

A STUDY IN THE GRADE POINT AVERAGE OF ATHLETES VS. NON-ATHLETES

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ABSTRACT

The purpose of this study was to analyze the grade point average of student athletes versus that of non-student athletes. The research conducted produced answers to the following questions. "Do student athletes have a higher GPA than non-athletes?", "Is there a significant difference in the grades of athletes and non-athletes?", and "What effects do athletics have on student's grades?" Statistics for this research product were provided by a Midwest suburban school district. Microsoft Excel and A Statistical Program (ASP) software were used to analyze the provided data. A t-test was used to challenge the null hypothesis. Findings from the study indicated that there was a significant difference in the GPA of athletes vs. non-athletes. The group of athletes was determined to have a higher GPA, averaging 3.25. The non-athletes averaged a GPA of 3.01, significantly lower than the athletes.

INTRODUCTION

Background, Issues and Concerns

The Midwest suburban school opened its doors for the 2010-11 school year. Only sophomores and juniors attended the high school in the first year. Therefore, the first graduating group of seniors occurred in 2012. There were 207 students in this class. Of the 207 students who graduated in 2012, 75 of them participated in athletics during their senior year. The study analyzed the GPA of student athletes vs. non-athletes. The project involved gathering the data of each student that graduated in 2012.

Athletics are a huge part of many students' high school careers. Athletics help our students learn many lifelong lessons that will be used in their future. They learn responsibility, how to respect one another, time management, sportsmanship, and the importance of being part of a team. These are all lessons that will be used in any career that student athletes will pursue.

A big part of being a part of school athletics is academics. Student athletes must pass a certain amount of classes, have a certain GPA, and have good attendance. Athletics push students to succeed in the classroom. If the athlete wants to showcase his/her talents on the field, they must perform in the classroom first.

Practice under Investigation

The practice under investigation is the academic performance of student athletes.

School Policy to be Informed by Study

In order to participate in athletics, student athletes must meet many requirements.

First, students must be enrolled in courses offering 3.0 units of credits (normally six courses).

Students must also have earned 3.0 units of credit the preceding semester. Second, students must have a current physical on file which now includes a concussion evaluation that must be done before the season. Third, attendance is also a big factor in being a student athlete. Students must be in school for the entire school day to participate in competition. There are exceptions; students may miss for a doctor's appointment, funeral, etc. If a student is put in out of school suspension (OSS), he/she will not be allowed to participate in competition or practice until they have attended a full day of school. If a student is assigned to in-school suspension (ISS), he/she will be available to practice, but will not be able to participate in a competition until they have attended a full day of school. Lastly, students are expected to conduct themselves in such a manner as to reflect positively upon themselves, family, school, and community.

Conceptual Underpinning

The concentration of this study will be how student learning can improve at the high school level. There are many factors that may come into play when looking at student achievement. One of the major activities that can have a positive effect on student learning is athletics. Students who participate in after school activities, including athletics, tend to benefit from their participation.

The data being analyzed will determine if there is a difference in statistical terms between athletic participation and student achievement. The study conducted will look at 207 high school students from the class of 2012 and analyze their GPA on a 4.0 grading scale. While the sample size is not large, there will be enough information to determine if there is a difference between the GPA of athletes and non-athletes.

As stated before, athletics can play a huge role in the maturation process of students.

Being a student athlete will benefit the student in many ways. First, the student must keep their grades at a certain level to participate so their studies must come first before they are able to be a part of an athletic program. Students also must be good citizens and represent their school in a positive way. Students who are continually in trouble are usually not part of these programs because of the standards they are held to. Another big factor in being a student-athlete is attendance. To participate on a school team, the student must be present in the classroom. Therefore, all of these factors will lead to more determined personalities in the classroom and on the playing field, thus having a positive effect on student achievement.

Statement of the Problem

There is an uncertainty as to whether being an athlete has an effect on student achievement. The sample size of data is 207. This is not a large sample size, but the data will show in some form the effect of participating in athletics has on student achievement.

