

Impact of Sports on Academic Achievement: Evidence from Recent Literature

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Abstract

The purpose of this study is to investigate the impact of sports on academic achievement. The research design for the study is Non-Experimental, descriptive and qualitative with a thorough review of the recent literature including a collection of editorials, reports and features written on the subject globally. The aim of the study is to establish a relationship between sports and educational outcomes including better grades, increased confidence in classroom interactions and better socialization skills. The results of the study may help the policy makers of India to address the lacuna in their planning and induce more changes in the physical education policy. The funds allotted for such purposes need to more than adequate as they directly affect the education output of the society.

KEYWORDS: Academic achievement, extracurricular activity, sports participation

Introduction

The new facts build up the foundations and edifice for new theories and principles. The review of relevant literature not only gives a thorough glimpse of the academic work already done in the field but it also serves as a bridge between the old theoretical principles and the building of new knowledge and theories. Literature review is essential to develop a researcher's insight into his field of study and establish his expertise in that field. It is an essential step to get a thorough comprehension of what has been already done to study the problem under consideration. It thus serves a two-fold strategy. First, it checks the problem of unwanted repetition in research. That is, a comprehensive literature survey allows a researcher to locate the gaps in existing literature and focus his research strategy into filling those existing gaps rather than piling up unnecessary research data leading to gross repetition. Second, it gives the researcher an accurate sense of the nature of the problem under study, the work done so far by other researchers, the lacuna in their research and the necessary steps to overcome the limitations of the existing research. Thus, a survey of relevant literature is indispensable for conducting credible, relevant and reliable research work.

In order to carry out the present research study, the theoretical and empirical research conducted earlier in the concerned field has been reviewed, as they constitute a base for designing new study. A careful review of the research journals, books, dissertations, abstracts and other sources of information on the selected research problem was made as the first step towards this study. Keeping in mind Best (1978) who says that practically all human knowledge can be found in books and libraries, an effort has been made to extensively cover as much literature as possible. This includes the literature which has a direct and indirect relevance for the problem under investigation and includes both qualitative and quantitative research that was conducted both in India and abroad. The

general focus of the topic is the effect of sports on the academic abilities, student performance and personality, student behavior and increase in their enrollment in schools and colleges. Hence, the literature selected for the review below reflects these general themes and at the same time also focuses on the specific research theme under study.

Hypothesis

On the basis of review of literature and discussion with experts it is hypothesized that Sports plays a pivotal role in the promotion of education and enhancement of students' grades.

Objectives of the Study

1. The prime objective of the study is to establish the relationship between sports policy and education promotion.
2. The study seeks to establish the role of sports infrastructure in enhancing enrolment in schools and colleges.
4. It seeks to review the sports policies, plans and activities in the India that have facilitated the educational promotion in schools.
5. Another important objective of the study is to research the role of sports policies in promoting female education and gender equality.

Significance of the Study

The result of the present study may provide a comprehensive report on the achievements of physical education in the field of education and help to establish the relationship between sports and education promotion.

The results of the study may help the policy makers of different states of India to address the lacuna in their planning and induce more changes in the physical education policy. The funds allotted for such purposes need to more than adequate as they directly affect the education output of the society.

The study would be essential to look at the affects of sports facilities and events on the rural education and more importantly, women education in India.

Findings from the Literature Survey

Hartman (2008) provides an overview of scholarly research, knowledge, and understanding of the relationship between interscholastic high school sports participation and educational achievement. It is organized into three main parts, each detailing a key aspect of the literature. The first reviews the preponderance of evidence that has been accumulated over the years which documents the strong and positive correlation between athletic involvement and the academic success of student-athletes. The second section summarizes the research into the social sources of this association between sports and education, its causes, as well as the ways in which the relationship varies for certain social groups, different types of sports, and in different kinds of school settings. The third and final section highlights implications for policy formation, program design, and

training as well as suggestions for future research and analysis. The purpose and intent of the report is to focus attention on the educational possibilities and potential of interscholastic athletics.

