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ARTICLE AUTHOR: Serena M. King, PhD1; Katharine Adamyk, PhD2; Jasp

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Letters

RESEARCH LETTER

ADOLESCENT MENTAL HEALTH

Frequent and Problem Gambling in Public School Students

Significant growth in online and sports gambling calls for rapid dissemination of research on youth gambling.^{1,2} With increasing access to online gambling, it is essential to monitor youth gambling. Few large-scale youth samples include a comprehensive statewide assessment of gambling.³ This study examines frequent and problematic gambling rates and types among youth (aged 12-20 years, with the majority of the sample [~99%] aged 13-17 years).

Methods | The sample was drawn from 83 545 youth in the Minnesota Student Survey (2022), a large-scale representative sample of Minnesota middle school and high school students in grades 8, 9, and 11 (under the legal age for gambling). In 2022, more than 135 000 students participated in the survey. The state has not yet legalized sports betting, providing a unique environment to examine underage gambling. Participants were recruited via statewide survey of all public school students in Minnesota and methodology and demographics are reported elsewhere.⁴ Sample sex distribution was similar across grades (48.5% males and 51.5% females).

Frequent gambling was defined as once per week or more. Problem gambling was defined as past-year gambling and a score of 4 or more on the Brief Adolescent Gambling Screen (BAGS), a measure of youth problem gambling.⁵ We followed AAPOR (American Association for Public Opinion Research) survey guidelines. Minnesota Student Survey responses are anonymous, so the study was exempt from review according to guidelines from the University of Minnesota institutional review board.

Results | *Frequent Gambling.* There were 6603 (7.9%) frequent gamblers in the sample (4766 males and 1837 females) (Table 1). Frequent gamblers engaged in the following types of gambling in order of popularity: informal sports/games (88.6%), formal sports/games (59.1%), lottery tickets and scratch offs (25.7%), online gambling (25.0%), and casino (11.8%). Similar trends were observed in male and female frequent gamblers for informal sports/games, lottery, online, and casino gambling. Online gambling was more than twice as prevalent for male frequent gamblers (29.7%) compared with female gamblers (12.9%). There were higher rates of formal sports/games betting in male frequent gamblers (62.0%) compared with female gamblers (51.4%). Frequent gamblers most often endorsed 1 or 2 types of gambling (33.7% and 40.1%, respectively) (Table 2).

Problem Gambling. Among problem gamblers (total sample, 0.7% [N = 550]; males, 1.0% [n = 420]; females, 0.3% [n = 130]), endorsement of several gambling types was common, with rates from 86.4% for informal sports/games to 63.1% for casino gambling (Table 1). Problem gamblers were more likely than frequent gamblers to endorse several forms of betting, and sports/games were most common in both groups. Endorsement rates of informal and formal gambling on sports/games were high (86.4% and 75.8%, respectively). Problem gamblers often endorsed online gambling (75.6%). Rates were similar in both sexes for informal sports/games, but female problem gamblers engaged in slightly less formal betting on sports/games than male problem gamblers (66.9% vs 78.6%, respectively). Problem gamblers most often endorsed 4 or 5 types of gambling (21.3% and 40.9%, respectively) (Table 2).

Discussion | Study findings suggest sports and games are a popular form of gambling among problem and frequent gamblers, and problem gamblers tend to endorse more forms of gam-

Table 1. Percentages of Frequent and Problem Gamblers Engaging in Individual Types of Gambling in 2022, by Sex

Type of gambling	Gamblers, % (No.)					
	Frequent			Problem		
	All (N = 6603)	Male (n = 4766)	Female (n = 1837)	All (N = 550)	Male (n = 420)	Female (n = 130)
Informal sports/games ("Bet on informal games of personal skill, such as playing cards, video games, pool, golf, etc")	88.6 (5851)	89.2 (4250)	87.2 (1601)	86.4 (475)	87.6 (368)	82.3 (107)
Formal sports/games ("Bet on formal sports events or games, including esports")	59.1 (3901)	62.0 (2957)	51.4 (944)	75.8 (417)	78.6 (330)	66.9 (87)
Lottery and scratch offs ("Bought lottery tickets or scratch offs")	25.7 (1697)	25.3 (1208)	26.6 (489)	71.8 (395)	74.0 (311)	64.6 (84)
Online ("Gambled for money online including loot boxes")	25.0 (1651)	29.7 (1414)	12.9 (237)	75.6 (416)	77.9 (327)	68.5 (89)
Casino ("Gambled in a casino")	11.8 (782)	12.4 (592)	10.3 (190)	63.1 (347)	63.3 (266)	62.3 (81)

For each item from the Minnesota Student Survey considered, the exact wording is included in parentheses following the shorter names used throughout this article.

Table 2. Number of Gambling Types Engaged in by All Gamblers, Frequent Gamblers, and Problem Gamblers

No. of gambling types	Gamblers, %		
	All	Frequent	Problem
1	56.6	33.7	9.5
2	31.9	40.1	11.5
3	7.8	14.5	16.9
4	2.0	5.6	21.3
5	1.8	6.1	40.9

bling. Male gamblers are at greater risk for gambling problems relative to female gamblers, and some types of gambling differ by sex. Sports betting may be an important pathway for frequent and problematic gambling. The majority of problem and frequent gamblers engaged in online gambling, suggesting it is an important area for harm reduction, risk detection, and intervention. One limitation of this study is that the survey did not include a comprehensive assessment of gambling. Students may play games that were not included, potentially affecting reported rates. A second limitation is that underage gambling is considered illegal and could lead to underreporting. The findings underscore the importance of youth screening, prevention, and intervention in the context of an expanding landscape of sports and online gambling.

Serena M. King, PhD
Katharine Adamyk, PhD
Jasper Weinburd, PhD
Randy Stinchfield, PhD

Author Affiliations: Department of Psychology, Hamline University, Saint Paul, Minnesota (King); Department of Mathematics, Hamline University, Saint Paul, Minnesota (Adamyk); Department of Computer and Data Sciences, University of St Thomas, Saint Paul, Minnesota (Weinburd); University of Minnesota Medical School, Saint Paul (Stinchfield).

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Corresponding Author: Serena M. King, PhD, Department of Psychology, Hamline University, 1536 Hewitt Ave, Saint Paul, MN 55104 (sking02@hamline.edu).

Author Contributions: Drs King and Adamyk had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: King, Stinchfield.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: King.

Critical review of the manuscript for important intellectual content: All authors.

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Supervision: King, Stinchfield.

Conflict of Interest Disclosures: Dr King reported receiving personal fees from Minnesota Alliance on Problem Gambling (MNAPG) outside the submitted work. Dr Adamyk reported receiving personal fees from MNAPG outside the submitted work. Dr Weinburd reported receiving personal fees from MNAPG outside the submitted work. Dr Stinchfield reported receiving personal fees from MNAPG outside the submitted work.

Data Sharing Statement: See the Supplement.

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