

**THE GAME OF LIFE**  
**REVIEW BY**  
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The following is a detailed review of the conclusions James Shulman and William Bowen detail in their recently released book, *The Game of Life: College sports and educational values*. We've evaluated each of the findings that Shulman & Bowen describe in chapter 12 of *The Game of Life* from the perspective of liberal arts colleges. The question that we've attempted to address is, based on the data they provide, to what extent are the broad conclusions that Shulman & Bowen make about athletics and academics valid for liberal arts colleges. We've reproduced and consolidated data from *The Game of Life* in an attempt to address this question.

Before we proceed, it is important to review three definitions that Shulman & Bowen use throughout their book. First, Shulman & Bowen define an athlete as:

...all students who received one or more athletic awards – or “letters” – while in college. This is our objective definition of who is an athlete, and the underlying information, which was obtained from institutional records, is more reliable than aggregate data on numbers of “athletes” reported by schools. These aggregate data may involve double counting—a student who plays two sports may be counted twice. (p. 31)

While this is a reasonable definition, it is important to note that it ignores a large number of students who participate on athletic teams. The next two definitions stem from Shulman & Bowen's important distinction between high and low profile athletes. Specifically:

...the sports of football and men's basketball (and sometimes ice hockey) are often referred to as “revenue sports,” but since these two sports do not always generate revenue (especially at coed liberal arts colleges in our study), we do not refer to them in this way. Rather, we refer to them as “High Profile” sports and to all of the other sports as “Lower Profile.” (p. xxxi)

Below you'll find Shulman & Bowen's conclusions in bold text. The data and the analyses that are relevant to each conclusion follow each conclusion. Finally, we've included a short summary of our findings at the end of the paper.

**Conclusion: Athletes competing on intercollegiate teams constitute a sizable share of the undergraduate student population at many selective colleges and universities, and especially at coed liberal arts colleges and Ivy League universities.**

*Data:* Athletes as a percent of all students (and proportion of the non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	67		
Intercollegiate Athletics	33 (0.49)		
High Profile Sports	13 (0.19)		
Low Profile Sports	20 (0.30)		
1976			
Non-athletes	71	86	90
Intercollegiate Athletics	29 (0.41)	14 (0.16)	10 (0.11)
High Profile Sports	12 (0.17)		
Low Profile Sports	18 (0.25)		
1989			

Non-athletes	68	81	88
Intercollegiate Athletics	32 (0.47)	19 (0.23)	12 (0.14)
High Profile Sports	11 (0.16)		
Low Profile Sports	21 (0.31)		

*Analysis:* Conclusion seems both reasonable and stable over time for men at liberal arts colleges. Overall, it is less true of women at co-ed and women's liberal arts colleges, although the proportion is increasing for women at liberal arts colleges.

**Conclusion: The relative number of male athletes in a class has not changed dramatically over the past 40 years, but athletes in recent classes have been far more intensively recruited than used to be the case.**

*Data:* Percent of students reporting that being “recruited” was a “very important” influence in choosing this specific college

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1976			
Non-athletes	18	2	4
Intercollegiate Athletics	31	5	1
High Profile Sports	38		
Low Profile Sports	24		
1989			
Non-athletes	20	2	4
Intercollegiate Athletics	65	9	3
High Profile Sports	83		
Low Profile Sports	56		

*Analysis:* There is an enormous change in the percentage of men who report that being recruited was an important reason for choosing this specific college. The increase in the proportion of women at co-ed liberal arts colleges who report the importance of being recruited is also large. However, women start at a much lower baseline, so the change probably isn't having as great an impact on the student body.

**Conclusion: Only tiny numbers of women athletes in the '76 entering cohort reported having been recruited, but that situation changed markedly by the time of the '89 entering cohort; recruitment of women athletes at these schools has moved rapidly in the direction of the men's model.**

*Analysis:* The percentage increase is large, but the overall percentage of women who report that being recruited was important still pales in comparison to the percentage of men who report the same in the '76 or '89 cohorts. In the absence of more recent data, this claim is overstated for liberal arts colleges. This is one area in which recent data from schools in the New England Small College Athletic Conference (NESCAC) and Great Lakes Colleges Association (GLCA) would be helpful.

**Conclusion: Athletes who are recruited, and who end up on the carefully winnowed lists of desired candidates submitted by coaches to the admissions office, now enjoy a very substantial statistical “advantage” in the admissions process – a much greater advantage than that enjoyed by other targeted groups such as underrepresented minority athletes, alumni children, and other legacies; this statement is true for both male and female athletes.**

**Conclusion:** The admissions advantage enjoyed by men and women athletes at this school, which there is reason to believe is reasonably typical of schools of its type, was much greater in '99 than in '89, and it was greater in '89 than in '76.

*Data:* The data to support the two previous conclusions are based on one "...of the non-scholarship schools" in the study (p. 40). While the data from this school are consistent with the authors' claims, they are insufficient to substantiate the more generalized conclusions the authors make. More data are needed to evaluate the validity of these conclusions.

**Conclusion:** One obvious consequence of assigning such a high priority to admitting recruited athletes is that they enter these colleges and universities with considerably lower SAT scores than their classmates.

*Data:* Average combined SAT score (and proportion of the non-athletes score\*)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	1164		
Intercollegiate Athletics	1131 (0.96)		
High Profile Sports	1114 (0.93)		
Low Profile Sports	1144 (0.97)		
1976			
Non-athletes	1228	1186	1206
Intercollegiate Athletics	1164 (0.92)	1173 (0.98)	1219 (1.02)
High Profile Sports	1129 (0.88)		
Low Profile Sports	1187 (0.95)		
1989			
Non-athletes	1261	1213	1223
Intercollegiate Athletics	1200 (0.93)	1193 (0.98)	1213 (0.99)
High Profile Sports	1126 (0.84)		
Low Profile Sports	1235 (0.97)		

*Analysis:* The major trend in this table is the relative decline of the SAT scores of high profile athletes over time. This decline is not enormous, but it is large enough to be meaningful. There are no obvious trends among women athletes.

\*Because the 400 is the minimum combined SAT score we used the following formula to calculate the proportion:

$$\frac{(\text{Non-athlete SAT score}) - 400}{(\text{athlete SAT score}) - 400}$$

**Conclusion:** Admitted athletes differ from their classmates in other ways too, and there is evidence of an "athlete culture."

