



Effects of participation in school sports on academic and social functioning



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ABSTRACT

For many students, school-organized sports play an important role in students' academic and social experiences. This study focuses on the effects of participation in school-organized sports on academic achievement and students' perceptions of family support, teacher and community support, and school safety. Data were obtained from the 2010 administration of the Minnesota Student Survey, resulting in a total sample of 29,535 12th grade students of which 12,849 participated regularly (at least 1–2 times per week) in school-organized sports. Propensity score matching was used to match similar students who voluntarily participated in school sports with those who were not involved in any school sports. Participation in school sports was associated with higher GPAs, favorable perceptions of school safety, and increased perceptions of family and teacher/community support. Guidance for parents, educators, and policymakers on how to further promote students' academic and social success are discussed.

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For many students in the United States, physical activity including school-organized sports is an integral part of their educational experience. There is a growing body of literature on the importance of physical activity in youth development, noting the positive association with academic functioning, such as academic achievement and resiliency (Bradley, Keane, & Crawford, 2013; Dweyer, Sallis, Blizzard, Lazarus, & Dean, 2001; Eccles, Barber, Stone, & Hunt, 2003; Fox, Barr-Anderson, Neumark-Stainer, & Wall, 2010; Peck, Roeser, Zarrett, & Eccles, 2008; Singh, Uijtewilligen, Twisk, van Mechelen, & Chinapaw, 2012; Taras, 2005). The positive impact of physical activity also extends to social factors where researchers have observed positive associations with greater psychological adjustment, lower levels of depression and externalizing behaviors, and more positive relationships with peers (Fredricks & Eccles, 2005, 2006; Hill, Claypool, Kowalksi, & Kinzel, 2014; Linver, Roth, & Brooks-Gunn, 2009).

Despite the empirical and theoretical support for the positive impact of physical activity on academic and social functioning, youth's participation in school-organized sports is self-selected. Selection bias poses a threat to the internal validity of these studies and potentially compromises the strength of their research findings (Theokas, 2009). Using a statistical technique known as propensity score matching, however, can minimize potential threats to internal validity, including selection bias (Rosenbaum & Rubin, 1983; Zarrett et al., 2009). Given the limitations of the previous research due to self-selection into school-organized sports, the present study addresses this limitation and investigates the association between participation in school-organized sports and both academic and social functioning for 12th grade using propensity score matching. Academic and social functioning includes grade-point average (GPA) as a measure of academic performance and three social variables related to positive development: perceptions of family support, perceptions of teacher and community support, and perceptions of school safety.

1. School-organized sports

Adolescence is a time of many changes. Compared to childhood development, development throughout adolescence is marked by

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increased rates of depression, instability in relationships with parents and peers, and declines in academic motivation. It has been argued that these negative developmental occurrences may stem from a mismatch between the needs of the developing adolescent and their educational environment (Eccles et al., 1993; Steinberg & Morris, 2001; Wang & Eccles, 2012). Although high school students see an increase in some developmentally supportive and protective factors in their school environment (e.g., school opportunities, and interaction with prosocial peers) from low points during the transition from elementary to middle school, adolescents continue to report declines in other important areas such as their school commitment and community attachment (Kim, Oesterle, Catalano, & Hawkins, 2015). For high school seniors, academic and social challenges are compounded with the pressures of transitioning into young adulthood. Given the prevalence of school-organized sports in the United States, it is essential to understand how participation in school sports is related to factors that may support such transitions.

The 2010–11 High School Athletics Participation Survey conducted by the National Federation of High School Associations (NFHS) reported that approximately 55.5% of all high school students play at least one school-organized sport (High School Sports, 2011). For high school seniors across the United States, engaging in after school sports teams is one of the most predominate out of school activities (Aud, KewalRamani, & Frohlich, 2011). In addition to its popularity with 12th grade students, we decided to focus specifically on school-organized sports occurring outside of school hours for three reasons. First, research has shown a stronger association between academic and various social variables and participation in school-organized sports than participation in general leisure activities such as intramural sports (Broh, 2002). Second, sports – specifically school-organized sports – are governed by predefined rules imposed by the sport itself and the school in which the sport takes place (Theokas, 2009). Third, school-organized sports typically focus on positive social goals such as team building and persistence which are representative of values desired in the classroom and life (Covay & Carbonaro, 2010), whereas informal sports activities (such as intramurals) may not require the same level of commitment to the team and the sport.

