



School of
Public Health



Social and Economic Research

Presentation to the Massachusetts Gaming Commission
Project Overview and Aim 2 Brief

Introduction to the SER Team

Principal Investigator: Chris Louis, PhD | Boston University School of Public Health

Aim	Description	Aim Lead(s)
Aim 1	Statewide survey of MA residents: gambling attitudes, behavior, and problem gambling trends	Tim Callaghan PhD
Aim 2	College student gambling behaviors via the Healthy Minds Study (HMS)	Sarah Lipson, PhD
Aim 3	Gambling advertising exposure and its effect on problem gambling (GAME Index)	Matt Motta, PhD Jenny Ross, PhD
Aim 4	Economic surveillance: casino gambling and sports wagering outcomes	Justin White, PhD Paul Shafer, PhD
Aim 5	Causal impacts of casinos on county-level employment, wages, and municipal finances	Paul Shafer, PhD
Aim 6	Association of sports wagering with financial well-being and social needs	Justin White, PhD
Support staff	Senior Director of Research Operations Research Data Analyst	Kara Magane, MS Samhita Kalidindi, BA

Expert Advisory Group



Community Advisory Group

Research Topics Over the Next Three Years

In a continuation of MGC's ongoing robust research agenda, through the SER team's six primary Aims, the team and the MGC will attempt to answer many questions related to the topics below.

Youth & College Student Gambling

How young people engage with sports betting, online gambling, and prediction markets

Prediction Markets

The emergence of platforms like Polymarket and Kalshi as new gambling modalities

Gambling Advertising & Marketing

Measuring exposure across media channels and its impact on gambling behavior

Economic Impacts of Gambling

Effects of casino and online operators on employment, wages, municipal finances, and businesses

Problem Gambling & Mental Health

Prevalence trends, mental health co-occurrence, and help-seeking behavior

AI & Gambling Behavior

How artificial intelligence tools are being used to inform betting decisions

Financial Well-Being & Social Needs

Links between sports wagering, financial vulnerability, and unmet social needs

iGaming & Online Gambling

Current usage patterns and implications of potential legalization in Massachusetts

Focus: Youth & College Student Gambling

The Healthy Minds Study (HMS) is the largest and most comprehensive ongoing behavioral health survey of U.S. college students. Here is what we are learning about gambling in this population.

HMS Background

- The Healthy Minds Study is the largest and most comprehensive ongoing survey of behavioral health in U.S. college student populations.
- >750 colleges/universities, including community colleges, MSIs
- >950,000 college student respondents
- PIs: Sarah Lipson, Daniel Eisenberg, Justin Heinze, Sasha Zhou
- Based at BUSPH, UM, UCLA
- Random samples recruited from participating schools
- Online survey (Qualtrics)

Significance of College Population

- Age of onset
- Treatment delay
- Prevalence and burden (\$)
- Colleges and universities offer unique opportunity for prevention and intervention
 - Proportion of adolescents and young adults in U.S. postsecondary education
 - Significance from developmental perspective, newfound autonomy
 - Human resources (gatekeepers)
 - One of only times work (school), healthcare, peer networks, living all connected
 - Mental health and lifelong trajectory (economic, educational, social)

Higher education is designed to understand and address complex challenges, and its leaders have the opportunity to improve how we support the mental health and well-being of students.

Healthy Minds Study: Background & MGC Alignment

The HMS and Our Study

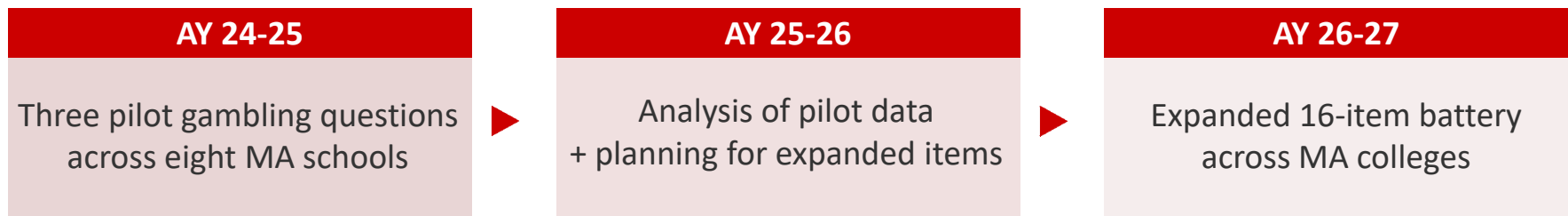
In AY 24-25, data was collected from students at 8 Massachusetts schools — to our knowledge, the largest-scale survey of college student gambling in MA.

AY 24-25: Three Pilot Questions

Included as baseline for this MGC contract:

1. Have you ever participated in sports betting?
2. How often have you used online sportsbook apps (DraftKings, FanDuel)?
3. Self-control measures: “I feel like sports betting controls my life” and “I have no problem setting limits.”

