



The Prevalence of Online and Land-Based Gambling in New Jersey

Second Report to the
Division of Gaming Enforcement
Submitted by:

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Glossary

In this report, we are committed to using person-first language where possible, recognizing that individuals are not defined by their activities. Given the volume of information, however, there are instances when we will use the following terms for brevity to connote particular data groups:

Games of Skill: This is a catch-all category in the report that allows us to capture games that friends and families may play for money, including this including non-casino backgammon, mahjong, arcade games, puzzles, word games, trivia, board games, strategy games, bridge or similar games.

High-frequency gamblers: Participants who reported gambling once a week or more in the past year.

High-risk problem gamblers: Participants who reported gambling in the past year and scored eight or greater (8+) on the Problem Gambling Severity Index (PGSI). These gamblers would be classified as “disordered” gamblers or as having “gambling disorder” in other studies.

Low-frequency gamblers: Participants who reported gambling less than once a month in the past year.

Low-risk problem gamblers: Participants who reported gambling in the past year and scored one (1) or two (2) on the PGSI.

Mixed-venue gamblers: Individuals who indicated they gambled both online and at land-based venues.

Moderate-frequency gamblers: Participants who reported gambling one to three times a month in the past year.

Moderate-risk problem gamblers: Participants who reported gambling in the past year and scored three (3) to seven (7) on the PGSI.

Non-gamblers: Participants who reported they had not gambled on any activity in the past year.

Non-problem gamblers: Participants who reported past-year gambling but endorsed no problem gambling symptoms on the PGSI.

Non-suicidal self-injury: Engaging in self-mutilation (e.g., cutting, burning) without suicidal intent.

Panel: Group of survey participants who answered the questionnaire either online (*online panel*) or by land-line or cell phone (*phone panel*).

Regions: Counties in New Jersey grouped as follows: Greater Atlantic City (Atlantic County), Delaware River (Burlington, Camden, Gloucester, Mercer, and Salem counties), Gateway (Bergen, Essex, Hudson, Middlesex, Passaic, and Union counties), Shore (Monmouth and Ocean counties),

Skyland (Hunterdon, Morris, Somerset, Sussex, and Warren counties), and Southern Shore (Cape May and Cumberland counties).

Problem gamblers: This category is a combination of the low-risk and moderate-risk gamblers on the PGSI. This classification best corresponds to sub-threshold problem gamblers in other studies.

Suicidal ideation: Having or expressing thoughts about committing suicide.

Executive Summary

This is the second prevalence study of gambling and related activities conducted in New Jersey since the 1980s. The first study followed the launch of legalized online gambling in 2014 and was published in 2017. The current study follows the start of legalized sports wagering in 2018. The survey asked about participation in a wide range of common activities that contain the three legal elements of “gambling”: 1) Consideration (i.e., wagering something of value), 2) chance (i.e., on an outcome that is uncertain); and 3) prize (i.e., in the hopes of winning something of value).¹ Notably, the survey does not distinguish between regulated or unregulated forms of gambling, therefore not all activities are regulated by the state of New Jersey.

Overall, about 61% (n=2,149) of the 3,512 New Jersey residents in the study reported gambling in the past year, down from about 70% in the prior prevalence survey. This rate likely was affected by the COVID-19 shutdowns in 2020, as data were collected in 2021 for this prevalence survey. There were also notable shifts in gambling preference by venue between the 2017 and current prevalence studies:

- The proportion of individuals who gambled exclusively online *nearly tripled* from about 5% in the 2017 report to **nearly 15%** in the current report.
- The proportion of those gambling at mixed (online and land-based) venues *nearly doubled*, from about 19% to **36%**.
- The proportion of those gambling only at land-based venues *dropped significantly*, from nearly 76% to 49% at the time of this study.

The most popular activities were purchasing lottery tickets (73.0%), which declined about 7% in popularity, and instant scratch-off tickets (59.1%), which also declined, about 5%. Notably, participation in sports wagering increased from about 15% to 19% in the current study. In addition, about **25%** of those surveyed engaged in high-risk stock trading (i.e., margins, options), a nearly *seven-fold increase* over the prior survey and a higher proportion than those playing video poker/slot machines, which declined nearly 7% to about 25% in this survey.

The prevalence rate of high-risk problem gambling, analogous to gambling disorder, *remained relatively stable at about 6%*, which is *three times* the national average in population samples. Specific findings by section are outlined below:

Region:

- Counties were grouped into regions in the report. There were no statistically significant differences among those who endorsed past-year gambling or venue preference by region, however there were some interesting differences.
- The Southern Shore (66.2%), Greater Atlantic City (64.3%), and Shore (62.9%) regions reported the highest percentages of people who gamble.

¹ Cabot, A. N., Light, G. J., & Rutledge, K. F. (2010). Economic value, equal dignity and the future of sweepstakes. *UNLV Gaming Law Journal*, 1, 1.

- The Greater Atlantic City and Shore regions reported the smallest percentage of those who gambled online only (about 10% each), and the Gateway region, the largest of all regions, reported the highest percentage of online-only gamblers (17.4%).
- The Shore region had the highest proportion of land-based only players, making up more than 54% of its gambling population.
- Greater Atlantic City reported the highest percentage of those who gambled in mixed venues (41.6%), that is both online and in land-based venues.

Gender:

- Men (66.3%) were more likely than women (56.4%) to gamble, however preferences have shifted dramatically since 2017.
- Women in this survey gambled online-only at about *four times* the rate of the prior survey, increasing from about 3% to 13%. Men's online-only participation similarly increased, more than doubling, from 7% to 17%.
- *Men had double the rate of high-risk problem gambling, compared to women.*
- *Nearly half of all men gambled at mixed venues (online and land-based), with rates increasing about 19% from the last survey. Women gambled in mixed venues significantly less than men, but doubled their participation, from about 13% to 27%.*
- Women were significantly more likely to gamble *exclusively at land-based venues* compared to men, however, the proportion of women gambling at land-based venues *decreased by 24%* since the 2017 report.
- Men gambled on an average of *four activities*, compared to women who gambled on an average of *fewer than three activities*.
- Men were overrepresented in the *moderate- and high-risk problem gambling* groups, while women made up a larger proportion of *non-problem gamblers*.
- Both women and men endorsed a preference for purchasing lottery and/or instant scratch-off tickets. However, men's next highest preferences were high-risk stock trading, followed by gaming machine play, and sports wagering, whereas women endorsed gaming machines (slots, video poker) as their third preference.

Age:

- More than half of people in each age category gambled in the past year, with the highest rates of participation in the age 45 to 54 group, among whom 69% reported gambling.
- One-third of gamblers age 18 to 24 gambled online only, nearly *five times as many* as in the prior survey and more than any other age group.
- In contrast, gambling only at land-based venues *declined* for all age groups, including those 55 and older, who continued to show the greatest preference for land-based venues.
- Mixed-venue gambling increased in popularity across all age groups; for example, *more than half of those age 35 to 44 who gambled did so both online and in land-based venues.*
- Problem gambling severity also differed by age. Individuals *age 18 to 44 were most likely to be high-risk problem gamblers.* Notably, about **19%** of those ages 18 to 24 were at *high risk for problem gambling*, which includes those who are not of legal age to gamble in New

Jersey. Those in the *35 to 44 age category* were also overrepresented among *low- and moderate-risk problem gamblers*. Individuals ages 45+ were more likely to endorse no problem symptoms (*non-problem gamblers*).

