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Watch the Gap: Explaining Retention Gaps between FBS Football Players and the General Student Body

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Policy makers at the federal and state levels use retention rates as one of several measures of performance for higher education institutions. Although student retention has been an area of intensive study by higher education researchers, very few studies have focused on the retention rates of big-time college athletes. The major purpose of this study was twofold. First, Federal Graduation Rate data were used to measure the retention rate gaps between football players and other students in Football Bowl Subdivision institutions. Second, a number of hypotheses were tested in an effort to explain why some FBS institutions have bigger gaps than others. The overall average federal graduation rate gap between players and other students, k \] ` Y ` g a U ` ` ž ` k U g ` g h U h] g h] WU ` ` m ` g] [b] Z] WU b h " ` 5 athletic success were positively related to the size of the retention gap. The percentage of part-time students in the general population was inversely related to the retention gap.

Historical Context

The emergence of college football as a form of mass commercial entertainment in the late nineteenth century raised a number of issues that college faculty and administrators had to address. One was how to ensure that players were bona fide students rather than semi-professionals with little or no interest in obtaining a college degree. As college football grew into an ever larger spectacle, it was not uncommon for alumni and boosters to offer young men, often referred to as *tramp athletes*, *financial inducements to cover room, board, and other expenses* (Savage, 1929; Smith, 1988; Watterson, 2000). According to Smith (1988), these *athletes transferred with impunity from one college to another to participate in athletics* p. . In one instance, a single player jumped from one team to another in three successive college games (Watterson, 2000).

To discourage young men from attending college primarily for athletic reasons, the *bylaws of the NCAA's first Constitution Article* included on its list of amateur violations the provision of financial inducements to players to attend college because of their athletic

abilities (NCAA, 1906).¹ The NCAA supported need-based financial aid, but not athletic scholarships. *The NCAA also adopted a one-year residency rule in Article of its first Constitution.* According to this rule, athletes who had played for another college or university must enroll in their new school for one academic year before participating in college sport. Both rules addressed the problem of itinerate college athletes by requiring students to demonstrate a *commitment to a school's academic mission before playing varsity sports.* Freshmen ineligibility rules enacted by the NCAA some years later performed a similar function.²

Although the one-year residency and other eligibility rules have become ingrained in college football, profound changes in college sport in recent decades raise the question of whether big-time college football players are serious students or athletes using college as a pipeline to professional sports. The NCAA now allows athletic scholarships to be renewed annually based on athletic performance, *thus giving coaches greater control over athlete's lives* (Byers, 1995; Gerdy, 2006; Oriard, 2009; Porto, 2003; Sack, 2008). In a survey conducted in 2008 by the NCAA, big-time college football players *who now can play as freshmen* reported that they devote an average of 44.8 hours a week to football. The NCAA survey found that two thirds of Division I athletes view themselves more as athletes than as students (Wieberg, 2008).

In 1970, the average salary for an NFL player was about \$23,000 a year. That figure rose to about \$1.6 million a year in 2006 (Van Riper, 2006). FBS institutions are now the major training ground for athletes seeking a career in the National Football League, thus allowing these schools to attract athletes to campus who may place a greater priority on football than on staying in college.³ DeBrock, Hendricks, & Koenker (1996) found that college athletes with professional career opportunities have lower retention rates than other students. In their view, big-time college athletes make an economically rational choice to pursue professional sports, thus leading them to leave college early for a lucrative career which requires no college degree.

Federal Graduation Rate (FGR)

A major purpose of the NCAA since its inception has been to maintain athletes as an integral part of the student body. The question raised in this study is whether the demands of college sport as a multimillion dollar business have made it more difficult for the NCAA and its member institutions to realize that mission. Although there are a number of ways to measure how well athletes perform in the classroom, the Federal Graduation Rate (Fed Rate) is arguably one of the best measures of how well students are integrated into the student body and general student life. The Fed Rate is the percentage of students who graduate within six years from the school they entered as freshman. The NCAA first began to make Fed Rates public after the passage of the Student-Right to Know Act and Campus Security Act by Congress in 1990 (Hagedorn, 2004).

