

THE ACADEMIC ACHIEVEMENT OF
CROSS-COUNTRY AND LONG DISTANCE TRACK RUNNERS:
A SEASONAL COMPARISON

Scott J. Siegenthaler

A Research Paper

Submitted In Partial Fulfillment Of The
Requirements For The
Masters Of Science Degree

Thesis Advisor

The Graduate College
University of Wisconsin-Stout
August, 2001

The Graduate School
University of Wisconsin-Stout
Menomonie, WI 54751

ABSTRACT

<u>(Writer)</u>	<u>Siegenthaler</u> (Last Name)	<u>Scott</u> (First)	<u>J</u> (Initial)
-----------------	------------------------------------	-------------------------	-----------------------

THE ACADEMIC ACHIEVEMENT OF CROSS-COUNTRY AND LONG DISTANCE
(Title)
TRACK RUNNERS: A SEASONAL COMPARISON

<u>Guidance and Counseling</u> (Graduate Major)	<u>Jackie Weissenburger</u> (Research Advisor)	<u>August/2001</u> (Month/Year)	<u>40</u> (No. of Pages)
--	---	------------------------------------	-----------------------------

American Psychological Association Publication Manual, Fourth Edition
(Name of Style Manual Used in this Study)

The purpose of this study was to determine whether student participation in cross-country and track at a small high school in northwestern Wisconsin would affect the grade point averages and attendance records of students. Grades and attendance records were collected from the term in which each student participated in their respective sport season during the 2000-2001 academic year. This data was compared to the students' grades and attendance records received after the cross-country season and before the track season.

Results indicated that participation in cross-country or long-distance track had no effect on the grade point averages of the students. However, participation in cross-country appeared to have a positive effect on the students' attendance records during their

season of participation. No statistically significant effect on attendance was determined for the long-distance track participants.

TABLE OF CONTENTS

	Page
Abstract.....	ii
Chapter 1.....	1
Introduction.....	1
Background.....	1
Statement of the Problem.....	3
Purpose of the Study.....	3
Definition of Terms.....	4
Chapter 2 Literature Review.....	5
Dissenting Viewpoints.....	6
Political Positions.....	6
Assenting Viewpoints.....	7
Chapter 3 Methodology.....	8
Introduction.....	13
Description of Subjects.....	13
Sample Selection.....	13
Instrumentation.....	14
Data Collected.....	15
Data Analysis.....	15
Chapter 4 Results.....	16
Chapter 5 Summary, Conclusions, and Recommendations.....	18

Introduction.....	18
General Findings.....	18
Interpretations.....	18
Merits & Limitations.....	19
Discussion.....	19
Summary.....	21
References.....	23
Appendix.....	25

CHAPTER 1

Introduction

Since the inception of interscholastic high school athletics in the United States, educators have debated whether participation in organized sports interferes with academic achievement. Most Wisconsin high schools have had a variety of sports programs in existence since the early 1900's. Since the implementation of Title IX in 1972, part of the funding formerly delegated to male athletics has been directed toward female athletic programs. Coupled with the budget constraints many school districts are struggling with on a yearly basis, schools have begun to cut athletic activities that are not considered "major sports," such as basketball, football, and hockey. Because of the fiscal constraints placed on the equal representation of male and female athletics implied in the premise of Title IX, many coaches of minor sports are placed in a scenario in which they are required to provide justification as to why their sport should continue from year to year.

Coaches have provided several justifications to keep minor sports. Some coaches of minor sports have stated that eliminating minor sports will impact numerous students, arguing that many of the students who participate in their sports are less likely to participate in other extra-curricular activities. Other coaches have made the case that their athletes have won conference or state championships, thereby bringing recognition and admiration to their program and school. Another justification made by some coaches is that participation in their sport can benefit the academic performance of the participating students.