- Younger, high-frequency gamblers (gambling once a week or more) were over-represented in their participation in *all gambling activities* except lottery, instant scratch-off purchasing, and gaming machines (slots, video poker).

Race/Ethnicity:

- *Black/African Americans* reported the *highest proportion of past-year gambling* (62.2%), slightly more than Whites (61.6%) and those who identified as “Mixed/Other” race (60.1%), followed by Asian American/Pacific Islanders (57.2%).
- *Between 37% and 39% of non-Whites who gambled reported some level of a gambling problem*, with *Black/African Americans* most likely to be in the group *at high risk for problems*.
- About 63% of those with *Hispanic ethnicity* reported gambling, and *about 15% of Hispanic participants* endorsed symptoms of *high-risk problem gambling*.
- There were decreases across all groups in overall gambling participation compared to the 2017 report; these decreases, likely affected by COVID-19 shutdowns, were most notable among Whites, whose gambling declined almost 10%.
- More than half of those gambling *only online* were White (61.3%), although proportionate adjustments found those identifying as Asian American/Pacific Islander or “Mixed/Other” race were slightly overrepresented among online-only gamblers.
- *Whites* made up the highest proportion of *land-based gamblers*, with about 53% of all Whites who gambled doing so only in land-based locations.
- *Nearly half of Black/African Americans* gambled in *mixed venues*, the preference associated with *higher rates of problem gambling*.
- Individuals identifying as Hispanic were overrepresented among both the *online-only* (18.3%) and *mixed-venue* gambling groups (41.2%).

Marital Status and Household Income:

- As in the prior prevalence study, more than half of those who gambled were married.
- Proportionately, married gamblers, along with those who were divorced or widowed, were over-represented among those gambling only in land-based venues.
- Single/never married gamblers were over-represented among those who gambled online only or at mixed venues; those who were separated but legally married also preferred gambling at mixed venues.
- Gambling participation rates were highest among those who reported an annual household income between \$125,000 and \$150,000 (73.0%), followed by those who earned \$70,000 to \$100,000 (68.0%).
- Overall, about two-thirds of participants with a household income of more than \$30,000 reported gambling, compared to about half of those with income under that threshold.
- *More than 14%* of gamblers who reported a household *income of less than \$15,000 a year* were *high-risk problem gamblers*. They were also overrepresented among online-

only gamblers. Those with household income of \$15,000 up to \$30,000 were overrepresented among low- and moderate-risk problem gamblers. ***These findings are particularly notable given that only about half of people in these income groups gamble at all.***

Education:

- Those with an associate or bachelor’s degree were most likely to report past-year gambling.
- Individuals with only an elementary school education were least likely to have gambled, followed by those with some high school or a high school diploma or GED.

Employment:

- About two-thirds of those employed full-time reported gambling in the past year, significantly more than other groups by employment status. They also were significantly over-represented among those who patronized mixed venues.
- A high proportion of past-year gambling was also noted among participants who reported being out of work for less than a year (65.5%), those employed part-time (62.6%), and individuals who were disabled (61.1%).
- *Students* were the least likely to have gambled but *were overrepresented among online-only gamblers.*
- *Retirees* were significantly overrepresented among those gambling *only at land-based venues.*

Gambling Participation:

- A majority of participants, **61%**, reported they had *gambled in the past year.*
- About 49% of those who gambled did so at land-based venues only, followed by more than 36% at “mixed” venues (online and in land-based venues), and nearly 15% gambled online only. These proportions were significantly different from the 2017 prevalence study, with *land-based participation decreasing about 26%.* Conversely, *gambling at mixed venues nearly doubled* and *online-only, tripled,* since the last prevalence study; more than half of all participants gamble online or both online and in land-based venues.
- Those who gambled at *mixed venues* gambled on an average of *about six activities,* compared to around *two activities* for those who gambled at *land-based venues or online only.*
- Participants who gambled at low-frequency (less than once/month) were most likely to prefer gaming machines, live casino table games, instant scratch-off tickets, lottery, horse race betting, bingo, and games of skill.
- Moderate-frequency gamblers (one to three times/month) were most likely to participate in high-risk stock trading, keno, cryptocurrency trading, live poker or tournament poker, and esports wagering.
- Notably, *high-frequency bettors* (once a week or more) *preferred season-long fantasy sports, daily fantasy sports, and sports wagering.*

Problem Gambling:

- As noted, COVID-19 shutdowns occurred within the year prior to the survey and could have depressed the rates of gambling. *Nevertheless, the overall rate of high-risk problem gambling, which best correlates to gambling disorder, remained near 6% in the overall sample, about three times higher than the average rate in a majority of population surveys in the United States and abroad.*
- About **19%** of all participants in the study reported some level of a gambling problem. About 13% endorsed symptoms of low- or moderate-risk gambling problems.
- Among only those who reported gambling, **30%** endorsed one or more problem gambling symptoms; **9%** of participants who gambled were classified as high-risk problem gamblers, which corresponds to gambling disorder in clinical settings.
- Gambling at high frequency was associated with all levels of risk for problem gambling, while both low- and moderate-frequency gambling were significantly overrepresented among non-problem gamblers.
- High-risk problem gamblers had higher rates of engagement with gambling across all activities, ranging from a high of more than 86% (lottery) to nearly 63% (keno). Similarly, moderate-risk problem gamblers were overrepresented in their participation across all activities besides lottery, while a higher-than-expected proportion of low-risk gamblers played instant scratch-off tickets and gaming machines. ***These findings underscore the increasing involvement across multiple gambling activities in groups with higher levels of gambling problems.***
- About **two-thirds** of high-risk problem gamblers had children or adolescents living in the home, who are likely to model the behavior of adults or siblings.
- Both moderate- and high-risk problem gamblers participated in a higher number of gambling activities in this survey, compared to the prior survey.
- About **32%** of mixed-venue gamblers reported gambling problems, and about **20%** would probably meet criteria for gambling disorder. In contrast, *less than 15% of individuals who gambled only at land-based venues reported any gambling problems.* About **one-third** of those who gambled only online experienced some level of gambling problems.
- **Black/African Americans** were most likely to be high-risk problem gamblers (15.9%), which paralleled findings in the prior prevalence study. Endorsing the “Mixed/Other” racial category was disproportionately associated with moderate-risk gambling (14.0%). **Whites** were significantly over-represented among non-problem gamblers (72.8%).
- **Hispanic ethnicity** also was associated with a higher likelihood of moderate- and high-risk problem gambling; 60% of those identifying as Hispanic were non-problem gamblers but nearly 9% were moderate- and **15%**, high-risk problem gamblers.
- **Individuals with the lowest household incomes (i.e., less than \$15,000/year)** were most likely to be high-risk problem gamblers.
- Unlike the prior prevalence study, where those in higher problem gambling risk groups gambled at significantly higher frequency, **high-risk problem gamblers in this study gambled across the frequency spectrum. This suggests that some who gambled were developing serious problem symptoms without gambling as frequently.**

Substance Use, Potentially Addictive Behaviors, and Mental Health Issues:

- Participants who gambled were significantly more likely than non-gamblers to use tobacco, alcohol, and illicit drugs; binge drink; and report drug use and mental health problems across problem severity levels.
- Those who gambled in *mixed venues*, compared to those who gambled only online or only in land-based venues, had significantly higher rates of tobacco, alcohol, and illicit drug use; binge drinking; alcohol or drug problems; problems with a range of addictive behaviors, and mental health problems. About 9% of this group reported having thoughts of suicide, nearly 6% had attempted suicide, and about 9% reported engaging in non-suicidal self-injury.
- *Online-only* gamblers had higher rates of binge drinking, all potentially addictive behaviors, and moderate mental health problems when compared to land-based only gamblers.
- Gamblers were significantly more likely than non-gamblers to report morbid thinking (e.g., wishing they were dead) along with suicidal ideation, suicide attempts, and non-suicidal self-injury. About 28% of high-risk problem gamblers reported suicidal ideation, 20% said they had made an attempt, and 26% reported engaging in non-suicidal self-injury.
- *High-risk problem gamblers* also had the highest rates of tobacco use; alcohol consumption, and binge drinking; illicit drug use; moderate- and high-risk drug/alcohol problems; and potentially addictive behaviors. *Moderate-risk problem gamblers* exhibited significantly higher levels of tobacco use, binge drinking, illicit drug use, and high-risk drug/alcohol problems than others who gambled.

Sports and Horse Wagering:

This study was conducted following the first two years of legalized sports wagering. We, therefore, explored facets of those who chose to wager on sports, as well as horse racing, a sport with a long legal betting history in New Jersey. Findings with regard to the relationship of both activities to problem gambling were similar and sobering.

- About **three-fourths** of those who bet on sports or horses bet at high frequency (once a week or more), compared to only about 30% of others who gambled.
- They were also more likely to bet in mixed venues. About **86%** of sports and **83%** of horse bettors bet both online and in land-based venues, compared to 24% to 29% of other gamblers.
- *Sports and horse bettors* were also more likely than others who gambled to endorse symptoms of moderate- and high-risk problem gambling and to gamble on more activities. For example, about **35%** of sports and **47%** of horse bettors were classified as high-risk problem gamblers, similar to the clinical classification of gambling disorder, compared to just 3% to 4% of other gamblers. Another 16% of sports and 14% of horse bettors were moderate-risk problem gamblers, compared to 5% to 7% of other gamblers.
- Those who bet on either sports or horses were significantly more likely than others to use tobacco, alcohol, and/or illicit drugs; binge drink, report problems with drug and alcohol use; and/or engage in all types of addictive behaviors.

- Both groups reported significantly higher rates of moderate and severe mental health problems, anxiety, and depression, compared to others who gambled. *About 14% of sports bettors and nearly 18% of horse bettors stated they had experienced thoughts of suicide; 10% of sports and 14% of horse bettors said they had actually made a suicide attempt. About 13% of sports and 18% of horse bettors reported engaging in non-suicidal self-injury.*
- **Note:** These findings should be interpreted with caution, as they are not necessarily generalizable to individuals who only engage in legal sports wagering. Nearly half of those surveyed who bet on sports did so before it was legal. Given the number of gambling activities patronized by sports bettors in this study and the range of mental health issues they reported, it is possible that these individuals have a range of problems unrelated to sports betting and also bet on sports. It is also possible that those who bet on sports before legalization have risk-taking traits that are associated with a range of problems unrelated to a specific activity.

Introduction

The State of New Jersey launched online gambling in 2014 and sports wagering in 2018. This is the second of two statewide prevalence studies; the first was conducted after initiation of online gambling and the current study, after initiation of sports wagering. As in the prior 2017 prevalence study, available at <http://gambling.rutgers.edu>, the present report examines self-reported patterns of play at online and land-based venues, associated addictive and mental health correlates, levels of problem gambling severity, demographic features of players by frequency and severity, player preferences, and other gambling-related activities. The current study was initiated after professional and collegiate sports resumed play post-COVID-19 shutdowns.

Overview of Project and Methods

This report includes weighted results from a combination of online and telephone panels of New Jersey residents who were surveyed about their gambling habits and related behaviors; examination of the recent effect of legalized sports wagering; and a summary, and recommendations for the future. The study provides baseline information to guide policy examinations into the impact of online and land-based gaming and sports wagering in New Jersey and implications for possible future harm. The Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index² was used to assess level of gambling problems. The survey examined the prevalence of non-problem, low-risk and moderate-risk problem gambling as well as high-risk problem gambling — which correlates to gambling disorder — in relation to socio-demographic factors, including age, sex, race/ethnicity, household income, education level, and geographic region. The survey also explored the relationship of problem gambling severity to gambling frequency, preferred gambling venues, and comorbid health conditions, as well as high-risk stock and cryptocurrency trading and other relevant comorbid behaviors.

This study was conducted by the Center for Gambling Studies (CGS) of Rutgers University, School of Social Work in New Brunswick, New Jersey. Dr. Lia Nower served as the principal investigator of the study, with Jackie Stanmyre, assistant CGS director, serving as the study coordinator and Dr. Vivien (Wen Li) Anthony, as data analyst. Leger, the Research Group, under the direction of Simon Jaworski, conducted the data collection for the project under the direction of the CGS.

²Ferris, J. A., & Wynne, H. J. (2001). *The Canadian problem gambling index* (pp. 1-59). Ottawa, ON: Canadian Centre on Substance Abuse.

Methodology

Telephone Survey

The CGS and Leger, a market research firm with its corporate headquarters in Montreal and a United States office in Pennsylvania, administered a 30-minute survey to a random sample of New Jersey adults (aged 18 and over) with the objective of achieving a final sample size of 1,500. This survey included telephone numbers obtained from a Random Digit Dialing (RDD) sample, as well as cell phone numbers in the pool of eligible numbers.

The use of cell phone numbers in the dialing pool for telephone-based data collection is critical when conducting research of this nature, as it is now recognized that an increasing proportion of households are without a traditional telephone landline. Moreover, cell phone-only use is known to be disproportionately common among low-income households, young adults, and some ethnic groups, which traditionally have higher rates of gambling participation and problems.

The telephone data collection process included:

- Pilot testing of the questionnaire.
- Random Digit Dialing (RDD) using computerized assisted survey administration (CATI).
- Stratified sampling to ensure minimal age and gender quotas.³
- Geographical monitoring of region counts during the field period (Gateway, Skyland, Shore, Delaware River, Greater Atlantic City, and Southern Shore).
- Random selection of the respondents, based on selecting those 18 years or older.
- Re-contacting 'soft refusals' to determine if they would be willing to participate.
- Use of a short interview to help increase the chances of participation.
- Use of bilingual interviewers, where appropriate, to administer the interview to respondents who preferred to do so in Spanish.
- Periodic audio evaluation of the interview by a supervisor for quality assurance.

The fieldwork for the telephone interviews took place between December 9, 2020, and April 30, 2021. Among the 1,502 completes obtained from the telephone interviews, 1,052 were completed with a respondent on a landline telephone, while 450 interviews were completed by contacting a respondent on a mobile phone.