The Fed Rate's value as a measure of whether a college athlete is an integral part of the student body derives from its focus on retention. A student who remains at the same university until graduation has at least four years to become engaged in academic and campus culture and to progress through a curriculum designed to meet that school's mission. Research on student retention supports the claim that retention reflects how well students are integrated into the student body. For instance, research based on the interactionist model (Nora & Cabrera, 1993; Tinto, 1997) has found that the higher the retention rate, the more socially and academically integrated a student is into a college or university. The stronger a student's affiliation with a

college's milieu both in and out of class the greater the likelihood of retention (Nora, 1993; Titus, 2006).

The Fed Rate is especially useful in the athletic context because it allows comparisons of athletes with other students on campus. For instance, *the Fed Rate for the University of Florida's* general student body in 2008 was 80 percent, meaning that 80 percent of the students that entered Florida as freshmen actually graduated from Florida in 6 years. The Fed Rate for the football team was 36 percent, resulting in a 44 percent gap. The Fed Rates at Stanford University in this same period were 95 percent for the general student body and 89 percent for the players, a difference of only 9 percentage points (NCAA, 2008). All colleges and universities experience a certain amount of attrition. But when athletes are far more likely to drop out or transfer to *another school than other students, one has to question how well the athletes fit the school's* academic profile and mission in the first place.⁴

The National Center for *Education and Retention* differentiates the terms *persistence* and *retention*, *when discussing college graduation rates* *agedorn*, *persistence* *focuses on a student's success at attaining a college degree, regardless of how long it takes or the number of colleges attended. Retention focuses on a school's success at transforming freshmen into alumni of their institution. According to agedorn* *institutions retain and students persist* *p.* *For instance, a college who begins school at one institution, transfers to another, and ultimately graduates will count against the retention rate of the first institution even though he or she has persisted and graduated elsewhere. While the Fed Rate is an excellent measure of retention, it was not meant to measure persistence of students who leave for another school and graduate sometime in the future.*⁵

Graduation Success Rates (GSR)

For years, coaches and college athletic officials have complained that the Federal Graduation Rate (FGR), as defined by Congress, inaccurately and unfairly measures the academic performance of their players and teams. To address this issue the NCAA, in 2005, introduced its own graduation rate called the Graduation Success Rate (GSR). The assumption of the GSR and it seems like a fair one is that athletes who leave one university often end up completing their degree in another. The GSR methodology excludes from the calculation of graduation rates those athletes *transfers are an example* who leave school early but in good academic standing. The NCAA methodology also includes athletes who transfer into an *institution in a school's graduation rate. The Federal Graduation Rate focuses on college* retention, while the NCAA rate focuses on student persistence.

The major strength of the Graduation Success Rate is its recognition that athletes often take a different path to graduation than other students. The GSR will make a major contribution to understanding how athletes are educated when it can accurately track all of the athletes who leave in good academic standing. At present, the NCAA has no way of knowing the exact number of athletes who leave that actually graduate later on. Although the GSR captures a sizable number of athletes who come in and transfer out, a large percentage is still missing when it comes to graduation data (Denert, Villwock, & Vedder (2009). In terms of fairness, the GSR recognizes the accomplishments of athletes who transfer from one school to another and earn a degree. The Fed Rate is a fair measure of how well schools retain athletes when compared with other students. Both methods are fair, but measure very different things.

Statement of Purpose

Policy makers at the federal and state levels use retention rates as one of several measures of performance for higher education institutions (Titus, 2004). College student retention has been an area of extensive study by higher education researchers (Marcus, 1989; Braxton, 2000; Kim, Rhoads, & Woodward, 2003; Titus, 2006; Scott, Baily, & Kienzl, 2006). Recognizing the importance of student retention to the academic performance of colleges and universities, the purpose of this study is twofold. First, Federal Graduation Rate data are used to measure the retention rate gaps between football players and other students in Football Bowl Subdivision institutions. Second, a number of hypotheses are tested that are based on the findings of previous studies, some of which have linked a number of institutional level variables to graduation gaps between athletes and other students. Finally, the results will be used as one measure of how well the NCAA is achieving its educational mission.

Literature Review

Research on college student retention is extensive because of the impact of retention on institutional prestige, educational performance, admissions resources, and the economy (Braxton, 2000; Hagedorn, 2004). However, only a few studies have compared the retention rates of college athletes with those of the general student body. For instance, Ferris, Finster, & McDonald (2004) compared the Fed Rates of athletes not broken down by individual sports to other students' Fed Rates at NCAA Division I institutions. One of their most significant findings was while the Fed Rates for both athletes and other students tended to increase with a university's academic selectivity, the gap in Fed Rates between athletes and non-athletes actually increased as a school's selectivity increased. Athletes' graduation rates relative to those of other students also decreased as the overall success of their teams increased.

