



# Can sports mitigate the effects of depression and aggression on peer rejection?☆



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## ABSTRACT

This study examined whether sports participation moderates the longitudinal link of depressive and aggressive symptoms with increased peer rejection. The sample consisted of 291 adolescents (50.5% girls), assessed at ages 12 and 13 years. Depressive and aggressive symptoms as well as peer rejection were assessed through peer nominations, whereas participation in team and individual sports was assessed via adolescents' self-reports. Regression analyses revealed that boys – but not girls – who displayed high levels of depressive symptoms experienced an increase in peer rejection. However, participation in team sports mitigated the association between depressive symptoms and increased peer rejection in boys, whereas participation in individual sports exacerbated that same association. Although aggressive symptoms were also associated with an increase in peer rejection for boys and girls, sports participation did not moderate this link. These results support the usefulness especially of team sports as part of prevention activities for vulnerable youth.

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## 1. Introduction

Peers provide a unique context for the acquisition of social skills, the validation of the self-concept, and the learning of social roles, norms, and processes involved in interpersonal relationships (Boivin, Vitaro, & Poulin, 2005). This distinctive role of peers gains even more importance in adolescence, when youngsters become increasingly autonomous from parents and turn to peers for advice and support (Berndt, 1979). Not surprisingly, youth who are disliked and rejected by the majority of their peers are at serious risk for future developmental maladjustment. Indeed, numerous studies show that peer rejection is associated with an increase in internalizing and externalizing problems, with some of these negative consequences observed up to ten years later (Nelson & Dishion, 2004; Prinstein & Aikins, 2004; Prinstein & Cillessen, 2003). Sadly, peer rejection remains relatively stable over time and even across school contexts, thus aggravating the potential for developmental maladjustment (Veronneau, Vitaro, Brendgen, Dishion, & Tremblay, 2010). In light of the negative sequelae associated

with peer rejection, researchers have devoted considerable efforts to understanding why some children may become rejected by their peers.

### 1.1. The role of depressive and aggressive symptoms in predicting peer Rejection

Longitudinal studies show that – in addition to being potential consequences of peer rejection – pre-existing externalizing problems during childhood are also among the most important risk factors of becoming rejected by the peer group (Cillessen & Mayeux, 2004; van Lier & Koot, 2010). In contrast, there is little evidence for an association between internalizing problems in childhood and increased peer rejection. During adolescence, however, internalizing problems – especially depressive symptoms – also become an important risk factor that may even surpass the predictive effect of aggression in predicting problematic peer relationships, including a lack of acceptance and negative treatment by the peer group (Brendgen, Girard, Vitaro, Dionne, & Boivin, 2016; Zimmer-Gembeck, Hunter, Waters, & Pronk, 2009).

Although depressive and aggressive symptoms are very different in nature, youth who display these symptoms are similar in many ways. Indeed, both depressive and aggressive symptoms are associated with poorer social skills and emotion regulation abilities, as well as reduced sensitivity for the well-being of others (Flouri & Sarmadi, 2016; Garnefski, Kraaij, & van Etten, 2005; Perren & Alsaker, 2009). Aggressive and depressive youngsters also often report feeling as if they “do not belong” (Newman, Lohman, & Newman, 2007). These characteristics may

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contribute to peer rejection in several ways. For example, they can make individuals with depressive symptoms react to a perceived threat with withdrawal, abandonment and internalization of blame, thus interfering with positive social interactions (Renshaw & Brown, 1993). These individuals often display interactive behaviors that may be considered by others as irritating, such as frequent complaints as well as the tendency to focus on negative cognitions and emotions (Coyne, 1976a, 1976b). For aggressive individuals who feel threatened or provoked by others, the same characteristics may lead to impulsive and hostile reactions. Aggressive youngsters' low frustration tolerance and tendency to blame others for their mistakes can also contribute to transforming a positive or neutral social interaction into a negative one (Dodge, Pettit, McClaskey, & Brown, 1986; Eisenberg & Fabes, 1992). Because internalizing and externalizing symptoms are also known consequences of peer rejection (Prinstein & Aikins, 2004; Prinstein & Cillessen, 2003), such negative interactions may place youth with depressive and aggressive symptoms on a continued spiral of increasing symptoms and further worsening social relations.

Effect sizes of aggressive and depressive symptoms predicting negative peer attitudes are typically moderate, however, suggesting that not everyone who displays these characteristics will be rejected by peers. To prevent peer rejection and its harmful consequences, it is thus important to identify variables that can mitigate – either through a main effect or through a protective moderating effect – the risk of peer rejection in vulnerable youth. Ideally, these potential mitigating variables should also be easily incorporated in relatively low-cost preventative intervention efforts. One such variable may be sports participation.

