

**POSITIVE EFFECTS OF PARTICIPATION IN HIGH SCHOOL SPORTS ON
ACADEMIC ACHIEVEMENT**

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By

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SEMINAR PAPER ABSTRACT

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A review of the literature was conducted to examine the potential positive effects that participation in high school sports has on academic achievement. Specifically the review explored athletes' grades during season as compared to off-season, how the amount of participation is correlated with academic achievement, and differences in the academic achievement of athletically inclined versus less athletically inclined players. Research suggests that a correlation exists between being in season, the amount of participation and how athletically inclined a player is and the participant's academic achievement. Variables studied within academic achievement include grades, attendance, self confidence ratings and likelihood of attending college. Although correlations were found, none of the studies used experimental designs with random assignment and most of the studies did not look at why there might be a correlation.

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CHAPTER I

INTRODUCTION

Statement of Problem

According to a survey conducted by The National Federation of State High School Associations (1999), the number of students participating in high school athletics has progressively increased each year. During the school year of 1998 – 1999, over 6.5 million youth participated in more than 37 school sponsored sports. With this many youngsters participating in athletics, it is important to recognize the effects that participation has on today's youth.

In the past, many people believed that too much importance was placed on sports. Sports had a negative connotation because they were thought to take away from the purpose for which school was initially developed, education (Smith, 1988). Sports were believed, by some, to put the student's grades on the backburner. Sports were and still are attractive to many students, however, because of the high peer status and acceptance that comes along with participation (Snyder, 1975). This recognition in sports is received through pep rallies, news articles and games where they are seen and recognized in action. Academics, on the other hand, give students fewer of these same opportunities to be widely recognized.

California have resorted to getting corporate support ("Athletic Administrators Discuss," 1999).

In other states, schools are dealing with similar funding problems. Bloomfield, Connecticut, a city entering the 2000-2001 school year with a two million dollar school budget deficit, has cut all extracurricular activities including varsity sports. Anchorage, Alaska, entering the 2000-2001 school year with an eleven million dollar reduction in their budget, cut some sports from their school including swimming, hockey and gymnastics (Starr, 2000).

In advocating to keep athletics in the schools, it is important to demonstrate the positive impact athletics may have on academic achievement and learning. National, state and local leaders need to become familiar with the benefits that athletics provide before making budget decisions or policies that affect school athletics (Smith, 1994). The National Federation of State High School Associations believes that athletic participation is a valuable educational experience, helping in the experience of the classroom (Durbin, 1986). The American Sports Institute (ASI) stated that "the positive aspects of sport culture can provide the basis for a challenging academic program, one that offers sports oriented students a sense of meaning and significance in their lives and creates a learning environment, where students want to be at school, want to learn, and, in fact, do so" (Kirsch, 1995 p. 2). Sports could provide incentives for students to do better in school by giving them a reason to achieve (Emmons, 1994).

In the 1960's, sports were found to have a negative affect on the participant's academics (Coleman, 1961; Rehberg, 1969; Rehberg & Schafer, 1968). More recent

Many studies support the belief that participation in sports increases students' grades. Purdy (1981) conducted a ten year study involving female athletes and found that girls who participated in individual sports had a significantly higher grade point average than did girls who did not participate in athletics. Other studies have also found a significantly higher grade point average for male sport participants compared to male nonparticipants (Holland, 1987; Kirsch, 1995; Loy et al., 1978; Soltz, 1986). In addition to athletes having higher grades, Soltz (1986) compared on season and off season grades of male and female athletes, who were on 19 different interscholastic teams, and found that failed grades were more likely to be earned by the student when he/she was not currently participating in a sport. Many sports have rules where a student must obtain a certain grade point average to be able to stay on his/her current team. Soltz partially controlled for these confounding results by considering a student an athlete and in season if their name appeared on the roster at the beginning of the season.

In exploring potential affects of sport participation on academic achievement, it is important to examine why sports may effect students in this way. Sports provide opportunities to develop positive attitudes and real life skills, which help in one's future success (Otto, 1975; Otto & Alwin, 1977; Spady, 1970). Holland and Andre (1987) believe that sports develop new traits in its participants such as good organization, planning and time management. Sports also develop positive attitudes and instill discipline and motivation in its participants. These interpersonal skills can also be generalized into the classroom (Griffin, 1998; Otto & Alwin, 1977).