Telephone Response Rates

Response rates were calculated using procedures recommended by the Council of American Survey Research Organizations (CASRO) and the American Association for Public Opinion Research (AAPOR), with both of these organizations calculating response rates based on the

³During the field period, counts were provided by age (18-24; 25-34; 35-44; 45-54; 55-64; 65+), gender (male, female), race (White, Black/African American, Asian American/Pacific Islanders, Mixed/Other), and ethnicity (Hispanic vs. Non-Hispanic).

number of completed interviews divided by the estimated number of eligible respondents (see Table 1). The obtained response rate for landline and cell phones in the present study was 8.2%.

Table 1. Telephone Sample Response Rate Calculations

INELIGIBLE TOTAL Not in service; fax/modem; business number; bad line; language difficulties; physical/mental incapacity; does not meet eligibility criteria; in demographic group whose quota is filled	30,812
TERMINATES	1,873
ELIGIBILITY NOT DETERMINED (ND) TOTAL Line busy; never answered; household refusal; other refusals	197,327
Refusals (Soft refusals, hard refusals, do not call list)	5,016
Completed Interviews	1,502
ELIGIBLE TOTAL (Completes + Refusals)	6,518
ELIGIBILITY RATE ELIGIBLE TOTAL <u>6,518</u> ÷ (ELIGIBLE TOTAL <u>6,518</u> + INELIGIBLE TOTAL <u>30,812</u>)	17.5%
ESTIMATED # OF ELIGIBLES ELIGIBLE TOTAL <u>6,518</u> + (ELIGIBILITY ND TOTAL <u>197,327</u> x ELIGIBILITY RATE <u>17.5%</u>)	41,050
RESPONSE RATE COMPLETED INTERVIEWS + TERMINATES (1,502 + 1,873 = <u>3,145</u>) ÷ ESTIMATED # OF ELIGIBLES <u>41,050</u>	8.2%

Table 2. Telephone Sample Final Disposition

Label	Disposition	Final Frequency	%
I	Answering Machine	25,920	11%
NR	Business Number	146	<1%
NC	Busy	4,529	2%
D	Disconnected #	27,290	12%
U1	Language Barrier	395	<1%
C	Complete	1,502	1%
NC	Fax or Modem	1,338	1%
ER	Refusal	4,704	2%
ER	Interviewer Terminate	17	<1%
NC	No Answer	164,396	70%
ER	Partial (Respondent Terminate)	295	<1%
ER	Schedule Callback	3,869	2%
J	Terminates (Over quota)	1,584	1%
J	Terminates (Refused Age or Race)	20	<1%
J	Wrong Number/Changed Number	n/a	
Grand Total		236,005	100.0%

Table 3. Response Rates and Categories of Final Dispositions for Telephone Numbers

Final Sample Disposition			
Label	Category	Count	%
C	Interview Complete	1,502	1%
ER	Interview Eligible, Incomplete	8,885	4%
D	Non-Working	27,290	12%
I	Answering Machine	25,920	11%
J	Ineligible Households	1,643	1%
NC	Non-Contact	164,396	71%
NR	Non-Residential	146	<1%
U1	Known Households, Unscreened	395	<1%
Total		230,177	100
Resolution Rate: (C+ER+D+J+NR+U1)/(Total)		17.3%	
Screener Rate: (C+ER+J)/(C+ER+J+U1)		96.8%	
Interview Rate: C/(C+ER)		14.5%	
CASRO Response Rate: Resolution Rate x Screener Rate x Interview		2.4%	

Online Panel Survey

For the online survey, Leger sent email invitations with a hyperlink to complete a self-administered, 20-minute online survey to a random sample of panelists in New Jersey from December 22, 2020, through May 8, 2021. The objective was to achieve an online sample of 2,000 respondents, and Leger completed the survey with a final count of 2,010 (see Table 4).

Table 4. Survey Quota Objectives: Gender, Age, Race, Ethnicity, & Region

Gender	Objective %	Phone %	Online %	Total (Combined) %	Difference Between Total (Combined) and Objective %
Male	49.0	45.6	47.5	46.7	-2.3
Female	51.0	54.2	52.0	53.0	2.0
Age					
18-24	11.0	11.3	12.4	11.9	0.9
25-34	17.0	11.2	18.4	15.3	-1.7
35-44	16.0	12.1	17.6	15.2	-0.8
45-54	17.0	16.9	18.4	17.8	0.8
55-64	18.0	20.9	16.2	18.2	0.2
65+	21.0	27.6	17.1	21.6	0.6
Race					
White	72.0	78.6	73.8	75.9	3.9
Black/African American	15.0	12.4	12.8	12.6	-2.4
Asian American/Pacific Islander	10.0	5.9	7.2	6.7	-3.3
Mixed/Other	3.0	3.1	6.2	4.9	1.9

Ethnicity	Objective %	Phone %	Online %	Total (Combined) %	Difference Between Total (Combined) and Objective
					%
Hispanic	21.0	9.3	17.2	13.8	-7.2
Non-Hispanic	79.0	90.8	82.8	86.2	7.2
Region					
Gateway	48.3	42.8	45.2	44.0	-4.3
Skylands	13.4	15.3	13.8	14.5	1.1
Shore	13.8	14.5	14.7	14.6	0.8
Delaware River	18.9	19.1	18.8	19.0	0.1
Greater Atlantic City	3.0	3.1	3.6	3.4	0.4
Southern Shore	2.7	3.2	2.8	3.0	0.3
Don't Know	n/a	1.1	0.4	0.7	n/a
Prefer not to Answer	n/a	1.1	0.7	0.9	n/a

The following protocol was implemented for the online data collection process:

- Stratified sampling to ensure age and gender quotas were obtained. During the field period, counts were monitored by age (18-24; 25-34; 35-44; 45-54; 55-64; 65+), gender (male, female), race (White, Black/African American, Asian American/Pacific Islander, Mixed/Other), and ethnicity (Hispanic vs. non-Hispanic).
- Geographically, region counts were also looked after during the field period of this study (Gateway, Skylands, Shore, Delaware River, Greater Atlantic City, and Southern Shore).
- A short (average of 20 minutes) survey to help increase the chance of participation.
- Surveys were administered in English, as it is common that online panel respondents are acculturated with the English language regardless of their race/ethnicity.

Recognizing that there may be some shortfalls in quota objectives for sub-groups between the two data collection methodologies, the data will be presented as a combined dataset, weighted to the targets found in the *objective* column of Table 4. For combined results, post-hoc weighting was employed. Survey weights are developed to account for sampling deviations from age (18-24; 25-34; 35-44; 45-54; 55-64; 65+), gender (male, female), race (White, Black/African American, Asian American/Pacific Islander, Mixed/Other), and ethnicity (Hispanic vs. non-Hispanic) distributions for the State of New Jersey (see Table 5). This adjustment was made separately for each of the telephone interview and online panel survey samples. Both samples are weighted to the age, gender, race, and ethnicity distributions in the NJ Census 2019. All statistical analyses are conducted using a combined dataset of the weighted telephone interviews and online panel survey samples; 95% confidence intervals were computed. All statistical analyses accounted for complex survey design and dual sampling frame using the *svyset* command and the *svy: prefix* in STATA 16 (StataCorp, 2019). Sample sizes of subpopulations presented in tables are calculated based on the weighted percentages.