How HMS Complements Our MGC Work



Preliminary Findings: AY 24-25 Healthy Minds Study

In both Massachusetts and National samples, being male and binge drinkers are more likely to bet on sports.

Massachusetts (n= 3,822)	National (n= 25,518)
▲ +379% Being Male	▲ +424% Being Male
▲ +223% Binge Drinking	▲ +158% Binge Drinking
— Low Campus Belonging (not a predictor in MA)	▲ +31% Low Campus Belonging
— High Financial Stress (not a predictor in MA)	▲ +41% High Financial Stress
— Any Drug Use (not a predictor in MA)	▲ +25% Any Drug Use

Multivariable logistic regression | All values show increased odds of sports betting

▲ Green = stronger predictor in that sample ▲ Red = weaker predictor relative to the other sample All values indicate increased odds of betting

Binge drinking predicts betting for both sexes, but what drives risk beyond that differs by sex

Gender-stratified multivariable models · Massachusetts sample only

Female Students — Massachusetts (n= 2,609)

Binge drinking
289% higher odds

Feeling disconnected from campus
62% higher odds (borderline significance, p=0.061)

Part-time enrollment
58% higher odds

Any mental health problem
28% higher odds

Male Students — Massachusetts (n= 1,213)

Binge drinking
190% higher odds

Childhood financial stress
32% higher odds

Low confidence in finishing academic program
79% lower odds of betting (a protective association)

Loneliness
30% lower odds of betting (a protective association)

Betting among women looks more connected to *present day* strain, including financial stress, mental health challenges, and weaker connection to campus, while among men it looks less tied to current distress and more linked to childhood financial stress and lower loneliness, which may point to a more *socially embedded* pattern.

1 in 4 MA students who bet online are under 21 and cannot legally place a sports wager in Massachusetts

Among college students who report using online sportsbook apps (DraftKings, FanDuel, etc.)

Massachusetts (n = 283)

22%

**of online sports bettors
in Massachusetts are UNDER 21**

National (n = 2,065)

34%

**of online sports bettors
nationally are UNDER 21***

*States that legally allow sports betting for those under 21: DC, KY, MT, NH, RI, WY

Among students who already bet, sportsbook app users are a higher-risk group — drug use, campus disconnection, and substance use independently predict who uses sports betting apps

Combined Massachusetts sample (all male and female) among students who already bet on sports. Outcome: online sportsbook app use

Binge Drinking

99% higher odds of online sportsbook use among students who binge drink.

Drug Use

132% higher odds of online sportsbook use among students who used drugs.

Being Male

58% higher odds of using an online sportsbook vs. female students.

Campus Disconnection

78% higher odds of using a sportsbook app among students who feel they do not quite belong on campus. Loneliness is not a significant predictor.

Childhood Financial Stress and Wellbeing

82% higher odds of online sportsbook use (borderline, $p=0.09$) among students reporting high childhood financial stress. Students with positive mental health are 31% less likely to use sportsbook apps, suggesting wellbeing may be protective.

Sportsbook app users are a distinct and higher-risk subset of students who bet: apps are where risk concentrates.

In Mass, male students and cigarette users are most likely to feel betting controls their life, while mental health is the clearest predictor of difficulty setting limits

Massachusetts sample · Among students who ever bet (n=300, adjusted odds ratios)

"Betting controls my life"

+361%

Being Male

higher odds of feeling betting controls their life (OR=4.61)

+228%

Cigarette use

higher odds of feeling betting controls their life (OR=3.28)

Not significant after adjustment:

Mental health · Financial stress · Binge drinking · Loneliness

"I struggle to set limits on how much I bet"

+66%

Any mental health problem

higher odds of difficulty setting limits (OR=1.66)

-36%

Current high financial stress

associated with lower odds of difficulty

Not significant after adjustment:

Sex · Binge drinking · Loneliness · Campus belonging

Takeaways (Massachusetts sample)

Gender Differences in Student Betting Risk

Sports betting, overall, appears more linked to strain (e.g. mental health) for women and more socially embedded for men.

Underage Online Sports Betting

About 1 in 4 Massachusetts students who wager online are under 21 and cannot legally do so.

Online Sportsbooks & Student Vulnerability

Online sportsbooks are where student betting risk becomes most concentrated. Students using apps tend to be more behaviorally and emotionally vulnerable than those who bet without them.

Betting Control vs. Limit Setting Struggles

Students who feel betting controls their life and students who struggle to set limits tend to be different people. The first group is associated with a behavioral pattern, for example cigarette users were much more likely to feel like sports betting controls their life. The second is associated with mental health challenges.