On page 260 the authors define the cultural difference among incoming athletes and non-athletes in terms of differences in competitiveness, interest in pursuing business careers, achieving financial success, being more politically conservative, and placing less emphasis on making original contributions to science or the arts. The following data are used to support the existence of this cultural distinction.

*Data:* Percent of Students rating themselves pre-college as liberal or far left (and proportion of the non-athletes percentage)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1976			
Non-athletes	61	65	49
Intercollegiate Athletics	n/a*	54 (0.83)	50 (1.02)
High Profile Sports	41 (0.67)		
Low Profile Sports	53 (0.87)		
1989			
Non-athletes	45	56	53
Intercollegiate Athletics	34 (0.76)	51 (0.91)	58 (1.09)
High Profile Sports	30 (0.67)		
Low Profile Sports	36 (0.78)		

\*the data in this table (Scorecard 2.6) in *The Game of Life* are incorrect

*Analysis:* It's clear that, overall, fewer students report being liberal in 1989 than in 1976. It is also clear that athletes have always been even less likely to report being liberal, although this difference is less pronounced among women. At the same time, the relative difference in the lack of reported liberalism among athletes and non-athletes has not changed all that much. (More recent data would be helpful since we only have measures from two points in time.)

*Question:* Why did Schulman & Bowen use only pre-college ratings? According to the text (p. 55) the authors used the CIRP survey as the source of these data. This survey is typically given to both seniors and freshman. It would be interesting to see if these differences persist after four years at a liberal arts college. Further, why not include the question from CIRP that asks students to consider whether they are politically conservative or far right? Oddly, they do include data from this question for women but not for men. One point of confusion is that while the authors indicate in the text that the data are from the CIRP survey, the table they refer to in the back of the book indicates that the data are from the *College and Beyond* database.

*Data:* Percent of men reporting as freshman that a "very important" reason for going to college is to "make money" (and proportion of the non-athletes percentage)

	Men at Liberal Arts Colleges
1976	
Non-athletes	29
Intercollegiate Athletics	42 (1.45)
High Profile Sports	47 (1.62)
Low Profile Sports	38 (1.31)
1989	
Non-athletes	40
Intercollegiate Athletics	53 (1.33)
High Profile Sports	62 (1.55)
Low Profile Sports	49 (1.23)

*Data:* Percent of male freshman reporting that an “essential” goal is to be “very well-off financially” (and proportion of the non-athletes percentage)

	Men at Liberal Arts Colleges
1976	
Non-athletes	8
Intercollegiate Athletics	15 (1.88)
High Profile Sports	20 (2.50)
Low Profile Sports	11 (1.38)
1989	
Non-athletes	20
Intercollegiate Athletics	28 (1.40)
High Profile Sports	28 (1.40)
Low Profile Sports	27 (1.35)

*Question:* Once again why only the pre-college ratings and exclude women’s ratings?

*Analysis of the previous two tables:* Clearly athletes appear to be more concerned with being well off than students at large. Furthermore, all students have become more concerned about being well off based on the information from these two cohorts. However, the gap between athlete and non-athlete has diminished somewhat.

*Overall Analysis:* These data are suggestive but fall short of providing demonstrable proof that athletes bring a separate culture with them to campus. Athletes appear to be more conservative and more concerned with being well-off financially, but do those attitudes, in and of themselves, create a separate culture? To turn it around, would we want to systematically exclude groups of students (athletes or not) from our campuses who come to college being more conservative and more interested in making money? It’s unclear whether being more conservative and believing in the importance of being well-off financially represent two different psychological or cultural traits. They may simply be two manifestations of the same trait or political affiliation. Finally, the authors appear to be treating these attitudes as fixed, but is that assumption reasonable? Isn’t one of the claims of a liberal arts education that it forces students to reevaluate some of their core values and attitudes? Thus, it would be interesting to know whether these attitudes shifted over four years for college athletes, and comparing freshman and senior responses on the CIRP survey would be helpful in this regard. It is also important to include the same data for women.

***Conclusion:* Contrary to much popular mythology, recruitment of athletes has no marked effect on either the socioeconomic composition of these schools or on their racial diversity.**

Shulman & Bowen use whether or not a student’s father attend college as a measure of socioeconomic composition.

*Data:* Percent of students with a father who has a bachelor’s degree or higher (and proportion of the non-athletes percentage)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	54		
Intercollegiate Athletics	58 (1.07)		
High Profile Sports	52 (0.96)		

Low Profile Sports	60 (1.11)		
1976			
Non-athletes	72	83	74
Intercollegiate Athletics	65 (0.90)	82 (0.99)	84 (1.14)
High Profile Sports	52 (0.72)		
Low Profile Sports	77 (1.07)		
1989			
Non-athletes	82	80	78
Intercollegiate Athletics	78 (0.95)	85 (1.06)	87 (0.90)
High Profile Sports	59 (0.72)		
Low Profile Sports	87 (1.06)		

*Analysis:* Overall, the percentage of men whose fathers have a bachelor's degree has increased strongly for both athletes and non-athletes. The relative difference between male athletes and non-athletes has remained relatively constant. The exception is among high profile athletes. In this sense, high profile athletes are bringing some small degree of economic diversity to liberal arts colleges. Otherwise the authors' conclusions seem fair. We should keep in mind, however, that receiving an undergraduate degree is not the strongest measure of socioeconomic status. In fact, the authors use different measures of SES in other analyses.

*Data:* African Americans as a percent of students (and proportion of the non-athletes percentage)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	1		
Intercollegiate Athletics	2		
High Profile Sports	3		
Low Profile Sports	2		
1976			
Non-athletes	6	8	6
Intercollegiate Athletics	7 (1.17)	9 (1.13)	3 (0.50)
High Profile Sports	9 (1.50)		
Low Profile Sports	6 (1.00)		
1989			
Non-athletes	5	8	5
Intercollegiate Athletics	8 (1.60)	4 (0.50)	2 (0.40)
High Profile Sports	17 (3.40)		
Low Profile Sports	3 (0.60)		

*Analysis:* Given the small numbers, the only category in which African Americans have a significant representation that differs from non-athletes is high profile male athletes.

*Overall Analysis:* In general the authors are correct. Heavy recruitment of athletes probably does not diversify campuses ethnically or economically. The authors argue that this is true even for African-American students, despite the high proportion of African Americans who play high-profile sports. Taking the data from all colleges in their sample into account, the authors state "...the percentage of African American males in the '89 cohort would have declined by 1 percentage point, falling from 6 percent to 5 percent, if athletic contribution to racial diversity had been eliminated..." (p. 55).

