

ACADEMIC ACHIEVEMENT AND HIGH SCHOOL FOOTBALL

Academic achievement and high school football
participation: Grade point average comparison
in-season versus off-season.

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Abstract

This study examined differences in mean GPA of high school football players relative to being in-season or off-season. Study results indicated no significant difference between means for football player GPA's ($n=33$), in-season versus off-season (two-tailed t -test; $p<.05$). The 0.98 correlation (r) between off-season and in-season GPA's indicated the participant's achieved equally well in-season and off-season. Statistically the present findings did not support previous research for athletes performing at higher GPA levels in-season (Silliker and Quirk, 1997) or when compared to the remaining student body population (Whitley, 1999). However, neither did the present study add to evidence of negative impact on academic performance as indicated by other research on revenue sport athletes (Maloney et al., 1993).

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Introduction

Problem

There are differing opinions concerning the impact of sport participation on academic achievement. Stereotypically, society has labeled student-athletes as "dumb-jocks" and expressed surprise when an athlete displays intelligence (Lapchick, 1987). Some may consider sports participation a waste of time and resources thus, the benefits of extracurricular activities need to be determined (Bucknavage and Worrell, 2005); while some parents and teachers may opine that many students wouldn't even consider completing high school if it was not for the prospect of playing sports. In fact, Melnick and Sabo (1992) found that athletic participation was "...significantly related to lower dropout rates for some minority youth."

Other researchers have indicated that sport related extracurricular activity promoted personal and social benefit, and encouraged academic achievement (Broh, 2002). Hanson and Kraus (1998) suggested "sports may have a positive influence on achievement in science, especially for young women." Their research found that "...young women's involvement in high school sports often has a strong and positive association with their success in science in the sophomore and senior years of high school" (Hanson et al., 1998). The same study suggested that young men showed less association between sports activities and positive science experiences and "...that when these activities are significant, they have a negative influence" (Hanson et al.).

If high school academic performance has an impact on future college performance as believed by some (Maloney, McCormick, 1993) and if interscholastic sport participation is related to improved academic achievement (Silliker, Quirk, 1997; Whitley, 1999) or lowering thereof (Benson, 2000; Goldberg, Chandler,

1995; Maloney et al., 1993), it would be prudent to either promote interscholastic sport participation or at the least provide intervention as needed to improve academic achievement.

The purpose of this study was to examine possible differences between high school football player grade point average, in-season versus off-season, and any potential relationship between their athletic participation and achieved grade point average. This associative study also compared the high school football player grade point average to their school class average GPA for the same time frame.

Related Literature

Research opinions relating to the benefits of athletic participation on academic achievement range from no effect (Hanks and Eckland, 1976; Melnick, Sabo, 1992), to positive effects (Hanks et al., 1976; Hoch, 2006; Marsh, 1992; Silliker et al., 1997; Whitley, 1999) and to potential negative effects (Maloney et al., 1993; Pascarella, Truckenmiller, 1999). Guest and Schneider (2003) suggested that

positive outcomes, stated as, "... achieving higher grades and aspiring to higher educational levels..." are related to athletic identities and that these can be different among schools and economic status ranges. They found this occurred in lower to middle income schools more than the higher income schools. "In fact, having an athletic identity is most strongly associated with positive outcomes in middle-class schools..." and they suggest these schools may consider sports as an addition to a good student's portfolio and provide a means for socialization and mobility (Guest et al., 2003). By contrast, in upper-class schools their findings suggested that an athletic identity may actually be detrimental to the portfolio of a good student, possibly being suggestive of a less than serious student (Guest et al., 2003).

At the collegiate level it has been found that student-athlete's grades are lower than nonathletes (Maloney et al., 1993). Alarmingly, Lapchick (1987) observed that the same problems of college sport exist at the high school level and that the problems that do

occur began in high school. Goldberg and Chandler (1995) also stated that one problem with high school sports has been the transformation of high school sports to an "entertainment medium." They also suggested that some high school student-athletes may experience many of the problems encountered by college students (Goldberg et al., 1995).