However, not all people believe that participating in athletic programs can benefit the academic performance of students. Those who believe athletics hinder academic

achievement argue that time and money are taken away from the classroom and studies due to practice, games, and travel time. Others believe too much energy is wasted on activities not related to academic achievement. Some argue that the pressure put on athletes to win can hinder their ability to participate just for the recreational benefits. Others contend that preferential treatment is given to students who participate in athletics. Some examples of this preferential treatment can include grade inflation by teachers to keep student athletes eligible. It also has been asserted that adults have encouraged students to enroll in easier courses to keep them eligible rather than to challenge them academically.

Another argument against athletics is that student athletes can build unrealistic goals by believing academics are not important because they are in route to a lucrative professional athletic career. In reality, very few high school athletes are offered an athletic scholarship to college. Even fewer make it to the professional level. Therefore, students who dismiss the importance of academics and focus their efforts toward preparing for a professional sporting career are at risk for failure.

There are those who believe participation in athletics can boost academic achievement, and they provide many compelling arguments. One such argument revolves around the many life skills that can be learned while participating in athletics. These include: leadership, sportsmanship, teamwork, time management, setting and achieving goals, and taking responsibility for self and others. By establishing and fulfilling athletic goals, many believe a positive pattern can be set toward achieving academic goals. While participating in athletics, others many assert that students are encouraged to push themselves beyond the limits they may have placed upon themselves. Thus, by reaching

beyond these limits, athletes can establish the mind-set that many boundaries are only self-imposed.

Still others believe that athletics can be utilized as a stress-reliever, thus allowing athletes to gain a more positive outlook and increase their self-esteem. For example, athletes may challenge themselves to break a 4:30 mile. Once they accomplish this goal, they may be challenged to set higher expectations for themselves. This may setup a positive self-monitoring program that may transfer into other areas of their life such as academic goal setting.

Statement of the Problem

There are strong arguments on either side as to whether participation in athletics interferes with, or enhances, student achievement. However, little empirical research has been completed to examine the relation between athletic participation and student achievement. Since there is a trend toward cutting minor sports programs to balance local school district budgets, coaches need to have empirical evidence to support their claim that athletic programs can enhance student performance.

Purpose of the Study

This study will examine the effect of two specific minor athletic programs on student performance. It will attempt to determine whether student participation in cross-country and track at a small high school in northwestern Wisconsin can affect students' grade point averages (GPA's) and attendance records. In-season and out-of-season grade point averages and attendance records will be compared to examine the potential effect of cross-country and track participation.

Research Objectives

The objectives for this study include:

1. To determine whether cross-country participants have a higher GPA during their season of participation.
2. To determine whether long distance running track event participants have a higher GPA during their season of participation.
3. To determine whether participation in cross-country has an effect on a student's attendance records.
4. To determine whether participation in long distance track events has an effect on student's attendance records.

Research Hypotheses

1. Cross-country participants will earn a higher GPA during their season of participation.
2. Cross-country participants will have a lower percentage of school absences during their season of participation.
3. Long distance track participants will earn a higher GPA during their season of participation.
4. Long distance track participants will have a lower percentage of school absences during their season of participation.

Definition of Terms

For clarity of understanding, the researcher will define the subsequent terms as follows:

Cross-Country - An individual running event (generally a 5 kilometer or a 2.5 kilometer) in which individual place scores are added together to form a team score.

Grade Point Average (GPA) - The average obtained by dividing the total number of grade points earned by the total number of credits attempted. The GPA used in this study is based on a four-point scale (i.e., A=4 to F=0)

In-Season - A time period in which a student athlete is engaged in either the cross-country season or participating in a long distance track event.

Long Distance Track Events - An event associated with a track meet that requires individuals to run distances of 400, 800, 1600, or 3200 meters.

Major Sports – Major sports include, but are not limited to, football, basketball, and hockey. These are classified as major sports because of the greater number of participants, the higher equipment costs, and the higher travel expenditures compared to other sports programs.

Minor Sports – Minor sports include, but are not limited to, track, cross-country, swimming, baseball, softball, tennis, and wrestling. These are classified as minor sports because they have smaller budgets, a smaller number of student participants, and smaller equipment costs. Another consideration is that minor sports are generally unable to generate enough funds to make the sport self-sufficient through ticket sales.