However, the small size of the typical liberal arts college relative to the size of athletic teams may lead to a somewhat different conclusion. According to the data, 17% of the letter athletes playing football and basketball at liberal arts colleges are African American. If we assume that there are approximately 60 athletes who letter in those sports per year at a small liberal arts college, then 10 of those students would be African American. If there are 500 males on that campus, and 5 percent of those students are African American (see the data table) then there are total of 25 African American males on that campus. Thus, 40% of the African American males on campus play high profile sports. In other words, at small, residential liberal arts colleges, the impact of recruiting African American athletes to play high profile sports may be more than modest.

**Conclusion: Despite their lower SATs, athletes who attended the selective schools included in this study, along with their classmates who participated in other time-intensive extracurricular activities, graduated at very high rates.**

*Data:* Six-year graduation rates (and proportion of the non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	66
Intercollegiate Athletics	85 (1.29)
High Profile Sports	86 (1.30)
Low Profile Sports	85 (1.29)
1976	
Non-athletes	77
Intercollegiate Athletics	84 (1.09)
High Profile Sports	81 (1.05)
Low Profile Sports	87 (1.13)
1989	
Non-athletes	86
Intercollegiate Athletics	93 (1.08)
High Profile Sports	89 (1.04)
Low Profile Sports	95 (1.10)

*Question:* Why didn't they include detailed data on women for this question? They provide a table of overall graduation rates on page 142, but they do not break the data down by institution. Overall, women athletes have a six-year graduation rate of 91% in both the 1976 and 1989 cohorts. The graduation rates of women who were not athletes are not available because the data are broken down into non-athletes who do and do not participate in other forms of extracurricular activities. No overall figure is provided. If we interpolate between those groups, the graduation rate for non-athletes was approximately 87% in 1976 and 91% in 1989.

*Analysis:* We don't have data which allows us to assess the validity of the authors' claims about retention and participation in other "time consuming" extra curricular activities for men, but it is clear that athletes who letter in sports are slightly more likely to complete their degrees than non-athletes.

**Conclusion: When we examine grades (rank-in-class) an entirely different picture emerges: The academic standing of athletes, relative to their classmates, has deteriorated markedly in recent years.**

*Data:* Mean GPA Percentile (and proportion of the non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	47		
Intercollegiate Athletics	49 (1.04)		
High Profile Sports	48 (1.02)		
Low Profile Sports	50 (1.06)		
1976			
Non-athletes	50	52	50
Intercollegiate Athletics	40 (0.80)	50 (0.96)	49 (0.98)
High Profile Sports	37 (0.74)		
Low Profile Sports	42 (0.84)		
1989			
Non-athletes	48	54	49
Intercollegiate Athletics	37 (0.77)	50 (0.93)	50 (1.02)
High Profile Sports	28 (0.58)		
Low Profile Sports	42 (0.88)		

*Data:* Percent of students in bottom 1/3 of class (and proportion of the non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	42		
Intercollegiate Athletics	31 (0.74)		
High Profile Sports	31 (0.74)		
Low Profile Sports	30 (0.71)		
1976			
Non-athletes	37	n/a	n/a
Intercollegiate Athletics	46 (1.24)	n/a	n/a
High Profile Sports	52 (1.41)		
Low Profile Sports	42 (1.14)		
1989			
Non-athletes	36	28	34
Intercollegiate Athletics	54 (1.50)	32 (1.14)	33 (0.97)
High Profile Sports	69 (1.92)		
Low Profile Sports	46 (1.28)		

*Analysis:* Based on the previous two tables, the authors' conclusions seem fair for men at liberal arts colleges. If we assume that the overall GPA at a liberal arts college is 3.0 with the SD = 0.65, then 69% of high profile athletes have a GPA below about 2.7 with a mean GPA of 2.6. There does not appear to be a deficit for women athletes. This is not a terrible GPA, but it is lower than that of the typical non-athlete.

**Conclusion: Only part of this decline in the academic performance of athletes can be attributed to their lower levels of aptitude or preparation at the time they began college; they consistently under perform academically even after we control for differences in standardized test scores and other variables**

**Conclusion: Academic underperformance in college has roots in high school academic performance, in the priority assigned by athletes to academics, and in the “culture of sport.”**

We believe that the data for these findings are based on multiple regression analysis using two different models:

Model	Independent Variables	Dependent Variable
1	Athlete/Non-athlete, SAT, Major, and SES	Percentile GPA
2	AP Exams, subject specific achievement test scores, high school grades, Athlete/Non-athlete, SAT scores, major, and SES	Percentile GPA

*Question:* In Appendix B (p. 360) the authors describe two additional, more complicated models that they indicate were used in an analysis of predicting class rank at Ivy League Universities. In addition to including the variables listed above, both of these models contained a continuous measure of SES and average institutional SAT, and one of the models included high school rank-in-class. We cannot tell from the text whether these variables were also used in the two models that we described above. The variables listed in the table were listed in the text, but no mention was made of the more complicated models that the authors describe in the appendix. Thus, we can’t tell whether the models outlined in the appendix are the models they used for all of their analyses of underperformance.

*Data:* Underperformance of Athletes in GPA percentile using Model 1

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1976			
High Profile Sports	-3.5		
Low Profile Sports	-8.3		
1989			
High Profile Sports	-8.8		
Low Profile Sports	-3.0	-6.1	-1.1

*Data:* Underperformance of Athletes in GPA percentile using Model 2

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1976			
High Profile Sports	-4.9		
Low Profile Sports	-7.7		
1989			
High Profile Sports	-6.1		
Low Profile Sports	-1.3	-4.8	-1.0

The authors also ran a separate analysis in which they combined Ivy League and liberal arts colleges (the two kinds of institutions with the largest underperformance) using Model 1 and added “citing a coach as a mentor” as an Independent Variable. They found that students who answered yes to this question suffered an additional 5 percentile point (on average) underperformance.

*Analysis:* The authors’ conclusion that athletes perform more poorly, on average, in college than you’d expect given their GPA is consistent with the data. However, the difference appears to be important mostly for high profile athletes and women at liberal arts colleges. When the authors add information about high school academic performance, the difference shrinks, though not dramatically in the two areas which started with the largest difference, high profile sports and women at liberal arts colleges.