Others believe that sports have a positive effect on academic achievement because athletes are more respected by the student body and the school staff than are other students. Athletes often have higher grades because they have higher standards to meet (Durbin, 1986). Athletes are often part of an elite crowd where peers positively influence each other's educational expectations (Lueptow & Kayser 1973; McDill & Coleman, 1965). Rehberg (as cited in Ballantine, 1981) found that having these positive peers in one's life increase athletes' self esteem, which can be generalized into the classroom. Snyder (1975) also believes that this elite crowd is treated better by the school staff with extra encouragement and favoritism in relation to other students (Shafer & Rehberg, 1971). Snyder (1972) found that coaches were both positive influences and positive role models for their basketball team participants, second only to parents. This extra attention from coaches allows the athlete to have an extra resource to help them develop their educational aspirations and guide them in their future studies (Rehberg, 1969; Snyder, 1975).

Other interpretations have been made from the current findings on the benefits of sports participation on students. Spady (1970) reported that there is a link between mental and physical ability. The brighter students are more likely to be involved in extracurricular activities, sports being just one of them, therefore creating a correlation between the two. Spady believes there is no cause and effect relationship between sports and grades, sports are just more likely to influence the brighter students to participate. Hanks and Ecland and Shafer and Armer, as cited in (Holland and Andre, 1987) believe

that academic differences exist between athletes and nonathletes because of preexisting factors such as IQ, curriculum, previous grade point average and father's occupation.

More research needs to be done on the long term effects that sports have on today's youth. Most of the research conducted on how sports affect students is based on male high school students with a few including junior high students and females in their research (Buhrman, 1972). Some research has looked at how the degree of involvement affects the student's academic achievement. Several of these studies focus on how many sports students participate in within a certain year (Feltz & Weiss, 1984), and others focus on length of involvement. Fleenor (1997) researched how participation in school sports affected one's academic achievement. She found neither a positive nor a negative relationship between participation and academic achievement, but her definition for participation was that the student only had to participate in at least one school sponsored sport between their fourth and eleventh grade years. Other studies examined how star basketball players were more likely to achieve academically than less athletic participants (Holland & Andre, 1987; Snyder, 1975). These authors suggest that long term participation in sports, giving them more practice and experience with the sport, creates a star athlete. The combination of long term participation and being a star athlete contribute to a greater positive impact on the individual's academics. Laughlin's (1978) research focused on how ongoing participation is more beneficial than is short term participation. In his comparisons, he found that male wrestlers from seven schools who were in season had a higher grade point average and fewer absences than out of season participants.

Objectives

The purpose of this paper is to provide a review of literature concerning the positive effects that sports may have on academics. This paper will specifically focus on how participation in school sponsored team sports may affect students' academic achievement and grades.

This review is important to school psychologists because it is beneficial in understanding the student as a whole. In the process of evaluating a child and giving the student support, it is important to look at factors outside of the classroom that may impact a child's behaviors, motivations and learning. The school psychologist needs to look at all of the factors that influence the student, including sports. School psychologists need to take a global view when assessing children including the child's family, progress in all classes, social skills, interests and participation in extracurricular activities including sports. By looking at the presented research, it can be concluded that participation in sports is positively correlated to academic achievement. In some cases the school psychologist may recommend sports to certain students who are having a difficult time with school or encourage current participants to stay in sports. School psychologists can go even further and become advocates for keeping sports in today's schools.

Research Questions

1. Are student athletes' grades higher while they are currently participating in a sport as compared to the off season?

2. How is amount of participation related to the student's academic achievement? For example, if the child participates in three sports per year, is it more academically beneficial than just participating in one sport during the school year?
3. How do star athletes' academics compare to those of regular players and substitutes?

Definition of Terms

The following terms are defined by how they specifically relate to the reviewed research.

Sport - For an activity to be considered a sport, the sport must be a school sponsored team sport. This includes sports where participants individually participate, but contributing to a team, for example track and field.