Benson (2000), in a study conducted at a highly ranked revenue producing college football program, cited some collegiate student-athlete problems as being lowered expectations from the entire academic setting; marginal academic performance; and a conforming to and internalization of low expectations by the athlete. At the collegiate level, revenue producing sports such as basketball and football seem to have student-athletes with lower grade point averages as compared to both nonrevenue sports athletes and nonathletes (Maloney et al., 1993). Eitle and Eitle (2002) also found that "...participation in basketball and football has a negative relationship with standardized achievement scores for its

participants [and] participation in basketball and football has neither benefits nor costs with regard to grades."

Maloney and McCormick (1993) stated "...a student's high school performance has a big impact on his or her subsequent college career." It is plausible than, that high school student athletes would have academic difficulties similar to those occurring at the collegiate level. Thus, promoting a negative cycle of sport participation and lowered academic achievement beginning in high school that continues in college which aligns with Lapchick (1987) findings.

In contrast, some researchers have found that high school participation in sports may improve academic performance or at the least not hinder performance, especially for males (Hanks and Eckland, 1976). Whitley (1999) indicated that the educational performance of high school athletes is better than that of nonathletes in a comparison study performed in the North Carolina high schools between 1993 and 1996. And, "...this finding held true when analyses were

conducted along both racial and gender lines" (Whitley, 1999). Another study suggests that athletic participation at the high school level may enhance academic performance or at the least not hinder it with male and female soccer players (Silliker et al., 1997). A study by Broh (2002) also supports the idea that participating in school sports, "... boosts students' achievement in the classroom and on standardized math tests."

Maloney et al., (1993) found "...that negative residual grade performance occurs during the season of participation. In football, the revenue sport with a well defined season, grades are lower in season than they are out of season" (p.570). The negative effect of revenue sports such as football and basketball has been supported by some (Maloney et al., 1993; Pascarella et al., 1999; Peltier, Laden, 1999; Riede, 2006); in contrast, Laughlin (as cited in Silliker et al., 1997) studied the academic performance of high school wrestlers, in-season and off-season, and found GPA's were higher during in-season. Similar results

were found by Silliker et al., (1997) with soccer players' GPA's being higher in-season versus off-season. Notwithstanding the multiple variables that can effect academic achievement and sport participation such as social economic status, connection to community, emotional growth, self confidence, socialization and identification to name a few, one might ascertain that these findings of high school soccer players and wrestlers may also occur in a revenue sport such as football. Therefore, the following questions guided the present study:

Does participation in high school sports coincide with higher grades as compared to the school class GPA averages?

Would there be GPA difference for a revenue sport such as football, in-season versus off-season?

Hypothesis

Student-athletes participating in high school football will show a significant difference between mean grade point average in-season versus off-season.

Method

Participants

A cluster sample of 33 male high school senior and junior class football players were evaluated in this study. The data list can be reviewed in Appendix A, Table A-1. The selected high school was from a western Washington suburb of Seattle with a population of approximately 21,000 residents with a socioeconomic demographic consisting of primarily white collar occupations (U.S. Census Bureau. 2007; Woodinville Washington Real Estate - Employment and Finance, 2007). School demographics can be reviewed in Appendix A, Table A-2. Football was selected because of its clearly defined in-season and off-season time frames as related to academic grading terms and availability of players.

A condition of inclusion was non-participation in another sport during the football off-season, defined in this study as the spring semester. Grade point evaluation terms were spring semester 2006 and fall semester 2006. Sampling limitation was the improbable

reflection of any relationship findings to the general population of high school football players within the district from the present cluster sample.

Materials/Instruments

Data sources were authenticated football roster records obtained through the athletic director office and authenticated grading records via the counseling offices. Grade point average (GPA) is a standard achievement measure used in determination of: class rank, sport eligibility status, graduation eligibility and college entrance. The GPA measure was used in this study for evaluation of academic achievement in-season versus off-season for a sample of high school football players.

No special tools were required for data collection analysis. A computer with Excel[®] software was used for data organization and analysis.

Design and Procedures

Initial contact and delineation of the study was performed by the investigator with the high school principal. A correlational study was performed on 33

football players. Grade point averages (GPA's) were compared in-season (fall 2006) versus off-season (spring 2006) for significant difference between mean and possible correlation among the participants. The participants' in-season and off-season GPA's were also compared to the average unweighted GPA's for their specific class level. Any required authorizations were attained prior to study commencement with school administrators.