Table 5. Survey Quota: Employment, Education, Marital Status, Sexual Orientation, & Household Income

Employment	Phone %	Online %	Combined %	Weighted %
Full-Time	42.3	43.1	42.7	44.5
Part-Time	8.1	11.4	10.0	9.3
Self-Employed	6.5	5.2	5.8	6.2
Out of work > 1 year	2.9	3.9	3.5	3.6
Out of work < 1 year	3.8	5.5	4.8	4.6
Homemaker	2.5	4.6	3.7	3.8
Student	3.2	6.3	5.0	4.6
Retired	27.4	15.8	20.8	20.2
Disabled	2.2	3.6	3.0	2.5
Otherwise not working	1.2	0.6	0.8	0.8
Education Level				
Grades 1-8	0.8	0.3	0.5	0.6
Some High School	2.3	2.9	2.7	2.4
High School Diploma or GED	16.1	18.4	17.4	16.4
Some College < 1 year	10.7	8.6	9.5	9.6
Some College ≥ 1 year (no degree)	6.8	10.6	8.9	8.3
Associate Degree	8.5	9.5	9.1	9.4
Bachelor's Degree	32.0	30.2	31.0	31.4
Master's Degree	17.5	16.6	17.0	17.6
Doctorate or Professional Degree	5.3	3.1	4.0	4.4
Marital Status				
Single, Never Married	24.8	33.2	29.6	29.5
Married	54.0	46.8	49.9	50.9
Living w/ Partner	3.4	7.2	5.6	5.5
Separated, Legally Married	1.1	1.7	1.5	1.4
Divorced	6.9	7.7	7.3	7.3
Widowed	9.8	3.4	6.2	5.5
Sexual Orientation				
Straight/ Heterosexual	91.6	89.8	90.6	91.3
Gay/Lesbian	1.9	2.3	2.1	2.0
Bisexual	2.0	4.8	3.6	3.4
Asexual	0.4	0.8	0.6	0.6
Not listed above	0.3	0.5	0.4	0.3
Prefer not to Answer	3.7	1.9	2.7	2.5

Household Income	Phone %	Online %	Combined %	Weighted %
<= \$15,000	4.8	7.8	6.5	6.2
\$15,000 - \$29,999	5.3	9.9	7.9	7.5
\$30,000 - \$49,999	9.1	13.4	11.6	11.3
\$50,000 - \$69,999	10.5	14.9	13.0	12.9
\$70,000 - \$99,999	12.3	16.5	14.7	15.0
\$100,000 - \$124,999	10.6	10.4	10.5	10.6
\$125,000 - \$149,999	6.7	7.8	7.3	7.3
\$150,000 or more	21.4	13.6	16.9	17.8
Prefer not to answer	19.4	5.8	11.6	11.6

Gambling Participation

Key Terms

For purposes of this report, the term “gambling,” which is often used interchangeably with “gaming,” will be used to refer to activities where money is wagered on an uncertain outcome in commercial land-based or online venues. “Gaming” will be used to denote playing video games, whereas betting on esports betting is considered a gambling activity.

The nature and extent of gambling participation is measured by frequency over the past 12 months: “*low-frequency*” (less than once per month), “*moderate frequency*” (one to three times per month) and “*high frequency*” (once a week or more). Initiation of this study was delayed due to COVID-19 shutdowns of land-based venues and sports competitions; this may have affected reported rates of participation over the prior year.

Where possible, this report will offer statistical percentages for the overall sample within groups (i.e., the percentage of those in each vertical indicator who fall into each horizontal category) and across groups (i.e., the percentage of those in the horizontal category who report each vertical indicator) either in the text or table. Tables will vary based on the relationship of interest, which will be identified in the headings. Given variations in group size, significance levels of figures depend on the overall group or sub-group size; therefore, a large percentage in a large sub-sample may, in reality, indicate a smaller proportion in that group than a smaller number that constitutes a larger percentage in a smaller sub-sample.

Regions

A total of 3,512 participants were selected to provide a representative sample of the adult population of New Jersey, stratified for age, gender and ethnicity from zip code areas around the state, grouped as regions.

Below are the counties included in each region:

Greater Atlantic City- Atlantic County

Delaware River- Burlington, Camden, Gloucester, Mercer, and Salem counties

Gateway- Bergen, Essex, Hudson, Middlesex, Passaic, and Union counties

Shore- Monmouth and Ocean counties

Skylands- Hunterdon, Morris, Somerset, Sussex, and Warren counties

Southern Shore- Cape May and Cumberland counties

As indicated in Table 6, there were no significant differences by region for past-year gambling endorsement or venue preference. The Gateway Region contains two- to three-times the population of the next largest region, however, the proportion of gamblers in that region is consistent with that of other regions. The Southern Shore (66.2%), Greater Atlantic City (64.3%), and Shore (62.9%) regions reported the highest percentages of people who gamble. The Greater Atlantic City and Shore regions reported the smallest percentage of those who gambled online only (about 10% each), and the Gateway region reported the highest percentage of online-only gamblers (17.4%). In contrast, the Shore region had the highest proportion of land-based only players (54.2%), and Greater Atlantic City reported the highest percentage of those who gambled in mixed venues (41.6%).

Table 6. Past-Year Gamblers by Region and Venue Type

Region	Sample Size N=3,512	Gambled Past-Year N = 2,149		Venue Type					
				Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
				% Yes	n	%	n	%	n
Greater Atlantic City	99	64.3	64	10.1	6	48.3	31	41.6	27
Delaware River	664	60.6	403	12.2	49	51.1	206	36.7	148
Gateway	1,688	60.8	1026	17.4	179	46.7	479	35.9	368
Shore	485	62.9	305	10.0	31	54.2	165	35.8	109
Skylands	478	59.8	286	15.1	43	48.3	138	36.6	105
Southern Shore	98	66.2	65	15.3	10	52.4	34	32.3	21

Past-Year Gambling: Demographics

A majority of participants in New Jersey reported gambling in the last 12 months (61.2%), though the overall percentage was nearly 9% less than in the prior prevalence study five years earlier. As noted, this decrease could be due to COVID-19 shutdowns that occurred in the year prior to data collection (Table 7). Among those who gambled, the most popular activities were lottery (73.0%) and instant scratch-off tickets (59.1%). Endorsement for lottery declined about 7% from the prior study while that of instant scratch-off tickets decreased about 5%. About 25% of those who gambled engaged in high-risk stock trading, a seven-fold increase from the prior survey and more than the percentage of gaming machine (video poker/slot machines) play, which declined nearly

7% to about 25% in this survey. High-risk stock trading includes margins, options, futures etc., which are day-traded as opposed to selected for long-term investment. This indicator is included because rapid turnover of risky investments, increasingly popular on gamified apps, is associated with higher problem gambling risk levels. Games of skill⁴ (20.7%) and live casino table games (20.2%) remained popular, and sports wagering participation increased about 5% to more than 19% in this survey.

