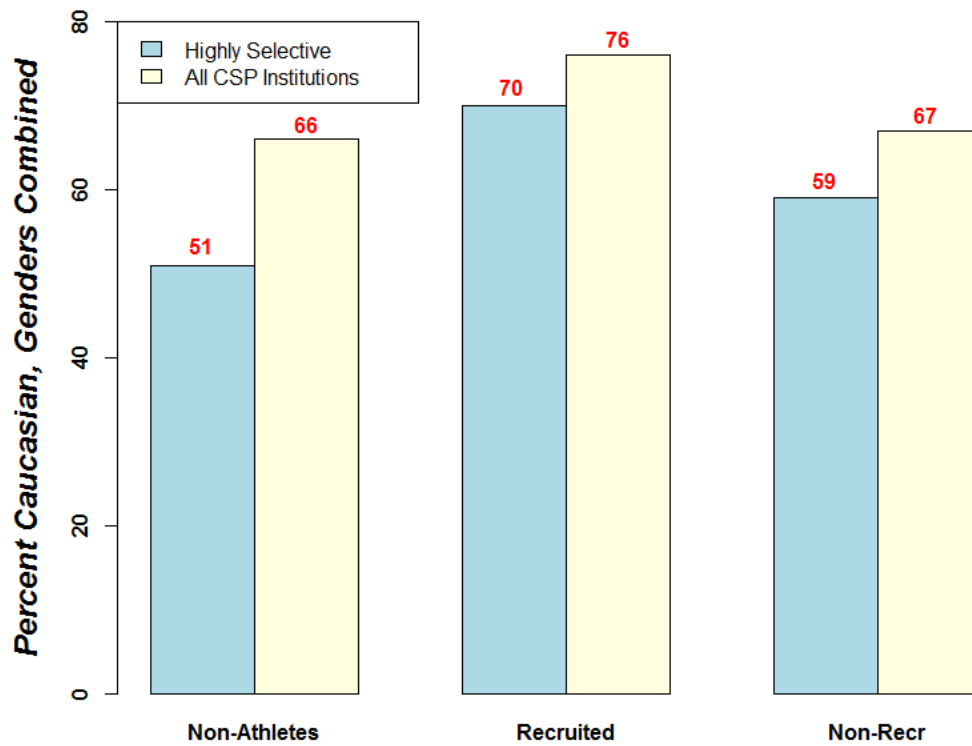
**Figure 2. Fifth-year GPA: Selectives and All CSP, 2005-6 Cohort.  
All GPAs recorded on 4-point scale**



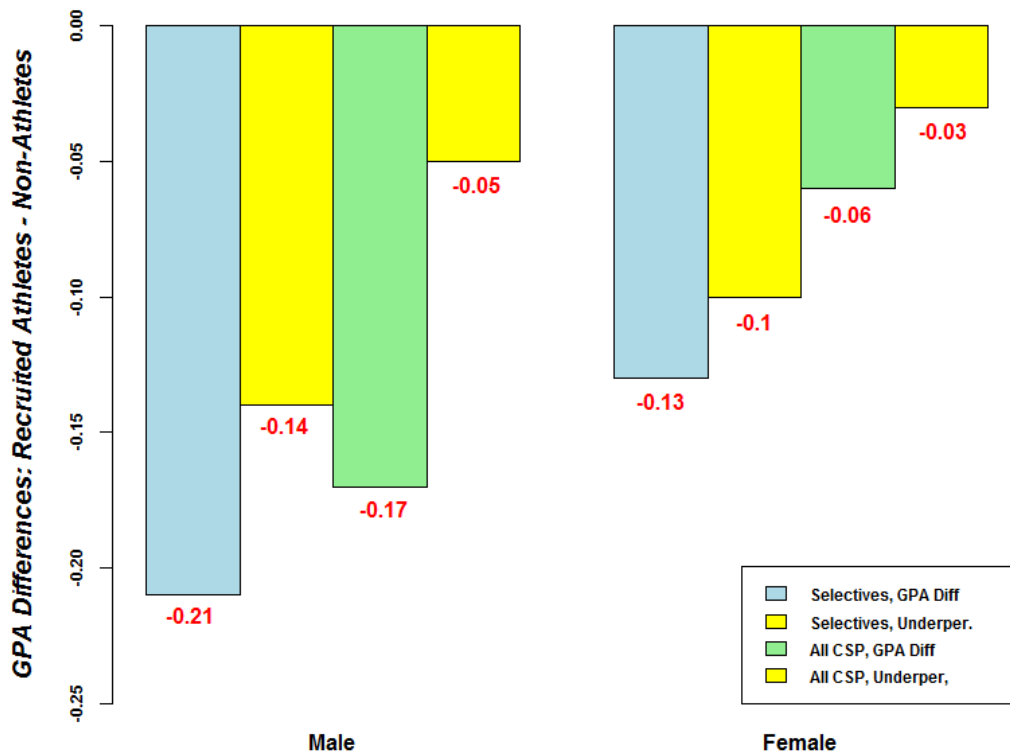
**Figure 3. Fifth-year GPA Differences: Selectives and All CSP 2005-6 cohort. GPAs on 4-point scale; athlete-minus-nonathlete**



**Figure 4. SAT Differences, by Gender/Athlete Status: 2005-6 Cohort.**  
 Group differences, athlete - nonathlete; SATs on 1600-point scale



**Figure 5. Percent Caucasian: Selectives & All CSP, 2009-10 Cohort. Non-caucasian and non-U.S. citizens; first-year measurement**



**Figure 6. Underperformance for Recruited Ath., Cohorts 2005-6, 06-7**  
 Underperformance is 'unexplained' part of 4-point GPA difference

Note: Unlike other displays in this report, Figure 6 displays combined data from two different cohorts, 2005-06 (third-year GPA) and 2006-07 (second-year GPA). GPA results are on a four-point scale, and the GPA distributions across institutions may not be comparable. We believe, however, that the relative roles played by underperformance are informative.