School-organized sports may be important for academic and social success because the athletes have many opportunities to build protective and nurturing relationships with their peers and adults involved in the sport. In a longitudinal study spanning 8th grade through 12th grade, Broh (2002) observed that participation in school-organized sports was associated with elevated levels of self-esteem, locus of control, time spent on homework, and academic achievement for 12th graders when compared to non-participating peers. These associations did not, however, extend to general leisure activities such as intramural sports, suggesting the influence of school-organized sports differs from the influence of general sports participation.

Well-implemented school-organized sports may successfully support development, because many of the skills developed through participation are scaffolded to promote academic and social success. Broh (2002) notes two models that describe why we may observe a multitude of positive outcomes associated with participation in school-organized sports, *the development model* and *the social capital model*. The development model proposes that participation in extracurricular sports facilitates the socialization of participants helping them to develop a strong work ethic, persistence, and respect for values essential for academic success. The social capital model approaches the benefits of participation in school sports from the social perspective; namely, participants benefit from the networks they build through participation. Student athletes can build strong relationships with their peers, but more importantly have the opportunity to work closely with adults, thereby extending their social sphere beyond that of their non-athlete peers. These two models focus on the capacity of sport to facilitate a healthy environment through which participants can thrive.

Another framework used to describe the factors that support youth's capacity to thrive is *positive youth development*. This framework places a strong emphasis on the strengths and competencies of youth rather than focusing on the problems, risky behaviors, and negative outcomes (Benson, Scales, Hamilton, & Sesma, 2006). Over the years, there have been several approaches to positive youth development, but one aspect shared among these different conceptualizations is the premium placed on the interaction between youth and their environment (Masten, 2014). Two environments which are pivotal in youth development and occupy a considerable amount of a youth's time are the family and school environments. Therefore, factors related to these environments such as family support, teacher and community support, and school climate will likely play critical roles in a youth's development. Understanding how these environmental factors relate to participation in school-organized sports is key to understanding how sport settings foster positive youth development (Fraser-Thomas, Côté, & Deakin, 2005).

2. Perceived family support

Family support consists of two levels of assistance: tangible needs (e.g., providing funding, transportation, and supervision) and intangible needs (e.g., verbal and nonverbal encouragement and praise). When tangible and intangible needs are met, family support can positively influence the behaviors and attitudes of youth (Beets, Cardinal, & Alderman, 2010). Family support has a well-documented association with participation in sport. Longitudinal studies on family support and the physical activity of students during the middle school and high school years demonstrated that youth who remained physically active consistently reported higher levels of family support than those who did not remain physically active (Bauer, Nelson, Boutelle, & Neumark-Sztainer, 2008; Davison & Jago, 2009; Dowda, Dishman, Pfeiffer, & Pate, 2007; Ornelas, Perreira, & Ayala, 2007). However, this correlation is not always positive; families can have both positive and negative influence on youth development. Fraser-Thomas et al. (2005) observed that burnout in young athletes is related to parental pressure and criticism pertaining to the youth failing to meet parental expectations. Conversely, youth who perceive their parents as supportive and encouraging are more intrinsically motivated, participate more in sports, and take greater enjoyment in sports. This in turn leads to youth feeling happier, being more alert, being more willing to take on new challenges, and showing greater excitement toward home and work experiences. There is also evidence that parental support for physical activity during childhood and adolescence continues to influence behaviors and perceptions into adulthood (Thompson, Humbert, & Mirwald, 2003).

In addition to directly affecting youth's participation in sports, family support has been shown to operate in tandem with sports participation to enhance positive youth development in a number of other ways. This includes increasing youth's self-efficacy (Troost et al., 2003) and school engagement (Wang & Eccles, 2012), while decreasing risk-taking with substance use (Dever et al., 2012) and depression (Babiss & Gangwisch, 2009). Furthermore, high perceived parental support is associated with closer and more supportive relationships with coaches (Jowett & Timson-Katchis, 2005) and act as a precursor for peer support (Davison & Jago, 2009). Therefore, high perceived family support not only fosters the development of positive behaviors and perceptions within the youth, but also creates networks for building additional positive relationships to further contribute to a healthy developmental environment.

3. Perceived teacher and community support

Benson et al. (2006) noted that positive development is enabled through relationships, contexts, and environments that nurture youth development. In this view, community is a critical delivery system for

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