

Abstract

Background

The National Institute on Drug Abuse has called for increased research into the use of physical activity in substance abuse prevention, specifically research into physical activity type and context.

Purpose

This paper examines the relationships between (1) secondary school student substance use and (2) exercise in general and school athletic team participation, and examines such relationships over time.

Methods

Nationally representative cross-sectional samples of 8th-, 10th-, and 12th-grade students were surveyed each year from 1991 to 2009. Substance use measures included past 2-week binge drinking and past 30-day alcohol, cigarette, smokeless tobacco, marijuana, and steroid use. Analyses were conducted during 2009–2010.

Results

Across grades, higher levels of exercise were associated with lower levels of alcohol, cigarette, and marijuana use. Higher levels of athletic team participation were associated with higher levels of smokeless tobacco use and lower levels of cigarette and marijuana use across grades and to higher levels of high school alcohol and steroid use. Exercise helped suppress the undesired relationship between team participation and alcohol use; exercise and athletic team participation worked synergistically in lowering cigarette and marijuana use. Observed relationships were generally stable across time.

Conclusions

There appear to be substantive differences between exercise and team sport participation in relation to adolescent substance use. These findings from cross-sectional data suggest that interventions to improve levels of general physical activity should be evaluated to determine if they help delay or reduce substance use among youth in general as well as among student athletes.