The first step in data collection was the segregation of junior and senior football players from an official fall 2006 eligible roster. These names were then matched with GPA's for spring 2006 and fall 2006 semester grading periods. Any participant with unavailable records was eliminated from the study. Only football players participating in the single sport were included. Sophomore football players were not included in this study due to availability of 9th grade records.

After collection of the GPA for each subject the participant name was substituted with a number for

confidentiality. No participant identification keys were constructed for the data collected and stored. Grade point averages, in a three point format, for each participant were recorded onto an Excel® spreadsheet for organization and statistical analysis. Statistical analysis consisted of mean and standard deviation for in-season and off-season, t-test and Pearson correlation (r).

Results

Listed in Table 1.0 are the results for the football participants' in-season and off-season statistical analysis of mean, median, standard deviation, t-test and correlation (r).

Table 1.0

Summary of Football Participant Analytical Results.

Measure	Off-season Spring 2006 GPA	Vs.	In-season Fall 2006 GPA
Mean	2.67		2.69
Median	2.51		2.56
t-test	0.24		$p < .05$ two-tailed
In-S SD			0.54
Off-S SD	0.58		
(n)	33		33
Correlation (r)	0.98		

The mean for football participant off-season GPA was 2.67 and in-season GPA was 2.69. A two tailed t-test ($p < .05$) revealed no significant difference between means. A correlation analysis between the paired scores showed a positive correlation, $r = 0.98$ ($p < .05$).

Table 2.0 lists the average school class grade point average (GPA) and football participant GPA's for off-season (spring 2006) and in-season (fall 2006). Unweighted GPA refers to the method this particular school used to average grade points and does not incorporate any procedures for differentiation between college credit courses and other course work.

Table 2.0

Average GPA Comparison: School versus Football.

School average GPA - unweighted			Football average GPA - unweighted		
Class	Semester	GPA	Semester	Class	GPA
Soph	Soph-Spring 06	2.96	Spring 06	Soph	2.53
Jr	Jr - Spring 06	3.01	Spring 06	Jr	2.85
Both	Both Spring 06	2.99	Both Spring 06	Both	2.67
Jr	Jr - Fall 06	2.45	Fall 06	Jr	2.56
Sr	Sr - Fall 06	3.40	Fall 06	Sr	2.87
Both	Both Fall 06	2.93	Both Fall 06	Both	2.69

A t-test for significant difference between means ($p < .05$) was conducted among the following groups: football participants spring 2006 versus fall 2006; football participants versus school class average, spring 2006 and football participants versus school class average, fall 2006. (See Table 2.1) Analysis did not prove significant difference between means for these groups.

Table 2.1

Group t-test Results for Football GPA's.

Groups	t-test
FB Spring vs. Fall 06	0.30
FB vs. School Spring 06	0.22
FB vs. School Fall 06	0.71

$p < .05$

School average GPA's were higher than football participant GPA's in spring 2006 (Figure 1.0) and in fall 2006 (Figure 2.0) with the exception of the junior class in fall 2006 where junior football participants achieved a 2.56 GPA versus the school 2.45 average GPA. (Figure 2.0)