### 1.2. Participation in sports and peer rejection

Several findings lend support to the notion that sports may be beneficial for youngsters' social standing in the peer group. Children and adolescents consider “being good at sports” as among the most important determinants of peer popularity – or lack thereof – for both boys and girls (Chase & Dummer, 1992; Shakib, Veliz, Dunbar, & Sabo, 2011). Among adolescents, sports participation has also been associated with higher peer-rated acceptance (Daniels & Leaper, 2006). In addition, compared to youth who do not participate in sports, those who do report better self-control, more assertive behaviors and higher self-esteem are rated by their teacher as displaying greater social competence (Findlay & Coplan, 2008; McHale et al., 2005). Moreover, compared to adolescents who participate in other types of extracurricular activities, those who engage in sports report more occasions for learning and practicing emotion regulation, initiative and teamwork (Hansen, Larson, & Dworkin, 2003; Larson, Hansen, & Moneta, 2006). Sports participation may thus be particularly beneficial for youngsters with depressive or aggressive symptoms. Along with improving sports-related skills and physical health and well-being, sports participation may provide youth who display depressive or aggressive symptoms with opportunities to improve the social and personal skills necessary for successful peer relations, and as result, protect them against a decrease in social status. Still, no study so far has examined the association between youngsters' frequency of sports participation with changes in their peer-rated (rather than self-assessed) social standing among peers over time. Moreover, no study has investigated the potential interactive effect between sports participation and personal risk factors such as depressive or aggressive symptoms.

It is also unclear whether any putative main or moderating effect of sports participation follows a linear pattern of “more is better”. Some authors have suggested that an over involvement in sports (or other extracurricular activities) can lead to negative consequences, because the time invested in sports can take away from other activities that are developmentally important for the child (Fredricks, 2012). Having to balance the time they spend in different activities is also believed to lead to stress or anxiety among youth (Luthar & Sexton, 2004; Mahoney, Harris, & Eccles, 2006). So far, the few studies that tested the overscheduling

hypothesis either found little evidence of the effect (Luthar, Shoum, & Brown, 2006) or found decreased benefits only at extremely high levels of participation, i.e., 20 h or more per week (Fredricks, 2012; Mahoney et al., 2006). Nevertheless, the possible presence of an overscheduling effect – as indicated by a curvilinear main or moderating effect of sports participation – should be considered when analyzing the data.

### 1.3. Team sports versus individual sports

Apart from the frequency of participation, the context in which the sport is being played is also an important factor to consider. Of specific significance in this regard may be whether youth engage in sporting activities with a team of same-age peers or not. Although individual sports are often played alongside other people, what differentiates individual from team sports is the fact that in team sports individuals compete together, as a group, in hopes of winning against another team. It also creates opportunities for interacting with peers in a prosocial context (Pedersen & Siedman, 2004). By definition, a team is interdependent, as players must work together to achieve their common goal (Jackson, Keiper, Brown, Brown, & Manuel, 2002). In contrast, individual sports are defined as a sport where the participant competes as an individual. Therefore, in individual sport settings, peers may sometimes be viewed as competitors. Learning how to cooperate and compromise with others when striving for a common goal, or to plan and execute strategies as a team are essential skills for positive interactions, even in other social contexts. Furthermore, learning through teamwork how to communicate better and to positively interact with others may attenuate hostile attributions and other negative biases, which could be particularly beneficial for adolescents with depressive or aggressive symptoms (Hall, 2016).

In line with this notion, adolescents participating in team sports such as soccer or football report more opportunities to improve their emotion regulation abilities, their social and leadership skills, and their sense of initiative, compared to adolescents enrolled in individual sports such as gymnastics or swimming (Denault & Poulin, 2016; Hansen et al., 2003). Results from another study also suggest that team sports is more intrinsically motivating compared to individual sports, which could be explained by the fact that team players report increased positive social interaction and enjoyment while participating in their sports activity (Nielsen et al., 2014). The authors further proposed that the numerous opportunities for social interactions in the team sport context may contribute to the participants rating this type of sport as a more positive setting. When individual unite together to strive for the same common goal such as winning against the opposing team, they also often develop a sense of superordinate group identity (Kernan & Greenfield, 2005). Being a member of a sport team may thus fulfill the fundamental human need for belonging (Baumeister & Leary, 1995). This notion is also supported by findings of a positive association between team sports participation and social acceptance (Boone & Leadbeater, 2006). Moreover, athletes who participate in team sports show fewer depressive symptoms compared to those participating in individual sports (Miller & Hoffman, 2009; Nixdorf, Frank, & Beckmann, 2016). Participation in team – but not individual – sports has also been found to protect victimized children from an increase in externalizing problems and depressive symptoms (Perron et al., 2012). Together, these findings emphasize the importance of considering the context of sport participation when assessing its potential benefits for youth who are at risk of being rejected by their peer group.

### 1.4. The present study

The main objective of this study was to investigate a possible moderating effect of sports participation in regard to the predictive link between adolescents' depressive and aggressive symptoms and increased peer rejection, while considering the frequency as well as the context in which the sports is played (team sports versus individual

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