

Academic Outcomes for Intercollegiate Athletes at NCAA Division III Institutions

Rachelle Brooks, Project Director

John Emerson, Principal Investigator

Claudia Youakim, Associate Director

Elaine Croft McKenzie, Researcher

Klara Mueggenburg, Researcher



NORTHWESTERN
UNIVERSITY

Supported by
The Andrew W. Mellon Foundation

The Division III Student Athlete

- In 84 Division III institutions participating in this study
 - 26% of students play sports (34% of men, 20% of women)
 - 18% of students are recruited for athletics (25% of men, 13% of women)
 - At 10% of institutions, more than 35% of students are recruited for athletics
- NCAA Division III Philosophy
 - “Colleges and universities in Division III place highest priority on the overall quality of the educational experience and on the successful completion of all students’ academic programs”
 - “Assure that academic performance of student-athletes is, at a minimum, consistent with that of the general student body”
 - “Assure that admission policies for student-athletes comply with policies and procedures applicable to the general student body”

The Ideal of the Student Athlete

- What is the mission of the institution and how does athletics fit into that mission?
 - Educating the “whole person”
- If athletes are not representative of the student body, how is the institutional culture affected?
 - Stereotypes, special treatments, racial/ethnic differences
- Can the goal or ideal of the student athlete who performs equally well in both academics and athletics be achieved?
- How do we assess alignment of academics and athletics?

Introduction to the College Sports Project

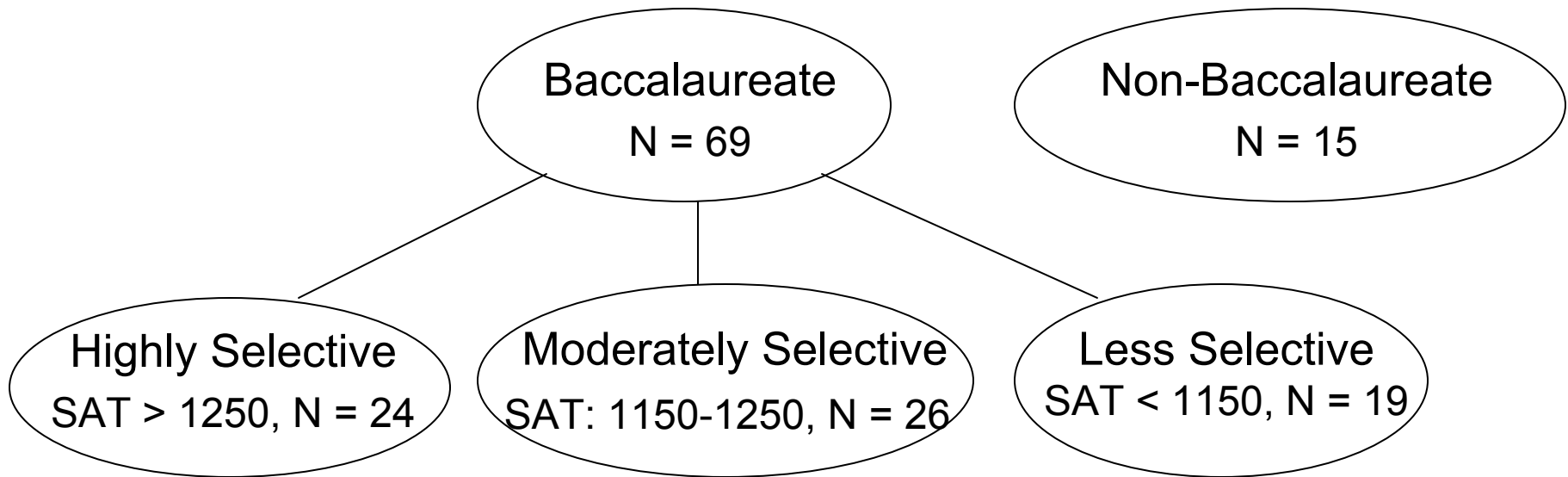
- The College Sports Project (CSP) is committed to strengthening the alignment between intercollegiate athletics and educational values.
 - Representativeness initiative: athletes representative of student body
 - Integration initiative: bringing together campus personnel around education and athletics
 - Project started in 2005, currently in fourth year of data collection
 - Five-year longitudinal study of > 80 Division III institutions out of a total of 447 Division III institutions
 - Quantitative data submitted annually by institutions

Methodology

- Data reported by institutions annually for entire cohorts
 - Background variables
 - High School performance and characteristics
 - College performance
 - Athletic Participation
- Data presented today represent the first two years of college for two cohorts (2005-2006 and 2006-2007 entering cohort) for 84 institutions
- N = 83,728 students
- Imputation fills in missing data (student SATs and high school characteristics)
- Strengths: data on all students, many institutions
- Limitations: quantitative data only, institutional definitions of enrollment and athletic recruitment may vary

Institutional Selectivity

- Data from 84 institutions



- Selectivity levels are based on average SAT score of incoming students of 2005-2006

Background for the Combined Cohorts

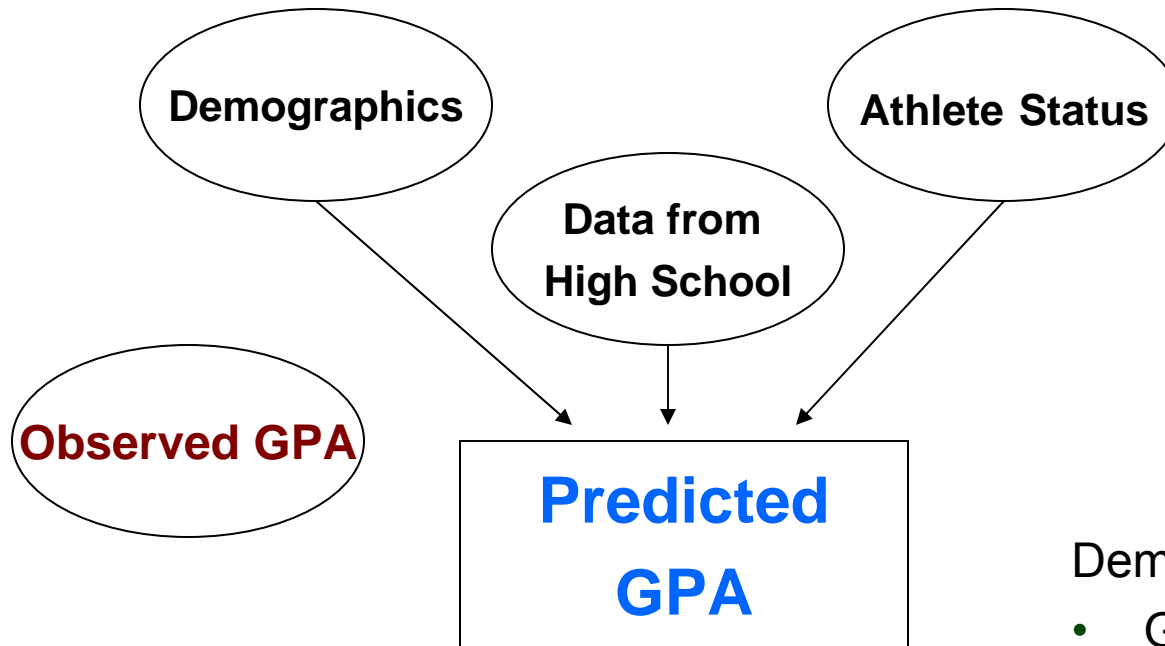
- N = 83,728
- Gender: 43% male, 57% female
 - 84 institutions include 6 Women's Colleges and 2 Men's Colleges
- Race/Ethnicity: 6% Asian, 4% Black, 5% Hispanic, 71% White, 3% Other, 11% Unknown (includes international students)
- Citizenship: 95% US citizen or permanent resident
- Athletic factor categories
 - *Non-Athlete*: not recruited for a sport, never played a sport in college
 - *Recruited Athlete*: was recruited for a sport (may or may not have played)
 - *Walk-on Athlete*: not recruited but played a sport

Athletic Category	Percentage of Students
Male Non-Athlete	27%
Male Recruited Athlete	11%
Male Walk-On Athlete	5%
Female Non-Athlete	45%
Female Recruited Athlete	8%
Female Walk-On Athlete	5%

Examining Group Differences

- Factors Defining Groups
 - Gender
 - Athlete Status
 - Institutional Selectivity
 - Type of Sport
- Outcome Measures
 - Cumulative college GPA at the end of Year 2
 - Are there differences in average GPAs between athletes and non-athletes?
 - Underperformance
 - What part of GPA differences – athletes to non-athletes – are not predicted by the explanatory variables (e.g. demographics, high school academics, characteristics of high school attended)?