Purpose of the Study

The purpose of the study is to determine the effects of students playing athletics has on student achievement. The information gained from this study will help students, teachers, administrators, and the community see the importance athletics can play in student achievement. Many students are under the belief that athletics cut into educational success because of the time commitment; however it can be just the opposite. Teachers would also see the benefits of athletics by analyzing this data. Most teachers are great working with their student-athletes who miss class, but others resent the fact they are missing their class time. Administrators will value the hard work and commitment of their student athletes and look to

them as building leaders. Being a part of a team will teach young people how to lead and work together.

Research Question

RQ 1: Is there a difference in GPA between high school athletes and non-athletes?

Null hypotheses

There is no significant difference in the GPA of high school athletes and non-athletes.

Anticipated benefits of the study

The results of this study will determine if playing athletics has an effect on student achievement. This will be great data for Athletic Directors, Administrators, Teachers, and the rest of the staff. This data will give the Athletic Directors information for upcoming meetings with the community, other AD's, and their coaching staffs. This will be a great recruiting tool for coaches when talking with parents. This data will also show the importance of athletics to the administrators. The Midwest suburban school being studied is currently going through changes at their middle school levels. These changes include going away from Junior Highs and implementing four middle level buildings, including grades 6-8. The freshman in this school district will now be attending the high schools for the first time. While incorporating this change, the district will have to make cuts and 8th grade sports have been mentioned as a possibility for cuts. This study will show the importance and the positive effect athletics can have on our students.

Definition of terms

GPA: Grade Point Average; A measure of a student's academic achievement, calculated by dividing the total number of grade points earned by the total number of credits attempted.

MSHSAA: Missouri State High School Activities Association

AD: Athletic Director

ISS: In-School Suspension

OSS: Out of School Suspension

ASP: A Statistical Package

Summary

The Midwest suburban school opened for the 2010-11 school year. The data used for the research was taken from the first graduating class of 2012. This school district offers a wide variety of sports for the fall, winter and spring sports. Over 1/3 of the seniors in the class of 2012 participated in at least one sport. The research will analyze the effect that athletics play in student achievement.

There are many benefits to the study. First, the study will show how athletics and academics have a positive effect on each other. In order to participate in athletics, the student will need to meet academic requirements and have good attendance. The study will also show the importance of keeping athletics in our middle levels. Athletics can be the sole reason that some students are pushed to succeed in school. Athletics give students something important to be a part of. This gives students another 2-3 hours a day to build relationships and traits that will continue to help them as they grow into young adults.

The purpose of the study is to make the community, parents, administrators, coaches and students aware of the role that athletics play in academic success. The research question analyzed will help show the importance of athletics. The descriptive analysis and t-test will provide statistical information on the GPA level of athletes and non-athletes.

Review of Literature

Most of the articles reviewed showed the positive effects athletics have on academics.

These articles reiterated the same point; athletics will have a positive impact on student achievement and help prepare them better for their future. However, there were also a few articles that thought athletics had a negative impact on academics.

One profound reason athletes perform at a higher rate on average than non-athletes is because they have requirements that must be met to participate each semester. Each school has their own set of requirements, some are more lenient than others, but athletes must be eligible to participate. One study showed that one high school only enforced a 1.0 GPA and their athletes only had to pass 4 out of 7 classes. However another high school in the study enforced a 2.5 GPA with no failing grades (Bukowski, 2010). While there is a very wide range of requirements in these two schools, most schools meet somewhere in the middle with a 2.0 GPA requirement and one failing grade (Bukowski, 2010).

Student athletes know that they must perform at a certain level in the classroom in order to participate in their sport. Therefore, they are more likely to stay on top of their studies and keep their grades up or at least keep them to a solid average. Student athletes with a vision of receiving a scholarship and moving onto the next level to play in college will be held to higher standards starting in 2016. The NCAA will be raising their minimum GPA for incoming athletes from 2.0 to 2.3 at this time (Valdez, 2012). This is a strong statement by the NCAA. This makes it very clear to student athletes that their grades must be in order to attend college and play sports. The NCAA was going to implement this new rule in 2015, but decided to give student athletes one more year to get their grades in order (Valdez, 2012).