Off-Season - A time period in which a student athlete is not engaged in either the cross-country season or participating in a long distance track event. In this study, the student athletes may or may not participate in other sports during this time period.

Title IX - A section of the Educational Amendment, passed in 1972, that makes it illegal for school districts to exclude participation in athletic programs based on gender.

This law specifies that federal funding will be taken away from districts that do not follow the guidelines set forth in the Title IX Educational Amendments of 1972.

CHAPTER 2

Review of the Literature

Introduction

Throughout the United States, there has been an on-going debate for decades on whether participation in athletics has a positive or negative affect on high school students' grades. This chapter will discuss the literature examining the relation between athletics and academic performance.

Dissenting Viewpoints

Not all factions of the general community are supportive of interscholastic sport activities. Some cite the increase in classroom absences by coaches and athletes as a major concern. Other opponents of extra-curricular activities assert that student athletes don't spend enough time studying. Maceri (2000) maintains that, "They (athletics) steal time that could be used to hit the books. Some sports practice for three hours daily" (p. 54). This author noted that the three hours did not include the time spent on game day and travel time. Maceri further contended that other extra-curricular areas such as choir, band, or theater should receive as much coverage and recognition as sports. Maceri stated, "Coverage in sports events sends a dangerous message to young men and women... (there is) scarcity in the coverage of education issues" (p. 54). She concluded that equalizing the media coverage would help increase the participation levels of non-athletic extra-curricular activities.

Maceri is not alone in her views on the negative aspects related to participation in athletics. Administrators and parents have long been concerned about the instructional time lost by educators/coaches and student athletes due to early dismissal for travel time to

athletic events. Further, administrators often are troubled by the increasing number of foreign exchange and open enrollment-students who are recruited to attend specific schools based on their athletic accomplishments, rather than on their academic achievements (Goldman, 1991). Parents also have become apprehensive about the amount of pressure placed on teams to perform at a high success rate (Silliker & Quirk, 1997).

With these concerns in mind, why do athletic activities thrive? Why is there a push to ensure that school age children are allowed to participate in extracurricular activities that promote physical development?

Political Positions

One such answer can be found at the national level. Congress has recently attempted to amend Title X of the Elementary and Secondary Education Act of 1965. An amendment, The Physical Education for Progress (PEP) Bill, was introduced by Mr. Stevens (R-Alaska) of the 106th Congress and co-sponsored by one-third of the members of the United States Senate, including Mr. Gram (R- MN) and Mr. Wellstone (D-MN). This bill would give credence to the importance of physical activity for school age children. If passed, the PEP Bill will provide grants to local school districts to initiate, expand, and improve their physical education programs for students in kindergarten through grade 12. Senate Bill 8001 (1999) states, “Physical education helps improve the self-esteem, interpersonal relationships, responsible behavior, and independence of children and is essential to the development of growing children.” By pointing out the importance on a national level, one can establish to the importance of the relation between physical education/athletics and academic achievement in our society.

Assenting Viewpoints

Several studies compare the relevance of the relation between high school athletic participation and academic achievement. The National Federation of State High School Associations (NFHS) conducted a participation survey during the 1999-2000 school year. More than 6.5 million high school students participated in athletic competitions that year, 171,398 of which participated in the state of Wisconsin (NFHS, 2000). NFHS contends that interscholastic sports promote citizenship, sportsmanship, community pride, lessons in teamwork, and self-discipline. This organization also asserts that participation in sports facilitates the physical and emotional development of our nation's youth. NFHS supports co-curricular activities by citing benefits such as "students who participate in activity programs tend to have higher grade point averages, better attendance records, lower dropout rates, and fewer discipline problems" (NFHS, 2000, p. 1).