These data are, in a sense, difficult to interpret because the effect is so small. The difference in low profile sports is reduced by over 50%, but the initial difference was only 3 percentile points. The authors argue that this shows that athletes are already underperforming in high school and have already become part of the “athletic culture.” One could simply argue that we’ve added another predictor, which should simply shrink the typical residual. That is, using high school GPA, achievement test scores, and SAT scores should yield smaller errors in predicting college GPA than using only SAT scores. However, since the error when using SAT scores is systematic and not random (i.e., it typically underpredicts actual performance), the authors’ argument makes sense. It should be noted, however, that the effect is quite small. We are also concerned that the variability is particularly large in this analysis. The authors are using 90% confidence intervals. Given the sample size they are dealing with, we’re surprised that they have to use confidence intervals that are this large. We would like to see some estimates of variability with this data.

***Conclusion:* Male athletes have become highly concentrated in certain fields of study, especially the social sciences, and female athletes have started to show different patterns of majors as well.**

*Data:* Percent of students majoring in the humanities (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	34		
Intercollegiate Athletics	35 (0.97)		
High Profile Sports	31 (0.92)		
Low Profile Sports	37 (1.09)		
1976			
Non-athletes	37	26	33
Intercollegiate Athletics	21 (0.57)	34 (0.76)	39 (0.85)
High Profile Sports	13 (0.35)		
Low Profile Sports	28 (0.77)		
1989			
Non-athletes	45	41	37
Intercollegiate Athletics	32 (0.71)	35 (0.85)	37 (1.00)
High Profile Sports	26 (0.58)		
Low Profile Sports	35 (0.78)		

*Analysis:* Clearly the humanities are less popular among athletes, especially among high profile males. However, this difference is smaller in the '89 cohort than it is in the '76 cohort.

*Data:* Percent of students majoring in math or engineering (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	4		
Intercollegiate Athletics	7 (1.75)		
High Profile Sports	8 (2.00)		
Low Profile Sports	5 (1.25)		
1976			
Non-athletes	4	2	3
Intercollegiate Athletics	5 (1.25)	1(0.50)	4 (1.33)
High Profile Sports	4 (1.00)		
Low Profile Sports	5 (1.25)		
1989			
Non-athletes	5	5	4
Intercollegiate Athletics	7 (1.40)	5 (1.00)	4 (1.00)
High Profile Sports	3 (0.60)		
Low Profile Sports	10 (2.00)		

*Analysis:* With the exception of high profile males in the '89 cohort, athletes are not less likely to major in mathematics and engineering.

*Data:* Percent of students majoring in the natural sciences (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	19		
Intercollegiate Athletics	22 (1.16)		
High Profile Sports	23 (1.21)		
Low Profile Sports	22 (1.16)		
1976			
Non-athletes	18	10	13
Intercollegiate Athletics	18 (1.00)	17 (1.70)	17 (1.31)
High Profile Sports	16 (0.89)		
Low Profile Sports	20 (1.11)		
1989			
Non-athletes	12	11	11
Intercollegiate Athletics	17 (1.42)	12 (1.09)	16 (1.45)
High Profile Sports	12 (1.00)		
Low Profile Sports	18 (1.50)		

*Analysis:* There is not a tendency for athletes to avoid the sciences. Indeed, low profile male athletes and female athletes are more likely to become natural science majors than non-athletes.

*Data:* Percent of students majoring in the social sciences (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	24		
Intercollegiate Athletics	27 (1.13)		
High Profile Sports	25 (1.04)		
Low Profile Sports	27 (1.13)		
1976			
Non-athletes	29	26	33
Intercollegiate Athletics	45 (1.55)	34 (1.31)	39 (1.18)
High Profile Sports	50 (1.72)		
Low Profile Sports	39 (1.34)		
1989			
Non-athletes	31	33	36
Intercollegiate Athletics	41 (1.32)	41 (1.24)	35 (0.97)
High Profile Sports	58 (1.87)		
Low Profile Sports	34 (1.10)		

*Analysis:* Athletes are more likely to become social science majors, and this is especially true of high profile athletes.

*Overall Analysis:* Overall, since 1976 male and female athletes have been less likely to major in the humanities and more likely to major in the natural sciences, math and engineering, and the social sciences. The outlier here, and the group that comes closest to being consistent with Shulman & Bowen's concerns, are high-profile athletes. They are in fact much more likely than non-athletes to major in the social sciences than other majors. Despite this outlier, in general, these data are not consistent with the authors' claim that "Male athletes have become highly concentrated in certain fields of study, especially the social sciences, and female athletes have started to show different patterns of majors as well."

*Question:* We're very curious about how they determined academic major. The sheer number of majors available in the social sciences has grown since 1951 at most liberal arts colleges. Furthermore, there are many liberal arts colleges that encourage students to construct their own major. How are these student-created majors categorized?

***Conclusion:* Women athletes in the '76 cohort (but not in the '89 cohort) were more likely than their peers to earn advanced degrees of every kind; this was not true of men, however.**

There is very little information in the book on post-graduate degree attainment among women that is broken down by type of school, so it is difficult to assess the relevance of the authors' claims for liberal arts colleges. Women athletes from liberal arts colleges and women's colleges in the '76 cohort were more likely to get Law, Medical, and PhD degrees (combined) than non-athletes and attained more business degrees than non-athletes, but the differences were relatively small (p.161). The data for men are presented below:

*Data:* Graduate business degree attainment as a percent of all male graduates (and proportion of non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	7
Intercollegiate Athletics	10 (1.43)*
High Profile Sports	7 (1.00)
Low Profile Sports	10 (1.43)
1976	
Non-athletes	12
Intercollegiate Athletics	19 (1.58)
High Profile Sports	21 (1.75)
Low Profile Sports	19 (1.58)
1989	
Non-athletes	5
Intercollegiate Athletics	5 (1.0)
High Profile Sports	6 (1.2)
Low Profile Sports	5 (1.0)

\*It is odd that the overall percentage for intercollegiate athletics is the same in each row as the percent of low-profile athletes, but these numbers are taken directly from Scorecard 4.1, p. 324.

*Analysis:* Male athletes have always had a higher probability of pursuing a degree in business. This is less so in the '89 cohort, but that may change over time since individuals still have ample opportunity to pursue an MBA as they get older. Of course, it could also result from the fact that athletes are more likely to become businessmen, which in turn, makes it more likely for them to pursue business degrees.