Another big factor regarding athlete's success in the classroom is attendance. In order to participate in athletics, students must be at school. The athletic handbook states that a student must be at school the entire day in order to participate in competition (Liberty Athletic/Activities Handbook 2012). Attendance issues lead to lower achievement in the classroom and can lead to students dropping out of high school (Liberty Athletic/Activities Handbook 2012). If students were participating in some type of after school activity, they would be much less likely to dropout. (Ayers, 2011)

Students who work to become a part of a team are putting themselves into a positive situation. By being a part of something, students are learning many of the tools that will help them to be successful in the future. By doing this while you're in high school, you learn to manage your time and will be better prepared for college and life in general. Being part of a team is something that is very special and cannot be replaced (Xie, 2011).

Time commitment is a factor that turns a lot of students away from participating in athletics. While it is a big commitment, athletics teach students many great life skills and can be one of the best learning experiences a young person can get (Xie, 2011).

The number of high school athletes continues to increase year after year. There were 7.6 million students playing high school sports nationwide in 2010-2011 (Koebler, 2011). This number has been on the increase for the last 22 years straight. Of all of the sports, basketball is currently the most popular with 18, 150 boys' basketball teams, and 17,767 girls basketball teams (Koebler, 2011). With 1.1 million athletes participating in football, it has the most athletes out. A surprising statement was that girl's lacrosse is the sport that showed the biggest increase in participation, up 9 percent from the past year (Koebler, 2011).

The statistics not only show a strong correlation between high school athletes and higher student achievement, the trend also continues with college students (Joyner, 2011).

Being a college athlete is comparable to working a full time job while taking a full load of classes. This is why it is important to become as prepared and organized as possible in high school to make the transition easier as student athletes make this big jump (Joyner, 2011).

There are benefits that college athletes receive that other students aren't able to take advantage of. These include academic tutors, study groups, meal plans, etc. This is very beneficial to athletes as they are spending numerous hours participating in their sport. Having tutors and study groups available are extremely important in and out of season (Joyner, 2011).

Another benefit that athletes have is being part of a group. Team members often come together like family, do things as a group, and help each other throughout the good and bad times. Many students that go to college are often sent out on their own and may not have a group of friends to help them out (Joyner, 2011).

However, the article "Grading College Athletes" explained that there are certain groups of athletes that may be boosting the entire GPA for all athletes. Walk-on athletes have a significantly higher GPA than recruited athletes (Rampell, 2010). The gap in grades between recruited athletes and walk-on athletes varied with how selective each institution they attended was (Rampell, 2010). This study also revealed that females GPA were much higher than male athletes (Rampell, 2010).

Research Methods

Research Design

A T-Test and Descriptive Analysis was the base of the research design. The independent variable was whether the student was an athlete or non-athlete. The dependent variable was the student's GPA. The alpha level was 0.25 for the T-Test.

Study Group Description

The study group for this research was the first senior class to ever graduate from the Midwest suburban high school in 2011-2012. The class consisted of 207 students, 75 of which were student athletes. Of the 207 students, 113 were male and 94 were female. The free and reduced lunch percentage of these students was 17%.