Figure 1.0

Spring 2006 Average GPA Comparison: School vs. FB

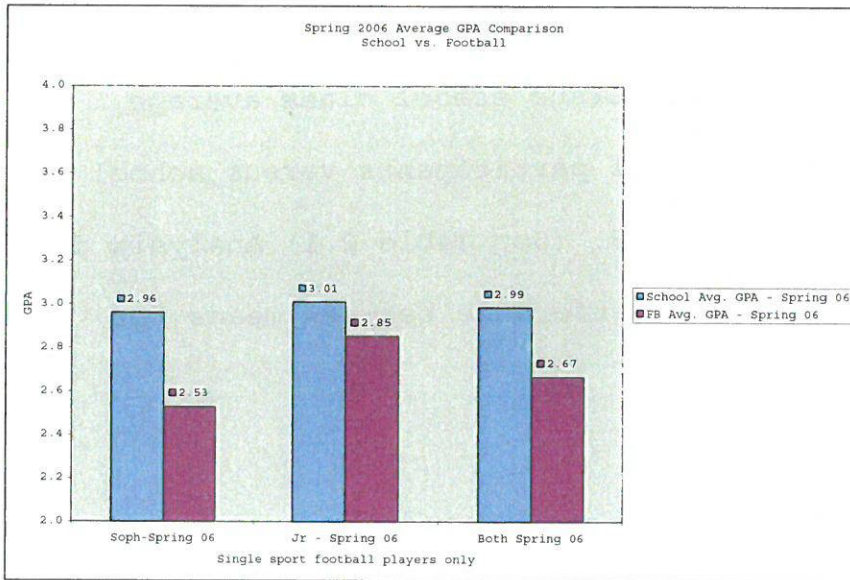
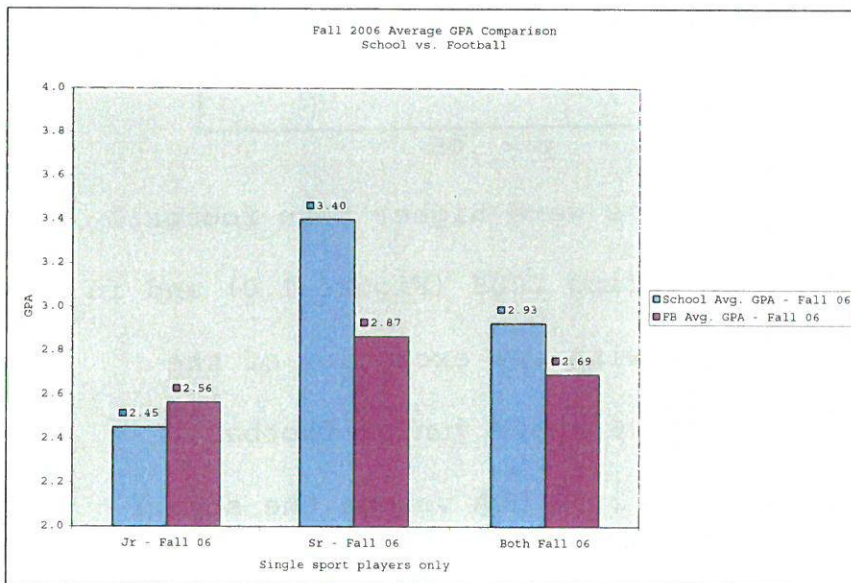


Figure 2.0

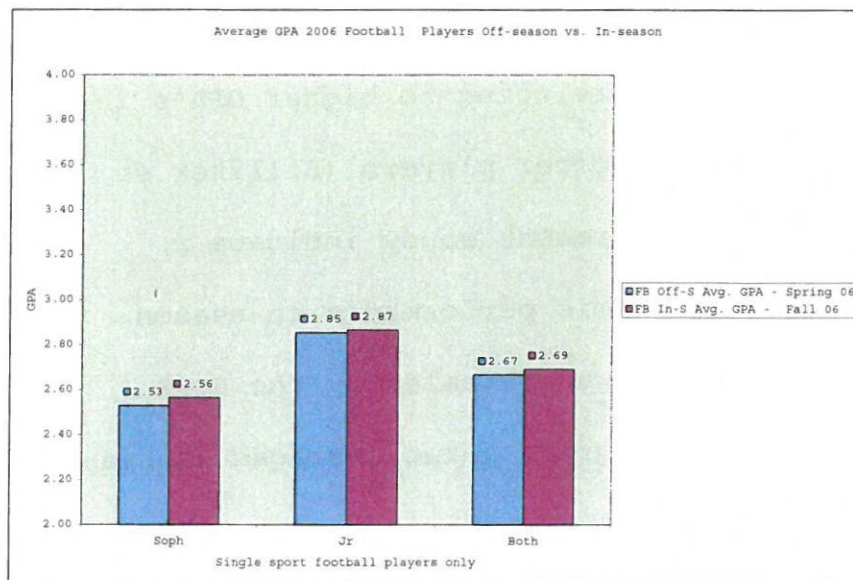
Fall 2006 Average GPA Comparison: School vs. FB



Football participant in-season mean GPA's were higher than off-season GPA's but difference between means was not significant.

