The value of Interscholastic Sports: Impact of Athletic Participation on GPA and Graduation Rates

Indiana State University
NFHS and NIAAA Study

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Introduction

Proponents of high school sport programs believe that sports contribute to the overall education of students.

NFHS Mission Statement

The mission statement of the National Federation of State High School Associations (NFHS) supports this belief by stating that it serves "…students by providing leadership for the administration of education-based interscholastic activities, which support academic achievement, good citizenship and equitable opportunities" .

NFHS
Point of Emphasis

In fact, in "The Case for High School Activities," the National Federation of State High School Associations (2008) **emphasizes** that students who participate in high school sports make higher grades.

National Association of State Boards of Education says …

Even the National Association of State Boards of Education (2004) claims the purpose of high school sports "…is to enhance the whole school experiences for all students. Academic achievement must always be considered the priority" (p. 5).

What Does the Literature Say?

Participation in Extracurricular Activities

- Several larger-scale studies (McCarthy, 2000; Branch, 2003; VanDuyne, 2004; and Corbett, 2007) have reported academic benefits associated with participating in extracurricular activities.
- Participants had significantly higher GPAs and significantly lower absenteeism than did non-participants.
- Overall, female students had higher GPAs than did male students; both female and male participants had higher GPAs than did non-participant comparison groups.

Literature says ...

- Branch (2003) found significant differences between the academic achievement of students who did and did not participate in school-sponsored extracurricular activities.

- Students who participated in extracurricular activities had the highest GPAs, followed by athletes as a sub-group.

- Most researchers agree that structured activity participation was linked to many positive academic, behavioral, psychological, and young adult outcomes.

Literature Says …

- Several other studies, however, have supported the connection between participation in high school sports and higher grades and other indicators of academic achievement
  (Broh, 2002; Fejgin, 1994; Feldman & Matjasko, 2005; JacAngelo, 2003; Kaufmann, 2002; Overton, 2001; Stegman & Stephens, 2000; Whitley, 1995).

- The results from more recent studies suggested that participation in high school sports was positively related with higher grades, higher graduation rates, and higher scores on standardized assessments for athletes when compared to non-athletes.

Literature Says ...

- Lumpkin & Favor (2012) found that the academic performance of students in grades 9-12 who did or did not participate in high school sports in Kansas during the 2008-2009 school year had an impact on academic performance.
- In addition to overall comparisons between athletes and non-athletes on GPAs, graduation rates, number of dropouts, standardized test scores, and state assessments, some gender, ethnicity, and grade comparisons were made.
- High school athletes earned higher grades, graduated at a higher rate, dropped out of school less frequently, and scored higher on state assessments than did non-athletes.

Literature says …

- Differences between athletes and non-athletes were found for males and females across all academic performance measures, with females contributing more to the differences between athletes and non-athletes on GPAs and not dropping out of school.

- Whites contributed more to the differences between non-athletes and athletes than did the other racial categories for GPAs, graduation rates, and not dropping out of school.

Literature Says …

- There is a link between GPA and extracurricular involvement (National Center for Education Statistics, 2011)
  - Due to being involved in extracurricular activities (2010)
    - 40% athletics (1990 – 36%)
    - 32% school clubs (1990 same)
    - 23% music/performing arts (1990 same)
    - 14% academic clubs (1990 same)
    - 10% newspaper/yearbook (1990 same)
    - 9% student government/government (1990 – 11%)
- National Graduation Rate (National Center for Education Statistics, 2011)
  - 2006 – 73.4%
  - 2011- 77.7%

Literature Says ...

Budgets

- In the current economic climate, the debate over whether participation in high school extracurricular activities including sports enhances or detracts from the educational achievement of participants has resurfaced. (Lumpkin & Favor, 2012)
- Proponents of extracurricular activities and sports believe these opportunities enhance academic performance, especially when students must meet specific levels of academic achievement to maintain eligibility. (Lumpkin & Favor, 2012)
- Unfortunately, school districts across the country have encountered major reductions in state and local funding, forcing administrators to identify areas for budget reductions and opening the door for opponents who might target extracurricular activities as easy choices. (Lumpkin & Favor, 2012)

Literature Says …

Attended College

(National Center for Education Statistics, 2011)

