

The Link Between Competitive Sports and Gambling Behaviors Among Youths

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Background and Objectives: This study examines the association between physical activities and gambling, making a distinction between two characteristics of the former: intensity level and type (competitive/non-competitive).

Method: 316 adolescents from four high schools in Israel completed questionnaires.

Results: For males, participation in competitive athletic sports was associated with gambling frequency and problem gambling. For females, participation in competitive athletic sports was associated only with gambling frequency.

Conclusions: Both types of physical activity and gender are important when analyzing the association between gambling and sporting activities.

Scientific Significance: Youths involved in competitive sports are at greater risk for gambling involvement. (*Am J Addict* 2015;24:200–202)

INTRODUCTION

Gambling is considered a risk behavior among youths. This is for reasons of financial losses as well as attendant problems that arise when young gamblers lose control (e.g. unsocial or illegal acts, family discord, truancy from school).¹ As such, gambling behaviors among youths are recognized as a social and public health issue in many Western countries.²

The claim that physical activity (PA) is a protective factor against health risk behaviors has been examined in many studies, with mixed results.^{3,4} The inconsistencies may be due to methodology, or variations in how PA is measured, i.e. type of activity (team versus individual sports), level of intensity, frequency or duration of activity, as well as the lack of distinction between the various types of risk behaviors, and the

attempt to extrapolate from the association between PA and one type of risk behavior to other risk behaviors.⁵

PA has been examined in relation to gambling, predominantly with college student athletes.^{6,7,8} One study, based on a nationally representative sample of 20,739 students in the United States, reported that 62.4% of males and 42.8% of females from their sample indicated that they were involved in some type of gambling. Gender was highlighted as being of particular significance, as differences were found in relation to both gambling and problem gambling (PG): 4.3% of males were classified as problem or pathological gamblers compared with only 0.4% of females.⁷ Nelson et al. examined a national study of 10,559 college students in the United States, and reported that student athletes and student sports fans engage in a wider range of gambling than students who are not interested in sports.⁶ These studies suggested a pejorative effect of the college environment as influencing gambling behavior,⁶ along with the overlapping motives for sport and gambling such as competition and extrinsic rewards.⁹

Limited studies have been carried out among current high school students and those who have accepted university placements regarding the connection between sports and youth gambling that suggest that both high school athletes and graduated high school athletes are more likely to be involved in gambling.^{3,10} For example, a study done in Australia found that involvement in organized sports was a predictor of gambling activities among boys.¹⁰ Interestingly, no correlation was indicated between gambling and informal sports.

This brief report examines the association between PA and gambling frequency (GF) and PG among male and female high school-aged youth in Israel, while making a distinction between two characteristics: the intensity of the activity (i.e. exercise involving intensive cardiovascular activity resulting in elevated heartbeat and heavy breathing), and competitiveness, or whether the individual participates in competitive sports. It is expected that a positive association will be found between the frequency of intensive exercise or participation in competitive sports and gambling behavior, as well as PG.

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There is a possible overlap between intensive exercise and competitive sports, given the intensive cardiovascular activity that characterizes both types of sport activities. However, they are different in that while intensive exercise may be done for its own sake, competitive sports are structured around a win/lose coding, and competitive athletes are likely motivated by the extrinsic motivation to win.^{11,12}

As there is strong evidence to suggest that there would be gender differences in gambling behavior,^{7,8,13} all analyses were performed separately by gender to enable more accurate cross study comparisons.⁷

METHOD

Subjects and Procedure

A total of 316 (50.0% male) adolescents aged 14–19 ($M = 16.60$, $SD = 1.04$), completed questionnaires from a convenience sample of four integrated high schools in Israel's central region in 2011. All four schools served a heterogeneous Jewish population. Informed consent was obtained from parents and students. This study was approved by the Ethics Committee of the Chief Scientist of the Israeli Ministry of Education.

Measures

Gambling Frequency Scale

This is a 12-item rating scale examining the frequency with which the youths engaged in common types of gambling in the past year. Items were based on Gavriel-Fried et al's scale, with two adjustments for context.¹⁴ Answers to each item ranged on a continuum from "Not at all" (1) to "Daily" (6) and included the following forms of legal and illegal gambling: regulated lotteries and scratch cards, two different types of gambling on regulated soccer matches, gambling on other sports events, bingo, slot machines, online gambling, poker, other kinds of card games, betting through bookmakers, plus an additional item ("Other"). The scale was calculated in terms of the means of all items.

Problem Gambling

This was measured using the Diagnostic and Statistical Manual of Mental Disorders-IV Multiple Response - Juvenile (DSM-IV-MR-J).¹ This is a 12-item rating scale divided into nine categories assessing key variables involved in pathological gambling. Given the small number of participants who endorsed four or more PG criteria,¹ and as such classified as problem gamblers ($N = 7$; 100% male), the total score of the PG scale was calculated as a continuous variable ranging between 0–9, with higher scores indicating a higher likelihood of gambling problems. Cronbach's $\alpha = 0.75$.