Figure 3.0

2006 Average GPA Comparison: FB Off-season versus In-season.



Discussion

Differing opinions exist that are based on research and empirical evidence concerning athletic participation and academic achievement. The present study examined possible significant differences in mean grade point averages of high school football players relative to being in-season or off-season.

Results of this study indicated that, for the cluster sample of football players examined ($n=33$), there was not a significant difference between means for football player GPA's in-season versus off-season utilizing a two-tailed t -test ($p<.05$) even though the GPA average was higher in-season.

Results from this small sample did not parallel other research findings relating to higher GPA's in-season for high school soccer players (Silliker et al., 1997) nor did the present study indicate a negative effect on academic performance in-season versus off-season. This was revealed by the 0.98 positive correlation of grade point averages in-season versus off-season. The study indicated that athletes who did well in-season performed relatively the same during off-season. Findings did align with not hindering academic performance as reported by Hanks et al. (1976). The 0.98 correlation (r) between the students' off-season and in-season GPA's clearly indicated that the participant's achieved equally well in-season and off-season.

Research on intercollegiate athletes has suggested that revenue sport athletes had lower GPA's relative to both non-revenue athletes and non-athlete populations. The present study did not address the comparison with non-revenue athletes but did consider comparisons with the school's same year student's GPA.

This study revealed that football participants did not perform as well as the same year student population but neither were they outperformed, academically, at a statistically significant level. (Refer to Table 2.0, 2.1 in Appendix A; Figures 1.0, 2.0 and 3.0 in Appendixes B.) This finding did not align with Whitley (1999) findings that indicated the educational performance of high school athletes was better than that of nonathletes. However, neither did the present study add to evidence of negative impact on academic performance as indicated by other research on revenue sport athletes (Maloney et al., 1993).

Uncontrolled variables such as socioeconomic status, familial involvement in sports or academics, community involvement, ethnicity or social mobility

were accounted for and eliminated. This was not the purpose of the present study. Statistically the present findings did not support previous research for athletes performing at higher GPA levels in-season or when compared to the remaining student body population. The study did reveal that studied population did perform equally well in-season and off-season. Whether this is due to the socioeconomic demographic or state mandated eligibility requirements is unknown.

For future consideration is the potential for football athletes at the present study site to perform better than the student body as seen in other studies (Whitley, 1999) however, this researcher is unable to conclusively state that the revenue participants aren't already performing at this level. This is due to the disparity between the present study and the Whitley (1999) study participant numbers, $n = 33$ versus $n = 126,700$, respectively. Future studies should incorporate multiple district wide participation over longer periods of time which should

incorporate many different socioeconomic, cultural, community and academic environments not involved in this study.

Furthermore, institutions could raise eligibility expectations for student athletes which would align with educational pedagogy that indicates students will arise to high expectations if attainable. However, raising athlete eligibility standards will be met with much opposition (Riede, 2006). Lastly, educators and administrators, counselors and coaches, parents and athletes should continue to promote a balance between athletic endeavors and education for the chances of "making it in professional sports" is difficult to say the least since according to Peltier et al. (1999) "the odds of a high-school football player making it to the pros at all - let alone having a career - are about 6,000 to 1..." (p.234).

This present study further supports the complexity underlying student-athlete academic achievement. Research clearly indicates there are a myriad of confounding variables that as of yet have

not been fully accounted for in an extensive longitudinal study. The potential for student athlete abuse in revenue producing sports at the collegiate and high school level is evident. Continued studies in the area of athletic participation and academics is warranted and needed.

References

- Aries, E., McCarthy, D., Salovey, P., & Banaji, M. R. (2004). A comparison of athletes and non-athletes at highly selective colleges: Academic performance and personal development. *Research in Higher Education, 45*(6), 577-602.
- Benson, K. F. (2000). Constructing academic inadequacy. [Electronic version]. *Journal of Higher Education, 71*(2), 223-246.
- Broh, B. A. (2002). Linking extracurricular programming to academic achievement: Who benefits and why? [Electronic version]. *Sociology of Education, 75*(1), 69-95.
- Bucknavage, L. B., & Worrell, F. C. (2005). A study of academically talented students' participation in extracurricular activities. [Electronic version]. *Journal of Secondary Gifted Education, 16*(2), 74-86.