After a thorough investigation of the relevant literature he concludes that there is a significant baseline correlation between high school sports participation and higher rates of academic achievement and aspiration for individual students. This strong, positive relationship—characterized by Marsh and Kleitman (2003) as “mostly gain with little pain”—appears to hold for a whole range of educational outcomes ranging from good grades and better test scores to higher graduation rates and college aspirations as well as the avoidance of negative trajectories such as dropouts (McNeal 1995; Mahoney and Caines 1997) or, in a more complicated case, delinquency (Hartmann and Massoglia 2007; Hoffman 2006). Marsh and Kleitman (2003) is one of the most credible research works that have proven a strong positive relationship between sports and education, results in good grades and better test scores as well as avoidance of dropouts from schools. It has provided reliable data to back its results.

He discusses the conclusions reached by Developmental theorists who have long talked about the character building and socializing impacts of sports, based upon a correlation between skills and habits required for success in the classroom, sports arena and daily life (Cf. McHale et al 2005; Eccles et al 2003; Danish 2002; Ewing et al 2002; Larson 1994; Spreitzer 1994).

Hartman has summed up the most recent psychological and social psychological research and concluded that all literature appears to confirm a relationship between sports participation and both mental health and self-esteem (Miller et al. 2005; Darling et al 2005), and in recent years economists have found that sports participation is associated with higher post-school wages and income (Ewing 2007, 1995; Curtis, McTeen and White 2003; Barron, Ewing, and Waddell 2000; Howell 1984). In a recent econometric analysis Lipscomb (2006) found that high school participation resulted in increase in math and science test scores. Lipscomb (2006) found that high school participation resulted in a two percent (2%) increase in standardized math and science test scores on a national survey sample. Moreover, students- athletes were five percent (5%) more likely to aspire to college attendance than their non-athletic peers.

Even more recently, sociologists have begun to explore the role that sports participation plays in community involvement and the cultivation of social capital (Perks 2007; Harvey, Levesque, and Donnolly 2007; McHale, et al. 2005).

A section of the article deals with James Coleman's classic *The Adolescent society* (1961) which posited the powerful impact of interscholastic athletics in general and athletes in particular on American high school culture. His work gave rise to numerous academic studies of the relationship between athletic participation and education for individual students and students – athletes (Cf. Rehberg and Schaefer 1968; Spady 1970; Hanks and Eckland 1976; Otto and Alwin 1977; Landers and Landers 1978). The basic results of this work establish a strong and positive correlation between high school sports participation and academic achievement.

He concludes the report on a note of caution on the nature of correlation between sports and other variables like academic achievement, socialization, enrollment, self esteem and others. He argues that all of the empirical evidence that demonstrates a strong statistical correlation between sports participation and educational attainment does not mean that sports automatically and inevitably contributes to academic achievement at either an individual or institutional (i.e., school) level. Correlation, in short, does not necessarily indicate causation. In fact, scholars and other experts believe that the relationship between sports participation and academic achievement—or any other type of positive social outcome—is far more complicated, multifaceted, and contingent and less direct than this. An understanding of the complexities and variations of sport's educational impact is crucial if sports programming and policy is able to take full advantage of the educational potential of sport (and avoid the potential pitfalls and shortcomings).

Broh (2002) has presented three models three separate explanations linking participation in sports to educational achievement. These include the developmental model, the leading-crowd hypothesis, and the social capital model. The developmental model and leading-crowd hypothesis represent long-held beliefs on the benefits of sports participation that have yet to be thoroughly tested. The social capital model is a newer perspective, refined in his article, which synthesizes various sources of social capital theory as it applies to school achievement. He centers the analysis and discussion on the effects of participation in sports and address the generalizability to participation in other forms of extracurricular activities.

Broh analyzes data from the National Educational Longitudinal Study of 1988 to test the effect of participation in extracurricular activities on high school achievement and explores potential mediating mechanisms that link such participation to academic success. The results show that participation in some activities improves achievement, while participation in others diminishes achievement.