- High school seniors who planned on attending college had higher participation rates in various extracurricular activities in 2010 than those who did not have college plans.
  - 43% who had college plans participated in athletics compared to 25% who did not plan to attend college.
  - Among those planning to attend college/not attend
    - 37% clubs/activities/15%
    - 25% music/performing arts/14%
    - 17% newspaper/yearbook/5%
    - 11% student council/government/2%

Research Findings on Possible Health and Physical Benefits

- With regular participation in a variety of sports, children can develop and become more proficient at various sports skills (including jumping, kicking, running, throwing, etc.) if the focus is skill mastery and development. They can also develop agility, coordination, endurance, flexibility, speed, and strength. More specifically, they can develop:

  - Enhanced functioning and health of cardiovascular and muscular systems,
  - Improved flexibility, mobility, and coordination,
  - Increased stamina and strength,
  - Improved ability to maintain weight (as a result of skill acquisition), and
  - Increased likelihood of maintaining weight (American Academy of Pediatrics (AAP) Committee on Sports Medicine and Fitness (COSMF), 2001a; Beets & Pitetti, 2005; Brown, Clark, Ewing, & Malina, 1998; Tsunawake, Tahara, Moji, Muraki, Minowa, & Yukawa, 2003; van Mechelen, Twisk, & Kemper, 2002).

Research Findings on Possible Health and Physical Benefits

- Sports provide an arena for youth to be physically active and reduce the time spent in sedentary pursuits, such as watching TV and playing video games (AAP COSMF, 2001a; Brown et al., 1998).

- Regular participation in sports and physical activity will decrease the risk of diabetes, heart disease, obesity, and other related diseases. Children also tend to be more nutrition-conscious in their food choices when participating in sports (AAP COSMF, 2001a; Beets & Pitetti, 2005; Brady, 2004; Brown et al., 1998; Elkins, Cohen, Koralewicz, & Taylor, 2004; Kawabe et al., 2000; van Mechelen et al., 2002)

Research Findings on Possible Health and Physical Benefits

- Girls involved in sports are less likely to become pregnant or begin smoking and have a decreased risk of developing breast cancer (Leone, Lariviere, & Comtois, 2002; Tsunawake et al., 2003).

- Youth athletes have showed lower total cholesterol and other favorable profiles in serum lipid parameters associated with cardiovascular disease (Beets & Pitetti, 2005; Brady, 2004; Brown et al., 1998; Elkins et al., 2004; van Mechelen et al, 2002).

Research Findings on Possible Health and Physical Benefits

Favorable changes in and maintenance of body composition (i.e., higher percentage of fat-free mass and lower percentage of body fat) are associated with participation in youth sports (e.g., basketball, distance running, field hockey, lacrosse, gymnastics, soccer, and tennis), and training activities are associated with enhanced whole-body and regional bone mineral content and density (AAP COSMF, 2001a, 2001b; Bencke, Damsgaard, Saekmose, Jorgensen, Jorgensen, & Klausen, 2002; COSMF, 2000; Duncan, Blimkie, Cowell, Burke, Briody, & Howman-Giles, 2002; Faigenbaum, Kraemer, Blimkie, Jeffreys, Micheli, Nitka, & Rowland, 2009; Ginty, Rennie, Mills, Stear, Jones, & Prentice, 2005; Laing, Massoni, Nichols-Richardson, Modlesky, O'Connor, & Lewis, 2002; Laing, Wilson, Modlesky, O'Connor, Hall, & Lewis, 2005; Radelet, Lephart, Rubinstein, & Myers, 2002; Van Langendonck, Lefevre, Claessens, Thomis, Philippaerts, & Delvaux, 2003).

Summary of Health & Physical Benefits

- Participating in many sports and physical activities maximizes physiological development among young people.
- Growing bodies are predisposed physiologically to non-specialized physical activities; therefore, physical development and success in sports are enhanced by participating in **multiple sports** on a schedule that allows for periods of active rest and recuperation throughout the year.
- Participating in multiple sports and physical activities is more likely to enhance balanced physical development, expand skill-development opportunities, and encourage sport participation that maximizes lifelong fitness and well-being.

Research Findings on Possible Intellectual/Academic Benefits

- Activity participation is positively linked to better cognitive functioning in children (attention and working memory) (Bailey, 2006; Castelli, Hillman, Buck & Erwin, 2007; Sibley & Etnier, 2003), grades, test scores, school engagement, and education aspirations (Eccles & Barber, 1999; Marsh & Kleitman, 2002), reduced school dropout (Mahoney & Cairns, 1997), and a higher likelihood of college attendance (Barber, Eccles, & Stone, 2001).