Academic Achievement - Academic achievement includes the student's report card grades, attendance, involvement in other school related activities, and aspirations to attend college. Aspirations are measured via student surveys on their future goals and their likelihood of attending college.

Star Athlete - A star athlete is more athletically inclined than the other athletes on the team. They are also more than just a starter, they stand out as one of the best players on the team.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

A large body of research has shown that participation in sports is related to one's academic achievement (Durbin, 1986; Holland & Andre, 1987; Loy, et al., 1978; Otto & Alwin 1977; Purdy, 1981; Smith 1988; Snyder 1975; Soltz, 1986). Sports are correlated with participants' academic achievement in many ways. Studies have found that students who participate on high school sports teams have better attendance (Durbin, 1986; Laughlin, 1978), higher grades (Holland & Andre, 1987; Kirsch, 1995; Loy, et al., 1978; Soltz, 1986) fewer failing grades (Soltz, 1986), less chance of dropping out of school (Durbin, 1986), more educational encouragement for seniors to go to college (Snyder, 1986) and higher aspirations to go to college (Feltz & Petlichkoff, 1983; Holland & Andre, 1987).

This literature review will focus on three questions related to one's participation in sports, academics and progress in school. The questions that will be the focus of the literature review include:

1. Are student athletes' grades higher while they are participating in a sport as compared to their grades in the off season?
2. How is amount of participation related to the student's academic achievement? For example, if the child participates in three sports per year,

is it more academically beneficial than just participating in one sport during the school year?

3. How do star athletes' academics compare to those of regular players and substitutes?

During Season and Off Season Grade Comparisons

Studies have found that many junior high and high school students receive higher grades when they are currently participating in a sport as compared to when they are in the off season (Durbin, 1986; Laughlin, 1978; Soltz, 1986). In separate studies, Laughlin (1978), using basketball players, and Durbin (1986) simply compared the participants' during season grade point averages to their off season grade point averages. Soltz (1986) also found that high school athletes of 19 interscholastic teams received fewer failing grades when they were currently participating in a sport as compared to when they were not participating in a sport. In looking specifically at the failing grades of 1,500 student athletes, 23% of all of the athletes who were currently in season received failing grades, whereas 77% of the athletes that were in season did not receive a failing grade. In looking at the student athletes that were not in season, 35% of the off season athletes received failing grades and 65% of the off season athletes did not receive failing grades. From these results, Soltz concluded that students received better grades while they were currently participating in a sport.

Soltz (1986) examined reasons why students' earned grades might be better when they are currently participating on a team. Soltz included students as athletes if their

name appeared on any list of nineteen interscholastic teams. In his study, he examined first and second semester grades earned by 24,000 male and female high school students during the 1982-1983 school year. He suggested that some athletes might take easier or fewer courses during their competing semester, that they might use the less time they have to study more effectively, or that the sport might increase their motivation to do well in the classroom. Another hypothesis is that athletes have increased pressure to do well in the classroom so they can stay eligible to participate in their particular sport.

Along with better grades, athletes have better attendance records than their nonathletic counterparts during the off season and their attendance records are even better while they are currently competing in a sport (Durbin, 1986; Laughlin, 1978). Laughlin (1978) examined 243 junior varsity and varsity wrestlers in seven different schools. He interviewed coaches, looked at rosters and school records and controlled for parental education and socioeconomic status of the participants. Although he explained his conclusions to encompass all athletes, his conclusions can only be generalized to wrestlers. Laughlin believed that the pressure for attendance in the sport carried over to the classroom. Durbin (1986) and Laughlin (1978) reasoned that higher attendance records during the season might lead athletes to have higher grade point averages while they were in season than when they are not.

Athletes were also found to be less likely to drop out of school (Durbin, 1986). Durbin found that 94% of high school dropouts were nonparticipants of school activity programs. Durbin concluded that athletes, being part of an activity, are more likely to stay in school. These results should be interpreted with caution however, since Durbin

obtained his finding through two national surveys and did not provide information on the demographics of the participants or explain how the study was conducted.