Understanding Underperformance



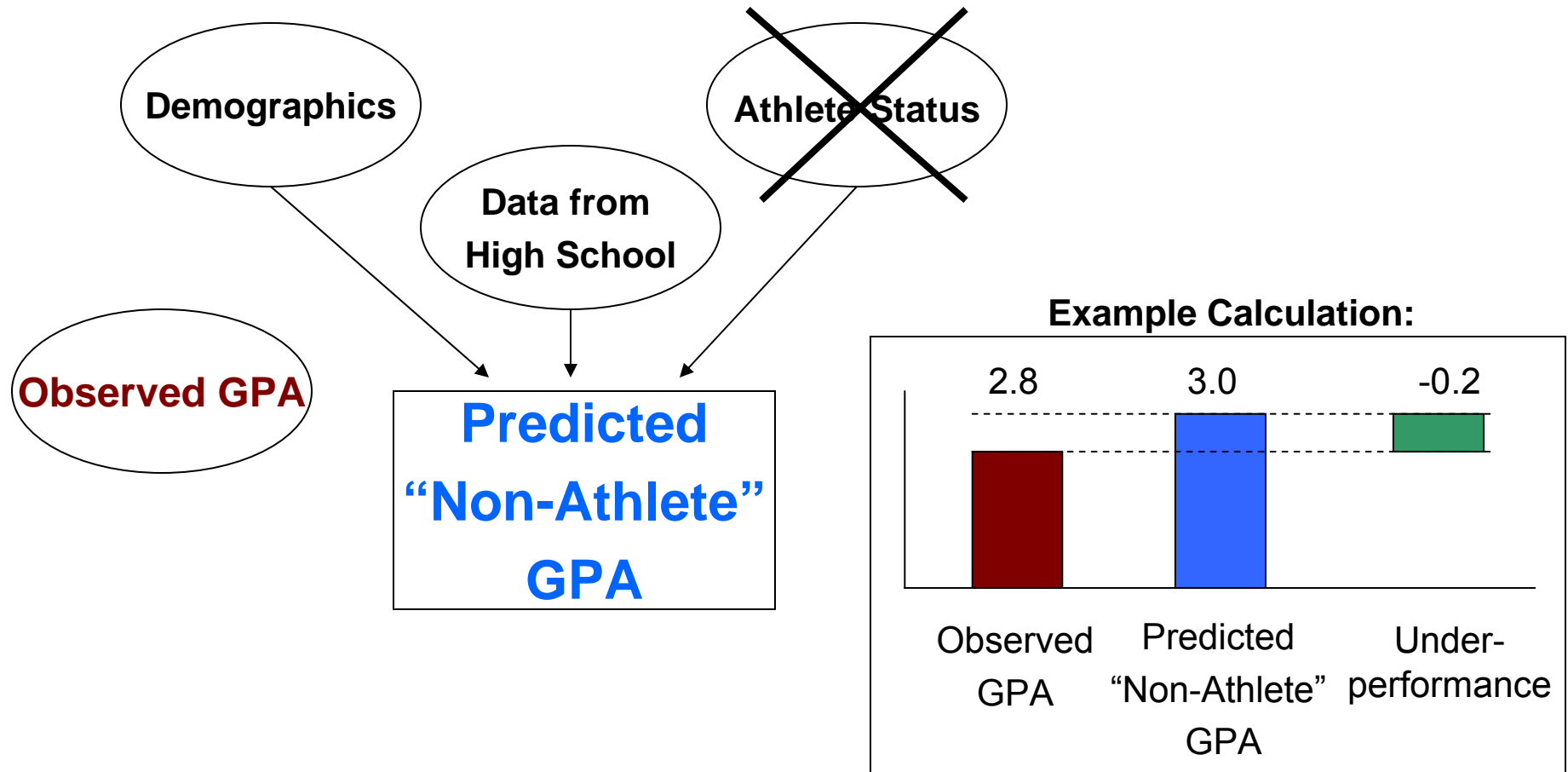
Demographics:

- Gender
- Race/Ethnicity
- U.S. Citizen

Data from High School:

- Student's SAT Score
- Student's H.S. GPA Rank
- Average SAT of High School

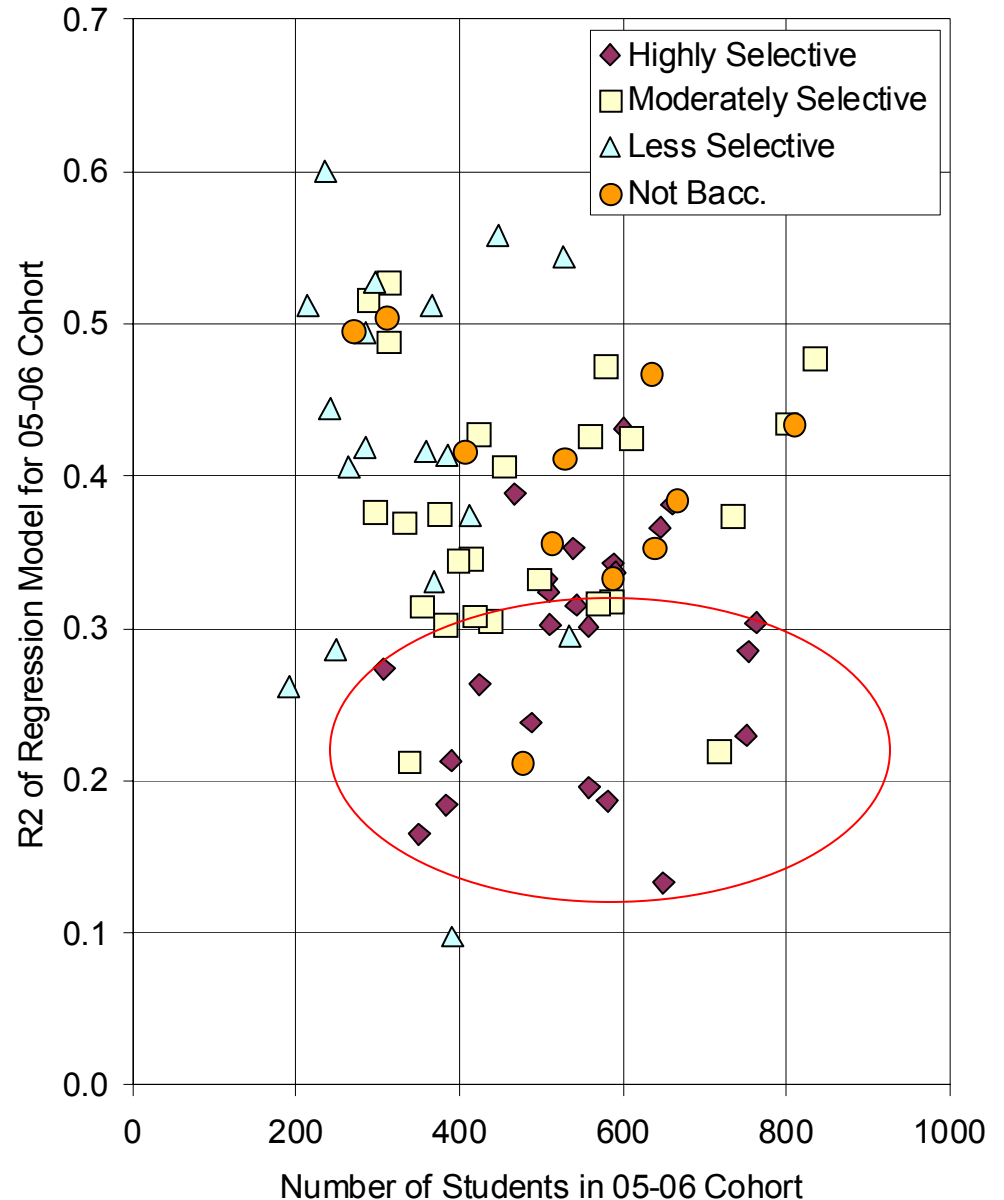
Understanding Underperformance



$$\text{Observed GPA} - \text{"Non-Athlete GPA"} = \text{Underperformance}$$

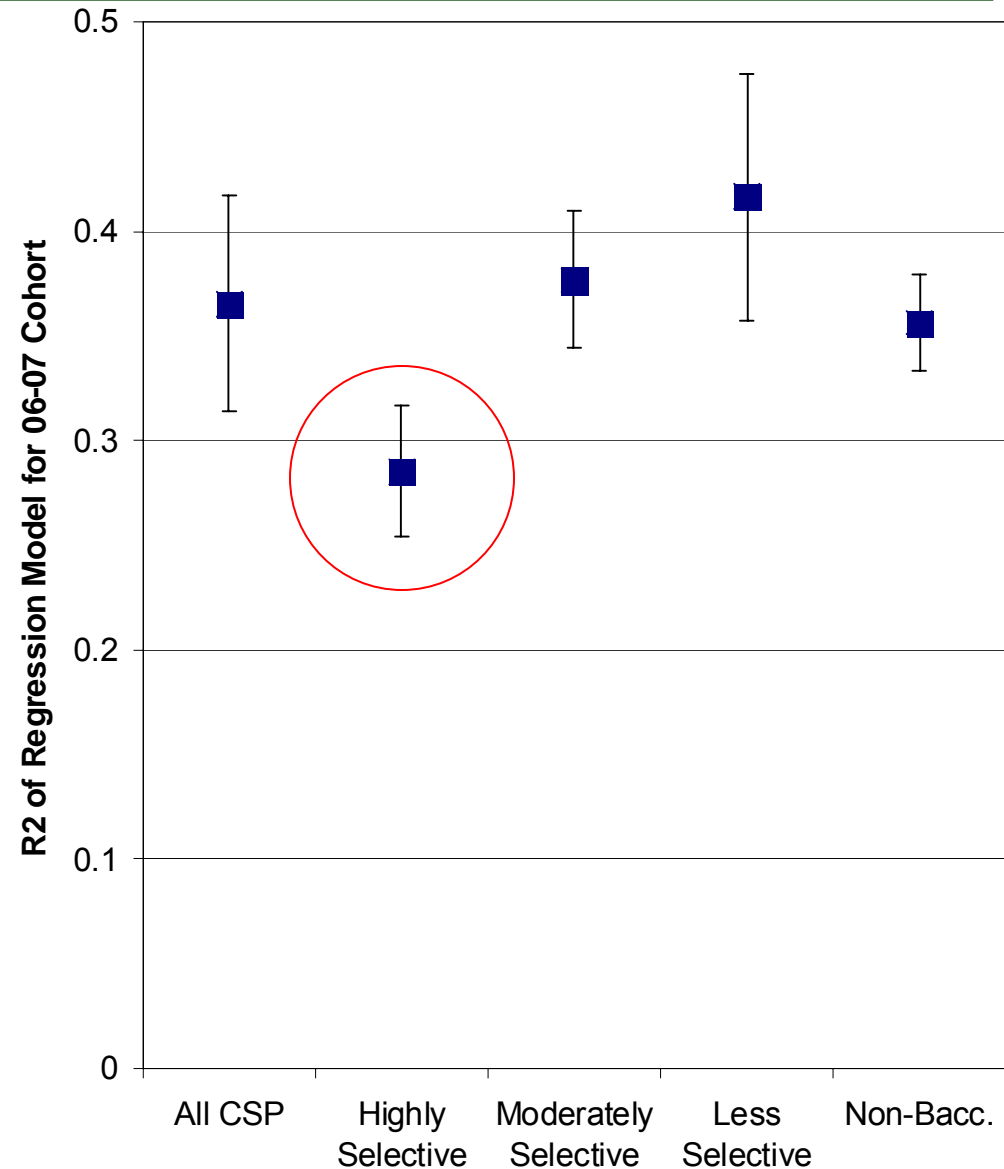
Regression Model Predicting GPA is Robust

- 20% to 50% of variation in GPA can be explained by model
- Institutional selectivity affects the fit
- Model operates similarly for
 - Different institutional sizes
 - Different cohorts
 - Different recruitment methods (admissions vs. coach)