Participation in interscholastic sports promotes students' development and social ties among students, parents, and schools, and these benefits explain the positive effect of participation on achievement. Studies that have drawn on more recent longitudinal data have offered evidence that participation in sports improves academic performance. Citing Fejgin(1994) and Hanson and Kraus (1998,1999), and analyzing the National Educational Longitudinal Study of 1988 (NELS:88), he found that participation in sports improves students' grades.

Using data from Marsh(1992) that examined the effect of Total Extracurricular Activity Participation (TEAP) on various educational outcomes by summing dichotomous scores for 16 categories of participation (Sports, drama, music) to create a TEAP score and found that TEAP is associated with an improved grade point average, higher educational aspirations, increased college attendance and reduced absenteeism.

He has further analyzed data from earlier studies including Coleman (1961), Miracle and Rees (1994) and found that participating in sports socializes adolescents in ways that promote educational success. Conventional research cited by him holds that by teaching characteristics, such as a strong work ethics, respect for authority, and perseverance, sports participation develops skills that are consistent with educational values and thus

helps students to achieve better results. Some research in this field has found that playing sports develops “character” in athletes that increase their desire and ability to achieve academically (Rehberg 1969).

Social ties are also beneficial in the cognitive and social development of adolescents by creating channels for disseminating information and resources (Coleman 1990). Social ties may act as conduits for human capital, educational resources, and the transmission of information that directly benefit students' achievement. It is possible, for instance, that as parents congregate to observe their children participating in sports activities, and they exchange information about standards of behavior, school norms, and educational resources. Furthermore, the relations among students, parents, and teachers that act as a source of social control may also provide conduits for the transmission of important educational information and resources that would otherwise be unavailable to the students.

Cornelissen & Pfeifer (2007) analyze the impact of exercising sports during childhood and adolescence on educational attainment. They have used a theoretical framework which is based on models of allocation of time and educational productivity. Using the rich information from the German Socio-Economic Panel (GSOEP), they have applied generalized ordered probit models to estimate the effect of participation in sport activities on secondary school degrees and professional degrees. Even after controlling for important variables and selection into sport, they find strong evidence that the effect of sport on educational attainment is statistically significant and positive.

Their Empirical investigation has found a positive correlation between sports and educational attainment. These findings are supported by two main arguments. The first extends the simple allocation of time model by introducing additional activities (Becker, 1965.) The second acknowledges that leisure activities can have a direct positive as well as negative effect on educational productivity.

Their research has found that participating in athletic activities reduces bad activities and thus sport can have an indirect positive effect on educational productivity. Anderson (1998) reports that male as well as female athletes spend significantly more hours per week on homework and less on watching television than non athletes.

Their research points to the fact that sports have direct positive effects on educational productivity. First, the better health status of athletes could increase productivity and lead to more investment in human capital, because healthier people will probably have a longer life span and, hence, a longer amortization period. Second, sports does not only train functional skills like dexterity and balance but it also teaches soft skills like taking orders, leadership, team work, performing in a regulated system, and socialization. Third, sports can help to form the character of young people because it teaches behavioral habits like motivation, discipline, tenacity, competitive spirit, responsibility, perseverance, confidence, and self esteem. These behavioral aspects lead to reduce truancy, increase the willingness to succeed in school, and encourage social interaction with other students which are associated with higher efficiency of learning because time is used more productively.

Most recently, a comprehensive review by Tomporowski et al. (2008) was conducted regarding exercise and cognition in youth, finding that systematic exercise programmes may enhance the development of specific types of mental processing which are considered important for both academic achievement and for cognitive function across an individual's entire lifespan.

Despite such large scale reviews, few intervention studies have been conducted where a physical activity programme is integrated into the school day, and its effect on cognition is monitored. As highlighted by Trudeau & Shephard (2010), a common assumption made in review papers is that different physical activity forms provide similar stimuli for the learning process, though realistically this seems unlikely. Key studies in the area of physical activity and behaviour for learning are therefore individually reviewed below.