Amount of Participation

Studies have found that the earlier teenagers begin to play sports and the more sports that they participate in the higher their grade point averages (Buhrmann, 1972; Feltz & Weiss, 1984). According to Buhrmann, the longer a student participates in a sport, the greater the positive correlation with their academics. In this study, Buhrmann (1972) demonstrated that students who participated for a longer period of time, five to nine seasons or two to three years, had higher grade point averages than did athletes who participated less, one year or one to four seasons. He studied 158 junior high school boys who participated in football, basketball, track and field, wrestling, tennis and golf during the years between 1959 and 1965, controlling for both socioeconomic status and previous grade point averages. In one facet of his study, he looked at how the length and amount of participation in sports correlated with the student's grades, specifically in the ninth grade. The length and amount of participation were obtained from coaches and were categorized into years and semesters. Buhrman's conclusions should be considered with caution because of the many changes in school and athletes in the past four decades.

Feltz and Weiss (1984) found that the higher amount of participation positively correlated with one's American College Test (ACT) scores. They believe that the amount of participation could have more of an affect on one's academics than just participating alone because these heavy participators learn how to manage their time well

or they learn to handle many different activities at the same time. This may mean that none of their roles, including that of being a student, suffer due to their high amount of involvement. By looking at listings in high school year books, Feltz and Weiss categorized over 900 high school female students into four participation categories consisting of athlete only, service only, both athlete and service and a nonparticipant group. They also controlled for socioeconomic status of the participants family, knowing that this factor is also influential on one's college aspirations and academic achievement. The more involved a high school girl is in extracurricular activities, the more beneficial it is to her academics. Specifically, junior and senior girls who participated in five or more activities over a two year period had higher ACT scores than girls who participated in fewer activities. These results came from the 52% of the female subjects who actually took the ACT. No difference was found between the school service and athletic groups.

Athletically and Less Athletically Inclined Students

Star athletes may receive more personal and school related benefits than do less athletically inclined students (Buhrmann, 1972; Feltz & Petlichkoff, 1983; Feltz & Weiss, 1984; Lueptow & Kayser, 1975; Snyder, 1975). More athletically inclined students are most likely to become the star athlete of their team. Being looked upon as one of the best players on a sports team brings many advantages to the athlete that do not come to a substitute player or even a starter.

More athletically inclined high school players have more self confidence in themselves which many of the substitute players lack (Feltz & Petlichkoff, 1983; Holland

& Andre, 1987). Confidence is correlated with other areas including how one feels in the classroom. Most students who drop out of sports do so because of their lack of confidence. These male and female athletes who participate in basketball, volleyball, softball, track and field, football, swimming, baseball, gymnastics, golf, cross country, tennis and wrestling, often feel that they are not as good as they want to be, may not believe they have the needed skills to improve and may believe they lack physical competence (Feltz & Petlichkoff, 1983). According to Schendel, these negative beliefs about themselves make them feel frustrated about their abilities (as cited in Holland & Andre, 1987). This lack of self confidence, as suggested before, could affect the student in the classroom as well as in their sport.

Besides a possible gain in self confidence, which may transfer into the classroom to help boost grades, another possible advantage to being a star player is the extra advice that is given to those players from their coaches (Lueptow & Kayser, 1975; Snyder, 1975). This advice oftentimes consists of encouraging college attendance. This encouragement could result in support for the athlete to go to college for academic pursuits or to continue their athletic career. Snyder's (1975) questionnaires were a Likert type scale. Many of the questions were vague such as "Has your coach been an influence on you?" and "Have you decided whether or not to go to college?" (p. 194). He sent these questionnaires to randomly selected male basketball players from 270 high schools. Among these randomly selected players, he sent questionnaires to star athletes, which he defined as players who received honorary awards such as all city, all area and all state.

Snyder (1975) found that coaches give more advice to star athletes (75%) than starters and substitutes (48% and 26% respectively). Senior star basketball players were found to receive more advice about college and be more likely to go to college than were nonstar players. Snyder (1975) found no differences for the non senior participants and Lueptow and Kayser (1973) only assessed senior basketball, football and track and field male participants in their study. Snyder (1975) explained his finding by stating that many times non seniors are not thinking about their future plans. This extra advice is correlated with the players seeing their coaches as being more of an influence, particularly in issues related to college aspirations. Seventy-three percent of star athletes aspire to go to college, compared with 55% of students who are involved in sports but are not the stars and 43% of students who are not involved in sports but aspire for college (Lueptow & Kayser, 1973).