Eitle, T. M., & Eitle, D. J. (2002). Race, cultural capital, and the educational effects of participation in sports. [Electronic version]. *Sociology of Education*, 75(2), 123-146.

Goldberg, A. D., & Chandler, T. (1995). Sports counseling: Enhancing the development of the high school student-athlete. *Journal of Counseling & Development*, 74(1), 39-44.

Guest, A., & Schneider, B. (2003). Adolescents' extracurricular participation in context: The mediating effects of schools, communities, and identity. [Electronic version]. *Sociology of Education*, 76(2), 89-109.

Hanks, M. P., & Eckland, B. K. (1976). Athletics and social participation in the educational attainment process. [Electronic version]. *Sociology of Education*, 49(4), 271-294.

- Hanson, S. L., & Kraus, R. S. (1998). Women, sports, and science: Do female athletes have an advantage? [Electronic version]. *Sociology of Education*, 71(2), 93-110.
- Hoch, D. (2006). Academic standards for the student-athlete. [Electronic version]. *Coach & Athletic Director*, 76(3), 17-17.
- Lapchick, R. E. (1987). The high school athlete as the future college student - athlete. *Journal of Sport and Social Issues*, 11(1), 104-118.
- Lee, C. C. (1983). An investigation of the athletic career expectations of high school student athletes. [Electronic version]. *Personnel & Guidance Journal*, 61(9), 544.
- Maloney, M. T., & McCormick, R. E. (1993). An examination of the role that intercollegiate athletic participation plays in academic

achievement. [Electronic version]. *Journal of Human Resources*, 28(3), 555-570.

Marsh, H. W. (1992). Extracurricular activities: Beneficial extension of the traditional curriculum or subversion of academic goals? [Electronic version]. *Journal of educational psychology*, 84(4), 553-562.

Melnick, M. J., & Sabo, D. F. (1992). Educational effects of interscholastic athletic participation on African American and Hispanic youth. [Electronic version]. *Adolescence*, 27(106), 295.

Pascarella, E. T., & Truckenmiller, R. (1999). Cognitive impacts of intercollegiate athletic participation. [Electronic version]. *Journal of Higher Education*, 70(1), 1-26.

Peltier, G. L., & Laden, R. (1999). Do high school athletes succeed in college: A review of research. [Electronic version]. *High School Journal*, 82(4), 234-239.

Riede, P. (2006). ATHLETIC ELIGIBILITY: Struggling to raise the bar. [Electronic version]. *School Administrator*, 63(6), 22-27.

Silliker, S. A., & Quirk, J. T. (1997). The effect of extracurricular activity participation on the academic performance of male and female high school students. [Electronic version]. *School Counselor*, 44(4), 288.

U.S. Census Bureau. (2000). Retrieved July 6, 2007,

from

<http://factfinder.census.gov/servlet/SAFFacts?>

Whitley, R. L. (1999). Those 'Dumb jocks' are at it again: A comparison of the educational performances. [Electronic version]. *High School Journal*, 82(4), 223.

Woodinville Washington Real Estate. (2007). Retrieved July 6, 2007, from

http://www.garyrequa.com/frame.shtml?http://www.onboardnavigator.com/WebContent/OBWC_Search.aspx?AID=47&CD_SID=CO001&AgentID=6xzln3pbr0y.

Appendix A

Data Table A-1: Football Participants

		Off-season Spring 2006 GPA		In-season Fall 2006 GPA
1	S	1.88	Jr	1.75
2	S	2.10	Jr	2.14
3	S	2.16	Jr	2.28
4	S	2.38	Jr	2.56
5	S	2.61	Jr	2.63
6	S	3.25	Jr	3.25
7	S	3.27	Jr	3.21
8	S	2.50	Jr	2.48
9	S	2.35	Jr	2.38
10	S	2.45	Jr	2.31
11	S	2.35	Jr	2.72
12	S	3.58	Jr	3.49
13	S	1.97	Jr	2.10
14	S	2.03	Jr	1.97
15	S	2.24	Jr	2.33
16	S	3.37	Jr	3.29
17	S	2.24	Jr	2.39
18	S	1.85	Jr	2.00
19	S	3.47	Jr	3.45
20	Jr	2.71	Sr	2.74
21	Jr	2.29	Sr	2.32
22	Jr	2.91	Sr	2.93
23	Jr	3.19	Sr	3.14
24	Jr	2.71	Sr	2.65
25	Jr	2.55	Sr	2.54
26	Jr	3.73	Sr	3.72
27	Jr	3.86	Sr	3.83
28	Jr	1.96	Sr	1.96
29	Jr	2.98	Sr	3.00
30	Jr	3.00	Sr	2.90
31	Jr	3.46	Sr	3.43
32	Jr	2.51	Sr	2.47
33	Jr	2.10	Sr	2.49