Shephard (1997) has done a key study in the area of physical activity and behaviour for learning. A total of 546 Canadian primary school children participated in a quasi-experimental study, where the impact of an additional hour each day of vigorous physical education, taught by a professional instructor was investigated. The control groups were from classes immediately above and below the experimental group, whom received 40 minutes per week of physical education from their academic teacher. Despite the experimental group receiving 14% less academic instruction, their academic performance significantly increased relative to controls. In the initial months of the intervention, the experimental group experienced accelerated development of various psychomotor skills such as perception, though control students caught up later into the study.

McNaughten and Gabbard (1993) have done another important study in the area of physical activity and behaviour for learning. Immediate, short term responses to physical activity were monitored in 120 male and female, grade 6 school children. Participants walked for 20-40 minutes depending on the trial allocated, followed immediately by a 90 second maths computer test. This was carried out 3 times a day for 3 weeks. Improved mathematical performance was witnessed immediately following 20-40 minutes of afternoon walking, although no significant difference was noticed when performing the same intervention in the morning. This suggests that physical exertion may help to sustain appropriate cognitive functioning in the afternoon.

Budde et al. (2008). This study showed that attention and concentration are enhanced following acute bouts of either coordinative exercise or normal sport lessons provided in physical education class in adolescent children. A total of 115 pupils aged 13–16 years of an elite performance school were randomly assigned to an experimental and a control group and were tested for attention and concentration. Both groups performed the attention and concentration test after a regular school lesson (pre-test) and then after either 10 minutes of coordinative exercise (experimental group), or following a normal sport lesson (control group). Concentration and attention task scores were higher following either coordinative exercise or a normal sport lesson, in comparison to following a regular school lesson. Larger test score improvements were observed in the coordinative exercise group in comparison to the normal sport lesson group, though heart rate was similar in both groups. The authors suggested that the coordinative component of the exercise may explain the significant performance differences. Coordinative exercise may activate parts of the brain responsible for attention and concentration.

Jarrett et al. (1998). In this intervention study, a break-time period was introduced once a week at an American primary school which was normally opposed to such practice. A total of 44 boys and girls were their own controls on non-break-time days, and were assessed in classroom behaviour areas of working, fidgeting and listlessness. Over half (60%) of the participants (including those with attention deficit disorder) benefitted considerably, working more, fidgeting less, or both, on break-time days. The authors suggested that the break-time period serves a positive purpose in the primary school curriculum, contrary to the practice of minimizing recess in many schools across North America and the UK.

World Health Organisation (2004): A report by the World Health Organization found that young individuals who participate in organised sport demonstrate lower rates of anti-social behaviour and teenage pregnancy. Furthermore, they are less likely to smoke cigarettes or use drugs than non-sports participants. Similar intoxication findings emerged from a behavioural investigation survey of 1000 German adolescents, which found a strong association between sports participation and resistance to drug and alcohol addiction (Kirkcaldy et al, 2002). Lower rates of anti-social behaviour are likely to result in lower disaffection from school and thus enhanced academic performance.

The World Health Organisation (WHO, 2010) suggests that physical activity participation assists social development of young people by promoting self-expression, social interaction, and social integration. They further suggest that physically active youth more readily adopt other healthy behaviours such as avoidance of drugs and cigarettes.

School connectedness and satisfaction have been postulated as determinants of academic achievement, regardless of ethnic group (Trudeau & Shephard, 2008). Furthermore, such positive associations with the school help to prevent drop-out according to a review of student-school relationships by Libbey (2004). Regular physical activity or sport has been previously associated with increased school connectedness and satisfaction (Brown and Evans, 2002), which may therefore suggest that regular physical activity or sport also helps to prevent drop-out. From the limited literature in this area however, the evidence is not so straightforward. A questionnaire administered to 245 Finnish adolescents observed no association between physical activity levels and school satisfaction (Katja et al., 2002). Despite this, the same study found that physical activity was correlated with global satisfaction, with school dissatisfaction appearing as one of the strongest predictors for global dissatisfaction amongst girls. The authors therefore highlighted the importance of positive attitudes towards school life. A more recent study showed that whilst students participating in extracurricular physical activities did not achieve academic scores any different to their peers, they did feel a greater engagement with their institution. It was suggested this may be due to greater attention directed towards such children, and the increased amount of interactions with significant adults that extracurricular physical activities entails (Trudeau & Shephard, 2008).