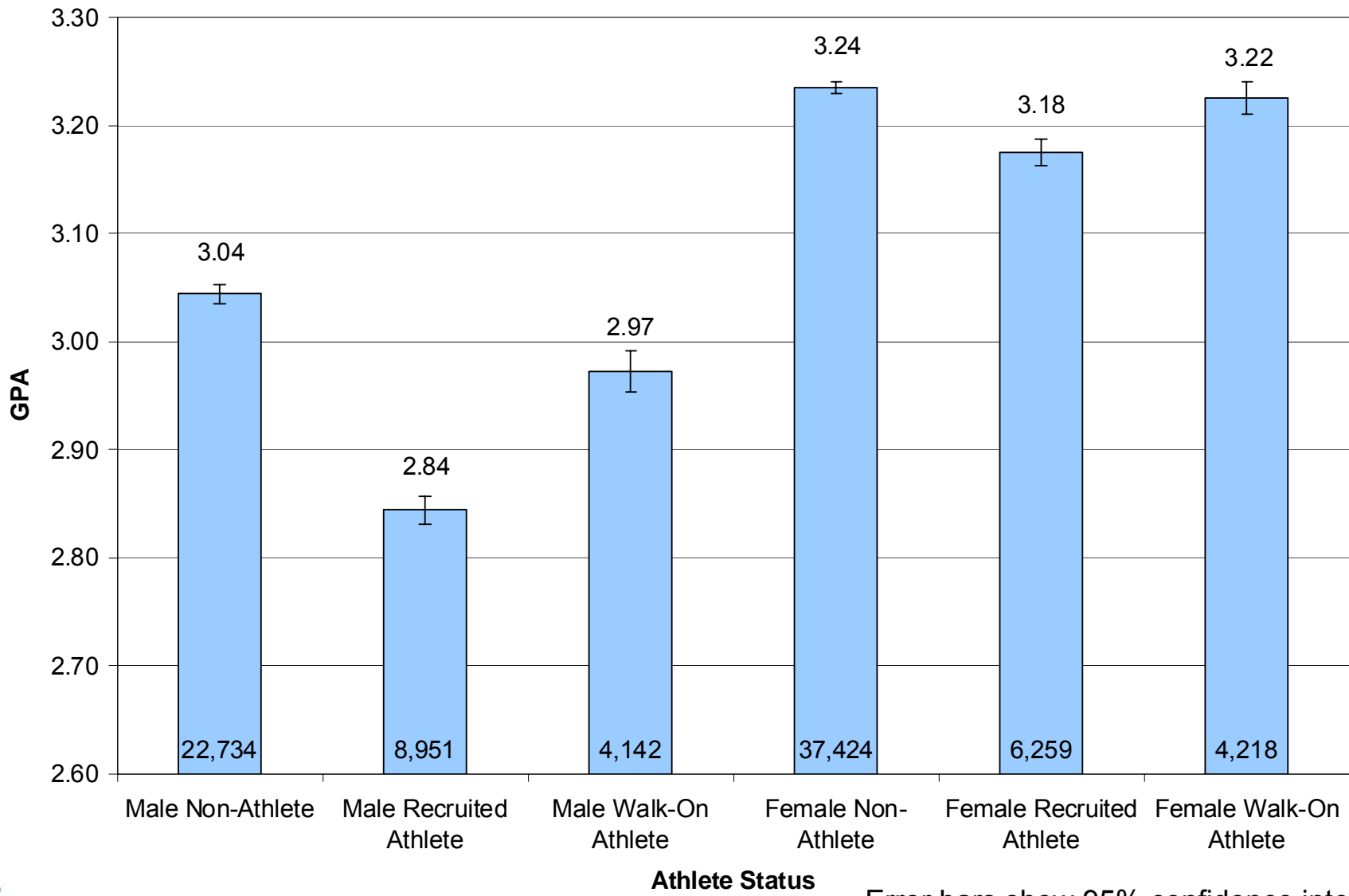


R² by Selectivity

- Students at highly selective institutions may be relatively homogeneous with regard to SAT scores, high school ranks and college GPAs, making it more difficult for regression models to predict college grades for various student groups



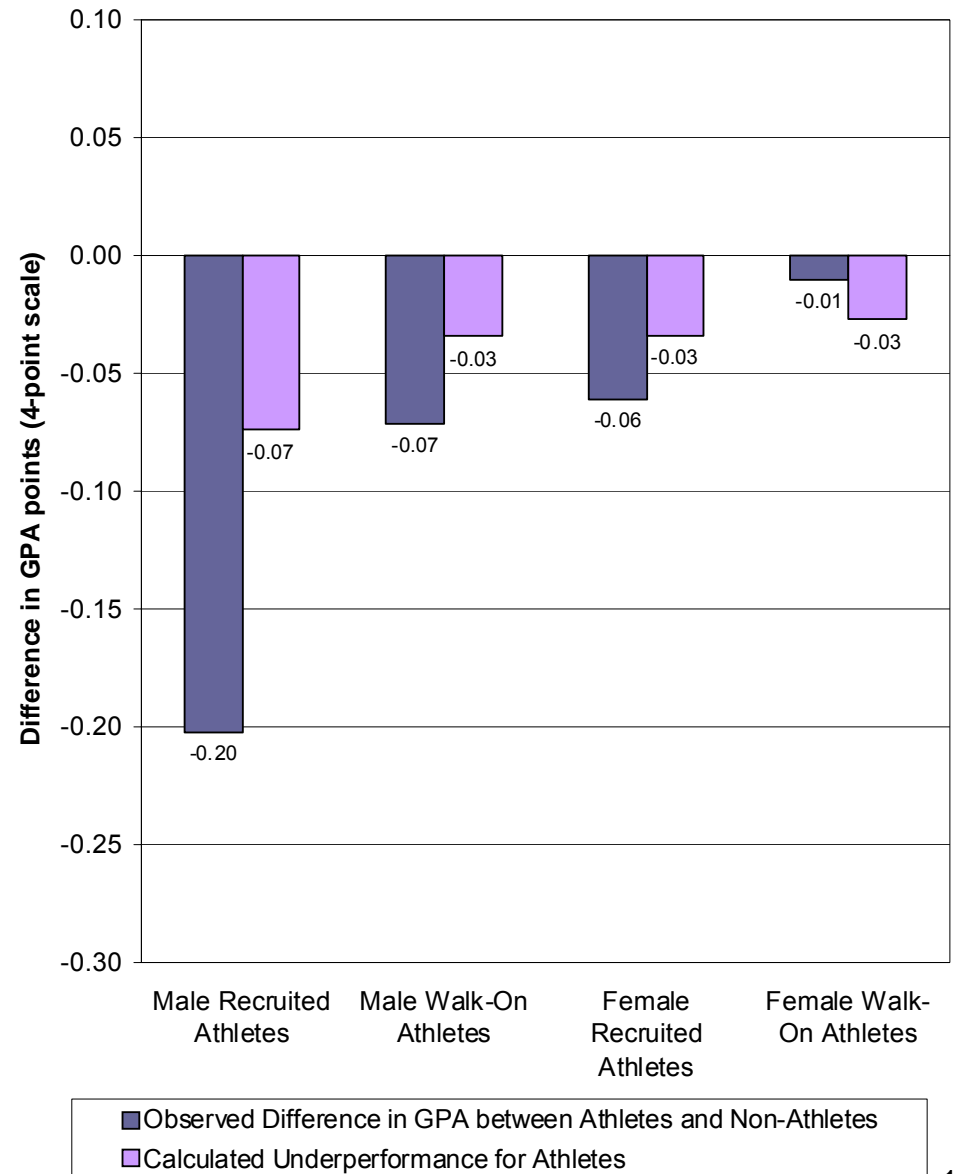
GPA by Athlete Status and Gender



Error bars show 95% confidence interval.
Numbers at base show counts.

GPA Differences and Underperformance

- Each group is compared to non-athletes of the same gender
- For male recruited athletes, about two thirds of the GPA difference can be explained by background variables, rest is labeled “underperformance”
- For male walk-on athletes and female recruited athletes, about half of the GPA difference can be explained by background variables



Institutional Selectivity

How do academic outcomes for athletes differ by institutional selectivity?

Counts in Groups

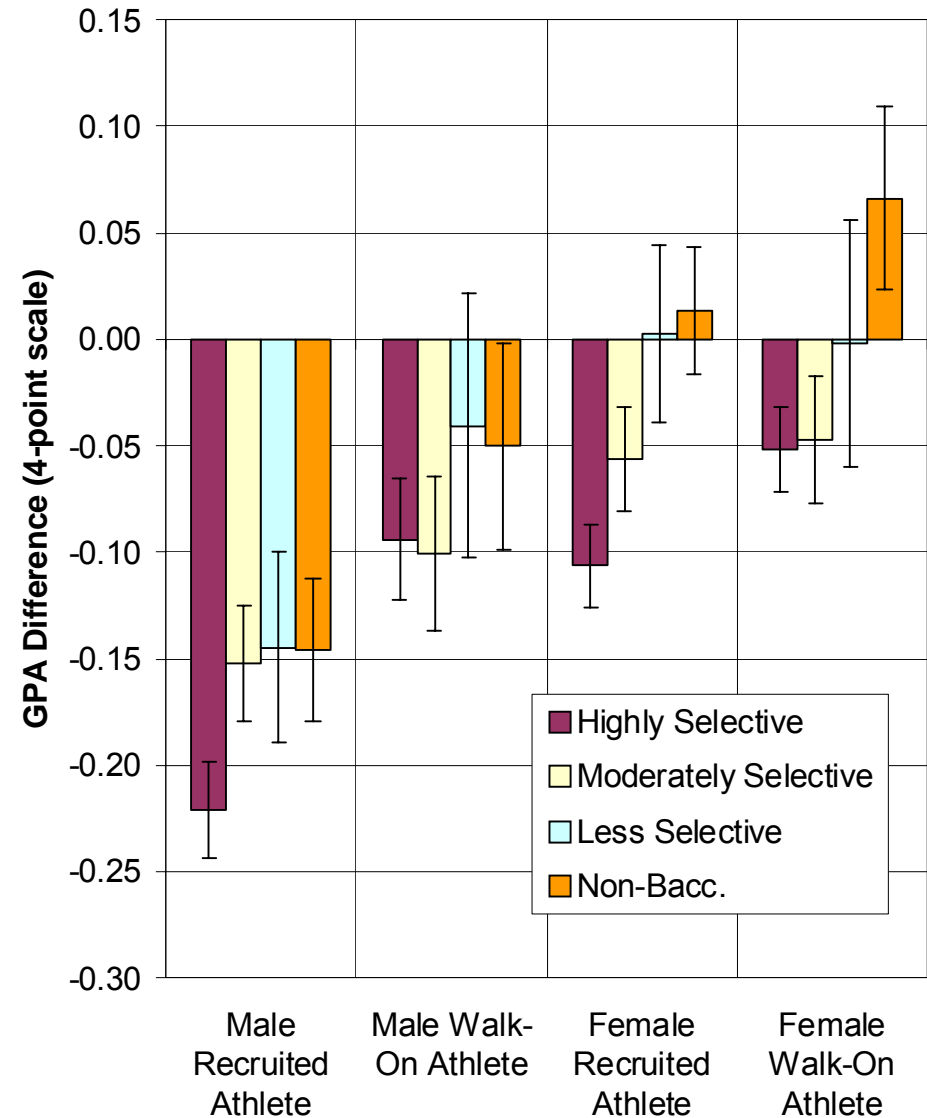
Combined 2005-2006 and 2006-2007 Cohorts