Riche also discovered similar relationships between a school's academic selectivity, athletic success, and the Fed Rate gap between athletes and non-athlete cohorts in Division I schools. According to Riche, although athletes have higher graduation rates than other undergraduates in the entire sample, pressures to succeed athletically compromise their relative academic standing compared to other students. Riche concluded that the lower Fed Rates of athletes relative to non-athletes in many schools was related to variations in athletic success. Schools that were most successful in sports had the largest Fed rate Gaps.

Le Crom, Warren, Clark, Marolla, & Gerber (2009) studied the graduation retention rates of college athletes in a Division I mid-major conference. They found that team sport athletes leave school at higher rates than athletes in individual sports. Female athletes were found to graduate at higher rates than their male counterparts. The authors suggest that high pressure sports like football and basketball may account for the attrition among male team-sport participants. This study reinforces the argument that the greater the institutional commitment to winning in a given sport, the greater the Fed Rate Gap between athletes and other students.

DeBrock et al (1996) focused their study of college athlete retention rates on the revenue-producing sports of football and men's basketball, as well as women's basketball. Their study discovered lower retention rates for football players at schools that field powerful, championship quality teams, and produce the most professional prospects. They conclude that retention is a function of more than an athlete's academic abilities relative to other students. Many football players, they argue, leave college early because of a rational economic choice. The competitive

level of the women's basketball program had little impact on female basketball graduation rate, suggesting that women do not see an economic advantage in leaving college early in order to turn professional.

A number of studies (DeBrock et al, 1996; Ferris et al, 2004; Rishe, 2003; Sander, 2009) report that college athletes in general earn bachelor's degrees at higher rates than the college student body at large. Eckard (2010) has challenged the methodology used in such studies, arguing that the graduation rates of the general student bodies to which athletes' rates are compared are biased downward by the presence of part-time students who often take longer than six years to graduate. The NCAA requires college athletes to be full-time students. When the part-time bias is adjusted statistically, the graduation gap between athletes and other students increases dramatically. Other research (Mortenson, 1997; Scott, Bailey, & Kienzl, 2006; Titus, 2006) supports the argument that part-time and working students generally have lower retention rates than full-time students.

A number of studies not related to sport have found that institutional retention rates are positively related to institutional selectivity (Kim, Rhoads, & Woodward, 2003; Marcus, 1989; Titus, 2004). These findings again raise the question of can academically prestigious universities remain athletically competitive without recruiting athletes who fail to meet the minimum academic standards required to succeed in the classroom. Studies have also found institutional retention rates to be negatively related to the percentage of non-traditional students on campus. Included among non-traditional students are part-time students, or those who work, have a family, or have financial responsibilities that compete with college (Bean, 1990; Eckard, 2010, Scott et al, 2004). Such students are likely to find it harder to graduate in a six-year period than full-time students.

Drawing on findings and theoretical insights from prior research, this study will test the following hypotheses:

H₁: The higher the academic selectivity of the colleges and universities in the NCAA's Football Bowl Sub-Division, the greater the Fed Rate gap between the football players and the student body, with football players having lower Fed Rates than student cohorts.

H₂: The greater the institutional commitment to successful FBS football teams, the greater the Fed Rate gap between football players and other students, with football players having lower Fed Rates.

H₃: The larger the percentage of non-traditional students at FBS colleges and universities, the smaller the Fed Rate gap between football players and other students.

Methods

The Dependent Variable

The dependent variable in this study is the Fed Rate gap (GAP) between the general student body Fed Rate R_N and the football players' Fed Rate R_F . The unit of analysis is a college or university in the NCAA Football Bowl Subdivision, the largest revenue generator in college sport.⁶ The Fed Rates for athletes and other students are calculated as the percentage of first-time, full-time freshmen who graduate within 6 years of their initial enrollment from the school they entered. College athletes are defined as students who receive

athletically-related financial aid (NCAA, 2007). The NCAA reports the Fed Rates of its member institutions on a yearly basis on its website.