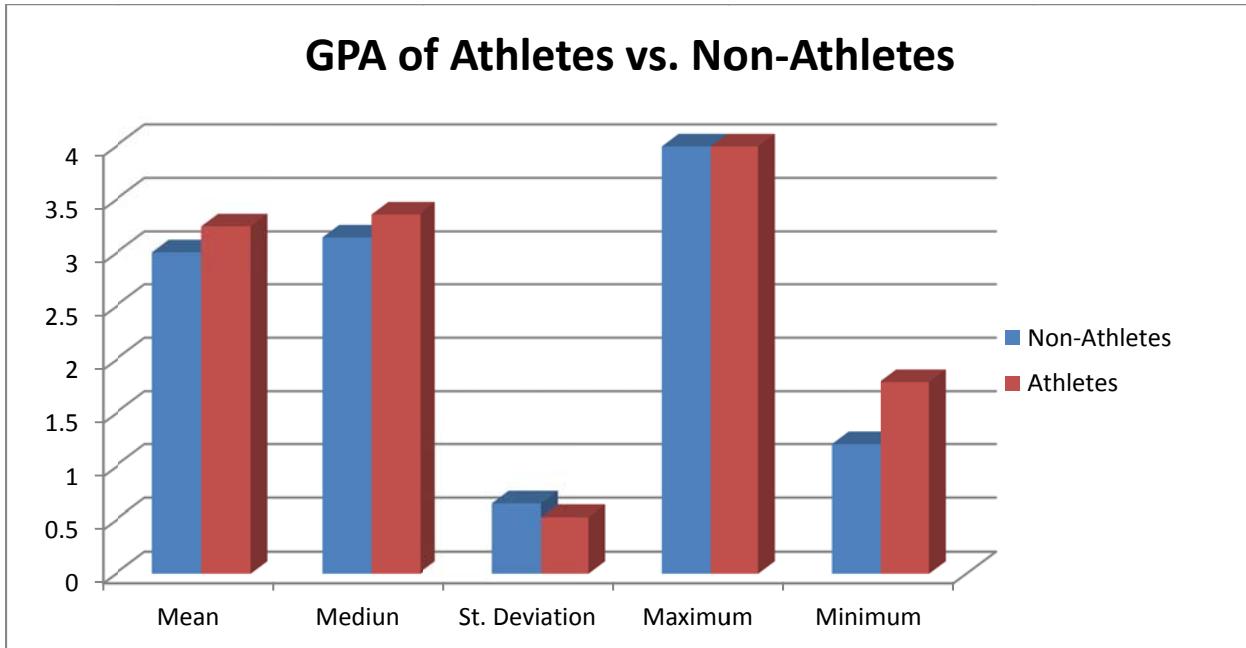
Data Collection and Instrumentation

The data for this study was provided by the school district's central office. The person in charge of power school and data services compiled the data needed for this study. He sent a list of all students from the class of 2012, identified by their student number only. The spreadsheet included the ID number and GPA. The school's Athletic Director and assistant provided rosters for each sports program that year. The athlete/non-athlete column was added using this information.

Statistical Analysis Methods

A Statistical Package software was used to complete the T-Test analysis as part of my study. Microsoft Excel was used for the Descriptive Analysis. The alpha level is set at 0.25.

FINDINGS

Descriptive Analysis

The chart above is a descriptive analysis showing the difference of GPA between athletes and non-athletes. The non-athletes are represented in blue and the athletes are represented in red. The GPA calculations are listed from 0-4 on the y axis on the left side of the chart. The mean, median, Std. deviation, maximum, and minimum are all represented along the x axis at the bottom. The mean GPA for non-athletes is 3.01. For athletes the mean GPA is 3.25. The average GPA for athletes is significantly higher than that of non-athletes. The median GPA for non-athletes is 3.15 and for athletes it is 3.36. Once again the athletes median GPA is higher by 0.21 points. The Standard Deviation for non-athletes is 0.65, while the athletes is 0.53. The maximum GPA for both non-athletes and athletes is 4.0. However, what the chart doesn't show is that the athletes actually had 4 students with a 4.0 GPA and the non-athletes only had one.

The minimum GPA for non-athletes is 1.21 and the athletes' minimum was 1.79. The minimum for non-athletes was 0.58 lower than that of the athletes showing a significantly lower GPA minimum.