Athlete Status	Highly Selective	Moderately Selective	Less Selective	Non-Bacc.	Total
Male Non-Athlete	6,288	6,502	2,921	7,023	22,734
Male Recruited Athlete	2,355	2,822	2,127	1,647	8,951
Male Walk-On Athlete	1,452	1,492	617	581	4,142
Female Non-Athlete	12,250	10,006	4,970	10,198	37,424
Female Recruited Athlete	1,936	1,929	1,180	1,214	6,259
Female Walk-On Athlete	1,938	1,262	575	443	4,218
Total	26,219	24,013	12,390	21,106	83,728
Percentage	31.3%	28.7%	14.8%	25.2%	100%

The smallest count is > 400

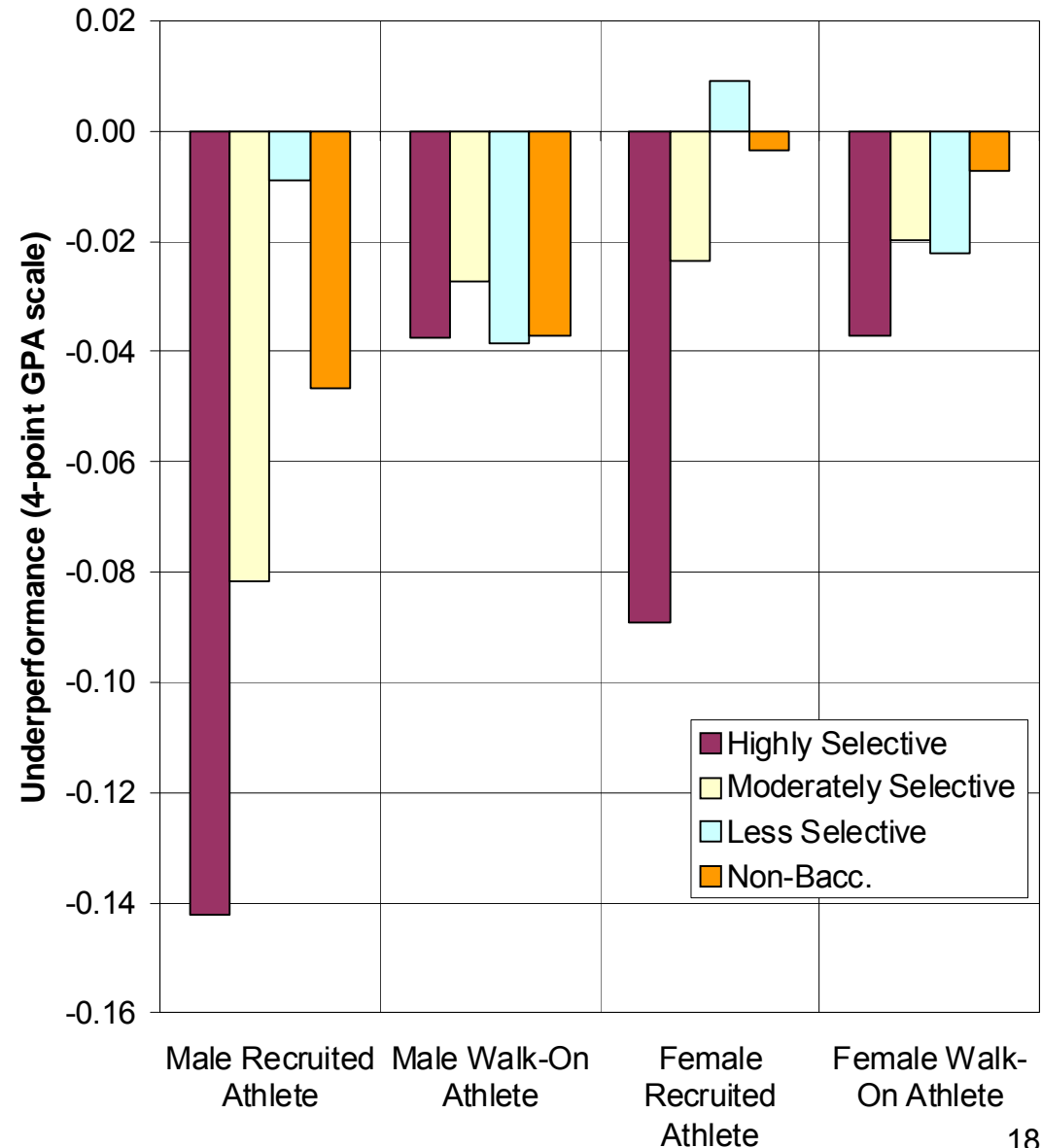
College GPA Differences by Selectivity

- Each athlete group is compared to non-athletes of the same gender
- Male recruited athletes have greatest negative difference with male non-athletes
- Female walk-on athletes have GPAs closer to non-athletes
- Difference is statistically significant for all athlete groups for highly selective and moderately selective institutions
- Some differences may not have practical significance



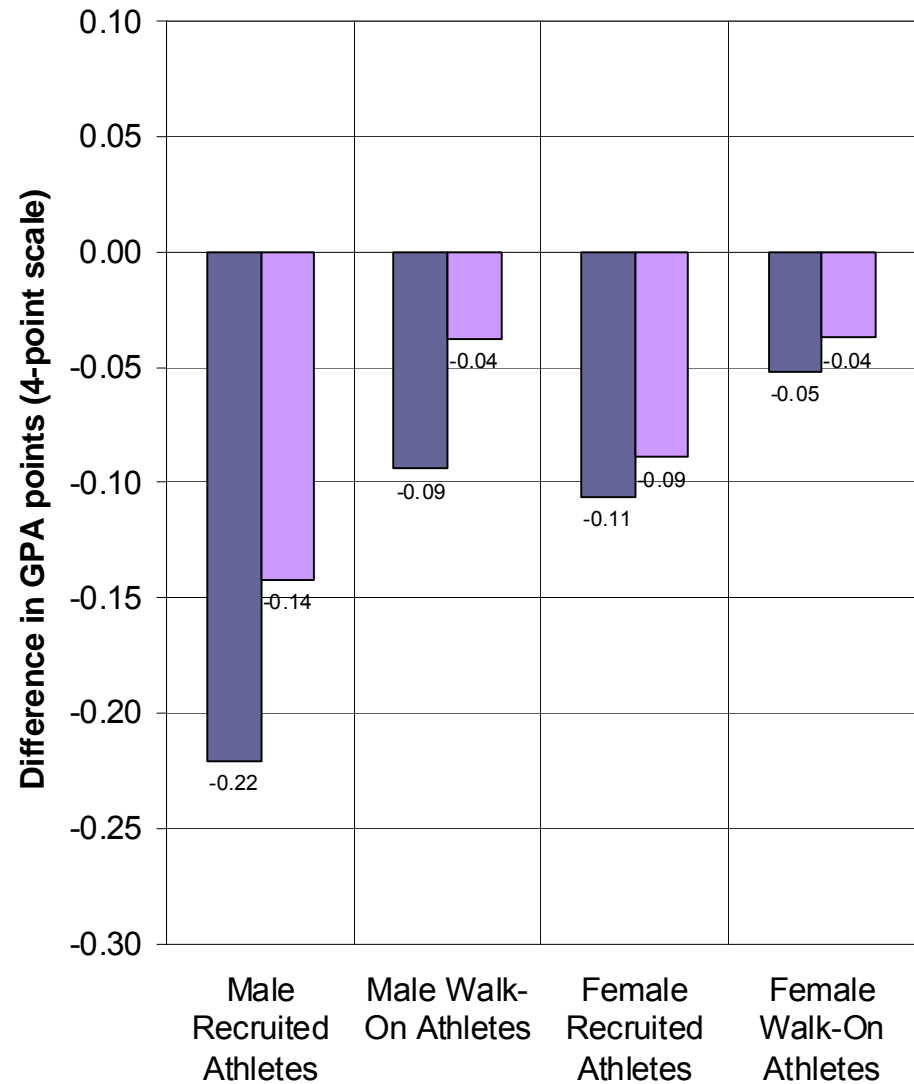
Underperformance by Selectivity

- Male recruited athletes have greater underperformance
- Athletes at highly selective institutions have greater underperformance
- Underperformance is meaningful/important (greater than 0.1) only for male recruited athletes at highly selective institutions
- Underperformance for female athletes (except recruited at highly selective) is small