NFHS cited four reports that emphasize the importance of high school activities as valuable components of the overall high school experience. The first report comes from the Carnegie Corporation, New York (March 1996). This corporation studied the role of sports in youth development. It concluded, "at their best, sports programs promote responsible social behavior and greater academic success, confidence in one's physical abilities, an appreciation of personal health and fitness, and strong social bonds between individuals and institutions" (NFHS, 2000, p. 2).

The second report comes from the Minnesota State High School League (March 1995). In a survey of 4800 high school students, 91% of those students said that students who participate in school activities tend to be school leaders and role models. It concluded

that school activities provide opportunities not found in regular classroom settings to develop self-discipline (NFHS, 2000).

The Search Institute presented the third study from Minneapolis, Minnesota in 1995. The Search Institute has been instrumental in generating the forty developmental assets. The Institute asserts that the more assets a person possesses, the more likely they are to become a productive member of society. NFHS (2000) indicated that the Search Institute's report (1995) it found that "co-curricular activities play a central role in students' healthy development. Yet too many schools are finding it necessary to cut these programs for budgetary reasons" (p. 3).

Further, a national survey of high school principals and nearly 7000 high school students in all fifty states was sponsored by NFHS in 1985. This survey was provided with funding through a grant from the Lilly Endowment in Indianapolis, and it was conducted by Indiana University. The results from this fourth report of NFHS (2000) were as follows:

95 percent believed that participation in activities teaches valuable lessons to students that cannot be learned in a regular class routine.

99 percent agreed that participation in activities promotes citizenship.

95 percent agreed that activity programs contribute to the development of "school spirit" among the student body.

76 percent said they believe the demand made on students' time by activities is not excessive.

72 percent said there is strong support for school activity programs from parents and the community at large. (p. 4)

Weiler (1998) also noted a positive relationship between sports involvement and academic achievement. GPA, standardized test scores, and lower dropout rates in female students were examined. Students who participated in sports activities were three times

more likely to perform in the top quartile on composite math and reading assessments, and two-thirds of these students aspired to achieve higher educational goals. Furthermore, according to O'Brien and Rollefson (1995), female student athletes also had better attendance records than their non-participating counterparts. Stegman and Stephens (2000) provided converging evidence to support the above studies when they found that high-participation high school students of both sexes outperformed less active counterparts in three categories: class rank, mean GPA, and math GPA.

Silliker and Quirk (1997) conducted a study involving high school soccer players' GPA scores and attendance records. These researchers examined the academic performance of the soccer players while they were in, and out of, season. Their study affirmed a positive relationship between sports participation and student academic achievement. The soccer players had a significantly higher GPA in-season than out-of-season, and their school attendance also seemed to be better in-season. Silliker and Quirk (1997) cited a similar study done by P. W. Laughlin (1978). In the Laughlin study, high academic performance of high school wrestlers was considerably higher in-season compared to out-of-season.

Although the above studies were conducted within somewhat short periods of time (i.e., seasons or portions of a school year), there have been a few longitudinal studies that have collected data over multiple school years. One such study was conducted in several California high schools using a program called Promoting Achievement in School through Sports (PASS) (American Sports Institute, 1996). PASS is a yearlong course that utilizes sports to enhance academic achievement. The primary dependent measures in the study were the enrolled students' cumulative GPA and their eligibility to participate. Other data,

including gender and grade of enrollment, were collected over a four-year period. Results demonstrated that PASS students outperformed those in the control group (i.e., the non-participating students), on all applicable measures, including GPA and academic eligibility for extracurricular activities (American Sports Institute, 1996).

Many writers also have concluded that coaches can have a great deal of influence on student athletes. Zaugg (1998) illustrated this point by noting that the higher standards and expectations of coaches improved the rate of graduation and success among athletes. He stated, “Many coaches who run successful athletic programs demand high academic standards from their athletes. This includes selecting hard working individuals, monitoring academic progress, cooperating with the academic faculty, instilling academic pride and demanding more than the minimum standards” (p. 64). In his article, Zaugg (1998) contended that the rigors and expectations of the sport must equal the amount of work or effort that is put into a student’s academic coursework. Thus, the emphasis on athletics needs to equal the emphasis placed in the classroom. Zaugg (1998) also argued that coaches who have adopted this philosophy help ensure that student-athletes place their priorities in the appropriate sequence. As he asserted, student-athletes are just that, student-athletes. Thus, involvement in extracurricular activities is a privilege and not a right.