Next Steps

Aim 1 statewide survey launches imminently: a major milestone toward answering all of these research questions.

Key Questions Our Six-Aim Approach Will Answer:

Aim 1

How have gambling behaviors and perspectives **evolved in Massachusetts** over the past 5 years?

Aim 2

How do gambling behaviors relate to mental health, substance use, and loneliness among **college students**?

Aim 3

What is the measurable impact of **gambling advertising** on gambling behavior?

Aim 4

What are the **economic outcomes** of casino and sports wagering expansion in MA?

Aim 5

How have casinos **affected local employment, wages, and municipal finances**?

Aim 6

Is sports wagering linked to **financial vulnerability** and unmet social needs?

Year 2–3 Outlook:

Data collection across all aims, longitudinal analysis, community advisory group engagement, and policy-relevant reporting to the MGC and Massachusetts stakeholders.



Appendix

HMS Questions: *National and Massachusetts-only questions*

Massachusetts Table 1: *Combined-sex factors associated with ever participating in sports betting among Female and Male students*

Massachusetts Table 2a: *Factors associated with ever participating in sports betting among Female students*

Massachusetts Table 2b: *Factors associated with ever participating in sports betting among Male students*

Massachusetts Table 3: *Factors associated with any online sportsbook app use among students who reported ever participating in sports betting*

Massachusetts Table 4: *Factors associated with agreeing that sports betting controls my life*

Massachusetts Table 5: *Factors associated with difficulty setting limits on sports betting*

National Table 1: *Combined-sex factors associated with ever participating in sports betting among Female and Male students*

National Table 2a: *Factors associated with ever participating in sports betting among Female students*

National Table 2b: *Factors associated with ever participating in sports betting among Male students*

National Table 3: *Factors associated with any online sportsbook app use among students who reported ever participating in sports betting*

National Table 4: *Factors associated with agreeing that sports betting controls my life*

National Table 5: *Factors associated with difficulty setting limits on sports betting*

HMS: Questions for inclusion in HMS study (National and Massachusetts-only)

1. Have you ever participated in sports betting? (Asked of national and MA)
2. In the past 12 months, how often have you used online sportsbook applications (e.g., DraftKings, FanDuel, BetMGM) in order to participate in sports betting? [Asked if Q1 = Yes] (Asked of national and MA)
3. To what extent do you agree or disagree with each of the following statements? [Asked if Q1 = Yes] (Asked of national and MA)
 - 3a. I feel like sports betting controls my life.
 - 3b. I have no problem setting limits on how much money I bet on sports.
4. During the past 12 months, how often, if at all, have you participated in each of the following gambling behaviors? (Asked of national and MA)
 - 4a. Purchased lottery tickets such as MegaMillions, Powerball, or Lucky for Life (including instant tickets, pulltabs, or scratch-offs).
 - 4b. Bet money or gambled on sports (including social betting and esports, excluding daily fantasy sports).
 - 4c. Bet money or gambled on daily fantasy sports.
 - 4d. Gambled at a casino or slot parlor in [state of college].
 - 4e. Spent money on electronic gambling machines (i.e., slot machines, video lottery terminals, electronic casino table games) either in person at a casino or online.
 - 4f. Bet money on any casino table game such as poker, blackjack, baccarat, roulette, craps, mah-jong, sic-bo, or pai gow, either in person at a casino or online (not including automated electronic versions).
 - 4g. Gambled online (including poker, iLottery, betting on sports, bingo, slots, or casino table games for money; excludes online prediction markets, online sports betting, and daily fantasy sports).
 - 4h. Bet money or gambled on outcomes in a prediction market (e.g., Polymarket, Kalshi, PredictIt, Robinhood, Crypto.com, Rithmm).
 - 4i. Opened/bought a loot box in a video game (e.g., in Roblox, FIFA).
 - 4j. Other gambling behavior (e.g., purchased high-risk stocks, options or futures or day traded on the stock market; purchased raffle tickets; gone to a bingo hall; bet on a horse race at a racetrack or off-track site; gambled against other people on card games, golf, pool, darts, bowling, video games, board games, or poker outside of a casino).
5. During the past 12 months, how often did you drink alcohol while gambling? [Asked if any behaviors reported in Q4] (Asked of MA only)
6. How old were you when you first gambled? [Open-ended, including option for “never” or “N/A”] (Asked of MA only)
7. Have you ever used someone else’s login information to bet on sports online (e.g., FanDuel, DraftKings)? [Asked if Q1 = Yes] (Asked of MA only)
8. In the past week, have you seen ads from any of the following advertisers, in each of the following places? (Select all that apply) (Asked of national and MA)
 - 8a. Casinos (like Encore, MGM Springfield)
 - 8b. Online Sportsbooks like DraftKings or FanDuel
 - 8c. State Lottery (including mobile applications like JackPocket)
 - 8d. Online Poker and other Online Casino Games
9. How often would you say that you see ads for Online Sportsbooks like DraftKings or FanDuel on television, streaming, or social media? [Asked if any response to 8b reported] (Asked of MA only)
10. Over the past 12 months, roughly how much money do you spend on all forms of gambling per month? [Open-ended numeric entry; spend defined as net win/loss] [Asked if any behaviors reported in Q4] (Asked of national and MA)
11. In the past 12 months, have you often gone back to try and win back the money you lost? [Asked if any behaviors reported in Q4] (Asked of MA only)
12. In the past 12 months, when you gamble, do you usually gamble alone rather than with friends, family, or other people you know? [Asked if any behaviors reported in Q4] (Asked of MA only)
- 13a. In the past 12 months, has your involvement in gambling caused significant mental stress in the form of guilt, anxiety, or depression for you or someone close to you? [Asked if any behaviors reported in Q4] (Asked of MA only)
- 13b. Has your involvement in gambling caused significant mental stress in the form of guilt, anxiety, or depression for you in the past 12 months? [Asked if Q13 = Yes] (Asked of MA only)
- 14a. In the past 12 months, has your involvement in gambling caused significant work or school problems for you or someone close to you? [Asked if any behaviors reported in Q4] (Asked of MA only)
- 14b. In the past 12 months, has your involvement in gambling caused significant work or school problems for you? [Asked if Q14 = Yes] (Asked of MA only)
- 14c. In the past 12 months, has your involvement in gambling caused you to miss a significant amount of time from work or school? [Asked if Q14b = Yes] (Asked of MA only)
15. Have you lied to others about how much you gamble, and/or about how much money you lost on gambling? [Asked if any behaviors reported in Q4] (Asked of MA only)
16. Has your gambling ever caused serious or repeated problems in your relationships with any of your family members or friends? [Asked if any behaviors reported in Q4] (Asked of MA only)