*Data:* Medical degree attainment as a percent of graduates (and proportion of non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	12
Intercollegiate Athletics	12 (1.00)
High Profile Sports	17 (1.42)
Low Profile Sports	9 (0.75)
1976	
Non-athletes	10
Intercollegiate Athletics	9 (0.90)
High Profile Sports	9 (0.90)
Low Profile Sports	10 (1.00)
1989	
Non-athletes	7
Intercollegiate Athletics	9 (1.29)
High Profile Sports	6 (0.86)
Low Profile Sports	10 (1.43)

*Analysis:* Although there was a dip in 1976, male athletes are more likely, overall, to get a medical degree than non-athletes. This is not true of high profile athletes in the most recent cohort, though the amount that they fall short is not as large as one would expect given their academic underperformance during college.

*Data:* Law degree attainment as a percent of all graduates (and proportion of non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	9
Intercollegiate Athletics	7 (0.78)
High Profile Sports	7 (0.78)
Low Profile Sports	6 (0.67)
1976	
Non-athletes	15
Intercollegiate Athletics	15 (1.00)
High Profile Sports	10 (0.67)
Low Profile Sports	19 (1.27)
1989	
Non-athletes	11
Intercollegiate Athletics	9 (0.82)
High Profile Sports	12 (1.09)
Low Profile Sports	8 (0.73)

*Analysis:* A lot of variability here, but essentially athletes in '51 and '89 are somewhat less likely to become lawyers than the student population.

*Data:* PhD attainment as a percent of graduates (and proportion of non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	18
Intercollegiate Athletics	15 (0.83)
High Profile Sports	16 (0.89)
Low Profile Sports	14 (0.78)
1976	
Non-athletes	11
Intercollegiate Athletics	8 (0.73)
High Profile Sports	6 (0.55)
Low Profile Sports	9 (0.82)
1989	
Non-athletes	13
Intercollegiate Athletics	10 (0.77)
High Profile Sports	5 (0.38)
Low Profile Sports	11 (0.85)

*Analysis:* Athletes have always been about 20% less likely to get a PhD than non-athletes. The major trend in this table is the large reduction in the relative proportion of high profile athletes who pursue PhDs.

*Data:* Any Masters degree attainment as a percent of all graduates (and proportion of non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	31
Intercollegiate Athletics	29 (0.94)
High Profile Sports	25 (0.81)
Low Profile Sports	33 (1.06)
1976	
Non-athletes	27
Intercollegiate Athletics	18 (0.67)
High Profile Sports	16 (0.60)
Low Profile Sports	19 (0.70)
1989	
Non-athletes	26
Intercollegiate Athletics	24 (0.92)
High Profile Sports	26 (1.00)
Low Profile Sports	23 (0.88)

*Analysis:* Although there was a dip in the '76 cohort, athletes are only a little less likely to pursue and receive a Masters degree than non-athletes.

*Overall analysis:* The authors' conclusions did not quite fit post-graduate degree attainment for athletes at liberal arts colleges. Athletes at liberal arts colleges are less likely to pursue PhDs and law degrees but are more likely to pursue business degrees and about as likely to pursue medical degrees.

***Conclusion:* Consistent with patterns of advanced degree attainment, male athletes are more likely than other men in their classes to have chosen the jobs in business and finance and less likely to have become scientists, engineers, academics, doctors or lawyers.**

The only data that the authors break down by type of institution is Scorecard 4.6, p. 329.

*Data:* Percent of full-time workers in financial services (and proportion of non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	9
Intercollegiate Athletics	8 (0.89)
High Profile Sports	5 (0.56)
Low Profile Sports	11 (1.22)
1976	
Non-athletes	7
Intercollegiate Athletics	11 (1.57)
High Profile Sports	10 (1.43)

Low Profile Sports	11 (1.57)
1989	
Non-athletes	9
Intercollegiate Athletics	13 (1.44)
High Profile Sports	12 (1.33)
Low Profile Sports	13 (1.44)

*Analysis:* Athletes at liberal arts colleges in the '76 and '89 cohorts were about 50% more likely to be full-time workers in financial services. The first part of the authors' conclusion is justified for liberal arts colleges. Since we only have data on degree attainment and not subsequent employment for areas outside of business we do not have sufficient data to analyze the authors' second assertion.

**Conclusion: Male athletes consistently earned more money than their classmates.**

*Data:* Mean 1995 own earned income (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	111,283		
Intercollegiate Athletics	128,547 (1.16)		
High Profile Sports	136,071 (1.22)		
Low Profile Sports	123,279 (1.11)		
1976			
Non-athletes	92,770	58,478	69,400
Intercollegiate Athletics	109,939 (1.19)	64,211 (1.10)	85,356 (1.23)
High Profile Sports	106,465 (1.15)		
Low Profile Sports	112,141 (1.21)		
1989			
Non-athletes	27,883	25,560	27,557
Intercollegiate Athletics	37,228 (1.34)	26,230 (1.03)	28,053 (1.02)
High Profile Sports	38,765 (1.39)		
Low Profile Sports	36,591 (1.31)		

*Analysis:* Clearly athletes, especially male athletes, go on to make more money after college. Overall, there appears to be about a 20% "bonus" for former college athletes who are men and a much smaller bonus for women who were college athletes.

**Conclusion: The earnings advantage of male athletes is attributable to both pre-college differences and post-college choices.**

These data are not generally broken down by college type leaving us with little information with which to evaluate whether this statement is typical of athletes at liberal arts colleges. Their argument for athletes in general is described on pages 95-102. They are:

1. Athletes who end up working in the for-profit sector tend to make more, on average, than non-athletes who work in the for-profit sector.
2. There is no difference in the typical earnings of athletes and non-athletes who work in the non-profit sector.

3. Within the for-profit sector, the only job at which athletes typically end up earning much more money than non-athletes is in financial services.

They conclude that two major processes account for the differential earnings advantage of former athletes in financial services.

1. The set of personality traits that athletes tend to have (strong desire to succeed, unswerving determination to reach a goal, having more energy) are “especially valuable in financial services.”
2. People in financial services are particularly interested in hiring former athletes.

While the first point is consistent with the authors’ conclusions, they present no evidence to support it. The second point would not explain why athletes in financial services would earn more than non-athletes in financial services, only that they would be more likely to be employed in this area. It seems that the authors have not provided sufficient evidence (1) of different “personality types,” or (2) for different dispositions and values, between athletes and non-athletes. Their arguments are consistent with the data but not demonstrative.