The Student Loan Marketing Association (Sallie Mae) further illustrates the societal importance of athletic participation and the belief that athletics can have a positive affect on academic achievement. According to *Technique: Connecting Education and Careers* (2001), Sallie Mae will be giving out \$120,000 in scholarships to three areas of the country: Washington, D.C., Philadelphia, and Kansas City. The scholarships, along with the Sallie

Mae Cup, will be awarded to the school district whose students' accomplish the most in both the classroom and in athletic competition.

Summary

Despite some arguments against athletic participation in high school, many authors have argued that athletic participation can improve academic performance and build character. Several surveys also have concluded that most students and educators perceive that athletic participation contributes to the positive development of high school students. Further, preliminary empirical studies have provided evidence that athletic participation can improve the GPA and attendance records of high school students.

CHAPTER 3

Methodology

Description of Subjects

The subjects for this study were selected from all of the freshmen, sophomore, junior, and/or senior classes at a small high school in northwestern Wisconsin during the 2000-01 academic school year. Each subject was a member of the cross-country team and/or a long distance event track participant. The study included both male (n=13) and female (n=9) participants. The ages of participants ranged from 14 to 18, with a mean chronological age of 15.9. (Please refer to Table 1 for further information about the demographic make up of the student participants.)

Sample Selection

The sample group was comprised of students from a small high school in northwestern Wisconsin who participated in cross-country and/or track long distance events during the 2000-2001 academic year. The data was obtained from the school counselor after all identifiers had been removed to assure confidentiality.

Demographic Information

The sample for this study consisted of 23% (n=5) seniors, 23% (n=5) juniors, 1% (n=2) sophomores, and 45% (n=10) freshmen. All student athletes in the study participated in both cross-country and track during the 2000-2001 school year.

Instrumentation

The instrument utilized was designed specifically for this study. The data included the grades and the attendance records for each student participant during their respective sport season and a comparable season of non-participation. It is important to note that one

student (n=1) participated in only one of the two seasons. This student was excluded from the study.

Data Collected

The data was collected from the cumulative files for each study participant. The school counselor gave the data to the researcher after all identifiers had been removed to protect confidentiality.

Data Analysis

The descriptive data taken from the developed instrument were statistically analyzed and plotted by grade level and by sport. A paired sample *t*-test was run to compare the mean scores of athletes' in-season GPA's and attendance records to their off-season GPA's and attendance records. No analysis was conducted compare to compare any differences in performance by gender.

CHAPTER 4

Results

This chapter will present the results of the study to determine whether the level of participation in cross-country and track is related to a student athlete's GPA and attendance record. The results related to the research hypotheses will be given.

Hypothesis 1: Cross-country participants will earn a higher GPA during their season of participation. Table 5 shows the GPA mean scores in-season (\underline{M} = 3.66) and off-season (\underline{M} = 3.61), and standard deviation in-season (\underline{SD} = .50) and off-season (\underline{M} = .35). The results indicate that there was no significant difference between the students' GPA's during the cross-country season and the comparable season of non-participation. Table 1 reveals that only 50% (n = 11) of cross-country participants had a higher GPA in-season as opposed to the off-season.

Hypothesis 2: Cross-country participants will have a lower percentage of school absences during their season of participation. As shown in Table 6, a significant difference was found between students' attendance during the cross-country season compared to their off-season attendance ($p \leq .05$). The participants were absent significantly fewer times while participating in cross-country. Table 3 illustrates that 41% (n = 9) had fewer absences during the in-season period.

Hypothesis 3: Long distance track participants will earn a higher GPA during their season of participation. Table 5 shows the GPA mean scores in-season (\underline{M} = 3.56) and off-season (\underline{M} = 3.63), and standard deviation for in-season (\underline{SD} = .60) and off-season (\underline{SD} = .51). The results indicate that there was no significant difference between the students' GPA's during the track season and their comparable season of non-participation.