Massachusetts Table 2a: Factors associated with ever participating in sports betting among Female students

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Age	1.00	0.99, 1.01	0.6
Sex at birth			
Female	—	—	
Male	4.79	3.87, 5.93	<0.001
Race/ethnicity			
White	—	—	
Asian	0.57	0.51, 0.65	<0.001
Black	0.70	0.51, 0.97	0.032
Hispanic/Latine	0.29	0.17, 0.49	<0.001
Other/multiracial	0.68	0.49, 0.94	0.018
Enrollment status			
Full-time student	—	—	
Part-time/Other	1.37	1.21, 1.55	<0.001
Grades (self-reported)			
High (A/A-B)	—	—	
Medium (B/B-C)	0.95	0.72, 1.26	0.7
Lower (C or below)	0.33	0.02, 5.78	0.4
Other/unclear	1.31	0.98, 1.76	0.064
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	1.11	0.64, 1.92	0.7
Disagree	1.48	0.90, 2.42	0.12
Confidence in finishing academic program			
High confidence	—	—	

[†] Unweighted analytic sample 3822. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Moderate confidence	0.70	0.53, 0.94	0.015
Low confidence	0.52	0.20, 1.36	0.2
Sleep (weeknights)			
≤5	—	—	
6	1.09	0.75, 1.58	0.6
7	1.08	0.77, 1.51	0.7
8+	1.17	0.68, 2.02	0.6
Financial stress			
Low stress	—	—	
Moderate stress	1.36	0.84, 2.22	0.2
High stress	1.26	0.89, 1.79	0.2
Financial stress while growing up			
Low stress	—	—	
Moderate stress	0.93	0.76, 1.12	0.4
High stress	1.13	0.95, 1.34	0.2
Any mental health problem	0.93	0.76, 1.15	0.5
Positive mental health (flourishing threshold)	1.07	0.75, 1.53	0.7
Loneliness	0.75	0.56, 1.00	0.050
Binge drinking	3.23	2.66, 3.91	<0.001
Cigarette use	1.00	0.73, 1.36	>0.9
Any drug use	1.27	0.98, 1.66	0.071

[†] Unweighted analytic sample 3822. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Massachusetts Table 1: Combined-sex factors associated with ever participating in sports betting among Female and Male students