GPA Differences and Underperformance Highly Selective Institutions

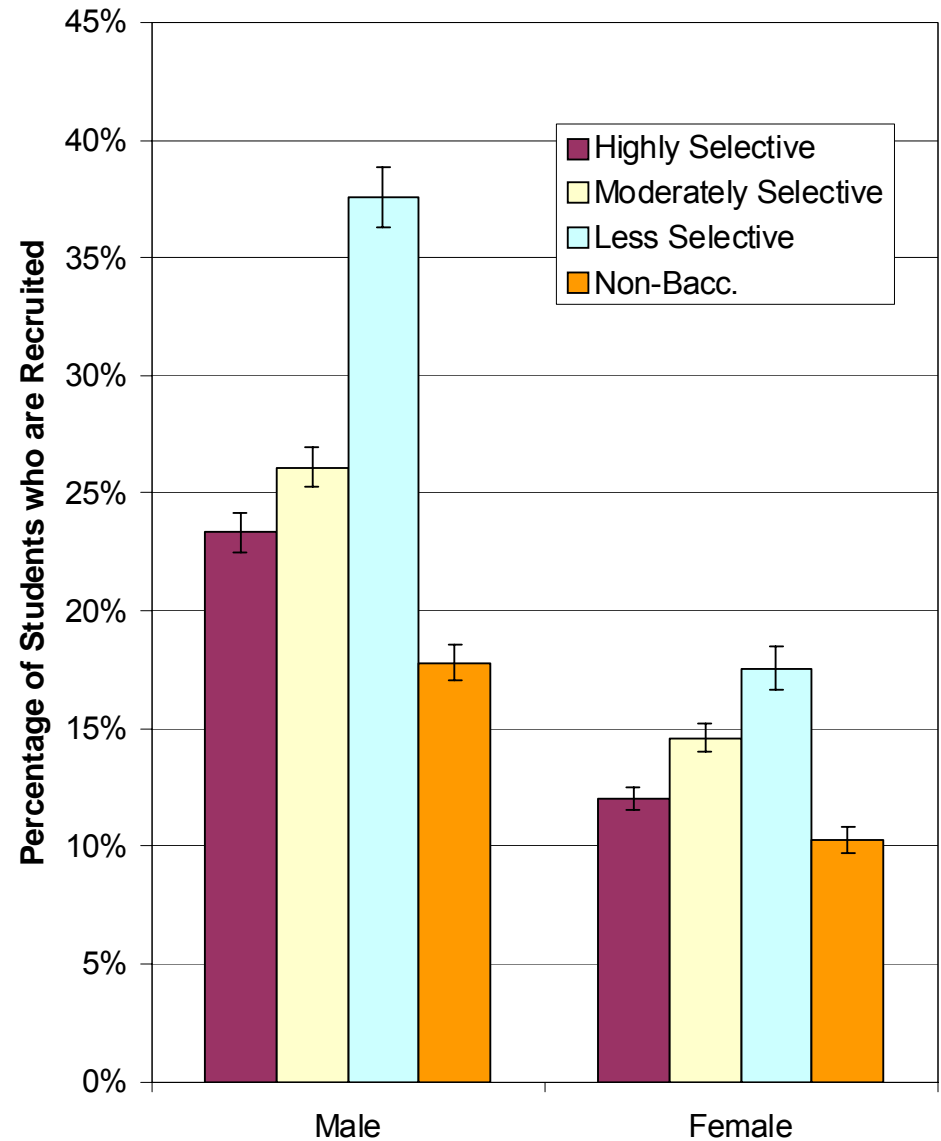
- For recruited athletes, most of GPA difference is underperformance
 - GPA differences are not well explained by differences in incoming characteristics
- Most of GPA differences for female athletes are underperformance
 - There is little in the background characteristic differences between female athletes and non-athletes to explain the GPA difference



■ Observed Difference in GPA between Athletes and Non-Athletes
■ Calculated Underperformance for Athletes

Athletic Recruitment

- A greater percentage of male students than female students are recruited for athletics
- Less selective institutions recruit a higher percentage of their students
 - At less selective institutions over a third of the male students are recruited athletes
- Differences in percentage of recruited students among institutional selectivity levels are statistically significant
- Recruited athletes include some students who never played in college



Key Findings for Selectivity

- Institutional selectivity highlights diversity of athletic / academic experiences within Division III.
- Being a recruited male or female athlete is related to underperformance at most, but not all Division III institutions in the CSP. The exceptions are often among the less selective institutions.

Racial/Ethnic Differences

**How does athletic participation differ by
race and ethnicity?**

Do findings depend on institutional selectivity?

Sample Sizes

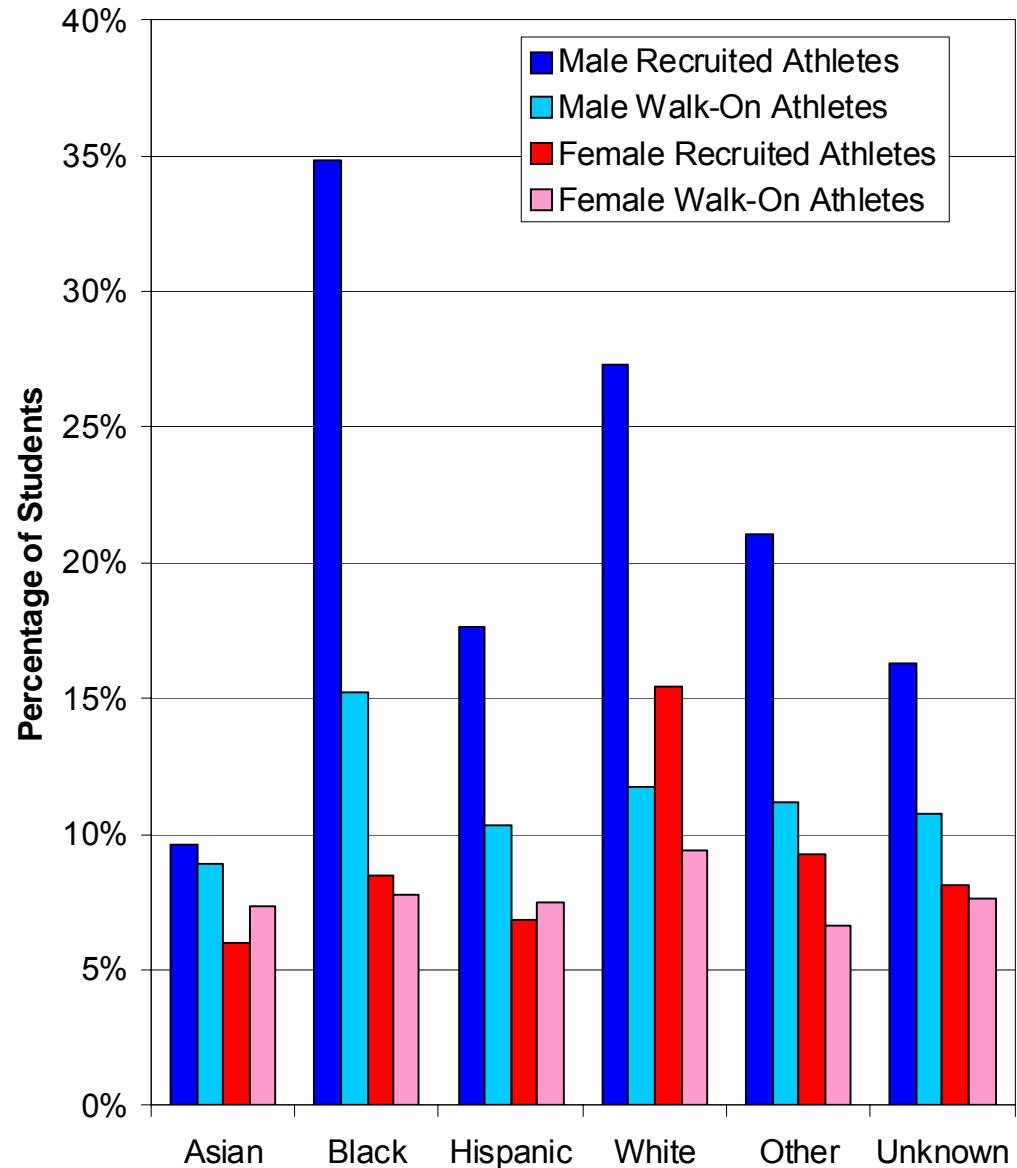
Combined 2005-2006 and 2006-2007 Cohorts

All CSP Institutions	Asian	Black	Hispanic	White	Other	Unknown	Total
Male Non-Athletes	1,538	793	1,109	15,889	699	2,706	22,734
Male Recruited Athletes	182	553	271	7,123	217	605	8,951
Male Walk-On Athletes	168	242	159	3,060	115	398	4,142
Female Non-Athletes	2,765	1,794	2,009	25,062	1,426	4,368	37,424
Female Recruited Athletes	192	181	161	5,146	157	422	6,259
Female Walk-On Athletes	235	167	176	3,134	112	394	4,218
Total	5,080	3,730	3,885	59,414	2,726	8,893	83,728
Percentage	6.1%	4.5%	4.6%	71.0%	3.3%	10.6%	100%

Highly Selective Institutions	Asian	Black	Hispanic	White	Other	Unknown	Total
Male Non-Athletes	521	252	375	4,288	107	745	6,288
Male Recruited Athletes	110	114	78	1,882	48	123	2,355
Male Walk-On Athletes	96	81	78	1,042	23	132	1,452
Female Non-Athletes	1,439	675	838	7,385	299	1,614	12,250
Female Recruited Athletes	106	52	41	1,582	40	115	1,936
Female Walk-On Athletes	164	92	105	1,338	52	187	1,938
Total	2,436	1,266	1,515	17,517	569	2,916	26,219
Percentage	9.3%	4.8%	5.8%	66.8%	2.2%	11.1%	100%