Fed Rates are published by the NCAA for the most recent freshmen class for which the graduation rates are available. In this study, that cohort is freshmen who entered in the fall of 2001 and graduated by 2007 (NCAA, 2008). The NCAA also publishes a 4-class average based on the most recent graduating class and the three previous classes. The 4-class average in this study is based on the average for cohorts who entered in the fall of 1998, 1999, 2000, 2001 and graduated within 6 years of entry. The 4-class average *which appeared in the NCAA's Report* was used in this study because it reduces the impact of random yearly variations (Eckard, 2010). The total number of FBS schools in the study was 116. Three military academies whose graduation rates are not published and one school that recently joined the FBS were excluded.

Independent Variables

Three measures of an institution's academic selectivity were taken from the U.S. News and World Report's Special Edition on America's best colleges (2009). The first measure is the percentage of freshmen in the top ten percent of their high school graduating class (TOP10). The second measure is the universities' acceptance rate (ACC). The third measure of a college or university's academic selectivity is the freshman SAT/ACT score at or above the 25th percentile (SAT25). The U.S. News and World Report special edition also reports the number of part-time students at each college or university. The percentage of part-time students was used as a rough measure of the percentage of non-traditional students at each school (PARTIME).

The Sagarin Ratings of FBS football teams at the end of the 2004 through 2008 seasons *were a measure of an institution's commitment to athletic success (SAGARIN)*. The Sagarin rating system, created by statistician Jeff Sagarin, is based on computer analysis of factors such as *a team's strength of schedule, whether the game is home or away, and overall win-loss record*. Averaging the Sagarin ratings of each team over a five-year period provided a better measure of football success through time than simply using the rating from the most recent year. Sagarin ratings for NCAA FBS teams were attained from *USA Today*, which has been publishing these ratings since 1985 (USA Today, 2009).

Two other measures of a school's commitment to athletic success are ability to attract the best athletic talent from the nation's secondary schools and stadium size. This study uses a ranking system developed by Rivals.com to measure each school's ability to attract blue chip athletes. For instance, a five-star prospect is considered to be one of the nation's top 25 or 30 players. There are also four-star and three-star players who are ranked numerically by position and the expected impact they will have in college. Each FBS school is ranked every year and given a composite score for the number and quality of star players it has signed on National Signing Day (Rivals.com, 2010). The Rivals.com score for schools in this study (RECRUIT) is the median of their scores over a five-year period (2004 through 2008). Stadium size (STADIUM) was found online (Wikipedia, 2009). Stadium size is highly related to an institution's ability to recruit top athletes (STADIUM).

Multivariate Analysis

In order to assess the relationship between the independent variables defined above and the dependent variable, GAP, a multiple regression model was employed. The assumptions for this model require normality, non-multicollinearity and homogeneity of error variance in the independent variables. To identify colinearity, standard correlation analysis was performed. Colinear variables were entered into a factor analysis to identify common scores for these variables. Finally a multiple regression model was fit using new factors and any remaining independent variables. All analyses were performed using SPSS for Windows version 17.

Findings

Comparison of Fed Rates for Players and Other Students

The mean Fed Rate for football players at the 116 FBS institutions in this study is 54.8%. The mean Fed rate for other students is 61.9%. Although this 7.1 gap in Fed Rates is small, it is statistically significant at the .001 level ($T=4.8$). Comparisons by race tend to broaden the gap somewhat. The average Fed Rate for black football players in BCS schools is 49.8, 12.1 points lower than for the general student body. These data which represent the average of all the Fed Rates for colleges and universities in the BCS reveal that big-time college athletes have slightly lower retention rates than other students. It should be noted that this gap would likely increase if adjustments were made for part-time students in the general student body (Eckard, 2010). Graduation Success Rates (GSRFB) in Table 1 reveal higher graduation rates for football players than do Fed Rates.

Table 1: Sample of FBS School Fed Rate Gaps, GSRs, and Percent Part-timers

University	FGRGEN	FGRFB	GAP	GSRFB	PARTIME
	(%)	(%)	(%)	(%)	(%)
Boise St	26	49	-23	55	37
California	88	45	43	53	3
Duke	93	86	7	92	1
Florida	80	36	44	54	8
Marshall	42	70	-27	74	18
Notre Dame	95	85	10	94	1
Penn State	84	75	9	78	4
San Jose	41	33	8	35	23
Utah	47	48	1	42	32
Virginia	93	52	41	66	6

Although the overall gap is fairly small, school by school comparisons of Fed Rates for players and other students vary significantly. The ten institutions listed in Table 1 illustrate the types of differences in graduation rates and Fed Rate gaps that can be found among FBS schools.