Female students					Male students				
Characteristic [†]	OR [†]	95% CI [†]	p-value [†]		Characteristic [†]	OR [†]	95% CI [†]	p-value [†]	
Age	1.01	0.98, 1.04	0.4		Sleep (weeknights)				
Race/ethnicity					≤5	—	—		
White	—	—			6	1.31	0.46, 3.70	0.6	
Asian	0.85	0.53, 1.37	0.5		7	0.90	0.37, 2.17	0.8	
Black	0.96	0.53, 1.74	0.9		8+	1.84	0.62, 5.43	0.3	
Hispanic/Latine	0.11	0.02, 0.48	0.004		Financial stress				
Other/multiracial	0.66	0.38, 1.15	0.14		Low stress	—	—		
Enrollment status					Moderate stress	2.27	0.66, 7.75	0.2	
Full-time student	—	—			High stress	2.49	0.82, 7.56	0.11	
Part-time/Other	1.58	1.05, 2.37	0.027		Financial stress while growing up				
Grades (self-reported)					Low stress	—	—		
High (A/A-B)	—	—			Moderate stress	0.62	0.39, 0.96	0.034	
Medium (B/B-C)	0.89	0.36, 2.17	0.8		High stress	0.83	0.58, 1.19	0.3	
Lower (C or below)	1.27	0.04, 39.50	0.9		Any mental health problem	1.28	0.77, 2.14	0.3	
Other/unclear	1.99	1.76, 2.24	<0.001		Positive mental health (flourishing threshold)	1.17	0.66, 2.08	0.6	
Sense of belonging to campus community					Loneliness	0.81	0.56, 1.17	0.3	
Agree	—	—			Binge drinking	3.89	2.08, 7.29	<0.001	
Somewhat agree	1.28	0.72, 2.28	0.4		Cigarette use	0.96	0.64, 1.46	0.9	
Disagree	1.62	0.98, 2.67	0.061		Any drug use	1.59	0.97, 2.61	0.066	
Confidence in finishing academic program									
High confidence	—	—							
Moderate confidence	0.58	0.36, 0.94	0.026						
Low confidence	0.88	0.37, 2.08	0.8						

[†] Unweighted analytic n = 2609. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Massachusetts Table 2b: Factors associated with ever participating in sports betting among Male students

Male students									
Characteristic [†]	OR [†]	95% CI [†]	p-value [†]		Characteristic [†]	OR [†]	95% CI [†]	p-value [†]	
Age	1.00	0.98, 1.02	>0.9		Sleep (weeknights)				
Race/ethnicity					≤5	—	—		
White	—	—			6	0.97	0.72, 1.30	0.8	
Asian	0.43	0.32, 0.59	<0.001		7	1.20	0.74, 1.94	0.5	
Black	0.53	0.19, 1.46	0.2		8+	0.76	0.51, 1.14	0.2	
Hispanic/Latine	0.37	0.18, 0.79	0.010		Financial stress				
Other/multiracial	0.71	0.53, 0.93	0.014		Low stress	—	—		
Enrollment status					Moderate stress	1.14	0.80, 1.64	0.5	
Full-time student	—	—			High stress	0.95	0.76, 1.20	0.7	
Part-time/Other	1.17	0.83, 1.65	0.4		Financial stress while growing up				
Grades (self-reported)					Low stress	—	—		
High (A/A-B)	—	—			Moderate stress	1.21	0.91, 1.60	0.2	
Medium (B/B-C)	0.98	0.49, 1.95	>0.9		High stress	1.32	1.17, 1.49	<0.001	
Lower (C or below)	0.00	0.00, 0.00	<0.001		Any mental health problem	0.80	0.63, 1.02	0.074	
Other/unclear	0.85	0.47, 1.51	0.6		Positive mental health (flourishing threshold)	1.06	0.84, 1.34	0.6	
Sense of belonging to campus community					Loneliness	0.70	0.53, 0.91	0.007	
Agree	—	—			Binge drinking	2.90	1.80, 4.68	<0.001	
Somewhat agree	1.06	0.62, 1.79	0.8		Cigarette use	0.92	0.70, 1.22	0.6	
Disagree	1.47	0.85, 2.55	0.2		Any drug use	1.06	0.82, 1.37	0.7	
Confidence in finishing academic program									
High confidence	—	—							
Moderate confidence	0.80	0.50, 1.27	0.3						
Low confidence	0.21	0.05, 0.84	0.028						

[†] Unweighted analytic n = 1213. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Massachusetts Table 3: Factors associated with any online sportsbook app use among students who reported ever participating in sports betting

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Age	0.95	0.94, 0.97	<0.001
Sex at birth			
Female	—	—	
Male	1.58	1.09, 2.30	0.015
Race/ethnicity			
White	—	—	
Asian	0.90	0.52, 1.57	0.7
Black	0.32	0.03, 3.35	0.3
Hispanic/Latine	0.63	0.16, 2.52	0.5
Other/multiracial	0.73	0.38, 1.40	0.3
Enrollment status			
Full-time student	—	—	
Part-time/Other	0.78	0.26, 2.38	0.7
Grades (self-reported)			
High (A/A-B)	—	—	
Medium (B/B-C)	1.48	0.76, 2.86	0.2
Lower (C or below)	0.00	0.00, 0.00	<0.001
Other/unclear	1.63	0.79, 3.35	0.2
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	1.26	0.97, 1.64	0.081
Disagree	1.78	1.31, 2.42	<0.001
Confidence in finishing academic program			
High confidence	—	—	