Table 7. Past-Year Gambling Participation by Activity

Gambling Activity	Gambled Past Year N=2,149	
	%	N
Lottery	73.0	1,569
Instant Scratch-Off Tickets	59.1	1,270
High-Risk Stocks	25.0	537
Gaming Machines (slots, video poker)	24.6	529
Games of Skill	20.7	445
Live Casino Table Games	20.2	434
Sports Wagering	19.1	409
Season Fantasy Sports	17.2	370
Bingo	16.2	348
Cryptocurrency Trading	15.9	342
Live Poker or Poker Tournament	13.5	290
Daily Fantasy Sports	13.0	279
Horse Race Track or Off Track	12.6	270
Esports Wagering	10.9	234
Keno	9.0	193

For each of the 15 activities surveyed, participants were asked to indicate whether they gambled on that activity only at a land-based location, only online, or both at a land-based location and online (i.e., mixed venue). There were notable shifts in gambling preference by venue between the 2017 and current prevalence study. First, the proportion of individuals who gambled exclusively online nearly tripled from about 5% in the prior prevalence survey to almost 15% in

⁴This is a catch-all category in the report that allows us to capture games that friends and families may play for money, including this including non-casino backgammon, mahjong, arcade games, puzzles, word games, trivia, board games, strategy games, bridge or similar games.

the current report, and the proportion of those gambling both online and at land-based venues (i.e., mixed venues) nearly doubled, from 19% to 36%. In contrast, the proportion of those gambling only at land-based venues dropped significantly, from about 76% to about 49% at the time of this study.

Consistent with the prior survey, men (66.3%) were significantly more likely than women (56.4%) to gamble (Table 8). However, venue preferences for both genders have changed. The proportion of men and women gambling online or at mixed venues has increased, though these increases were more pronounced for women, who were significantly underrepresented among those gambling only online in the prior survey. In this survey, women gambled exclusively online at more than four times the rate reported five years earlier, increasing from 3% to about 13% participation. Rates for men increased as well, from 7% to 17% in the current survey. Men were significantly more likely to gamble in mixed venues (online and land-based), with rates of mixed venue play increasing about 19% for men and 14% for women. In contrast, women were significantly more likely to gamble exclusively in land-based venues compared to men, however the proportion of women gambling in land-based venues was 60%, a 24% decrease from the prior survey. Overall, the proportion of participants who gambled either online exclusively or in combination with land-based gambling more than doubled, from 24.5% (32.8% of men and 15.7% of women) in 2017 to 51% (61.3% of men and 39.7% of women) in the current survey.

Table 8. Past-Year Gamblers by Gender and Venue Type

Gender	Gambled Past-Year n = 2,149			Venue Type					
	%Yes	%No	n	Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
				%	N	%	n	%	n
Male	66.3*	33.7	1,124	16.5*	185	38.7	435	44.8*	504
Female	56.4	43.6	1,025	12.9	133	60.3*	618	26.8	274

* $p < .001$

More than half of all participants in each age category gambled in the past year, steadily increasing to a high of 69% in the 45 to 54 age group before declining for those 55 and older (Table 9), similar to findings in the prior study. Preferences for venue type also differed significantly among age groups. While all age groups increased participation in online gambling compared to the last prevalence survey, online gambling only was most popular among the youngest gamblers, those in the 18 to 24 age group (33.3%), compared to 2017 when only 7% preferred that venue. Overall, those ages 18 to 34 were significantly more likely to gamble online compared to older gamblers.

In contrast, gambling only in land-based venues declined for all ages, even in the oldest groups, where the proportion of those 65+ decreased from nearly 93% to 76% and participation of those 55 to 64 dropped from about 86% to 64% in the current study. Still, those ages 55 and older were

significantly more likely to prefer gambling exclusively in land-based venues compared to all other age groups.

Mixed venues (gambling both online and in land-based venues) became increasingly popular across all age groups. In the prior study, about a third of players ages 18 to 34, the highest percentage of any group, gambled in mixed venues. In the current study, those ages 25 to 44 were significantly more likely than other groups to prefer mixed venues. Specifically, patronage doubled among those ages 35 to 44, from about 24% to more than 53% in the current study. In addition, those aged 45 and older more than tripled their engagement in mixed-venue play since the last survey, with the percentage of gamblers ages 65+ increasing dramatically from about 5% to about 19% in the current study.

Table 9. Past-Year Gamblers by Age and Venue Type

Age Range	Gambled Past-Year n = 2,149		Venue Type					
	%Yes	n	Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
			%	n	%	N	%	n
18-24	51.1	194	33.3*	65	29.4	57	37.3	72
25-34	61.3	357	23.7*	84	29.3	105	47.0*	168
35-44	65.1*	376	15.9	60	30.9	116	53.2*	200
45-54	69.0*	419	14.7	62	50.5	211	34.8	146
55-64	63.0	390	6.2	24	64.3*	251	29.5	115
65+	55.3	413	5.5	23	76.0*	313	18.5	77

*p < .001

Men, like women, demonstrated a preference for lottery and instant scratch-off ticket play, with nearly 75% of men purchasing lottery and 55% purchasing instant scratch-off tickets in the previous year (Table 10). More than 80% of men in the two oldest age groups purchased lottery tickets. The preference for lottery and instant scratch-off declined with age; only about 50% of males in the youngest group played the lottery and about 45% purchased instant scratch-offs in the prior year.

In contrast to women, more than a third of men purchased high-risk stocks (33.5% vs. 15.7%), followed by playing gaming machines (27.2%) and wagering on sports (27.2%). High-risk stock trading was particularly pronounced among the youngest gamblers, who did so at higher (18 to 24 years) or near (25 to 34 years) the percentage of lottery play. Younger players also endorsed greater preference for season-long and daily fantasy sports, games of skill, live casino table games, trading cryptocurrencies, live or tournament poker, bingo, esports wagering, and keno

when compared to their older counterparts. Sports wagering (43.9%) and horse race betting (26.8%) were most popular among 35 to 44 year olds.

Table 10. Male Gamblers by Age Category and Preferred Activity

Gambling Activity	Total % n = 1,124	N	Age Range					
			18-24 n = 98 %	25-34 n = 163 %	35-44 n = 208 %	45-54 n = 215 %	55-64 n = 213 %	65+ n = 227 %
Lottery	74.9	842	50.1	58.9	76.6	76.8	85.7*	83.4*
Instant Scratch-Off Tickets	55.4	623	44.5	53.1	57.0	55.1	60.7	55.6
High-Risk Stocks	33.5	377	50.5*	51.8*	43.4*	31.7	21.1	17.1
Gaming Machines (slots, video poker)	27.2	306	32.6	33.5*	41.6*	22.2	24.0	14.8
Sports Wagering	27.2	306	33.6	32.2	43.9*	24.6	25.8	9.2
Live Casino Table Games	25.9	291	35.6	36.3*	37.6*	24.2	18.8	12.0
Season Long Fantasy Sports	25.4	285	41.9*	37.2*	38.5*	24.2	18.5	5.4
Games of Skill	22.6	254	37.8*	34.7*	33.3*	20.1	14.9	7.3
Cryptocurrency Trading	20.3	228	33.6*	37.5*	34.0*	19.1	7.5	2.9
Live Poker or Poker Tournament	19.3	217	28.6*	29.6*	30.0*	16.8	13.9	5.6
Daily Fantasy Sports	18.7	210	29.3*	25.5*	33.1*	19.0	10.4	3.3
Horse Race Track or Off Track	16.4	184	22.3	19.7	26.8*	11.7	13.8	8.7
Bingo	16.2	182	26.5*	25.7*	28.2*	12.5	8.3	4.7
Esports Wagering	14.4	162	28.7*	24.6*	22.2*	11.1	7.3	3.7
Keno	11.6	130	22.1*	18.7*	21.8*	7.2	5.9	2.2

*p<.001

Consistent with prior findings, lottery and instant scratch-off tickets were also the most popular activities among women who gambled in New Jersey. The popularity of both activities increased from the prior survey, from about 53% to 71% for lottery and 45% to 63% for instant scratch-off tickets (Table 11). Younger women were less engaged in both activities, which peaked in popularity among those aged 45 to 54. In contrast, women aged 18 to 24 presented the widest variation in activity preference, with less than half the sample endorsing participation in any single activity. Across all women, gaming machines (21.8%), games of skill (18.6%), bingo (16.2%), and high-risk stocks (15.7%) garnered considerable participation, with variability across age groups. Since the prior study, women’s participation doubled for games of skill (to 18.6%), sports betting (10.2%), and live or tournament poker (7.1%), all driven by increased participation among younger women.