Boise State's general student body Fed Rate is the lowest in the country, yet the Fed Rate of its Football team exceeds that of its student body by 23 points, giving Boise state a negative Fed Rate gap. Virginia's Fed Rate for its general student body puts it near the top of the FBS, but only 52% of its football players graduate from Virginia within six years. Notre Dame graduates 95% of its student body and 85% of its football players, giving it a Fed Rate gap of only 10 points. Schools like San Jose State and Utah retain fewer than 50% of the football players and other students who are admitted there as freshmen.

Multivariate Analysis

To determine whether a number of institutional variables can explain these variations from one FBS school to another, a multivariate analysis was performed. Table 2 demonstrates the sample statistics for the schools in this study (n=116). The average GAP percentage between the football Fed Rate and the general student Fed Rate was 7%. Table 3 demonstrates the

multicollinearity that exists among the independent variables of this study. All bivariate correlations are based on 116 observations (N=116) and are significantly different from zero at or beyond at type I error rate of 0.05. The correlations range from -0.719 (TOP10, ACCEPT) to 0.881 (TOP10,SAT25). It is interesting to note that PARTIME is negatively correlated with 5 of the 6 variables, and positively related to ACCEPT. (Note: the lower the ACCEPT score the higher the academic selectivity).

Table 2: Sample statistics for Dependent and Independent Variables

Statistic	GA P	PARTIM E	RECRUI T	TOP1 0	SAT2 5	ACCEP T	SAGAV G	STADIU M
Mean	7	13	635	37	1044	65	71	54
Std. Deviation	16.0	10.1	685.1	25.0	120.6	19.9	10.1	21.9
Range	72	52	2710	90	560	89	46	91
Minimu m	-28	1	51	9	790	10	51.03	16
Maximu m	44	53	2761	99	1350	99	96.69	107.00
Q1	-4	7	80	18	950	51	62.28	32.25
Q2	9	11	313	27	1030	69	71.47	51.00
Q3	18	17	1101	51	1110	82	79.13	70.75

Table 3: Correlation among the Independent Variables

	RECRUIT	PARTIME	TOP10	SAT25	ACCEPT	SAGAVG	STADIUM
RECRUIT	1	-.383**	.469**	.418**	-.220*	.758**	.809**
PARTIME		1	-.541**	-.670**	.348**	-.317**	-.333**
TOP10			1	.881**	-.719**	.418**	.474**
SAT25				1	-.710**	.386**	.445**
ACCEPT					1	-.126*	-.273**
SAGAVG						1	.689**
STADIUM							1

*p<0.05

**p<0.001

To reduce the aspect of multicollinearity, factor analysis was performed. The dependent variables ACCEPT, TOP10, SAT25, RECRUIT, SAGAVE and STADIUM were entered into a principal components factor analysis with Varimax rotation. Two factors were extracted accounting for 85% of the variation among the variables. Table 4 demonstrates the factor scores for these factors. Component 1 has high scoring coefficients for SAGAVG, RECRUIT and STADIUM. We considered *this component as representative of the school's commitment to athletic success* and named this variable ATHSUCCESS. Component 2 has high scoring coefficients for ACCEPT, TOP10, and SAT25. We considered this component as representative of academic selectivity and named this variable ACSELECT. These two variables each have a mean of zero and a standard deviation of one. They are orthogonal to each other. The variables ATHSUCCESS, ACSELECT and PARTIME were regressed onto the GAP scores for each school in the sample using a stepwise model building procedure.

Table 4: Component Scoring Coefficients

	<u>Component</u>	
	<u>1</u>	<u>2</u>
SAGAVG	0.393	-0.119
RECRUIT	0.390	-0.089
STADIUM	0.360	-0.056
ACCEPT	0.175	-0.437
TOP10	-0.019	0.359
SAT25	-0.041	0.372

Table 5 demonstrates the result of this analysis. Three models were developed. Each model produced a significant increase in R^2 over the previous model. The final model, which includes all three independent variables has an $R^2=0.504$ (adjusted for sample size 0.491). It should be noted that the variable PARTIME was the first variable entered into the model with a beta weight of -0.520. In the final model the beta weight for PARTIME was reduced to -0.199. This large reduction would indicate a significant interaction between PARTIME and the other two variables. The final regression model has the form

$$GAP = 7.07ATHSUCCESS - 6.00ACSELECT - 0.316PARTIME + 11.30$$

he model indicates that as a school's commitment to athletic success and academic selectivity increase the gap between the general graduation rate and the athlete graduation rate increases. As the number of non-traditional (part-time) students increases the gap between the graduation rates decreases.