[†] Unweighted analytic n = 283. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Moderate confidence	2.30	1.78, 2.98	<0.001
Low confidence	1.08	0.59, 1.99	0.8
Sleep (weeknights)			
≤5	—	—	
6	0.48	0.24, 0.98	0.044
7	0.55	0.27, 1.13	0.10
8+	0.77	0.42, 1.43	0.4
Financial stress			
Low stress	—	—	
Moderate stress	2.32	0.74, 7.28	0.2
High stress	1.43	0.49, 4.11	0.5
Financial stress while growing up			
Low stress	—	—	
Moderate stress	1.22	1.03, 1.44	0.020
High stress	1.82	0.92, 3.61	0.087
Any mental health problem	0.58	0.33, 1.01	0.056
Positive mental health (flourishing threshold)	0.69	0.49, 0.99	0.046
Loneliness	0.86	0.50, 1.46	0.6
Binge drinking	1.99	1.18, 3.36	0.010
Cigarette use	0.61	0.18, 2.11	0.4
Any drug use	2.32	1.28, 4.21	0.005

[†] Unweighted analytic n = 283. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Massachusetts Table 4: Factors associated with agreeing that sports betting controls my life

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Sex at birth			
Female	—	—	
Male	4.61	2.34, 9.06	<0.001
Race/ethnicity			
White	—	—	
Asian	3.96	2.36, 6.65	<0.001
Black/Hispanic/Other	0.79	0.43, 1.45	0.4
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	1.61	0.95, 2.71	0.078
Disagree	2.08	0.97, 4.46	0.060
Current financial stress			
Low/Moderate	—	—	
High	1.64	0.54, 4.98	0.4
Loneliness	0.73	0.50, 1.07	0.11
Binge drinking	2.50	0.96, 6.50	0.062
Cigarette use	3.28	1.87, 5.75	<0.001
Any mental health problem	1.52	0.62, 3.72	0.4

[†] Unweighted analytic n = 300. Proportional-odds ordinal logistic regression with cluster-robust standard errors clustered by school. To improve model stability, race/ethnicity was collapsed into White, Asian and Black/Hispanic/other

Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Massachusetts Table 5: Factors associated with difficulty setting limits on sports betting

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Sex at birth			
Female	—	—	
Male	1.67	0.95, 2.93	0.077
Race/ethnicity			
White	—	—	
Asian	1.36	1.02, 1.82	0.036
Black/Hispanic/Other	0.76	0.47, 1.24	0.3
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	0.85	0.35, 2.09	0.7
Disagree	0.81	0.48, 1.37	0.4
Current financial stress			
Low/Moderate	—	—	
High	0.64	0.44, 0.93	0.020
Loneliness	1.31	0.73, 2.36	0.4
Binge drinking	1.19	0.71, 1.98	0.5
Cigarette use	0.74	0.27, 2.00	0.6
Any mental health problem	1.66	1.45, 1.89	<0.001

[†] Unweighted analytic n = 300. Proportional-odds ordinal logistic regression with cluster-robust standard errors clustered by school. To improve model stability, race/ethnicity was collapsed into White, Asian and Black/Hispanic/other

Abbreviations: CI = Confidence Interval, OR = Odds Ratio

National Table 1: Combined-sex factors associated with ever participating in sports betting among Female and Male students

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Age	1.00	1.00, 1.01	0.2
Sex at birth			
Female	—	—	
Male	5.24	4.69, 5.86	<0.001
Race/ethnicity			
White	—	—	
Asian	0.58	0.49, 0.70	<0.001
Black	1.41	1.09, 1.83	0.009
Hispanic/Latine	0.95	0.79, 1.14	0.6
Other/multiracial	1.01	0.87, 1.17	>0.9
Enrollment status			
Full-time student	—	—	
Part-time/Other	0.97	0.82, 1.15	0.7
Grades (self-reported)			
High (A/A-B)	—	—	
Medium (B/B-C)	1.24	1.10, 1.39	<0.001
Lower (C or below)	1.13	0.86, 1.49	0.4
Other/unclear	1.16	0.93, 1.44	0.2
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	0.97	0.85, 1.11	0.7
Disagree	1.31	1.15, 1.49	<0.001
Confidence in finishing academic program			
High confidence	—	—	