Hypothesis 4: Long distance track participants will have a lower percentage of school absences during their season of participation. Table 6 shows the percentage of student absences in each season. Although a significant statistical difference was not established at the $p \leq .05$ level, the results indicate that the difference in percentages approached significance at the .10 level.

CHAPTER 5

Summary & Discussion

Introduction

This chapter will include a discussion of the results of the study and conclusions. The chapter will conclude with some recommendations for further research.

General Findings

The findings of this study do not indicate that participation in long-distance track or cross-country had a positive effect on the GPA's of the high school students. However, there is some indication that participation in one sport (i.e., cross-country) may have had a positive effect on the participating students' attendance records. Further, there is no evidence that participation in these two minor sports at a small northwestern Wisconsin high school had a detrimental effect on the athlete's academic performance.

As was stated in the literature review, some authors associate sports participation with lower academic achievement (Goldman, 1991) and increased student absences from the classroom (Maceri, 2000). Although this study did not find that participating in cross-country or track increased a student's GPA while in-season, it did not produce results that would suggest that participation in cross-country or track would lower a student's academic achievement.

Implications

There are several implications that can be drawn from the finds of this study and the information reviewed from the published literature. Students who participated in cross-country and long-distance track events in a small northwestern Wisconsin high school during the 2000-2001 academic school year generally equaled their GPA's while in-season.

Likewise, during the season of participation, these runners either maintained or increased their attendance rates. Therefore, this study provides some evidence that students are not hindered by, and can benefit from, participation in these minor sports. Studies such as (Maceri, 2000) and (Goldman, 1991) have reported that participation in athletics often leads to lower grades. However, the results of this study do not support this contention.

Merits & Limitations

Although the sample group size was somewhat limited (n=22), fundamental research guidelines were specifically followed. Further research in this area would be easy to replicate, and is needed. With regard to a replication of this study, a larger sample group would strengthen the study and make it possible to generalize the findings to other high school students.

If this study were to be replicated, it would be beneficial to have a control group such as non-athletes or students not involved in sporting events. The lack of a control group was an additional limitation to this study. Furthermore, future researchers should track student progress for more than one year to examine potential history or maturation effects.

Discussion

This study provides preliminary evidence that participation in athletics does not hinder academic performance, and may improve attendance rates. Further, other studies have provided evidence that participation in sports can improve the grade point average of students.

Although the findings in this study do not support three out of the four hypotheses, there may have been plausible rationales underlying the results. This study did not take into

consideration other intrinsic or extrinsic events that may have affected an individual student's performance during each season. For example, the students may have participated in other extra-curricular activities during the off-season. This may have influenced their GPA's or attendance rates to the same degree as participation in cross-country and track. Further, there may have been some unknown effects associated with the particular coaches and their coaching style. Additionally, other factors such as "senioritis" or seasonal effects may have minimized the potential effects of cross-country or track participation.

Further, because of the small sample size, one student's extreme scores may have skewed the results. For example, one student (#11) had considerably more absences compared to the rest of the small sample group. Further, this student presented a drastic change in GPA during the track season (GPA=1.8) compared to the off-season (GPA=3.5). This student's performance may have been affected by extraneous variables. For example, this student was a senior. He or she may have been accepted to a college or university by the spring semester. As such, the student may not have been motivated to maintain his or her GPA during the spring semester. Further, the student may have participated in other extra-curriculars, suffered from a negative life event, had a job, or been affected by seasonal changes. Whatever the case, it is evident that this student's outlier scores may have had a direct influence on the outcomes of this study.

The information presented here indicates that athletic participation does not hinder academic performance and may help students achieve goals unrelated to athletics. Students who participate in athletics have the opportunity to develop leadership skills, sportsmanship skills, and higher self-concepts. Likewise, some athletes may experience a

rise in their academic achievement and aspirations after participating in sports. The potential is there for student athletes to develop time management skills, coping strategies for dealing with stress, responsibility for themselves in the classroom and on the field, and life long objectives through sports participation.