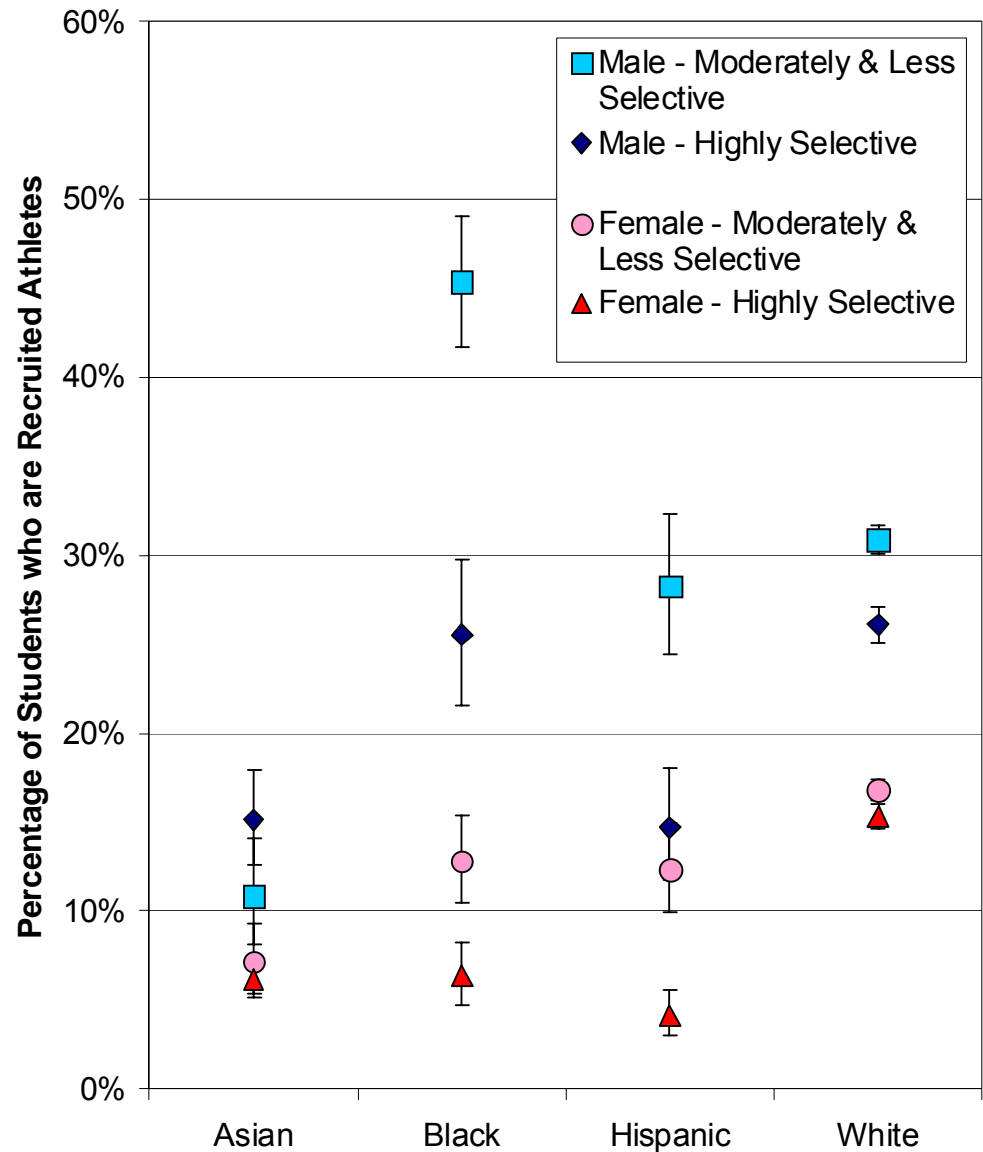
Percentage of Student Athletes

- Male students are more likely to be athletes than female students
- Black male students are most likely to be recruited athletes, followed by White male students
- Asian students are least likely to be athletes
- Overall, a large percentage of men are athletes in most racial groups (half of Black men, 39% of White men)



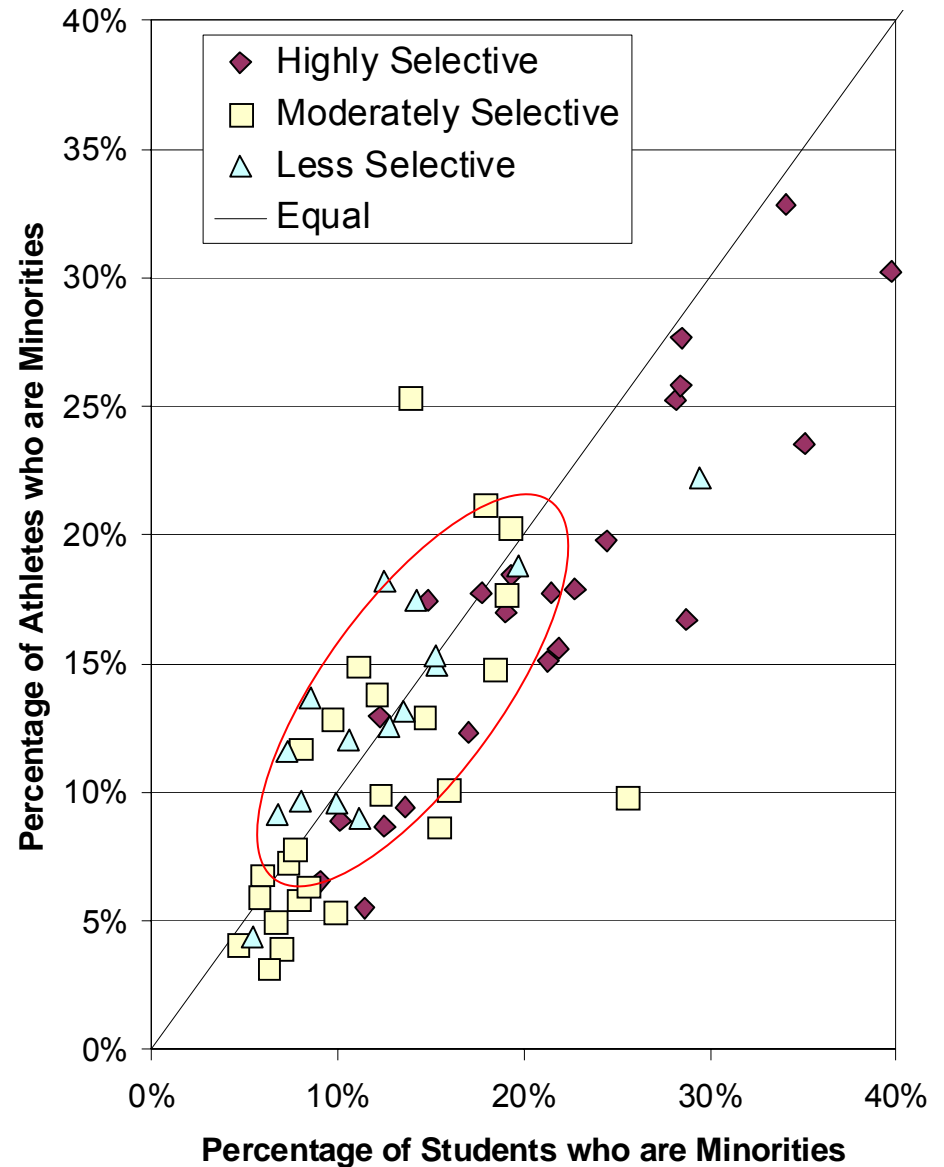
Recruitment by Race and Selectivity

- Highly selective institutions recruit a smaller percentage of their Black, Hispanic and White students than moderately and less selective institutions
- A larger percentage of Black male students at moderately and less selective institutions are recruited than students of other races
- At highly selective institutions, Black and White male students are equally likely to be recruited
- Women are less likely to be recruited than men in all categories except Asian students



Institutional Selectivity and Athletic Participation

- “Minorities” indicates Asian, Black, Hispanic or Other.
- Typically, highly selective schools have larger fractions of students who are minorities and minority athletes
- At highly selective schools, athletes are slightly less diverse than the student body (corroborating Fried, 2007)
- At many institutions, the diversity of athletes reflects the diversity of the institution when all minority students are aggregated
- Many institutions have 10-20% minority students

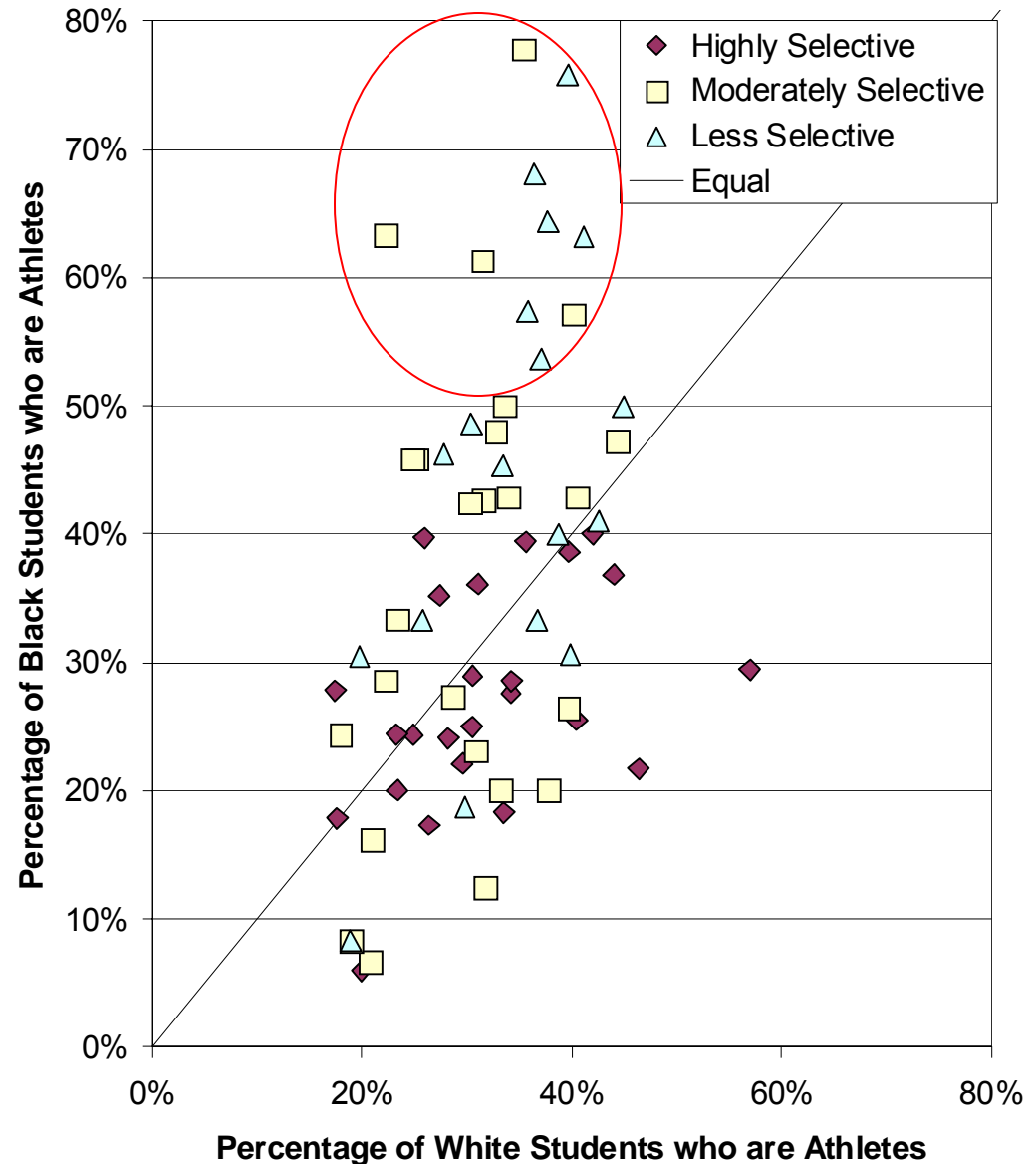


Athletic Participation – Black Students

- At most institutions, Black students participate in athletics at the same rate as White students
- At some moderately and less selective institutions, Black students are much more likely to be athletes than White students