*T-Test Analysis***Test Analysis Results for GPA of Athletes vs. Non-Athletes**

Source	Mean	Mean D	t-test	df	p-value
X=GPA of non-athletes	3.01				
Y=GPA of athletes	3.25	-0.24	-2.75	205	0.007

Note: Significant when $p \leq 0.25$

A Statistical Package was used to complete the T-Test above. The sample size of the entire group is 207, 132 non-athletes and 75 athletes. X represents the GPA of non-athletes and Y represents the GPA of athletes. The T-Test shows that the mean GPA of non-athletes is 3.01, while the mean GPA of athletes is 3.25. The P-Value is 0.007. The P-Value is less than the alpha level of 0.25. Therefore, there is a significant difference in the GPA of athletes vs. non-athletes. Athletes from the school's class of 2012 performed at a significantly higher rate than non-athletes.

Conclusion

The null hypothesis stated that there was no significant difference in the GPA of athletes and non-athletes. However, the results of the study determined that there was a significant difference in the GPA of athletes and non-athletes. The GPA of athletes was significantly higher than that of the non-athletes. The athletes of the class of 2012 had an average GPA of 3.25 which was considerably higher than the non-athletes average of 3.01.

The sample size of the study was 207. While this was a smaller sample size, the study was reliable in the numbers it produced. Most articles that were reviewed came back to the same main point, students that compete in athletics achieve at a higher level with their academics than non-athletes. Even with the smaller sample size that was used from the 2012, the same types of results were present. The average was much higher, the median was higher, and the maximum GPA of 4.0 was achieved four times by athletes and only once by the non-athletes.

Students that are involved in athletics are proving that they achieve higher than non-athletes. Why is this? There are many factors contributing to the higher achievement. One, students have to reach certain requirements when it comes to GPA and test scores to be allowed to participate in athletics. On the other hand, students not involved in athletics don't have to worry about any of these requirements. Another factor that plays a big role in their high achievement is the motivation level of these students. For the most part, athletes are highly motivated people that do not like to fail at anything. These students are more likely to be the most competitive on the playing field and in the classroom.

The days of hearing how athletes are only in school because of their abilities on the field are over. The requirements are becoming stricter for athletes to attend NCAA universities in the

next few years. These students are very motivated and are proving through studies that they are outperforming the non-athletes on average. Athletes know that they must perform at in the classroom before they will even be allowed on the field.

As the school district goes through the reconfiguration of having 4 middle level buildings and sending the 9th grade students to the high school, there were some very important questions thrown out there. Is there a need for 8th grade sports? Should 8th grade sports be minimized? How can the costs be minimized to enable the district to keep 8th grade sports?

The recommendation is that 8th grade sports need to continue. The cost is going to be a big issue with this, but the success of our student-athletes in and out of the classroom is really showing the importance of these programs. With athletes on average scoring higher than non-athletes in the classroom, this is the number one and main reason that we should continue on with our 8th grade sports. Athletics are one of the main reasons that some students become dialed in at school and want to achieve. If 8th grade sports are no longer provided, the schools may be losing some future athletes. Some of these kids really need athletics in the after school hours. Their home life may not be that great, they could live in a bad neighborhood, etc. By sending these students home right after school, there is a greater chance that they don't succeed in and out of the classroom like they have the potential to do so.

The school district should co-opt their 8th grade athletics with the feeder buildings. Two of the middle schools will be feeder schools to one high school and the other two middle schools will then feed the second high school. By combining the athletic programs of the feeder schools, the costs will be cut in half. This will eliminate the following costs:

- New coaching positions

- Half of the new uniform costs
- Half of the bus transportation
- Half of the officials pay
- Start-up cost will be completely eliminated because Liberty already has these sports
- Supervision/Scorekeeper pay will be minimized

The district will save a large amount of money by combining feeder schools for 8th grade sports.

We will still give a lot of our 8th grade students an opportunity to compete in athletics after school. The only negative about co-opting schools is that it will cut the student participation numbers. However, this is a great way to keep athletics in the middle level and still provide a solid opportunity for our students.

8th grade sports have to be a part of the middle level schools. The school district must continue to give their students athletic opportunities. By doing this, they learn at a younger age of what will be expected from them at the high school level. Athletics push kids to do well in the classroom and they teach them life lessons that they will need in no matter what they choose to do in life.

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