Self confidence and extra adult support may both contribute to the star athletes' increase in academic achievement (Feltz & Petlichkoff, 1983; Holland & Andre, 1987; Snyder, 1975). Lueptow and Kayser (1973) gave questionnaires to all of the seniors in 20 randomly selected schools. These questionnaires obtained information on each student's estimated likelihood and thoughts about going to college. Star athletes were identified by asking for each participant in the study to identify the three best athletes in their particular school. Although they controlled for intelligence and parents' education, this question could be biased due to popularity and rivalry.

Lueptow and Kayser (1973) found that 62% of those who were considered star athletes, participating in basketball, football, track, baseball, golf, softball, swimming,

tennis and wrestling, had grade point averages above the student mean. Forty-four percent of all athletic participants and 39% of all nonathletes had grade point averages above the student mean. These percentages did not control for intelligence and parents' education. Buhrmann (1972) asked junior high coaches to rate the ability levels of their players on a three point scale of substitute (1), regular (2) and outstanding (3). His results showed that the players who obtained ratings of two and three had significantly higher grade point averages than the players whose ratings were lower.

Many of these studies that assessed aspirations to go to college, advice given by coaches and self confidence, were based on sending questionnaires to the participants. The conclusions should be interpreted cautiously considering the confounds that can come with the results of questionnaires. Besides response bias in terms of who chose to complete the questionnaires, some of the subjects could have lied when answering the questions out of embarrassment or others could have embellished their answers. In addition, some students could have answered that they were going to attend college, but changed their mind and ended up not going. None of the studies followed up and checked for accuracy in student responses and only one of the studies controlled for student intelligence and parental education. None of these studies controlled for socioeconomic status or race.

Weaknesses in the Research

There are some weaknesses and gaps with the research in the area of the effects of participation in high school sports on academic achievement. Most of the research in this

area has concentrated on male high school students with the exception of three studies that looked at junior high students (Buhrmann, 1972; Feltz & Petlichkoff, 1983; Laughlin, 1978). There have been no studies that have looked at the effects of sports on elementary children or if participating in sports while in elementary school affects one's academic achievement while in high school.

A second area of weakness is that few studies controlled for race or gender. No studies examined if race was a factor that affected the player's academic achievement. Feltz and Weiss (1984) was the only study that took race into account and 95% of their subjects were white. Studies also did not examine the differences between male and female participants. The few studies that included females did not look at how female and male academic achievements were different.

A third major area of weakness in the research is that there are few current studies that examine sports and academic achievement. Schools, sports and students are forever changing. It is difficult to look at research that was conducted up to 32 years ago and to try to generalize that to today's athlete it is possible that these correlations do not hold true today.

A fourth weakness is that along with few current studies, no randomization of groups occurred. Participants of athletic teams chose to participate. This is a form of self selection. Causation can only be determined if students who participate on athletic teams are randomly chosen.

A fifth weakness is that few studies have looked at why there is a correlation between one's academic achievement and participation in sports. More studies need to

control for race, gender, intelligence and socioeconomic status. The question remains if sports are actually beneficial, or if the more academically inclined students are just more likely to participate in sports. Both would yield the results that athletes have higher academic achievements.

Summary

The reviewed research has demonstrated that participation in sports is positively correlated with players' academic achievement (Durbin, 1986; Holland & Andre, 1987; Loy et al., 1978; Otto & Alwin, 1977; Purdy, 1981; Smith, 1988; Snyder, 1975; Soltz, 1986). The benefits of sports are more likely to be beneficial when the participant is in season (Durbin, 1986; Laughlin, 1978; Soltz, 1986) and participates for longer periods. It is still unclear if the actual benefits come from sports alone or if just participation in some form of extracurricular activity is enough (Feltz & Weiss, 1984). Students who are better at sports, the star athletes, are more likely to stay in sports. They gain benefits from participating in the sport longer and from being the star athlete. Being the star athlete has been found to positively correlate with one's self concept (Holland & Andre, 1987; Feltz & Petlichkoff, 1983), to allow one to obtain more educational advice from their coaches (Snyder, 1975) and to correlate with greater gains in one's academic achievement (Feltz & Petlichkoff, 1983; Holland & Andre, 1987; Snyder, 1975).

