



# Sport participation and alcohol and illicit drug use in adolescents and young adults: A systematic review of longitudinal studies

Matthew Kwan <sup>a,b</sup>, Sarah Bobko <sup>c</sup>, Guy Faulkner <sup>d,e</sup>, Peter Donnelly <sup>d</sup>, John Cairney <sup>a,b,d,f,g,h,\*</sup>

- <sup>a</sup> Department of Family Medicine, McMaster University, Canada
- <sup>b</sup> Offord Centre for Child Studies, McMaster University, Canada
- <sup>c</sup> Southern Alberta Institute of Technology, Canada
- <sup>d</sup> Faculty of Kinesiology and Physical Education, University of Toronto, Canada
- <sup>e</sup> Centre for Addiction and Mental Health, Canada
- <sup>f</sup> Department of Kinesiology, McMaster University, Canada
- <sup>g</sup> Department of Psychiatry, McMaster University, Canada
- <sup>h</sup> Department of Behavioural Neurosciences, McMaster University, Canada

## HIGHLIGHTS

- Systematic review of longitudinal and intervention studies.
- Sport participation was associated with increased use of alcohol use.
- Sport participation was associated with reduced illicit drug use during adolescence.
- Limited attempts have been made to reduce alcohol and drug use through sport participation.

## ARTICLE INFO

**Keywords:**  
 Sport participation  
 Substance use  
 Alcohol  
 Drugs  
 Adolescence  
 Youth

## ABSTRACT

Sport participation can play an important and positive role in the health and development of children and youth. One area that has recently been receiving greater attention is the role that sport participation might play in preventing drug and alcohol use among youth. The current study is a systematic review of 17 longitudinal studies examining the relationship between sport participation and alcohol and drug use among adolescents. Results indicated that sport participation is associated with alcohol use, with 82% of the included studies (14/17) showing a significant positive relationship. Sport participation, however, appears to be related to reduced illicit drug use, especially use of non-cannabis related drugs. Eighty percent of the studies found sport participation associated with decreased illicit drug use, while 50% of the studies found negative association between sport participation and marijuana use. Further investigation revealed that participation in sports reduced the risk of overall illicit drug use, but particularly during high school; suggesting that this may be a critical period to reduce or prevent the use of drugs through sport. Future research must better understand what conditions are necessary for sport participation to have beneficial outcomes in terms of preventing alcohol and/or illicit drug use. This has been absent in the extent literature and will be central to intervention efforts in this area.

© 2013 Elsevier Ltd. All rights reserved.

## Contents

1. Introduction . . . . .	498
2. Methods . . . . .	498
2.1. Selection of studies . . . . .	498
2.2. Sample selection . . . . .	498
2.3. Data extraction and reporting . . . . .	499

\* Corresponding author at: Department of Family Medicine, McMaster University, 175 Longwood Road South, Suite 201a, Hamilton, Ontario L8P 0A1, Canada. Tel.: +1 905 525 9140x28506.  
 E-mail address: cairnej@mcmaster.ca (J. Cairney).

3.	Results	499
3.1.	Sampling composition of included studies	499
3.2.	Effect of sport participation on alcohol use	499
3.2.1.	Effect of sport participation on alcohol use: length of follow-up	499
3.2.2.	Moderating factors of sport participation on alcohol use	501
3.2.3.	Differing types of sport participation and alcohol use	501
3.3.	Effect of sport participation on illicit drug use	501
4.	Discussion	501
4.1.	Alcohol use	503
4.2.	Illicit drug use	503
4.3.	Limitations within the current literature	504
4.4.	Future directions	504
4.5.	Conclusion	505
	Role of funding sources	505
	Contributors	505
	Conflict of interest	505
	Acknowledgments	505
	References	505

## 1. Introduction

Sport participation can play an important and positive role in the health and development of children and youth (Donnelly, Darnell, Wells, & Coakley, 2007). There is, however, also the recognition of the potentially damaging effects that sport participation can have on children and youth (e.g., excessive demands and expectations that exceed one's physical and/or emotional maturity, negative adult involvement, risk of injury American Academy of Pediatrics, 2001). One area that has recently been receiving greater attention is the role that sport participation might play in preventing drug and alcohol use among youth.