Marsh and Kleitman (2003) examined the effects of athletic participation on growth and change during high school by using data from the National Education Longitudinal Study database. They found that school sport participation benefitted academic grades, educational aspirations, self-esteem, college applications and enrolment, and such trends were consistent for participants throughout their high school years. The authors suggested

that participation in sport promoted identification with the school, and a commitment to school-related values which consequently benefit both academic and non-academic outcomes. Nelson & Gordon-Larsen's work (2006) analysing data from the National Longitudinal Study of Adolescent Health also found positive associations between physical activity and several components of mental health including well-being, future expectations, and academic achievement

Long-standing beliefs suggest that engagement in physical education and sport fosters desirable pro-social behaviours. In the UK, government policies have significantly increased funding towards physical activity in schools, with the hope that such avenues can be used to reduce anti-social behaviours and develop well-rounded young citizens. It has been suggested that sport and physical activity might be an ideal vehicle for engaging the most vulnerable young people in society (Sport England, 1999).

Some authors believe that physical education is an appropriate environment for socio-moral development (Miller et al, 1997) and for developing responsibility (Wild, 2002). Effective activities to promote positive social benefits range from basketball (Hawkins, 1998) to outdoor adventure activities (Priest & Gass, 1997). The skills such activities are believed to develop appear infinite according to published research, and include self-esteem (Nichols, 1997), team-building skills (Priest & Gass, 1997), communication skills (Priest & Gass, 1997) and a sense of community (Ennis, 1999).

Well researched examples of successful models are Sport Education (Siedentop, 1994), and Teaching Personal and Social Responsibility (Hellison, 1995). Using structured games and situations, Sport Education encourages the development of several key characteristics such as physical and organizational skills, fair play, self-responsibility and respect for others (Sandford et al, 2006). Teaching Personal and Social Responsibility, on the other hand, is based on the teaching of constructive principles associated with personal and social well-being.

However, researchers assessing the social impacts of physical activity are clear that physical education and sport programmes do not carry miracle cures for what are actually entrenched, multi-dimensional social problems (Sandford et al, 2006). Further, differentiating views about the social value of physical activity interventions are rife amongst researchers, largely due to a lack of systematic and credible research into their effectiveness (Nichols, 1997; Long & Sanderson, 2001; Morris et al., 2003). As a result, few programmes have achieved the difficult task of identifying a clear and sustainable positive impact upon youth behaviour which is attributed directly to the physical activity intervention.

Example of successful initiatives are the Youth Sport Trust/BSkyB Living for Sport and HSBC/Outward Bound projects, which have involved over 7,000 young people and which appear to provide support for the positive outcomes of physical activity programmes. Common findings were that the projects facilitate positive personal and social development, improving behaviour, confidence, and developing communication and leadership skills (Sandford et al, 2004). Additionally, attendance, engagement in lessons, relationships with teachers and peers were all improved and have more crucially been sustained.

A number of studies have examined the potential impact of volunteering in sport on wider social outcomes. Although the reported impact on young people is overwhelmingly positive, one limitation is that young people of higher socio-economic status and white

ethnicity do tend to be the ones most likely to volunteer (Coalter, 2007).

Conclusion

The colossal amount of literature published in the field of physical education and sports sciences has proved that sports policies not only promote educational aspirations and lead to better grades but they also have an indirect effect on school ethics, class room behavior and forms of socialization that have an immense indirect effect on the promotion of educational values among students. This establishes the importance of physical education and sports sciences for schools and colleges.

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