These conclusions should be looked at cautiously considering the weaknesses that are in the research. Few studies that examine sports and academic achievement are current. In addition, these studies have not looked at why there is a correlation between

CHAPTER III

DISCUSSION

This chapter will summarize the information that was presented in the first two chapters. A conclusion will be formed given the review of the literature.

Recommendations will be made considering weaknesses of previous studies and suggestions will be made for further research.

Summary

This paper has reviewed the positive effects that high school sports may have on participants' academic achievement. Specifically, it has reviewed the research on: 1) during season and off season academic achievement comparisons 2) how the amount of participation is correlated with one's academic achievement 3) if the star athletes who are more athletically inclined have greater positive outcomes from participating than do less athletically inclined participants.

Participation in sports is positively correlated with numerous benefits. These benefits come in the form of better attendance (Durbin, 1986; Laughlin, 1978), higher grades (Holland & Andre, 1987; Kirsch, 1995; Loy et al., 1978; Soltz, 1986), fewer failing grades (Soltz, 1986), less chance of dropping out of school (Durbin, 1986), more

college (Lueptow & Kayser, 1973) and higher self confidence (Feltz & Petlichkoff, 1983; Holland & Andre, 1987). Many of these benefits are stronger when the participant is currently in season, involved in a greater amount of sports throughout the year, has played sports longer, and is the star athlete.

Conclusions

Generally, participation in sports while in high school is associated with many positive correlates. However, specific factors are more strongly correlated with increased benefits to participants. Participants' increased length and frequency of participation are positively correlated with stronger benefits (Buhrmann, 1972; Feltz & Weiss, 1984).

Sports are most likely to be beneficial to the participant during the season. While a student's team is currently in season, the student is more likely to have higher grades (Durbin, 1986; Laughlin, 1978; Soltz, 1986). More specifically, Soltz (1986) found evidence to suggest that in season athletes have fewer failing grades than when they are not in season. Fewer failing grades many times occur while students are currently participating in a sport because marks of a "D" or a "F" disqualify the student from participating in their sport until their grade is improved. Currently, participating athletes are also more likely to have better school attendance than off season athletes (Durbin, 1986; Laughlin, 1978). Better attendance could be due to having to be present at school in order to be able to practice and to participate in the scheduled game.

The longer an athlete participates on athletic teams, the more likely he or she is to benefit from them. Longer participation has been positively correlated with higher

grades (Buhrmann, 1972) and higher scores on the participants' ACTs (Feltz & Weiss, 1984). The researchers believe that one reason for these findings is that the longer one participates in activities the more they learn how to manage their time.

This conclusion that more participation increases one's grades has to be looked at cautiously because no studies have examined the actual long term effects that sports have on its participants. The reviewed studies concluded that longer participation is beneficial, but the years that these athletes participated were only up to three years. This is a relatively short period. A major limitation in the given research is that the research is not experimental. It could not demonstrate if the students with better grades just happened to participate longer or if participating longer actually produced positive results and benefits to its participants. They did not look at grades prior to participation; the researchers just examined post grades. Some researchers (i.e. Feltz and Weiss, 1984) did not differentiate between participation in sports and participation in other extracurricular activities. Although participation in school activities was correlated with higher ACT scores, there was no difference found between participation in sports and participation in other activities.

The more athletically inclined an athlete is, the more likely he or she may be to benefit from participating in sports. These particular athletes have more self confidence, which may transmit into the classroom (Holland & Andre, 1987; Schendel, 1968). Star athletes also receive more advice from their coaches, especially about attending college (Snyder, 1975). Lueptow and Kayser (1973) reported that star athletes might be more likely to attend college. All of these factors contribute to the more athletically inclined

students' higher academic achievement (Feltz & Petlichkoff, 1983; Holland & Andre, 1987; Snyder, 1975). However, this conclusion should be interpreted cautiously since this study relied on surveys and no follow up was done to see if these students actually attended college or if they made it through the first year.