Table 11. Female Gamblers by Age Category and Preferred Activity

Gambling Activity	Total % n = 1,025	N	Age Range					
			18-24 n = 96 %	25-34 n = 193 %	35-44 n = 169 %	45-54 n = 205 %	55-64 n = 177 %	65+ n = 185 %
Lottery	70.9	727	46.5	57.4	74.5	83.5*	81.6*	70.5
Instant Scratch-Off Tickets	63.1	647	44.5	63.2	62.5	70.4*	64.7	63.7
Gaming Machines (slots, video poker)	21.8	223	24.1	32.8*	20.6	18.6	15.2	20.0
Games of Skill	18.6	191	39.0*	32.5*	17.3	13.6	10.3	8.1
Bingo	16.2	166	34.1*	25.4*	8.3	12.6	11.4	13.2
High-Risk Stocks	15.7	161	23.5*	28.9*	28.8*	11.3	3.0	2.6
Live Casino Table Games	13.9	142	17.1	21.6*	15.6	13.2	8.5	8.7
Cryptocurrency Trading	11.0	113	23.2*	23.3*	11.8	9.0	3.1	0.9
Sports Wagering	10.2	105	17.7*	16.8*	11.4	9.3	6.0	3.0
Horse Race Track or Off Track	8.4	86	12.1	13.8*	9.0	6.2	4.8	6.4
Season Long Fantasy Sports	8.3	85	12.8*	15.3*	13.0*	6.7	2.1	1.9
Live Poker or Tournament Poker	7.1	73	11.7*	13.3*	11.3*	5.8	1.3	1.3
Esports Wagering	7.0	72	14.6*	13.9*	10.1	4.7	2.0	0.4
Daily Fantasy Sports	6.8	70	15.5*	12.8*	8.9	5.5	1.0	1.0
Keno	6.1	63	11.7*	11.5*	8.0	5.7	1.5	0.5

*p <.05

As indicated in Table 12, Black/African Americans reported the highest proportion of past-year gambling (62.2%), slightly more than Whites (61.6%) and those who identified as “Mixed/Other” race (60.1%), followed by Asian American/Pacific Islanders (57.2%). About 63% of those with Hispanic ethnicity reported gambling. There were decreases from the last prevalence study across all groups, but most notably among Whites, whose gambling participation declined almost 10%.

Table 12. Past-Year Gamblers by Race and Ethnicity

Race	Gambled Past-Year n = 2,149	
	%Yes	n
White or Caucasian	61.6	1,548
Black/African American	62.2	319
Asian American/Pacific Islanders	57.2	210
Mixed/Other	60.1	72
Ethnicity		
Hispanic	62.9	461

Table 13 provides the percentage breakdown of each venue type by race and ethnicity from two perspectives: within racial/ethnic groups, and across racial/ethnic groups within venue type. More than half of those who gambled only online were White (61.3%). Adjusting for the overall population by race in the sample, those who identified as Asian American/Pacific Islander were significantly overrepresented among those who gambled only online, followed by those who identified their race as “Mixed/Other.” Whites made up the highest proportion of land-based gamblers (78.3%); among Whites who gambled, about 53% did so only at land-based locations. Meanwhile, Black/African Americans were proportionately over-represented among those who gambled in mixed venues. By ethnicity, those who identified as Hispanic were over-represented among online gamblers and mixed-venue gamblers.

Table 13. Percentage Representation by Race, Ethnicity, and Venue Type

Race	Venue Type					
	Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
	Within Venue	Across Venues	Within Venue	Across Venues	Within Venue	Across Venues
White/Caucasian	61.3	12.5	78.3	53.1*	68.7	34.4
Black/African American	9.2	9.4	12.6	42.8	19.1	47.8*
Asian American/Pacific Islander	24.1	36.0*	6.5	31.8	8.8	32.2
Mixed/Other	5.4	24.0*	2.6	38.9	3.4	37.1
Total	100.0		100.0		100.0	
Ethnicity						
Hispanic	26.2	18.3*	17.5	40.5	24.1	41.2*

*p < .05

Table 14 details venue preferences by marital status. Married participants made up a larger proportion of the sample than any other group, therefore, they represented the largest percentage of gamblers in each venue type. However, the proportion of married gamblers was only over-represented among those gambling exclusively at land-based venues (52.2%), which also were also preferred by those who were divorced (64.1%) or widowed (71.2%). In contrast, single/never married gamblers were significantly more likely than other groups to gamble online only (20.6%) and/or in mixed venues (40.8%), with the latter venue preference also endorsed by those who were separated but legally married (49.9%).

Table 14. Percentage Representation by Marital Status and Venue Type

Marital Status	Venue Type					
	Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
	Within Venue	Across Venues	Within Venue	Across Venues	Within Venue	Across Venues
Single, Never Married	39.0	20.6*	22.0	38.6	31.7	40.8*
Married	45.4	12.9	55.3	52.2*	50.2	34.9
Living w/ Partner	9.0	20.1	5.3	39.3	7.4	40.6
Separated, Legally Married	0.9	8.0	1.5	42.1	2.3	49.9*
Divorced	2.6	5.2	9.6	64.1*	6.2	30.7
Widowed	3.1	10.6	6.3	71.2*	2.2	18.2
Total	100.0		100.0		100.0	

* $p < .001$

There was significant variation in gambling participation by household income, particularly with regard to venue preferences (Table 15). Gambling participation rates were highest among those who reported household income between \$125,000 to \$150,000 (73.0%) followed by those reporting income of \$70,000 to \$100,000 (68.0%). Overall, about two-thirds of participants with a household income of more than \$30,000 reported gambling, compared to about half of those with income under that threshold. Notably, those with a household income of less than \$15,000 were over-represented among online-only gamblers, while those reporting income of \$70,000 to \$100,000 and those who declined to report their income were significantly overrepresented among those gambling only at land-based venues. Individuals making between \$125,000 and \$150,000, the highest participation group, were significantly overrepresented among those playing in mixed venues.