Table 5: Regression Statistics; Dependent Variable GAP.

	<u>Model</u>	<u>Unstandardized Coefficients</u>		<u>Standardized Coefficients</u>	<u>t</u>	<u>p</u>	<u>95.0% Confidence Interval for B</u>	
		<u>B</u>	<u>Std. Error</u>	<u>Beta</u>			<u>Lower Bound</u>	<u>Upper Bound</u>
1	(Constant)	18.01	2.10		8.56	0.00	13.84	22.18
	PARTIME	-0.82	0.13	-0.52	-6.49	0.00	-1.08	-0.57
2	(Constant)	15.65	1.97		7.95	0.00	11.75	19.55
	PARTIME	-0.65	0.12	-0.41	-5.35	0.00	-0.89	-0.41
	Athletic Success	6.09	1.22	0.38	5.01	0.00	3.68	8.50
3	(Constant)	11.30	2.02		5.60	0.00	7.30	15.30
	PARTIME	-0.32	0.13	-0.20	-2.43	0.02	-0.57	-0.06
	Athletic Success	7.07	1.13	0.44	6.25	0.00	4.83	9.32
	Academic Selectivity	6.01	1.25	0.38	4.79	0.00	3.52	8.49

Model 1 $R^2=0.270$ Model 2 $R^2=0.403$ Model 3 $R^2=0.504$

Discussion and Conclusions

The National Collegiate Athletic Association is the major regulatory body of intercollegiate athletics in the United States. Under Article 1.3 of its constitution dealing with *fundamental policy, the NCAA defines one of its basic purposes as to maintain the athlete as an integral part of the student body* p. . *he NCAA has come a long way since the days when football players who were not registered students would move from one school to another primarily to play sports. Ringers and tramp athletes may be a thing of the past, but the retention gaps between FBS football players and other students at some colleges and universities cast doubt on whether such schools are recruiting athletes with an eye toward maintaining them as an integral part of the student body. As studies have shown, students who are integrated into academic and campus life are less likely to leave.*

This study found that the more academically selective the institution, the wider the Fed Rate gap between athletes and the student body. Although the NCAA does not release *information on athletes' A scores by sport, the Atlantic Journal Constitution* gathered test

score data via public records requests in 2008 on 54 public universities that play big-time college sports (Knobler, 2008). According to that study, schools with the highest admissions standards, such as Georgia Tech, the University of Virginia, and the University of California, Berkeley, and UCLA, had the biggest gaps in SAT scores. Our study revealed average Fed Rate gaps of 36, 41, 43, and 35 points for these four schools respectively, suggesting that lower admission standards for athletes might help to explain large gaps.

The findings of this study suggest that admitting athletes who are difficult to retain may be the price academically prestigious colleges or universities have to pay to remain competitive in big-time college football. The practice of admitting blue-chip athletes whose academic credentials fall below minimum standards has become commonplace (Alesia, 2008). The construction of expensive academic counseling centers to meet the special learning needs of these athletes (Wolverton, 2008) and the clustering of athletes into less academically demanding classes and majors (Fountain & Finley, 2009) can take some of the pressure off athletes who come from educationally disadvantaged backgrounds. One can debate, however, whether these practices help to integrate athletes into the student body or set them apart from other students.

Another major finding of this study was the significant relationship between a university's commitment to success in football and its Fed Rate gap. Schools that invest in big stadiums, successfully recruit blue chip athletes, and generally rank very high in season ending polls, have larger Fed Rate gaps than less successful teams. These findings are consistent with DeBrock et al, (1996) who found lower retention rates among football players at schools that field powerful, championship quality teams, and are most likely to produce professional prospects. The authors argued that football players were making a rational economic choice by leaving school early to pursue a professional career, thus explaining their lower graduation rates relative to other students. This is a valid argument, but low Fed Rates for players relative to other students may also have an economically irrational component.