Average N per Institution

	Black	Total
Athlete	14 (5.1%)	273
All Students	41 (4.4%)	934

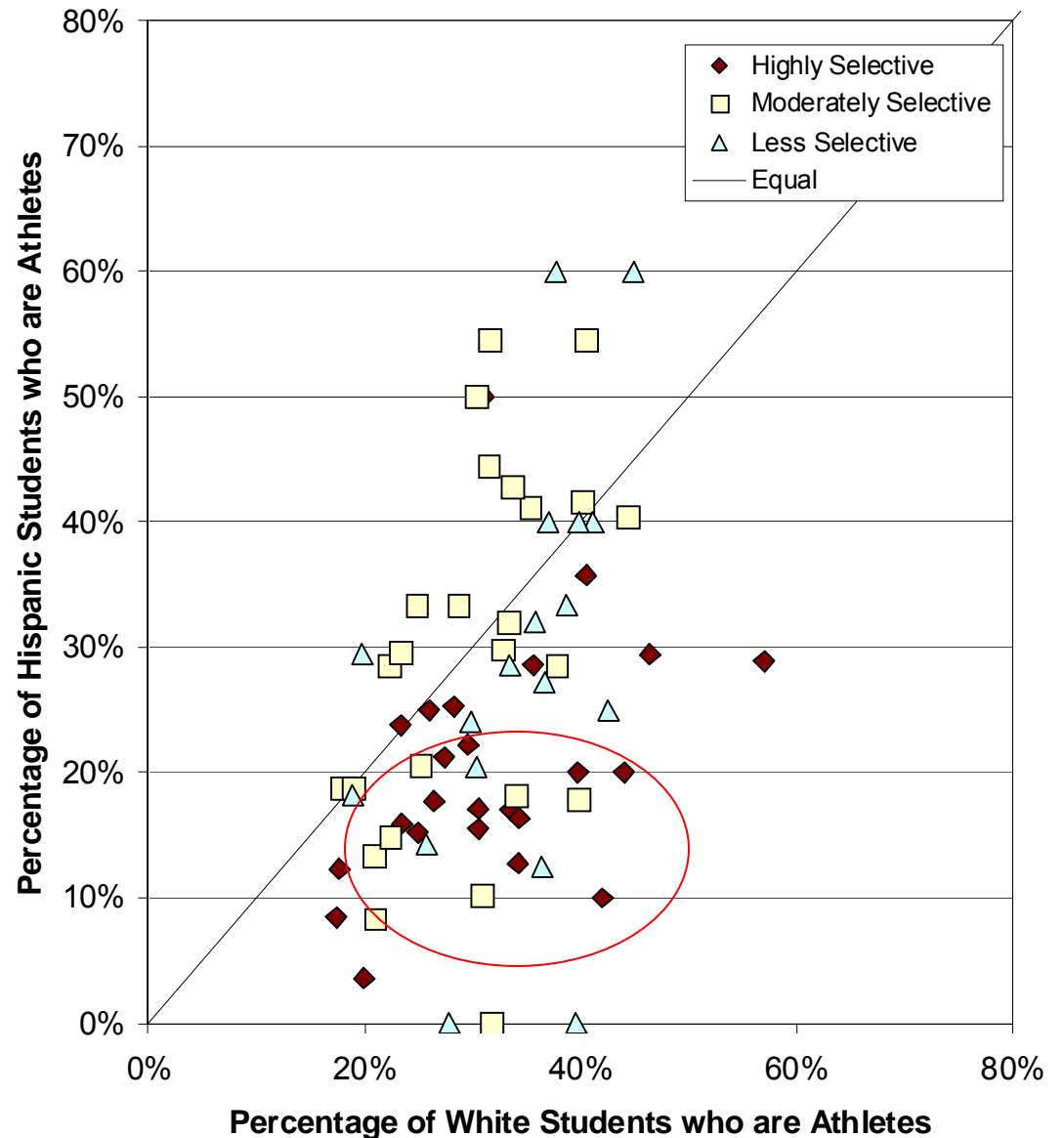


Athletic Participation – Hispanic Students

- Hispanic students are less likely to be athletes than white students at most institutions, especially at highly selective institutions

Average N per Institution

	Hispanic	Total
Athlete	9 (3.3%)	273
All Students	40 (4.3%)	934



Key Findings for Race/Ethnicity

- Athletic participation and recruitment patterns vary by race and by institutional selectivity.
- Moderately and less selective institutions recruit a higher proportion of Black, Hispanic and White students as athletes than do the highly selective institutions.
- At highly selective institutions, minority women are under-represented among recruited athletes.

Sport Type Differences

**How do academic outcomes of athletes differ by intensity of recruitment for various sports?
Do findings depend on institutional selectivity?**

Sport Categories

Define Highly Recruited Sport

- $\geq 65\%$ of players were recruited for that sport
- At least 50 recruited athletes in that sport per cohort

	Men's Sports	Women's Sports
Highly Recruited Sports (HRS)	Basketball	Basketball
	Soccer	Soccer
	Ice Hockey	Ice Hockey
	Football	Field Hockey
	Lacrosse	Volleyball
Examples of Other Sports	Swimming	Swimming
	Track	Track
	Cross Country	Cross Country
	Golf	Crew
	Baseball	Softball

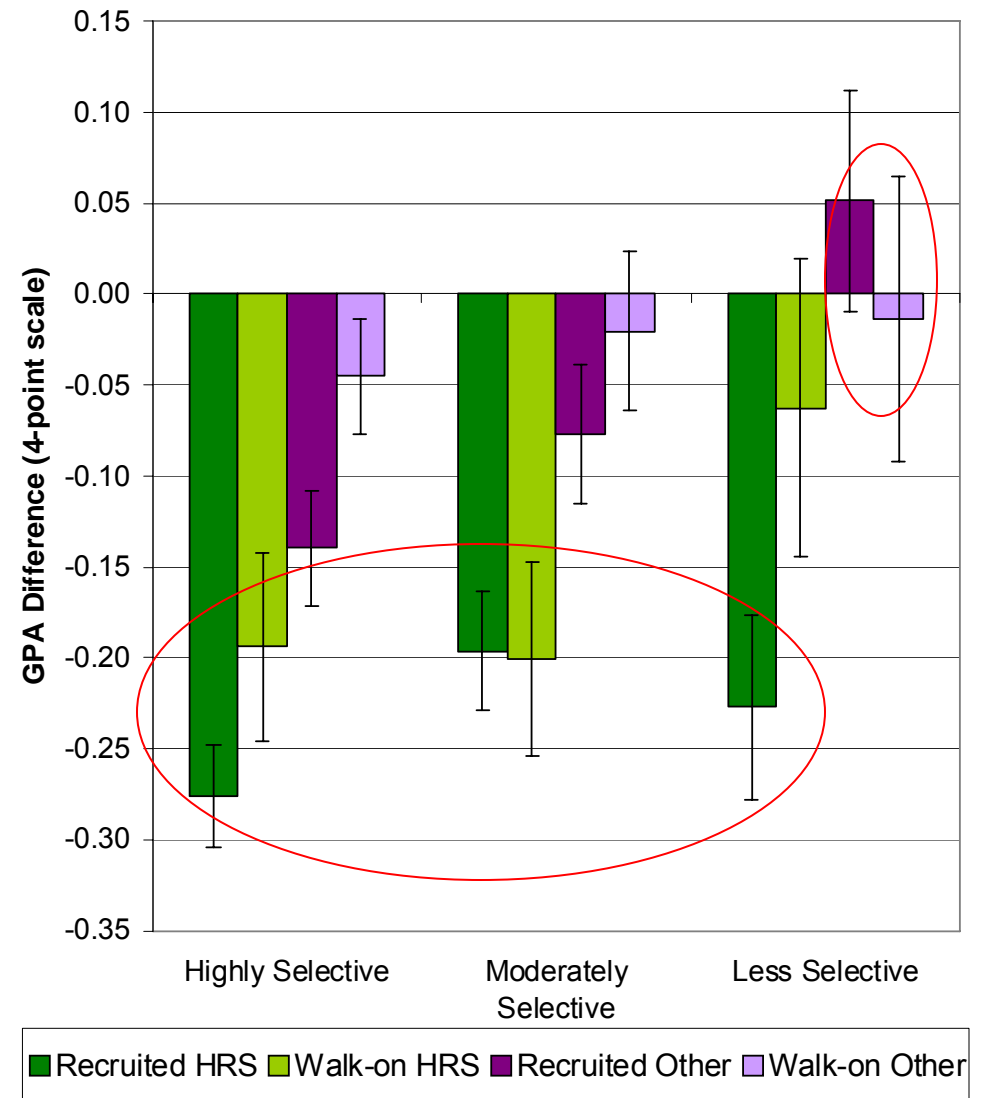
Percentages and Numbers of Recruited Students by Recruitment Level & Institutional Selectivity

- Larger percentages of male and female athletes are recruited for HRS at less selective institutions than at moderately and highly selective institutions
- Recruitment levels in HRS increases for men from Highly to Less selective institutions

	Highly Recruited Sports (HRS)		Other Sports	
Highly Selective Institutions	Male	59% (1,401)	Male	41% (954)
	Female	43% (817)	Female	57% (1,102)
Moderately Selective Institutions	Male	63% (1,782)	Male	37% (1,040)
	Female	46% (888)	Female	54% (1,038)
Less Selective Institutions	Male	70% (1,497)	Male	30% (630)
	Female	51% (597)	Female	49% (583)