Measure	Off-season Spring 2006 GPA	In-season Fall 2006 GPA
Mean	2.67	2.69
Median	2.51	2.56
t-test	0.24	p < .05 two-tailed
In-S SD		0.54
Out-S SD	0.58	
(n)	33	33
Correlation <i>r</i>	0.98	

Data Table A-2: Demographics 2006 - 2007

Demographics

	10th	11th	12th	Total
American Indian or Native Alaskan	5	3	2	10
Asian	26	26	37	89
Black or African American	9	2	6	17
Hispanic or Latino	29	17	25	71
Caucasian or White	351	406	363	1120
Hawaiian or Pacific Islander	5	0	2	7
Multiracial	5	2	4	11
Not Provided	0	1	0	1
TOTAL	430	457	439	1326

Appendix B

Figure B - 1.0

Spring 2006 Average GPA Comparison: School vs. FB

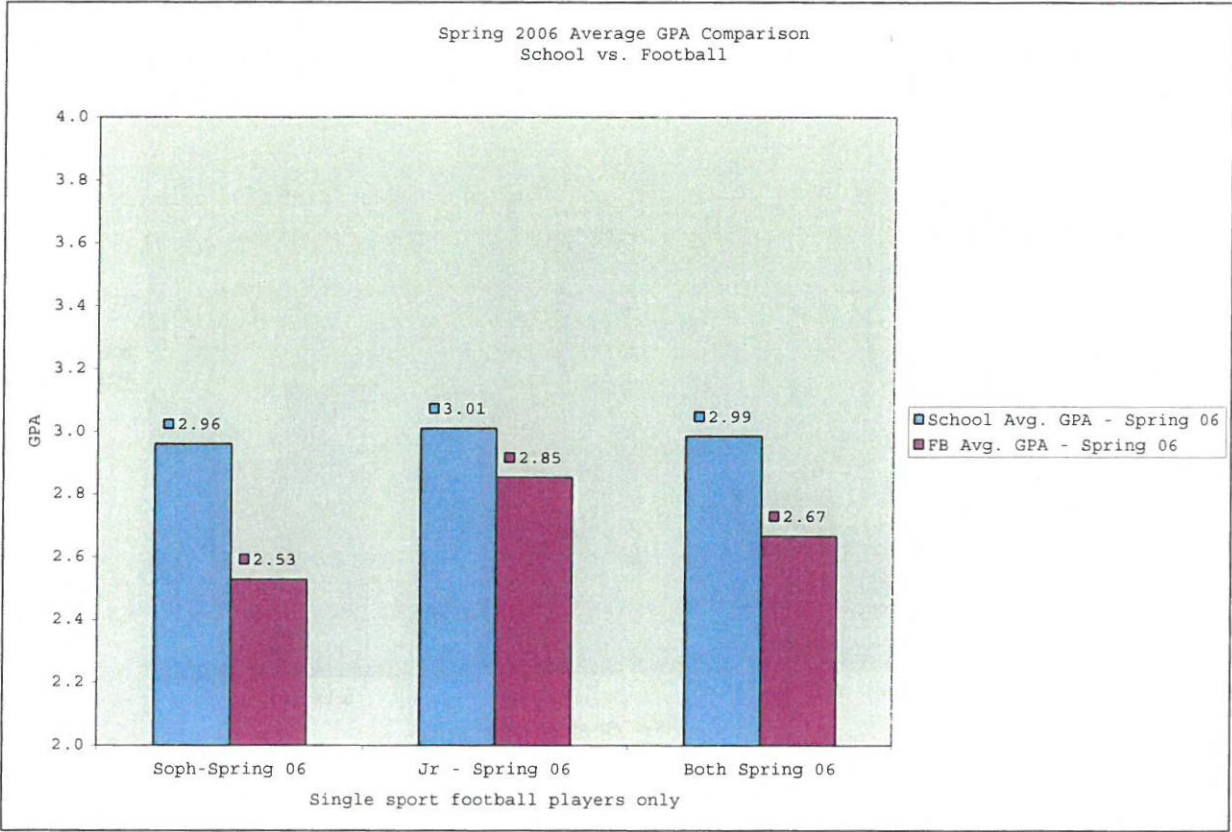


Figure B - 2.0

Fall 2006 Average GPA Comparison: School vs. FB

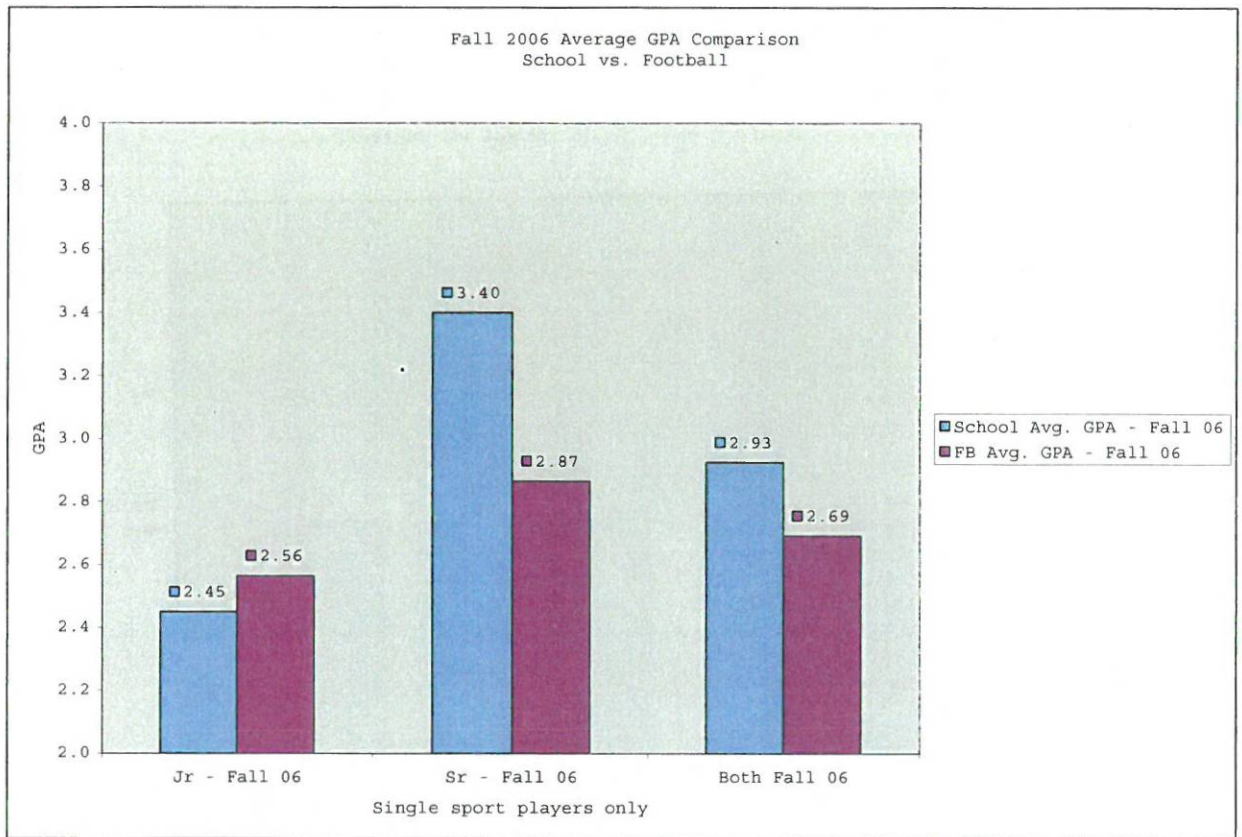


Figure B - 3.0

2006 Average GPA Comparison: FB Off-season versus In-season.