- Students in athletics have been shown to perform better academically than their non-athletic peers with specific increases in academic self-concept, locus of control, school attendance, education aspirations, and time on homework (Fejgin, 1994; Marsh, 1992). How sport participation influences academic achievement is not known (Broh, 2002) and does not account for self-selection bias (Fredricks & Eccles, 2006).

Health and Physical Benefits Continued …

- Sport participation in school did not worsen academic results despite taking time away from class (Sallis, McKenzie, Kolody, Lewis, Marshall, & Rosengard, 1999).

- Researchers report that sport and physical activity participation has greater benefits for high-risk youth (Mahoney, 2000; Mahoney & Cairns, 1997), and youth from low-income families (Marsh & Kleitman, 2002). Students at the highest risk of school dropout benefit the most from extracurricular activities.

Summary of Intellectual/Academic Benefits

- Involvement in extracurricular activities, specifically sport, has been related to better cognitive functioning in children (attention and working memory) and greater outcomes academically including higher grades, test scores, engagement in school, satisfaction with school, aspirations and rates for attending college, as well as lower absenteeism and drop out rates.
- Demonstrated in interscholastic sports mostly, the research is not causal, the mechanisms for how sport participation influences academics are not proven, and few studies have accounted for self-selection bias and have not looked at the effects by developmental activity (Fredricks & Eccles, 2005).

NFHS/NIAAA Study 1 Results

Extensive Survey Created

- Sent to approximately 25,000 members
- Return rate
  - 969 logged in
  - 395 completed
    - Inconsistent data

- Type of schools (n= 884)
  - 702 public
  - 168 private
  - 14 charter
- Grade level (n= 880)
  - 256, 7-12
  - 589, 9-12
  - 35, 10-12
- School enrollment
  - 299, 0-499
  - 230, 500-999
  - 157, 1000-1499
  - 111, 1500-1999
  - 85, 2000+

NFHS/NIAAA Study 1 Results

- More than 1 Athletic Director (n= 862)
  - Yes, 53, 6%
  - No, 809, 94%
- Athletic Director Gender (n= 599)
  - 499 males, 83%
  - 100 females, 17%
- Participation in college athletics
  - 1146/20%
    - Males 593
    - Females 553
- Assessment of Pay-to-play fees

  (n=609)
  - Yes – 221
  - No – 338

  (n=125)
  - 90 / sport
  - 36 – flat fee
- Members of state association

  (n= 860)
  - Yes – 818
  - No – 42

Overall Arching Questions for the 2nd Study

- Does Participation in Athletics Make A Difference in Academic Success? Like other similar research the answer is definitely yes.
  - GPA
    - Male/Female
    - 1 sport/2 sport/3+ sports
  - Graduation Rate
    - Male/Female
    - 1 sport/2 sport/3+ sports

Results of Study 2

- Abbreviated Survey Created
  - No significant differences in demographics
  - Sent to approximately 8,000 NIAAA members
  - Return rate
    - 351 logged in
    - 230 completed
- Structure (n=238)
  - 68, 7-12 grades
  - 162, 9-12 grades
  - 8, 8-12 grades
- Enrollment (n= 238)
  - 90, 0-499
  - 52, 500-999
  - 44, 1000-1499
  - 23, 1500-1999
  - 29, 2000+

Results of Study 2

- Grading Scale
  - A – 5
  - B – 4
  - C – 3
  - D – 2
  - F – 1
- Females non-athletes had significantly higher overall average GPA than males 3.9/3.64.
- Female athletes had a significantly higher overall GPA than their male counterparts 4.2/3.9

Results of Study 2

- Those students participating in two sports had a higher average than those playing only one sport.
- Those students participating in three sports had a higher average that those playing one or two sports.

Results of Study 2

- There was a significant difference between the overall graduation rate and the student-athlete graduation rate. The student-athlete graduated at a higher rate than the non-student athlete.
- Student-athletes participating in two sports graduated at a higher rate than single sport athletes and non-athletes.
- Student-athletes participating in three sports graduated at a higher rate than single or two sport athletes or non-athletes.

Questions to Ponder

- Is it more important that students participate in an extracurricular activity or in specific sports?
- Should students be encouraged to participate in multiple sports rather than a single sport?
- Should interscholastic academic standards for student-athletes be the same as the NCAA minimum academic requirements for eligibility for college participation?

Questions