GPA Difference between Athletes and Non-Athletes Male Athletes, by Institutional Selectivity

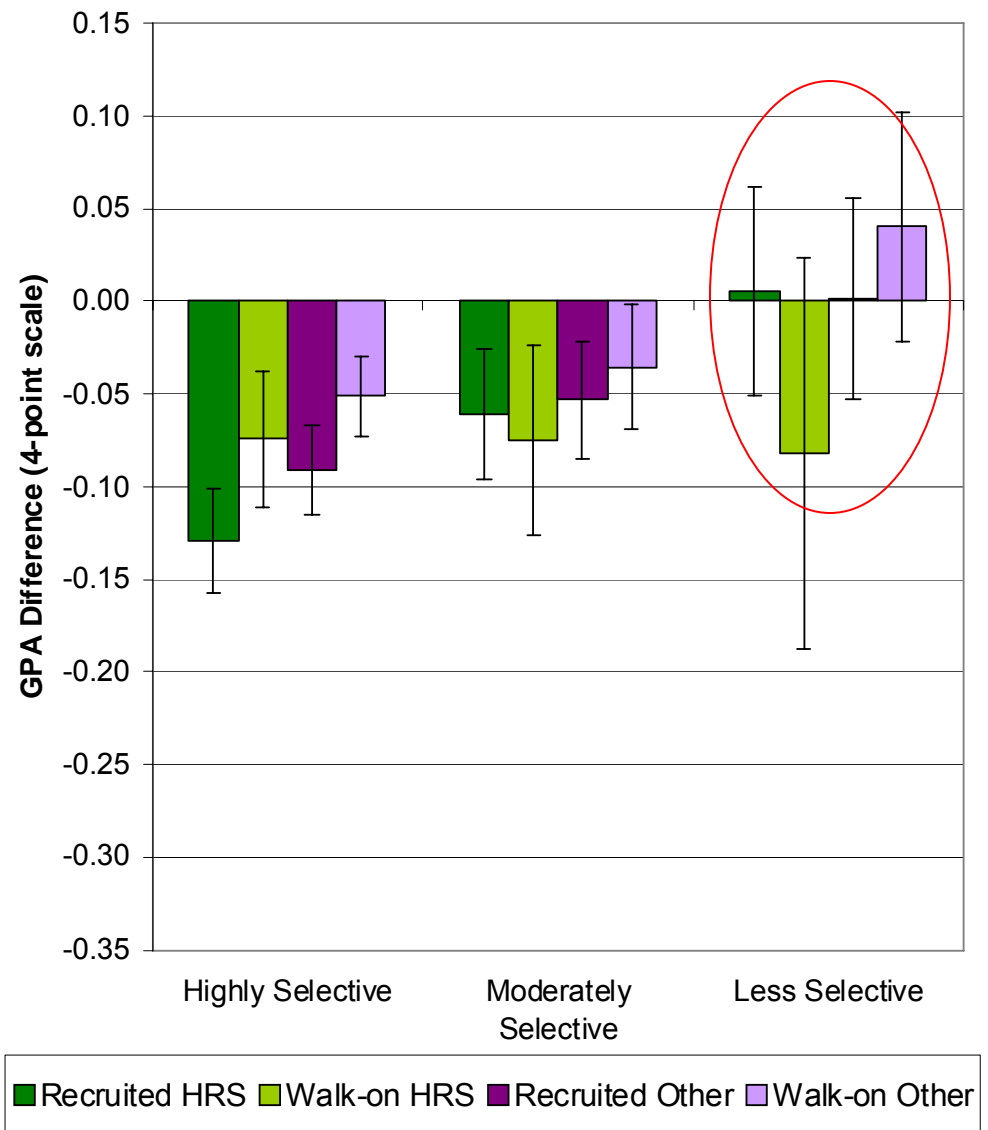
- Men in HRS have lower GPAs than male non-athletes
 - Exception: walk-ons at less selective institutions
- At less selective institutions, men in Other sport types have GPAs similar to male non-athletes
- As discussed earlier, recruited male athletes have significantly lower GPAs than male non-athletes (e.g., Slide 11)
 - This GPA difference is driven by highly recruited sports



GPA Difference between Athletes and Non-Athletes

Female Athletes, by Institutional Selectivity

- Differences between sport types are smaller for women than for men
- At less selective institutions, female athletes in HRS & Other sports do as well as non-athletes, academically
- At highly and moderately selective institutions, females in both sport types do not perform as well as non-athletes
- Athlete to non-athlete differences for women are relatively modest



Key Findings for Sport Types

- There is a larger difference in academic performance by sport type (defined by recruiting intensity) for men than for women.
- Students who are recruited for a Highly Recruited Sport (HRS) tend to have lower GPA's than students who are recruited for Other sports (a finding that mirrors previous Division I research).

Conclusions

- Athletic participation and recruitment patterns vary by race, institutional selectivity and sport type, highlighting the diversity within Division III.
- Being a recruited male or female athlete is related to underperformance at most, but not all Division III institutions in the CSP. The exceptions are often among the less selective institutions.
- Moderately and less selective institutions recruit a higher proportion of Black, Hispanic and White students as athletes than do the highly selective institutions.
- Students who are recruited for a Highly Recruited Sport tend to have lower GPA's than students who are recruited for Other sports (a finding that mirrors previous Division I research).

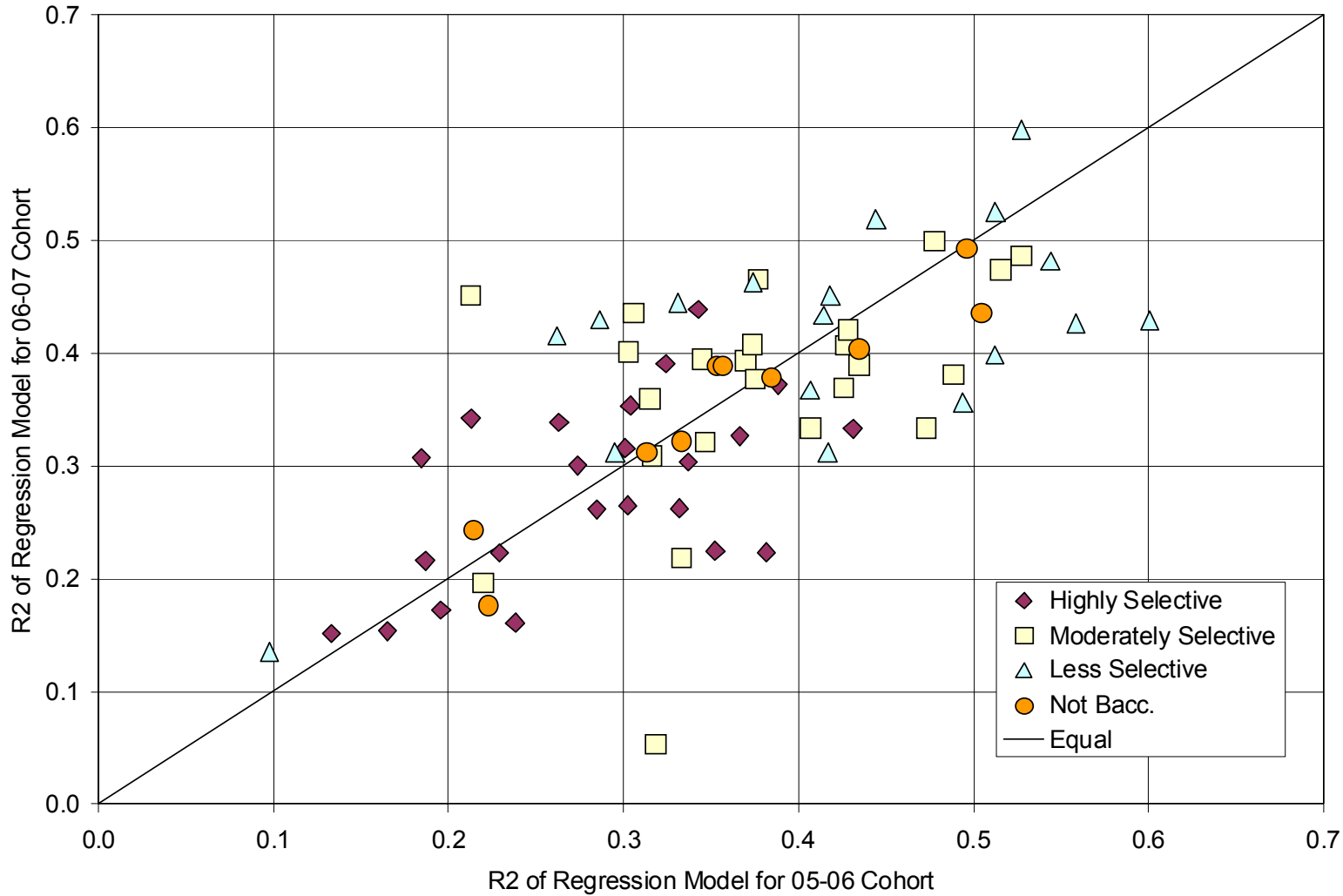
Backup slides

Glossary

- Highly Selective Institutions: Average SAT of incoming students > 1250, Baccalaureate institution
- Moderately Selective Institutions: Average SAT of incoming students 1150-1250, Baccalaureate institution
- Less Selective Institutions: Average SAT of incoming students < 1150, Baccalaureate institution
- Athlete: A student who at some point in his/her college career participated in a sport
- Walk-on athlete: Student who is not a recruited athlete but participates in sports
- Highly Recruited Sport (HRS):
 - Each Highly Recruited Sport (HRS) category comprised a minimum of 50 athletes recruited for that sport per cohort
 - ≥ 65% of athletes who played the sport in Year 1 were recruited for that sport
- Other Sport: Sports that are not classified as Highly Recruited Sports
- Recruited athlete: Student was recruited to participate in a HRS or Other sport prior to his/her matriculation at an institution
 - Recruited, Played Year 1 Only: Student was recruited and played in the sport for which s/he was recruited during Year 1
 - Recruited, Played Years 1 & 2: Student was recruited and participated in the sport for which s/he recruited in Years 1 and 2 (during the freshman and sophomore years)
 - Recruited, No Play: Student was recruited, but did not participate in the sport for which they were recruited

Reliability of Regression Models

R² values between cohorts highly correlated



R² by Recruitment Factor