To date, several systematic reviews have been published on the association between sport participation (primarily with respect to organized high school and collegiate sports) and alcohol, tobacco, and illicit drug use (Diehl et al., 2012; Lisha & Sussman, 2010; Martens, Dams-O'Connor, & Beck, 2006; Mays, Gatti, & Thompson, 2011). Collectively, the reviews suggest that sport participation is associated with a lower use of tobacco and illicit drugs during adolescence, but that it tends to be associated with an increased use of alcohol. There is also some evidence suggesting that the effect of sport participation on drug and alcohol use may vary by gender, race, and the kind or type of sport. For example, Ewing (1998) found that male athletes are more likely to use marijuana than male non-athletes; and in comparison to female non-athletes and males (athletes and non-athletes), female athletes had the lowest rates of marijuana use. Another study by Ford (2007) found a sport-specific effect in relation to marijuana use: male hockey players and female soccer players have the highest rates of use, while cross-country and track athletes (male and female) have the lowest. This suggests that a simple, uniform positive effect of sports on substance use is unlikely, and the impact of participation will be dependent on both the substance and activity in question.

While these reviews are informative, there are several limitations that necessitate further work. First, sport participation in these reviews was often narrowly limited to education contexts (e.g., high school, college), and therefore failed to include sport participation in other settings (e.g., community recreational programs). As a result, the focus has been on high school and university student athletes to the exclusion of younger children and youth, particularly between the ages of 10 and 14 (e.g., peri-adolescence). This is an important limitation given research that suggests that children and youth in this age range have already begun to use alcohol and drugs (Paglia-Boak, Adlaf, & Mann, 2011). Furthermore, the peak time for sport participation for most individuals is during peri-adolescence and adolescence, after which participation tends to decline during the transition into early adulthood and throughout the life-course thereafter (Sport England, 2004). Since existing

research tends to exclude children and youth at exactly the time when both use of alcohol and drugs emerges, and when sport participation is highest, it remains unclear whether sport participation offers any protective effect for children and youth. Second, and perhaps more importantly, the vast majority of studies reviewed have been cross-sectional. As a result, temporal associations have not been well characterized. For example, while it appears that athletes may be more likely to drink than non-athletes, it is unclear if this persists over time. Moreover, it is not known if stable (i.e., long term) participation in sport reduces the frequency of alcohol consumption relative to those who drop out of sports, and those who never participated at all. From the perspective of prevention, longitudinal studies are critical because they can only be used to establish causation. In order to address these limitations, we conducted a systematic review focused specifically on longitudinal studies that examined the impact of sport participation on alcohol and illicit drug use during the broader transition from early adolescence through early adulthood.

## 2. Methods

### 2.1. Selection of studies

In order to ensure broad based, multi-disciplinary coverage of the association between sport participation (elite and non-elite) and alcohol, and illicit drug use, we searched the following electronic databases: Ovid MEDLINE(R); Ovid EMBASE; OVID psycINFO; EBSCO SPORTDiscus; Cochrane Central Database; and Web of Science. Using a similar method to previous reviews (Diehl et al., 2012; Lisha & Sussman, 2010), these databases were searched with combinations of the following terms: "sports", "sport participation", "sport-type"; "organized sports"; "substance use"; "substance abuse"; "drug use"; "alcohol"; "alcohol use"; "alcohol abuse"; "addiction"; "drug addiction"; "opiates"; and "illicit drugs". As there is no way to filter for age range, due to inconsistencies in age reporting across studies, we also crossed these search terms with "adolescence" and "adolescents" to help narrow the search parameters. We purposively did not include search terms for specific methods (e.g., longitudinal) to ensure comprehensiveness. The search took place between December 19th, 2012 and February 28th, 2013, and only included all published articles in print and/or electronic form between January 1st, 1982 and December 31st, 2012.

### 2.2. Sample selection

We only selected studies published in English. Single case studies, reviews (including book chapters), and studies that did not report

Download English Version:

<https://daneshyari.com/en/article/10443188>

Download Persian Version:

<https://daneshyari.com/article/10443188>

[Daneshyari.com](https://daneshyari.com)