Physical Activity

Both intensity of activity and competitiveness were assessed using two multiple-choice questions, respectively, adapted and

modified for the Israeli context from previous research.¹⁵ Intensive exercise was assessed on a rating scale indicating frequency of the intensive activity ([0] Never, [1] 1–2 days, [2] 3–5 days, [3] 6–8 days, [4] 9+ days) by the question "On how many of the past 14 days have you done at least 20 minutes of exercise – hard enough to make you breathe heavily and raise your heartbeat?;" Competitiveness was measured as the number of competitive sports (team or individual sports or activities) in which the young person had engaged over the previous year, from (0) 'None at all' to (4) 'Four or more activities,' such as varsity or junior varsity sports, intramural, or other extra-curricular programs. Participants were also asked to write the names of the competitive sports or activities in which they had participated. This open question allowed participants to include both organized and non-organized competitive sports and activities. Competitiveness was recoded into a dichotomous variable reflecting those who had participated in competitive sports and those who had not. When necessary, questionnaires were translated into Hebrew using forward and backward translation.

Statistical Analyses

Bivariate analyses for linear independent variables (intensive exercise, GF, and PG) were performed using non-parametric tests. Spearman's rho (ρ) correlation coefficient as distribution of scores was indicated as non-normal. Bivariate analyses for categorical variables were conducted using ANOVA and robust tests (Welch when the assumption of homogeneity of variance was violated). All non-gamblers identified in the Gambling Frequency Scale were removed ($n = 109$) for analyses examining PG.

RESULTS

Table 1 below summarizes the descriptive statistics for each variable by gender. Significant differences between males and females were indicated for all variables apart from the year of birth.

Bivariate Analyses

Bivariate analyses for males indicated that GF was correlated with PG ($\rho = .421$, $p < .001$). Individuals who participated in competitive sports also reported significantly higher means for GF ($M = 1.75$, $SD 1.14$) compared with the non-competitive group ($M = 1.19$, $SD 1.04$), [Welch's $F(1, 136.886) = 10.283$, $p = .002$]. Similarly, individuals who participated in competitive sports reported significantly higher means for PG ($M = 1.14$, $SD 1.98$) compared with the non-competitive group ($M = 0.54$, $SD 1.11$) [Welch's $F(1, 86.544) = 4.119$, $p = .045$].

Bivariate analyses for females indicated that competitive sports were significantly higher for GF ($M = 0.96$, $SD 0.73$) compared with the non-competitive group ($M = 0.57$, $SD 0.73$), [Welch's $F(1, 84.192) = 9.57$, $p = .003$]. No other significant differences were indicated.

TABLE 1. Significant differences between males and females on independent and dependent variables

	Male M (SD)	Female M (SD)	Statistics
Age	16.6(1.05)	16.6 (1.02)	F (1,314) = .003, ns
Competitive Behavior [1 – competitive]*	n = 68 (42.8%)	n = 46 (29.1%)	$\chi^2(1) = 6.415, p = .011$
Intensive Exercise***	2.44 (1.36)	1.76 (1.15)	Welch (1,301.824) = 22.986, $p < .001$
Gambling Behavior***	1.42 (1.11)	.69 (.75)	Welch (1,280.050) = 22.986, $p < .001$
Problem gambling***	.81 (1.59)	.12 (.47)	Welch (1,157.540) = 21.391, $p < .001$

Full p -value reported where possible.

* $p < .05$; *** $p < .001$.

DISCUSSION

These findings provide two main insights into the association between PA in the form of intensive exercise and competitive behavior with GF and PG among youth from high schools students in Israel.

When the distinction was made between the intensity and type of sport, only competitive sport was found to have a significant association with GF and PG (the latter only for males), reinforcing the previous evidence that those participating in competitive sports may be more likely to gamble and at greater risk for subsequent PG.^{6,7,8} One explanation may be the impulse to win that underpins both gambling behaviors and competitive sports.^{9,12} Competition, which is a key component of athletes' socialization, can also serve as a motive for gambling. This motive is what differentiates between taking part in intensive PA and taking part in competitive sports. Thus, it should be stressed that not all sports activities are protective against risk behaviors like gambling,⁴ and that typology does matter.

Perhaps expectedly, the findings with regards to gender were in line with previous research. Males were more likely to have increased levels of both GF and PG compared with their female peers both for adolescents sampled from the general population² and amongst student athletes.^{7,8,13} The finding that participation in competitive sports was not significantly associated with PG among females further highlights the importance of performing separate analyses for males and females for accurate cross study comparison.⁷

Limitations of this research concern the cross-sectional design, precluding causal associations between intensity and competitiveness of PA with GF and PG. Similarly, the participants were based upon a convenience sample. However, this study does provide important insight into how, when assessing the impact of PA type and intensity on risk behaviors among youths, one should distinguish between the different components inherent in the sports involved. In addition, these

findings suggest integrating gambling prevention programs among youths who are involved in competitive sports.

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