Like the results of the survey completed by the National Federation of State High School Associations (NFHS, 2000), this researcher believes that participation in sports can have a positive outcome if the will to achieve is there. It is ultimately up to each individual to decide whether participating in extracurricular activities, such as sports, is important in the developing student.

Summary

The purpose of this study was to determine whether student participation in cross-country and track at a small high school in northwestern Wisconsin has an effect on the grade point averages and attendance records of students. Grades and attendance records were collected from the term in which each student participated in their respective sport season during the 2000-2001 academic year. This data was compared to the students' grades and attendance records received after the cross-country season and before the track season.

Results indicated that participation in cross-country or long-distance track had no effect on the grade point averages of the students. However, participation in cross-country appeared to have a positive effect on the students' attendance records during their season of participation. No statistically significant effect on attendance was determined for the long-distance track participants.

References

- American Sports Institute. (1996, January). Promoting achievement in school through sports (Issue No. BBB 30 367). Mill Valley, CA: Author.
- Curry, L. A., Snyder, C. R., & Cook, D. L. (1997). Role of hope in academic and sport achievement. Journal of Personality and Social Psychology, *73*(6), 1257-1267.
- Goldman, J. P. (1991). Balancing school sports and academics. Education Digest, *56*(8), 67-71.
- Hinkel, S. J. (1997). Aerobic fitness and school children. Elementary School Guidance & Counseling, *31*(3), 211-220.
- Maceri, D. (2000). Brains lose out to brawn in news coverage. San Antonio Business Journal, *14*(22), 54.
- National Federation of State High School Associations (2001). Retrieved March 23, 2001 from the World Wide Web: <http://www.nfhs.org/case.htm>
- O'Brien, E., & Rollefson, M. (1995). Extracurricular participation and student engagement (NCES No. 95 741) Pittsburgh, PA: U.S. Government Printing Office.
- Pressley, J. S., & Whitley, R. L. (1996). Let's hear it for the 'dumb jock'. NASSP Bulletin, *80*(580), 74-84.
- S. 8001, 106th Cong., 1st Sess. S 1(1999).
- Silliker, S. A., & Quirk, J. T. (1997). The effect of extracurricular activity participation on the academic performance of male and female high school students. School Counselor, *44*(4), 288-289.

Stegman, M., & Stephens, L. J. (2000, February). Athletics and academics: Are they compatible? High School Magazine, 36-39.

Techniques: Connecting Education & Careers (2001, February). Sallie Mae recognizes excellence in academics and athletics (Item Number 4121797).

Weiler, J. (1998). The athletic experiences of ethnically diverse girls (Report No. 131). New York, NY: Eric Clearinghouse of Urban Education. (Eric Document Reproduction Service No. ED 416 268)

Zaugg, H. (1998). Academic comparison of athletes and non-athletes in a rural high school. NASSP Bulletin 82(599), 63-72.

Appendix

Tables

Table 1

Cross-country GPA Off-season (2nd term) to In-season (1st term)

Grade	Student ID	Off-season GPA	In-season GPA	GPA Difference
<u>Seniors</u>				
	3	4.0	4.0	no change
	4	4.0	3.8	-.2
	11	3.3	3.6	+.3
	13	3.9	4.0	+.1
	18	3.6	3.9	+.3
<u>Juniors</u>				
	1	3.4	3.0	-.4
	6	3.5	3.7	+.2
	12	3.9	4.0	+.1
	19	3.4	3.8	+.4
	22	4.0	4.0	no change
<u>Sophomores</u>				
	5	3.6	3.8	+.2
	14	4.0	4.0	no change
<u>Freshmen</u>				
	2	3.6	3.7	+.1
	7	4.0	4.0	no change
	8	3.1	3.6	+.5
	9	4.0	4.0	no change
	10	3.8	4.0	+.2
	15	3.1	2.0	-1.1
	16	3.1	3.8	+.7
	17	4.0	4.0	no change