[†] Unweighted analytic n = 25518. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Moderate confidence	0.78	0.67, 0.90	<0.001
Low confidence	0.78	0.59, 1.02	0.068
Sleep (weeknights)			
≤5	—	—	
6	0.96	0.83, 1.11	0.6
7	1.01	0.87, 1.18	>0.9
8+	1.07	0.90, 1.27	0.4
Financial stress			
Low stress	—	—	
Moderate stress	1.22	0.98, 1.51	0.079
High stress	1.41	1.13, 1.77	0.002
Financial stress while growing up			
Low stress	—	—	
Moderate stress	1.01	0.89, 1.15	0.8
High stress	0.94	0.81, 1.09	0.4
Any mental health problem	0.89	0.80, 0.98	0.019
Positive mental health (flourishing threshold)	1.28	1.11, 1.47	<0.001
Loneliness	0.74	0.66, 0.83	<0.001
Binge drinking	2.58	2.32, 2.86	<0.001
Cigarette use	1.20	1.04, 1.39	0.014
Any drug use	1.25	1.11, 1.40	<0.001

[†] Unweighted analytic n = 25518. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

National Table 2a: Factors associated with ever participating in sports betting among Female students

Female students							
Characteristic [†]	OR [†]	95% CI [†]	p-value [†]	Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Age	1.02	1.01, 1.0	<0.001	Sleep (weeknights)			
Race/ethnicity				≤5	—	—	
White	—	—		6	0.92	0.74, 1.2	0.5
Asian	0.72	0.54, 0.96	0.025	7	0.90	0.73, 1.1	0.3
Black	1.35	0.99, 1.8	0.056	8+	1.15	0.93, 1.4	0.2
Hispanic/Latine	0.79	0.62, 1.0	0.054	Financial stress			
Other/multiracial	1.00	0.80, 1.3	>0.9	Low stress	—	—	
Enrollment status				Moderate stress	1.57	1.07, 2.3	0.022
Full-time student	—	—		High stress	1.81	1.18, 2.8	0.007
Part-time/Other	0.97	0.78, 1.2	0.8	Financial stress while growing up			
Grades (self-reported)				Low stress	—	—	
High (A/A-B)	—	—		Moderate stress	0.83	0.67, 1.0	0.11
Medium (B/B-C)	1.36	1.12, 1.7	0.002	High stress	0.83	0.66, 1.0	0.11
Lower (C or below)	1.09	0.72, 1.7	0.7	Any mental health problem	0.98	0.84, 1.2	0.8
Other/unclear	1.46	1.05, 2.0	0.026	Positive mental health (flourishing threshold)	1.35	1.11, 1.6	0.003
Sense of belonging to campus community				Loneliness	0.86	0.74, 1.0	0.061
Agree	—	—		Binge drinking	2.62	2.17, 3.2	<0.001
Somewhat agree	1.04	0.85, 1.3	0.7	Cigarette use	0.93	0.67, 1.3	0.7
Disagree	1.46	1.20, 1.8	<0.001	Any drug use	1.12	0.93, 1.3	0.2
Confidence in finishing academic program							
High confidence	—	—					
Moderate confidence	0.77	0.61, 0.96	0.024				
Low confidence	0.63	0.43, 0.92	0.016				

[†] Unweighted analytic n = 18694. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

[†] Unweighted analytic n = 18694. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

National Table 2b: Factors associated with ever participating in sports betting among Male students

Male students					Characteristic [†]			
Characteristic [†]	OR [†]	95% CI [†]	p-value [†]		OR [†]	95% CI [†]	p-value [†]	
Age	0.99	0.98, 1.0	0.2		Sleep (weeknights)			
Race/ethnicity					≤5	—	—	
White	—	—			6	1.02	0.83, 1.2	0.9
Asian	0.52	0.39, 0.68	<0.001		7	1.12	0.90, 1.4	0.3
Black	1.45	1.03, 2.0	0.031		8+	1.02	0.77, 1.3	>0.9
Hispanic/Latine	1.11	0.85, 1.4	0.4		Financial stress			
Other/multiracial	1.02	0.85, 1.2	0.8		Low stress	—	—	
Enrollment status					Moderate stress	1.04	0.80, 1.4	0.8
Full-time student	—	—			High stress	1.23	0.93, 1.6	0.15
Part-time/Other	0.96	0.74, 1.2	0.7		Financial stress while growing up			
Grades (self-reported)					Low stress	—	—	
High (A/A-B)	—	—			Moderate stress	1.19	1.00, 1.4	0.057
Medium (B/B-C)	1.14	0.94, 1.4	0.2		High stress	1.02	0.80, 1.3	0.9
Lower (C or below)	1.14	0.75, 1.7	0.5		Any mental health problem			
Other/unclear	0.88	0.64, 1.2	0.4		Positive mental health (flourishing threshold)	1.23	1.03, 1.5	0.019
Sense of belonging to campus community					Loneliness	0.66	0.58, 0.76	<0.001
Agree	—	—			Binge drinking	2.58	2.17, 3.1	<0.001
Somewhat agree	0.92	0.79, 1.1	0.3		Cigarette use	1.38	1.13, 1.7	0.001
Disagree	1.17	0.99, 1.4	0.063		Any drug use	1.39	1.20, 1.6	<0.001
Confidence in finishing academic program					[†] Unweighted analytic n = 6824. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio			
High confidence	—	—						
Moderate confidence	0.78	0.64, 0.96	0.019					
Low confidence	0.93	0.64, 1.4	0.7					