**Conclusion: In general, the earnings of male athletes are not associated with how many years they played sports in college.**

Once again there aren’t sufficient data from liberal arts colleges here to help us evaluate this assertion. On page 106, the authors refine their assertion to focus mostly on high profile athletes. They state, “This finding has an especially important implication for the athletes playing the High Profile sports: *the higher earnings associated with having played four years is not the result of a steady progression in earnings as more years are played, but rather the result of a kind of final-year step function of “completion bonus.”* The graph on page 107 shows a \$24,500 advantage of high-profile, 4-year athletes versus high-profile, 2-3 year athletes.

Why does this happen? The authors speculate that it is the greater visibility of these athletes (even celebrity status). Since athletes at liberal arts colleges do not typically attain wide-spread name recognition, even in high profile sports, it’s not clear that this is a reasonable explanation.

**Conclusion: Intensity of level of play does not translate into superior later life outcomes for male athletes, as measured by earnings.**

The authors point to the data in the following table to argue against the relationship between “intensity of play” and earnings.

*Data:* Mean 1995 earnings (and proportion of students at large) by years played and sport profile

	Div 1A Public Universities	Div 1A Private Universities	Ivy League	Co-ed Liberal Arts Colleges
Students at Large	84,248	106,311	108,172	92,770
High Profile: 4 years	88,824 (1.05)	141,806 (1.33)	143,895 (1.33)	119,758 (1.29)
High Profile: <4 years	77,591 (0.92)	110,287 (1.04)	109,934 (1.02)	102,216 (1.10)
High Profile athletes	80,243 (0.95)	117,468 (1.10)	119,295 (1.10)	106,465 (1.15)
Low Profile: 4 years	91,382 (1.08)	116,607 (1.10)	125,525 (1.16)	124,940 (1.35)
Low Profile: <4 years	91,575 (1.09)	123,892 (1.17)	129,077 (1.19)	108,781 (1.17)
Low Profile athletes	91,522 (1.09)	123,329 (1.16)	128,102 (1.18)	112,141 (1.21)
4 year athletes	90,591 (1.08)	130,781 (1.23)	131,895 (1.22)	122,740 (1.32)
< 4 year athletes	86,613 (1.03)	120,252 (1.13)	122,462 (1.13)	106,304 (1.15)

They argue on page 110 that the intensity of play at Div 1A public and private universities is much greater because the level of play is better, the number of spectators is greater, and the training is more intense at these institutions. However, since the earnings advantage is large at both Ivy League and liberal arts colleges, which according to the authors, both have less intense programs, intensity of play doesn't predict the income advantage.

*Analysis:* The authors' hypothesis is consistent with the data; however, the questions are to what extent are athletes at liberal arts colleges spending significantly less time practicing, in or out of season, and how intensely do athletes at liberal arts colleges compete on the playing field? While it may be reasonable to assume there's a difference in athletic talent between Division 1A athletes and athletes at Liberal Arts colleges, perhaps intensity of their participation may not be as different. It would be interesting to test this hypothesis.

**Conclusion: Women athletes in the '76 cohort are more likely than their female peers to be working full-time, to be either doctors or academics (unlike the male athletes, who were disproportionately found in business fields), and, like the men who played sports, to enjoy a sizable earnings advantage over their women classmates; moreover, within the for-profit sector the relative earnings advantage of the 1976 women athletes is even larger than the earnings advantage of their male counterparts.**

**Conclusion: In contrast, women athletes in the 1989 cohort are no more likely than other women to have earned, or to be earning, advanced degrees, and they do not enjoy any earnings advantages over their peers.**

In terms of post-graduate degrees, women who participated in intercollegiate athletics in the 1976 cohort were more likely to seek an advanced degree than non-athletes (approximately 72% to 60%, p. 160). Furthermore, they were no more likely to seek a business degree (7% for athletes, 6% for non-athletes), but were more likely to pursue a law degree, medical degree, or PhD (27% for athletes versus 22% for non-athletes). The authors argue that by 1989, this positive difference for athletes had diminished. For example about 55% of both athletes and non-athletes in the 1989 cohort have earned advanced degrees (Figure 8.3, p. 163). However, in terms of liberal arts colleges they note, "...at the liberal arts colleges and the women's colleges, women athletes in the '89 cohort continued to be more likely to have earned an advanced degree, or to be enrolled in graduate or professional school...(an advantage of roughly 5 percentage points)."(p. 162) They add that the differences between athletes and other women at these colleges were modest (and were practically nonexistent at the women's colleges; p. 162).

*Data:* Mean 1995 own earned income, including for-profit sector for women (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951	For profit and non profit		For Profit		
Non-athletes	111,283				
Intercollegiate Athletics	128,547 (1.16)				
High Profile Sports	136,071 (1.22)				
Low Profile Sports	123,279 (1.11)				
1976					
Non-athletes	92,770	58,478	69,400	69,464	80,492
Intercollegiate Athletics	109,939 (1.19)	64,211 (1.10)	85,356 (1.23)	82,636 (1.19)	108,965 (1.35)
High Profile Sports	106,465 (1.15)				
Low Profile Sports	112,141 (1.21)				

1989					
Non-athletes	27,883	25,560	27,557	28,613	29,599
Intercollegiate Athletics	37,228 (1.34)	26,230 (1.03)	28,053 (1.02)	29,096 (1.02)	33,878 (1.14)
High Profile Sports	38,765 (1.39)				
Low Profile Sports	36,591 (1.31)				

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*Analysis:* The earnings advantage for women athletes in the for-profit sector in the '76 cohort does not appear to be that much greater than the difference for men. The proportion difference for male athletes in the for-profit and non-profit sectors combined is about the same as the proportion difference for women athletes in the for-profit sector. (If we had data from male athletes at liberal arts colleges in the for-profit sector we could evaluate this claim more fairly.) The notable finding is the large relative earnings advantage that male athletes have in the '89 cohort.

*Overall Analysis:* Based on the data we have, the authors' conclusion seem reasonable, though it is interesting that we did not find any remarks on the differences in the '89 cohort.

***Conclusion:* There is no evidence that earnings for women athletes are enhanced by larger “doses” of athletic training in college.**

*Analysis:* The data supporting this claim are described on page 179. Essentially, women athletes with 4 years of experience have a smaller earnings advantage than women with 1-3 years of experience. Unfortunately, they do not examine this claim for different kinds of colleges and universities so we cannot assess the validity of this claim for liberal arts colleges.