20	3.3	3.2	-1
21	3.0	2.8	-2

Table 2

Track GPA Off-season (3rd term) to In-season (4th term)

<u>Grade</u>	<u>Student ID</u>	<u>Off-season GPA</u>	<u>In-season GPA</u>	<u>GPA Difference</u>
<u>Seniors</u>				
	3	4.0	4.0	no change
	4	4.0	4.0	no change
	11	3.5	1.8	-1.7
	13	4.0	3.6	-.4
	18	3.9	4.0	+.1
<u>Juniors</u>				
	1	3.0	3.8	+.8
	6	2.8	3.0	+.2
	12	3.9	4.0	+.1
	19	3.7	3.5	-.2
	22	4.0	4.0	no change
<u>Sophomores</u>				
	5	3.8	3.7	-.1
	14	4.0	4.0	no change
<u>Freshmen</u>				
	2	4.0	3.6	-.4
	7	4.0	4.0	no change
	8	3.8	4.0	+.2
	9	4.0	4.0	no change
	10	3.8	3.6	-.2
	15	2.2	2.7	+.5
	16	3.6	3.7	+.1
	17	3.9	4.0	no change

20	3.3	3.0	-3
21	2.7	2.5	-2

Table 3

Percentage of Days Missed during Cross-Country Off-season (2nd term) to In-season (1st term)

Grade	Student ID	Off-season Attendance	In-season Attendance	Attendance Difference
<u>Seniors</u>				
	3	2	0	-2
	4	0	0	no change
	11	23	14	-9
	13	5	2	-3
	18	5	2	-3
<u>Juniors</u>				
	1	7	5	-2
	6	7	0	-7
	12	0	0	no change
	19	0	0	no change
	22	0	2	+2
<u>Sophomores</u>				
	5	0	2	+2
	14	2	2	no change
<u>Freshmen</u>				
	2	5	0	-5
	7	2	2	no change
	8	2	0	-2
	9	0	0	no change
	10	0	0	no change
	15	2	5	+3
	16	7	7	no change
	17	5	2	-3

20	0	0	no change
21	0	0	no change

Table 4

Percentage of Days Missed during Track Off-season (3rd term) to In-Season (4th term)

<u>Grade</u>	<u>Student ID</u>	<u>Off-season Attendance</u>	<u>In-season Attendance</u>	<u>Attendance Difference</u>
Seniors	3	0	0	no change
	4	4	2	-2
	11	44	25	-19
	13	7	7	no change
	18	4	2	-2
Juniors	1	10	2	-8
	6	2	2	no change
	12	2	0	-2
	19	2	2	no change
	22	0	0	no change
Sophomores	5	0	0	no change
	14	2	0	-2
Freshmen	2	4	5	+1
	7	2	2	no change
	8	2	0	-2
	9	2	0	-2
	10	0	2	+2
	15	2	0	-2
	16	2	11	+7

17	4	2	-2
20	2	2	no change
21	2	0	-2

Table 5

Two-Tailed Probability of In-season and Off-season GPA

Pair	Mean Score	Standard Deviation	t-value	Two-Tailed Probability
In-season Cross-Country GPA	3.6682	.5037	.662	.515
Off-season Cross-Country GPA	3.6182	.3594		
In-season Track GPA	3.5682	.6027	-.656	.519
Off-season Track GPA	3.6318	.5131		

Table 6

Two-Tailed Probability of In-season and Off-season Attendance Records

<u>Pair</u>	<u>Mean Score</u>	<u>Standard Deviation</u>	<u>t-value</u>	<u>Two-Tailed Probability</u>
In-season Cross-Country Percentage of Absences	2.0455	3.3163	-2.156	.043
Off-Season Cross-Country Percentage of Absences	3.3636	5.1041		
In-season Track Percentage of Absences	3.0000	5.5979	-1.445	.163
Off-season Track Percentage of Absences	4.5000	9.1222		