Some scholars (Hawkins, 2010; Edwards, 2000; Harrison, Harrison, & Moore, 2002; Sailes, 1993; have argued that many high school and college football players, especially African-Americans, pursue a career in professional sports with little regard for developing skills and knowledge necessary for success in professions other than football. For these young men given the racial ideology to which they have been exposed throughout their lives college is a pipeline to the pros and little more. If they are not getting enough playing time, they transfer elsewhere, even if this disrupts their progress toward a degree at a prestigious university, and limits opportunities to develop social and cultural capital. Given their all-consuming commitment to playing football, such students continue to make sport their main priority even when playing professional sport is no longer a reasonable option (Harrison et al., 2002). As a result, they may lose interest in school and leave without a degree. In such cases, the pursuit of a career in the NFL is anything but economically rational.

his study, consistent with Card's study, found a negative relationship between the percentage of part-time students in the general student body and the Fed Rate gap between football players and other students. This relationship is significant even when other variables are held constant According to Scott et al (2006) non-traditional students comprised of older, part time and or commuter students take more time to graduate even when institution is doing a good job. These students often are part-time while pursuing a degree or have family or other financial responsibilities that slow down their progress toward a degree (Scott et al). It comes as no surprise that students who enter school full-time as freshman, but switch to

part-time often take longer than six years to graduate. As a result, the Fed Rate of the general student body drops, thus narrowing the Fed Rate gap between football players and other students.

The logic of this argument is sound. However, this study also found that the beta weight of the part-time variable was reduced considerably when variables measuring the selectivity of a school and a school's commitment to athletic success were controlled. In other words, some of the downward bias Eckard attributed to the presence of part-time students may actually be the result of variables that interact with the part-time variable. In addition, Eckard's adjustment to account for part time students as if they were full-time remains a rough approximation. Nonetheless, attempts to compare the Fed Rates of athletes who are full-time with the Fed Rates of students, some of whom are part-time, requires some form of adjustment. To ignore the part-time effect on graduation rates at a school such as Boise State, for instance, would be intellectually irresponsible (See Table 1).

Southall and Eckard (2010) have taken the position that big-time college football players are much like part-time students except that they are working their way through college by playing college football. They use the low Fed Rates of players relative to full-time students to support their claim. Scholars who think the NCAA has abandoned amateur principles (Hawkins, 2010; Oriard, 2009; Sack & Staurowsky, 1998) add that not only is big-time college football a form of professional entertainment, but it exposes athletes to greater physical demands and risk of injury than most other jobs in the United States. The 2008 NCAA survey (Wieberg, 2008) that found that big-time college football players devote an average of 44.8 hours a week to football adds support to the argument that these players give as much time and effort to their sport as working students do to their part-time or full-time jobs.

The NCAA (2009) counters that scholarship athletes are amateurs engaged in an avocation (p. 4-5). According to dictionary definitions, an avocation is a casual or occasional occupation, diversion, or hobby. Because big-time college football, from the NCAA's perspective, is an amateur extracurricular activity, it enhances athletes' educational experience rather than detracting from it, and allows them to focus on education. In fact, football players have the added educational advantage of receiving full room, board, tuition and fees to further their education, a benefit not available to working students. Regardless of where one stands on this seemingly endless debate, football players in this study often have Fed Rates more akin to those of non-traditional students than to their full-time student cohorts.

A major concern of this study was whether the NCAA is achieving its goal of maintaining athletes as an integral part of the student body. The conclusion is that football players in the FBS are as integrally a part of the student body and the educational program as other non-traditional students who work their way through college. Football players at big-time college football schools may experience the same feeling of disconnect between themselves and full-time students as working students do. Their Fed Rates are lower than those of their full-time classmates and they are likely to spend much of their time on campus in their athletic subculture (Harrison, Harrison, Moore, 2009). Football players are incentivized and rationalized to achieve success on the gridiron and eligibility in the classroom, a process that leaves little time to become involved in campus life (Astin, 1995; Jolly, 2008).