***Conclusion:* Athletes were more likely than other students to rate themselves highly as leaders before college began and were also more likely to say, after college, that leadership had played an important role in their lives; yet, surprisingly neither this greater inclination to provide leadership, nor this stronger expression of its importance, is associated with evidence of having actually provided more leadership.**

*Data:* Percent of freshman rating themselves in the top 10% of peers on leadership ability

	Men at Liberal Arts Colleges
1976	
Non-athletes	18
Intercollegiate Athletics	21 (1.17)
High Profile Sports	22 (1.22)
Low Profile Sports	21 (1.17)
1989	
Non-athletes	20
Intercollegiate Athletics	25 (1.25)
High Profile Sports	28 (1.40)
Low Profile Sports	24 (1.20)

*Analysis:* The data are consistent with the first part of authors' claims for male athletes only. However, we could only locate information on male freshman from liberal arts colleges. More detailed information on athletes at liberal arts colleges is required to fully assess the validity of the authors' claims for liberal arts colleges. It would also be instructive to see if these differences persist after 4 years of education for both men and women.

**Conclusion: Athletes are leaders in exceptionally large numbers in two specific arenas—alumni/ae activities and youth groups (men only) – and having been a college athlete appears to have measurable effects on the priorities that these leaders emphasize.**

There are data on this point on pages 192-193, but no information is given for different types of higher education institutions. In terms of evaluating the kinds of priorities that these leaders emphasize, they point to two questions on a survey: (1) how individuals rank the importance of competition and (2) working collaboratively with others (p. 193). We could find no data pertaining to the second question. They do, however, include a detailed analysis of the first question.

*Data:* Percent reporting that “competition” has been “very important” in life after college (Males only)

	Men at Liberal Arts Colleges
1951	
Non-athletes	19
Intercollegiate Athletics	28 (1.47)
High Profile Sports	19 (1.00)
Low Profile Sports	30 (1.58)
1976	
Non-athletes	24
Intercollegiate Athletics	33 (1.38)
High Profile Sports	54 (2.25)
Low Profile Sports	15 (0.63)
1989	
Non-athletes	17
Intercollegiate Athletics	26 (1.53)
High Profile Sports	19 (1.12)
Low Profile Sports	29 (1.71)

*Analysis:* The responses to this question are exceptionally volatile over time without a specific trend. One interpretation of these data are that responses to this question may be driven more by specific events that shape a cohort rather than the general variable of being an athlete. Overall, the authors’ conclusions seem too strong, even for all colleges, given the data they present. Inferring the priorities that former athletes have from responses to one or two questions on a survey seems excessive.

**Conclusion: In the aggregate, alumni/ae from all three eras, from all types of institutions want their schools to place less, not more, emphasis on intercollegiate athletics than the schools do at present.**

The authors present data on this claim on pages 194-199. Their general claim is that while most alums would prefer to see athletics de-emphasized, athletes, and especially athletes who are alumni/ae leaders, would prefer to see an increase in the emphasis on athletics. They do provide data from the 1976 cohort which is broken down by college type (Table 9.6, p. 196). Athletes from liberal arts colleges who are alumni leaders are more likely to prefer an increase in emphasis on athletics than former athletes who are not alumni leaders. The remaining data are not broken down by college type so it is difficult to judge the import of this conclusion for liberal arts colleges.

**Conclusion: In common with high academic achievers and students who were heavily involved in extracurricular activities, former athletes have generally had above average general giving rates.**

*Data:* General giving rates (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	62		
Intercollegiate Athletics	70 (1.13)		
High Profile Sports	76 (1.23)		
Low Profile Sports	69 (1.11)		
1976			
Non-athletes	63	66	48
Intercollegiate Athletics	73 (1.16)	75 (1.14)	75 (1.56)
High Profile Sports	69 (1.10)		
Low Profile Sports	76 (1.21)		
1989			
Non-athletes	60	63	38
Intercollegiate Athletics	62 (1.03)	74 (1.17)	78 (2.05)
High Profile Sports	54 (0.90)		
Low Profile Sports	65 (1.08)		

*Analysis:* Former athletes from the '51 and '76 cohorts had a higher giving rate, but that is not true of athletes from the '89 cohort.

Another interesting question would be how much are they willing to give relative to their income, which is substantially higher. What's interesting is that male athletes from the '89 cohort made about 30% more than their non-athlete counterparts, but their overall likelihood of giving is no higher.

*Data:* Average size of general gifts in dollars (and proportion of non-athletes)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	1,031		
Intercollegiate Athletics	807 (0.78)		
High Profile Sports	838 (0.81)		
Low Profile Sports	788 (0.76)		
1976			
Non-athletes	102	75	104
Intercollegiate Athletics	112 (1.10)	60 (0.80)	92 (0.88)
High Profile Sports	146 (1.43)		
Low Profile Sports	89 (0.87)		
1989			
Non-athletes	23	15	20
Intercollegiate Athletics	19 (0.83)	20 (1.33)	19 (0.95)
High Profile Sports	17 (0.74)		

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 Low Profile Sports      21 (1.09)
 

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*Analysis:* While athletes are more likely to give, their typical donation appears to be smaller.

*Data:* Athletic giving rates (percent)

	Men at Liberal Arts Colleges	Women at Liberal Arts Colleges	Women's Liberal Arts Colleges
1951			
Non-athletes	0		
Intercollegiate Athletics	5		
High Profile Sports	15		
Low Profile Sports	2		
1976			
Non-athletes	1	1	n/a*
Intercollegiate Athletics	6	3	n/a*
High Profile Sports	7		
Low Profile Sports	6		
1989			
Non-athletes	0	3	n/a*
Intercollegiate Athletics	11	12	n/a*
High Profile Sports	8		
Low Profile Sports	12		

\*n/a indicates that cell sizes are insufficient for detailed breakdown

*Analysis:* While athletes are much more likely to give towards athletic projects, the overall rate at which they give is still quite low.

*Data:* Average size of athletic gifts in dollars (and proportion of non-athletes)

	Men at Liberal Arts Colleges
1951	
Non-athletes	28
Intercollegiate Athletics	24 (0.86)
High Profile Sports	38 (1.36)
Low Profile Sports	11 (0.39)
1976	
Non-athletes	41
Intercollegiate Athletics	18 (0.43)
High Profile Sports	14 (0.34)
Low Profile Sports	16 (0.39)
1989	
Non-athletes	9
Intercollegiate Athletics	16 (1.78)
High Profile Sports	27 (3.00)
Low Profile Sports	13 (1.44)

*Analysis:* These data are exceptionally volatile over the three cohorts. It appears that the dollar amount of the typical donation from former male athletes for athletic projects is lower for 2 of the three cohorts.