School psychologists and educators can benefit from understanding the positive correlates associated with sports participation. These professionals can promote sports in their schools by informing students, administrators and teachers about the potential benefits that sports may have. If sports help students with their academic and educational achievement, then sports should not be eliminated from schools. Educators can encourage students to participate in the available sports that their school has. If the educator's particular school has a small athletic program, which make teams only available to a few students, then the educator could promote other teams, either school sponsored or intramural. Having more sports within the school would allow more students to be involved in them and reap the benefits that studies have suggested that they bring. Given the research that has shown how star athletes are more likely to gain educational advice (Snyder, 1975) school psychologists can make this known to teachers and coaches and encourage them to also provide the less athletically inclined athletes educational advice.

Recommendations

1. If intramural sports are recommended to some students, then rules may need to be applied to intramurals so participants can obtain the same benefits that regular sports

may bring. These rules could include needing to be present at school in order to participate that day and having to keep a minimum grade point average to be eligible to participate.

2. Updated research needs to be done on the effects that sports have on the participants' academic achievement. Most of the research that conclusions are based on in this area were done in the 1970s and 1980s and a few studies were done in the early 1990s. With today's changing schools and society in general, it is difficult to make conclusions on the actual affects that sports have on its participants by looking at the studies that have been done so long ago. According to the National Federation of State High School Associations (1999), there are more participants in sports and an increase in the number and kinds of sports available. With the changing of today's sports, different expectations are placed on athletes including the amount of practice time required and the number of scheduled games throughout the season. Many schools have also implemented a minimum grade point average for students to have in order for them to be eligible to play. All of these factors can contribute to the effects that sports have on its participants.
3. The discussed research has primarily been done on high school sport participants, with only a few that have focused on junior high students (Buhrman, 1972; Feltz & Petlichkoff, 1983; Laughlin, 1978). The question still stands on how sport participation affects children who are athletes while in elementary school. No studies have examined this question. Many athletes begin participating in sports during early elementary school. Starting to play sports in elementary school could affect the long

term benefits that sports have. The given research would suggest that this long term involvement would increase the benefits that sports provide. This is only a speculation, since no research assessed this area. Long term involvement in sports could also increase the likelihood of an athlete being a star player, which research suggests would be most beneficial.

4. Long term effects that sports have on high school grades of students who participated in athletics while in elementary school could be examined. This research could examine if early participation in sports is beneficial to the student when they proceed into high school. This could be studied by looking at students who participated in sports while they were in elementary school, but did not participate while they were in high school. High school athletes' grades could also be examined comparing athletes who participated in elementary school to those of athletes who did not. Studies could also examine if participation in sports has the same effects on elementary students as it has on junior high and high school athletes. Does participation in elementary school raise one's grades, increase one's attendance or raise one's self-confidence? Is it as important to be a star athlete in elementary school as it is in high school? Do these benefits happen during their first year of participation or do they increase with the years of participation, like in high school? Many of these questions could be examined with more research that expanded the questions of participation in sports to elementary athletes.
5. Another way to observe long term affects of participation in sports is to look at successful young adults to see if they participated in sports. If they did, it would be

helpful to find out what sports they participated in and what factors did they think contributed to their present success.

6. Few studies have controlled for socioeconomic status or parent education (Buhrmann, 1972; Feltz & Weiss, 1984; Laughlin, 1978; Lueptow & Kayser, 1973).

Socioeconomic status and parental education could be factors that influence a student's academic achievement. More studies need to control for these variables to see if they are influencing factors in why students participate in sports.

7. Studies need to be done to look at the possible negative effects that sports have. The reviewed studies concentrated on the relationship between sports participation and academic achievement, but other nonacademic factors might be detrimental to the athlete.

8. Many studies conclude that the higher amount of participation in sports leads to higher academic achievement, but there may be a point where there is too much sports involvement. Studies should examine how much participation is too much. Most research examined students who participated throughout the year, but only participated in one sport at a time. Future research could examine the effects of participating in more than one sport at a time, which could change the current findings that more participation may be beneficial to one's academics.

In conclusion, by looking at the research, it appears that high school athletics may be beneficial to its participants. There needs to be more recent data to see if these findings still hold true for today's youth. The research also needs to be expanded to include elementary sport participants.

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