



Extra-curricular sport participation: A potential buffer against social anxiety symptoms in primary school children[☆]

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ARTICLE INFO

Article history:

Received 12 April 2010

Received in revised form

28 March 2011

Accepted 30 March 2011

Available online 8 April 2011

Keywords:

Social anxiety

Social behaviour

Extra-curricular sport

Team sport

Children

ABSTRACT

Objectives: Social anxiety (SA) is characterized by high anxiety in social situations and can be significantly debilitating in its long-term duration. In the case of children it additionally has a negative impact on the child's social and cognitive development. As reported in [Wipfli, Rethorst, and Landers' \(2008\)](#) meta-analysis, exercise does have an anxiolytic effect. In this study, the role of sport as a mediating variable in the onset or development of SA symptoms is investigated, where a similar effect on this specific anxiety-type is expected.

Design: This repeated-measures cohort study includes two data collections. The first data collection was carried out in 2007 and the second a year later in 2008.

Method: Two hundred and eight 7- to 8-year old Swiss primary school children participated in structured interviews. Parents and teachers completed questionnaires regarding children's SA symptoms and classroom behaviour respectively. Parents also provided information about their children's extra-curricular sport activities. The same information was gathered a year later.

Results: Although most differences were not statistically significant a pattern emerged: children practising sport tended to score lower on all instruments in both 2007 and 2008. Repeated-measures analysis of variance indicated a reduction in social anxiety over time in children practising a team sport.

Conclusion: These results are interpreted in reference to a potential positive effect of team sport on a child's experience of anxiety in social situations based on [Antonovsky's \(1997\)](#) salutogenesis model and [Bandura's \(1977\)](#) social learning theory.

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This study was inspired by the numerous research efforts hailing various psychological benefits of sport in adults as well as in children and adolescents. Sport has been linked with a reduction in depression (e.g. [Boone & Leadbeater, 2006](#)), anxiety symptoms (e.g. [Raglin, 1997](#); [Wipfli, Rethorst, & Landers, 2008](#)), improved mood and self-esteem ([McHale et al., 2005](#); [Sonstroem, 1997](#)) and enhanced mental well-being ([Fox, 1999](#); [Röthlisberger & Seiler, 1999](#)). Moreover, research findings have also shed light on the social benefits of sport practice for children ([Findlay & Coplan, 2008](#); [Fletcher, Nickerson, & Wright, 2003](#)). As yet, the most commonly investigated psychological disturbances in relation to sport practice are depression and general anxiety, with fewer enquiries looking into more specific conditions. The purpose of this study was to explore potential benefits of extra-curricular sport

engagement in relation to social anxiety symptoms in Swiss primary school children.

A definition of social anxiety

Social anxiety disorder refers to a “marked and persistent fear of social or performance situations in which embarrassment may occur” (*DSM-IV-TR*; [APA, 2000](#), p. 450) and is usually accompanied by physical symptoms such as sweating, trembling, etc. which may escalate into a panic attack ([Keller, 2003](#)). This disorder typically appears during adolescence with a peak onset at about 15 years of age ([Leclubier et al., 2000](#)). An epidemiological study ([ESEMEd/MHEDEA 2000 Investigators, 2004](#)) reporting prevalence of mental disorders in Europe, reported the highest lifetime prevalence for mood (14%) and anxiety (13.6%) disorders, with social anxiety accounting for 2.4%. In a review of social anxiety prevalence in European countries, [Fehm, Pelissolo, Furmark, and Wittchen \(2005\)](#) ascertained that women appear to be more frequently affected than men and the highest rate of mental disorders was found in young adults. This gender difference has also been

[☆] This research was supported by the Confederate Sport Commission (Switzerland).

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observed in children and adolescents (Essau, Sakano, Ishikawa, & Sasagawa, 2004; La Greca & Lopez, 1998; Rapee & Spence, 2004).

Social anxiety symptoms including avoidance of social situations are often detrimental to a child's normal functioning (Bernstein, Bernat, Davis, & Layne, 2008; Kasper, 1998). Moreover, potential consequences of social anxiety later on in life include a negative influence on academic and occupational performance, a lower quality of life and impaired social functioning (Leclubier et al., 2000). Early identification and treatment can significantly reduce this disorder's negative consequences and thus, research involving children and adolescents is of great importance (Erath, Flanagan, & Bierman, 2007).

Theoretical framework

This study is based on previous findings related to general and social anxiety as well as on two theoretical perspectives: Antonovsky's (1997) salutogenesis model and the theory of social learning (Bandura, 1977).