*Overall Analysis:* Overall, the authors conclusions seem fair. Former athletes are more likely to give money to support general projects, but their gifts tend to be smaller. They are also more likely to give money to support athletic projects. Like so many other areas in this study, it would be helpful if we had more information on women athletes at liberal arts colleges.

***Conclusion:* The high-profile athletes at the Division 1A schools are a revealing exception to this pattern: they are *much* less likely than others to be contributors.**

Not relevant to liberal arts colleges.

***Conclusion:* The data flatly contradict one of the strongest myths about college athletics-namely, that winning teams, and especially winning football teams, have a large, positive impact on giving rates.**

First off, it is important to note that the data supporting this conclusion was based on analysis of the '76 cohort only at 15 of the College & Beyond schools for a 10-year-period. The authors point out that this finding is not true of Division III institutions. There is a significant positive association between giving rates at Division III colleges and winning football teams. Given that Division III colleges and universities are not isomorphic with liberal arts colleges, we need to know more information to determine the relevance of this conclusion for liberal arts colleges.

***Conclusion:* Expenditures on intercollegiate athletics, excluding capital costs, vary tremendously depending on the level of play at which the institution competes.**

***Conclusion:* Level of play has a surprisingly large effect on expenditures on sports such as tennis, swimming, and field hockey, as well as on football and basketball.**

*Data:* Direct expenditures on Football and Men's Basketball by Division (in thousands of dollars)

	Div 1A "Plus" Universities	Div 1A Standard Universities	Ivy League Universities	Coed Liberal Arts Colleges
Football Expenditures	9700	6100	1150	136
% of team expenditures	45%	45%	24%	13%
% of total expenditures	26%	29%	9%	10%
Men's Basketball Expenditures	1700	1800	350	52
% of team expenditures	8%	13%	7%	5%
% of total expenditures	4%	8%	4%	4%

Data: Average number of teams and athletes by division

	Div 1A "Plus" Universities	Div 1A Standard Universities	Ivy League Universities	Coed Liberal Arts Colleges
All teams				
Average number of teams	25	16	30	21
Average athletes per team	30	27	29	25
Total athletes	726	422	850	535
Lower profile teams				
Average number of teams	23	14	28	19
Average athletes per team	27	22	28	26
Total athletes	592	305	746	458

Data: Expenditures on lower profile sports by division (in thousands of dollars)

	Div 1A "Plus" Universities	Div 1A Standard Universities	Ivy League Universities	Coed Liberal Arts Colleges
Team expenditures	10,000	5,700	3,200	830
Expenditure per team	456	426	126	42
Expenditure per athlete	17	20	4.5	1.6
Non-scholarship expenditure per team	255	208	126	42
Non-scholarship expenditure per athlete	10	10	4.5	1.6

*Analysis:* The authors are correct. By big university standards at least, athletic programs at liberal arts colleges are relatively inexpensive, even excluding the costs of scholarships.

***Conclusion:* Revenues from athletics, including gate receipts and television and bowl revenues, offset most, and sometimes all, of the costs of big-time programs if (and only if) teams are consistently successful; even in these settings, most schools lose money, and it is unlikely that any school comes close to covering its full costs if proper allowances are made for the capital intensive nature of athletics.**

Not relevant to liberal arts colleges.

***Conclusion:* The athletic budget, seen on a "net" basis, should be regarded as expenditures by the institutions that must be justified in terms of the contribution they do or do not make to the core educational mission of the school.**

Not a data question.

### ***Summary***

If the number of articles in alumni magazines and the Chronicle of Higher Education are any indication, James Shulman and William Bowen's book critiquing college athletics, *The Game of Life*, is leading many faculty, administrators, and staff to reconsider the role of athletic programs at their institutions. Shulman and Bowen present data from five types of institutions (e.g., Division I public and private universities, Ivy League Institutions, etc.) and student athletes from three different classes (the classes of '51, '76, and '89) and draw a number of worrisome conclusions about the sometimes volatile relation between intercollegiate athletics and

academic success. It is our intention here to (1) offer a brief summary of the data presented in *The Game of Life* that is most relevant to liberal arts colleges and (2) briefly address limitations of the book that threaten interpretations of the data presented therein.

The data suggests a number of disturbing trends for athletes in general, and high-profile athletes (those participating in football and basketball) in particular, at liberal arts colleges. First, athletes, especially high-profile athletes, are being recruited more frequently than they have been in the past. They may also be enjoying an admissions advantage that exceeds that enjoyed by other “special” groups (e.g., legacies). Second, athletes, especially high-profile athletes, are entering liberal arts colleges with increasingly lower SAT scores than the rest of the student body. Finally, athletes, and again high-profile athletes in particular, are earning lower GPAs and lower class ranks than their non-athlete counterparts. Importantly, this academic underperformance cannot be attributed solely to pre-college preparation or success (e.g., SAT and high school grades), college major, or socioeconomic status.

Interestingly, the intense recruitment, low SATs, and low GPAs of athletes do not seem to translate into poor post-college outcomes for athletes. In fact, athletes actually earn more money after college than their non-athlete counterparts and they are, overall, as likely to attain advanced degrees (Ph.D., M.D., J.D., etc.). The relative success of athletes, and especially high-profile athletes, after college is one of the more intriguing and encouraging findings of the book.

Though some of Schulman and Bowen’s conclusions seem to apply to liberal arts colleges, a number of their broader claims are based on limited data or incomplete analyses. These limitations, and the limited sample of liberal arts colleges included in their sample, make it difficult to assess the validity of many of their arguments for liberal arts colleges. For instance: (1) the claim regarding an admissions advantage for athletes is based on ONE non-scholarship school. (2) Measures of variability are not included for most analyses. This makes it difficult to make conclusions regarding the role of chance variation and statistical significance. (3) The authors cite an “athlete culture” that is based on systematic differences in the goals and attitudes of athletes and non-athletes. Yet, this cultural difference is based on only a few measures, and the authors do indicate to what extent these attitudes and goals are changed by four years of education.

*The Game of Life* presents an interesting picture of athletes and athletics at various types of institutions. Though the book certainly suggests areas of concern for liberal arts colleges, the data presented and analyses conducted compromise (1) the conclusions one might draw from the data and (2) our certainty regarding the relevance of that data for liberal arts colleges.