This study has a number of weaknesses which point to the need for more data and further research. Team data on athlete preparedness for college is difficult if not impossible to acquire. The NCAA used to publish average SAT scores broken down by sport and other categories. It no longer does so. Data such as these are crucial to determining whether athletes are a good academic fit for a university. This study revealed that the Fed Rate gap for football players and

other students varies with institutional variables such as academic selectivity, athletic success, and percentage of part-time students. Thus, it infers why athletes are leaving, but does not reveal exactly how and why they leave. Qualitative and quantitative studies are needed to determine why some athletes drop out, transfer to another school, or otherwise leave the school that first recruited and signed them. Do these athletes leave voluntarily? Do they leave for academic reasons? Do they leave to get more playing time or to turn professional, or do coaches simply refuse to renew their scholarships? Do they feel alienated from mainstream campus culture that is lacking in diversity?

Research cited in this study discusses how being integrated into academic and student life increases retention. More qualitative research is needed to determine whether athletes in revenue sports are as likely as other students to be involved in a variety of campus activities and to feel like an integral part of the student body. College sport in American universities has become a multibillion dollar industry and it continues to grow. The question of whether the athletes who fill the stadiums and keep fans riveted on their television sets are bona fide students is as important today as 100 years ago. If universities have decided to make certain sports more of a job than an avocation, it might make sense on educational grounds to allow athletes to register as part-time students. Chelladurai (2008) suggests that Division I varsity athletes be placed on a 12-month schedule which would allow athletes to radically reduce course loads when athletic demands are greatest, and to register full-time in the summer to make up credits.

If, on the other hand, big-time college athletes are truly amateurs, engaged in an extracurricular diversion, care must be taken to ensure that this amateur ideal is reflected in reality. In order to maintain athletes as an integral part of the student body, special admits, if schools allow them at all, should not be eligible for varsity competition until they have proven during their freshman year that they can attain at least a 2.0 GPA. Failure to do so would lead to *non-renewal of the athlete's scholarship. Athletic scholarships should be replaced by scholarships whose yearly renewal is not conditioned on athletic performance, thus demonstrating a university's commitment to athletes as students first and foremost. Athletes and other students should use the same counseling centers, live in the same dormitories, and have time to participate in extracurricular activities in addition to sports. They should be able to take the same majors and register for the same classes as other students, even the most demanding ones. The list could go on. If the NCAA is really committed to amateurism and to the universities' core educational mission, there is no good reason why the Fed Rates of athletes whose educational expenses are being paid by the university should not be considerably higher than those of other students.*

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Footnotes

¹ In 1906 the NCAA was called the Intercollegiate Athletic Association of the United States (IAAUS). The name was changed to National Collegiate Athletic Association (NCAA) in 1912.

² The freshman ineligibility rule was intended to give freshmen a year to adjust to academic life before entering the high pressure world of highly competitive sport. In addition, freshman ineligibility discouraged athletes from attending college whose only goal was to play sports.

³ To quote from *the night foundation* -time college basketball and football have a professional look and feel in their arenas and stadiums, their luxury boxes and financing, their uniforms and coaching staffs, and their marketing and administrative structures. In fact, big-time programs have become minor leagues in their own right, increasingly taken into account as part of the professional athletics system p.

⁴ According to former Notre Dame athletic director, Mike Wadsworth (Delsohn, 1998), there was concern at Notre Dame toward the end of our old 's years that the Fed Rate for players had dropped from about _____ percent under the previous coach to about _____ percent under _____ . _____ ome players, _____ said Wadsworth, _____ left for an outstanding professional opportunity but others left for disciplinary reasons, or because *they transferred* (emphasis mine). Well that does become a concern. Because somewhere along the line in our recruiting, we did not get the proper fit for Notre Dame _____ p. _____ .

⁵ The Fed Rate, which focuses on retention, allows exclusions for students who leave school to enter the armed services, official church missions, foreign service of the federal government, or who die or are totally disabled (NCAA, 2007).

⁶ In 2006-07, Football Bowl Subdivision schools generated \$2.04 billion in revenues. Of that \$2.04 billion, 1.8 billion went to schools in the Bowl Championship Series which includes six conferences and Notre Dame. While big-time college basketball makes quite a bit of money, football is the driving economic force in college sports (Oriard, 2008).

⁷ Stadium size, like the quality of player recruited, and the Sagerin rating, measures the commitment a school has to producing a winning team. The r value for the bivariate relationship between stadium size and quality of recruits was .809. Investments in big stadiums attract top recruits and top recruits help to generate high Sagerin averages. (See Table 3).