Sport as a general resistance resource against social anxiety

The salutogenesis model hinges on the fundamental postulate that heterostasis, ageing and progressive entropy are core characteristics of all living organisms (Antonovsky, 1997). In contrast to the pathological approach, this model focuses on what makes a person maintain good health rather than concentrating on the aetiology of sickness. In the light of this health-focused approach, Antonovsky speaks of a health-sickness continuum instead of a dichotomy of health and sickness and focuses on what leads to and maintains health. Thus, the salutogenesis approach recognizes the existence of the various factors improving health.

Antonovsky (1997) put forward the idea of Generalised Resistance Resources (GRRs) that can be anything of help against stressors which could include money, social support, a positive self-concept or a high socio-economic status. This is followed by the concept of a sense of coherence where an individual feels confident that his/her internal and external environment is predictable and that things will develop in an expected manner. Antonovsky describes stressors as risk factors that are to be reduced or buffered through protective factors. In this study, extra-curricular sport practice is hypothesized to act as a GRR against social anxiety symptoms since it has already been found to improve general mental health as well as social skills. For instance, Allison et al. (2005) conducted a large-scale cross-sectional investigation with over two thousand adolescents. They found a positive correlation between vigorous physical activity (e.g. basketball, fast cycling, etc.), psychological distress as well as with better social functioning. However, when controlling for gender, age and socio-economic status, the association with reduced distress and lower depression/anxiety was not found, even if the link between vigorous exercise and enhanced social functioning remained. With regard to anxiety, Wipfli et al. (2008) concluded in their meta-analysis that "exercise alone can be effective at reducing anxiety" (p. 401), while in another meta-analysis Petruzzello, Landers, Hatfield, Kubitz, and Salazar (1991) claimed that "no matter how anxiety is assessed (i.e. state, trait or a psychophysiological measure), exercise is associated with a reduction in anxiety" (p. 156).

Various physiological explanations have been dedicated to the effect of sport on anxiety. These theories, such as the endorphin hypothesis, shall not be discussed at this point since the psychosocial – rather than the physiological – processes involved in sport are focus of this investigation. From a salutogenesis perspective (Antonovsky, 1997), this reported anxiolytic effect of sport

participation would justify the consideration of sport as a GRR against social anxiety symptoms.

Sport as a context for social learning

One of the identified risk factors of social anxiety – particularly relevant for this study – is a lack of social skills, which is found to be of particular significance in children and adolescents (Rapee & Spence, 2004; Spence, Donovan, & Brechman-Toussaint, 1999). Rapee and Spence maintain that this lack of social skills may determine whether a genetic predisposition would actually develop into social anxiety disorder. The social learning approach focuses on learning occurring in a social milieu and sheds light on the processes of how people learn from each other including concepts such as modelling and vicarious learning (Bandura, 1977). From a social learning theory perspective, participation in an organised sport, particularly in teams, could play an important role in a child's social development. Shields and Bredemeier (2007) also mention the efforts in character education through sports. Organised sport offers an unambiguous social context thanks to its rules of play and facilitates learning through peer modelling and relationships with other social agents (Smith, 2003). Larson (2000) claims that adolescents' positive development could be encouraged by "appealing images of adulthood" (p. 171) – organised sport is an ideal context that includes adult role models representing the ideals of sport, such as fairness and discipline. Still, it is important to bear in mind that not all research findings are positive. In their review, Shields and Bredemeier (2007) report studies associating sport with lower moral judgement or less mature moral reasoning. However, this aspect was not investigated in this study and will not be discussed in further detail.

Social skills were one of the first-order themes identified by Jones and Lavalley (2009) in their focus groups involving adolescent athletes and coaches. Indeed, social and communication skills were identified by the study's participants as "crucial life skills" (p. 164) that can be learnt through sport and transferred to everyday life. Bernstein et al. (2008) found a negative correlation between severity of social anxiety and both social and leadership skills. They also noted an association between social anxiety and school problems reported in the teachers' assessments.

Sport is indeed recognised as contributing to a child's social development where children learn to interact with peers, respect rules, cooperate with others and acquire other skills useful for everyday life (Smith, 2003). McGee, Williams, Howden-Chapman, Martin, and Kawachi's (2006) investigation was specifically based on this premise. Their findings included an association between participation in sports and self-reported strengths and higher levels of attachment to parents, peers and school during adolescence. In addition to increased attachment, an increase in self-perceived competencies was ascertained. In a study focussing on structured leisure activities, Fletcher et al. (2003) observed a positive effect of sports activities on children's psychosocial maturity and social competence.

Another study including middle-school children reported lower levels of shyness/withdrawal and better social skills in participants involved in sport. Sport participation in organised sports was also found to play a protective role for shy children and was also associated with a reduction in anxiety (Findlay & Coplan, 2008). The social importance of team sport has also been documented in various studies, such as team sports' association with increased self-esteem in elementary school children (Slutzky & Simpkins, 2009).

To sum up, apart from the social aspect of sport – which can also be experienced in other non-sportive activities – physical exercise has been found to have an anxiolytic effect together with

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