[†] Unweighted analytic n = 6824. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

National Table 3: Factors associated with any online sportsbook app use among students who reported ever participating in sports betting

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Age	0.97	0.95, 0.98	<0.001
Sex at birth			
Female	—	—	
Male	1.68	1.36, 2.08	<0.001
Race/ethnicity			
White	—	—	
Asian	0.85	0.61, 1.19	0.4
Black	1.46	0.92, 2.30	0.11
Hispanic/Latine	0.75	0.54, 1.05	0.090
Other/multiracial	0.95	0.71, 1.28	0.7
Enrollment status			
Full-time student	—	—	
Part-time/Other	0.90	0.68, 1.20	0.5
Grades (self-reported)			
High (A/A-B)	—	—	
Medium (B/B-C)	1.33	1.03, 1.72	0.030
Lower (C or below)	0.74	0.43, 1.27	0.3
Other/unclear	1.03	0.69, 1.54	>0.9
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	1.11	0.87, 1.42	0.4
Disagree	1.34	1.02, 1.75	0.033
Confidence in finishing academic program			
High confidence	—	—	

[†] Unweighted analytic n = 2065. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Moderate confidence	0.99	0.70, 1.39	>0.9
Low confidence	0.75	0.39, 1.43	0.4
Sleep (weeknights)			
≤5	—	—	
6	1.24	0.91, 1.70	0.2
7	0.99	0.72, 1.37	>0.9
8+	1.22	0.91, 1.62	0.2
Financial stress			
Low stress	—	—	
Moderate stress	1.34	0.86, 2.10	0.2
High stress	1.60	1.06, 2.41	0.026
Financial stress while growing up			
Low stress	—	—	
Moderate stress	1.32	1.04, 1.68	0.024
High stress	1.43	1.07, 1.91	0.016
Any mental health problem	0.76	0.62, 0.93	0.008
Positive mental health (flourishing threshold)	0.91	0.74, 1.13	0.4
Loneliness	0.91	0.70, 1.20	0.5
Binge drinking	1.99	1.62, 2.44	<0.001
Cigarette use	0.98	0.66, 1.46	>0.9
Any drug use	1.50	1.16, 1.94	0.002

[†] Unweighted analytic n = 2065. Odds ratios with cluster-robust standard errors clustered by school. Abbreviations: CI = Confidence Interval, OR = Odds Ratio

National Table 4: Factors associated with agreeing that sports betting controls my life

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Sex at birth			
Female	—	—	
Male	2.00	1.54, 2.60	<0.001
Race/ethnicity			
White	—	—	
Asian	1.95	1.46, 2.61	<0.001
Black/Hispanic/Other	1.50	1.18, 1.90	<0.001
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	0.96	0.79, 1.18	0.7
Disagree	0.70	0.54, 0.90	0.007
Current financial stress			
Low/Moderate	—	—	
High	1.25	1.00, 1.56	0.047
Loneliness	1.09	0.89, 1.33	0.4
Binge drinking	1.36	1.11, 1.67	0.003
Cigarette use	1.25	0.90, 1.74	0.2
Any mental health problem	1.29	1.04, 1.59	0.020

[†] Unweighted analytic n = 2393. Proportional-odds ordinal logistic regression with cluster-robust standard errors clustered by school.
Abbreviations: CI = Confidence Interval, OR = Odds Ratio

National Table 5: Factors associated with difficulty setting limits on sports betting

Characteristic [†]	OR [†]	95% CI [†]	p-value [†]
Sex at birth			
Female	—	—	
Male	1.01	0.83, 1.22	>0.9
Race/ethnicity			
White	—	—	
Asian	1.77	1.25, 2.51	0.001
Black/Hispanic/Other	1.29	1.09, 1.53	0.003
Sense of belonging to campus community			
Agree	—	—	
Somewhat agree	1.12	0.91, 1.37	0.3
Disagree	0.89	0.72, 1.09	0.2
Current financial stress			
Low/Moderate	—	—	
High	1.25	1.08, 1.45	0.004
Loneliness	1.04	0.86, 1.26	0.7
Binge drinking	1.13	0.97, 1.32	0.11
Cigarette use	0.89	0.64, 1.22	0.5
Any mental health problem	1.22	1.01, 1.47	0.035

[†] Unweighted analytic n = 2389. Proportional-odds ordinal logistic regression with cluster-robust standard errors clustered by school.
Abbreviations: CI = Confidence Interval, OR = Odds Ratio