Table 15. Past-Year Gambling by Household Income and Venue Type

Household Income	Gambled Past-Year n = 2,149		Venue Type					
			Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
	%Yes	n	%Yes	N	%Yes	n	%Yes	n
<= \$15,000	50.4	109	22.2*	24	41.7	45	36.1	40
\$15,000 - \$29,999	53.8	142	14.8	21	54.0	77	31.2	44
\$30,000 - \$49,999	64.4	256	8.5	22	53.8	138	37.7	96
\$50,000 - \$69,999	63.7	287	13.6	39	45.3	130	41.1	118
\$70,000 - \$99,999	68.0*	358	9.8	35	57.4*	205	32.8	118
\$100,000 - \$124,999	63.1	235	17.0	40	46.4	109	36.6	86
\$125,000 - \$149,999	73.0*	186	18.8	35	37.8	70	43.4*	81
\$150,000 or more	64.1	400	19.6	78	41.5	166	38.9	156
Prefer not to answer	43.4	176	13.5	24	64.5*	113	22.0	39

*p < .001

In contrast to the prior prevalence study, participants who reported gambling in the past year reported higher levels of education (Table 16). In the current study, participants with associate (69.3%) or bachelor’s (63.4%) degrees were most likely to report past-year gambling. Those with only an elementary school education (31.8%) were least likely to have gambled, followed by those with some high school (54.2%) or a high school diploma or GED (56.0%). Notably, the sample size for those with only an elementary education was very small. There were no significant differences in venue preferences by level of education.

Table 16. Past-Year Gambling by Education Level and Venue Type

Education Level	Gambled Past-Year n = 2,149		Venue Type					
			Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
	%Yes	n	%Yes	n	%Yes	n	%Yes	n
Elementary School	31.8	6	10.6	1	32.1	2	57.3	3
Some High School	54.2	46	16.4	7	43.1	20	40.5	19
High School Diploma or GED	56.0	323	12.1	39	54.4	176	33.5	108
Some College < 1 year	61.5	207	11.2	23	54.5	113	34.3	71
Some College ≥ 1 year (no degree)	63.2	184	19.1	35	48.3	89	32.6	60
Associate Degree	69.3*	228	10.5	24	58.9	134	30.6	70
Bachelor’s Degree	63.4*	699	15.3	107	47.1	329	37.6	263
Master’s Degree	58.5	361	17.0	62	41.9	151	41.1	148
Doctorate or Professional Degree	61.2	95	21.5	20	40.8	39	37.7	36

*p < .001

About two-thirds of those employed full-time reported gambling in the past year, significantly more than other groups by employment status (Table 17). Likewise, a high percentage of those out of work for less than a year (65.5%), employed part-time (62.6%), and/or disabled (61.1%) also reported gambling. Students were the least likely to have gambled in the past year (52.9%) but were overrepresented among online-only gamblers (32.8%). Retirees were significantly overrepresented among those gambling only at land-based venues. Those employed full-time were overrepresented among those who patronized mixed venues.

Table 17. Past-Year Gambling by Employment Status and Venue Type

Employment Status	Gambled Past-Year n = 2,149		Venue Type					
	%Yes	n	Online n = 318 (14.8%)		Land-Based n = 1,053 (49.0%)		Mixed n = 778 (36.2%)	
			%Yes	n	%Yes	n	%Yes	n
Full-Time	66.3*	1035	16.2	168	39.5	408	44.3*	459
Part-Time	62.6	205	15.8	32	54.7	112	29.5	61
Self-Employed	57.8	125	22.7	28	37.4	47	39.9	50
Out of work > 1 year	55.4	70	14.1	10	51.2	36	34.7	24
Out of work < 1 year	65.5	106	12.4	13	56.9	60	30.7	33
Homemaker	53.6	71	15.4	12	56.7	39	27.9	20
Student	52.9	86	32.8*	28	30.1	26	37.1	32
Retired	54.3	385	5.2	20	75.2*	289	19.6	76
Disabled	61.1	54	12.0	7	56.8	30	31.2	17
Otherwise not working	43.6	12	0	0	51.5	6	48.5	6

*p < .001

Gambling Activities and Frequency of Play

Individuals who gambled in the past year were classified by frequency, that is, how often they gambled: *low frequency* (less than once a month), *moderate frequency* (one to three times per month), or *high frequency* (once a week or more).

As indicated in Table 18, more than a third of participants gambled at high frequency (38.2%), followed by low frequency (32.1%) and moderate frequency (29.7%). Since the last report, there was a slight decrease in those who were low- or high-frequency gamblers and an increase in moderate-frequency gamblers. Those who gambled online-only were significantly more likely to gamble at moderate frequency (35.0%), while those who gambled only at land-based venues were significantly more likely to gamble at low- (46.3%) or moderate-frequency (31.4%). Mixed-venue gamblers were significantly overrepresented among the high-frequency group (61.7%).

Overall, individuals who gambled participated in an average of 3.5 activities, an increase from the previous report average of 3.0. This increase was driven by mixed-venue gamblers alone, as both online-only and land-based-only gamblers decreased their average number of activities. Mixed venue gamblers endorsed the highest average number of gambling activities (6.4), followed distantly by online gamblers (2.4) and land-based gamblers (1.9).

Table 18. Percentage Breakdown of Gambling Venue Types by Gambling Frequency

Gambling Frequency	Total N = 2,149 %	Online n = 318 (14.8%)	Land-Based n = 1,053 (49.0%)	Mixed n = 778 (36.2%)
Low Frequency	32.1	27.7	46.3*	13.4
Moderate Frequency	29.7	35.0*	31.4*	24.9
High Frequency	38.2	37.3	22.3	61.7*
Gambling Activity	Mean (Std)			
# of Gambling Activities*	3.5 (3.6)	2.4 ^b (2.7)	1.9 ^c (0.9)	6.4 ^a (4.5)

* $p < .001$; superscript a, b, c indicate that the two numbers are significantly different from each other.

More than half of people who played gaming machines, almost half of those who played live casino table games, and large proportions of those who bought lottery or instant scratch-off tickets, bet on horses, or played bingo or games of skill did so at low frequency (less than once per month) (Table 19). By comparison, participants who gambled at moderate frequency (one to three times per month) preferred high-risk stocks, keno, cryptocurrency trading, live poker or tournament poker, and esports wagering. Meanwhile, almost half of participation in season-long fantasy sports and daily fantasy sports, and more than one-third of sports wagering was at high frequency (once a week or more).

Table 19. Frequency of Gambling Activities

Gambling Activity (N = 2,149)	Low Frequency (< once per month) % (n)	Moderate Frequency (1-3x/month) % (n)	High Frequency (Once a week or more) % (n)
Lottery	42.6 (669)	31.8 (499)	25.6 (400)
Instant Scratch-Off Tickets	44.9 (570)	32.2 (409)	22.9 (290)
Keno	26.9 (52)	38.5 (74)	34.6 (67)
Bingo	37.9 (132)	33.7 (117)	28.4 (99)
Horse Race Track or Off Track	42.5 (115)	32.8 (89)	24.7 (66)
Live Poker or Poker Tournament	31.8 (92)	36.5 (105)	31.7 (92)
Live Casino Table Games	49.6 (215)	30.1 (131)	20.3 (88)
Games of Skill	35.2 (156)	31.4 (140)	33.4 (149)
Gaming Machines (slots, video poker)	50.9 (269)	28.2 (149)	21.0 (111)
Cryptocurrency Trading	31.0 (106)	38.0 (129)	31.0 (106)
High-Risk Stocks	32.3 (173)	39.9 (214)	27.8 (149)
Daily Fantasy Sports	22.4 (63)	31.0 (86)	46.7 (130)
Esports Wagering	33.4 (78)	34.3 (80)	32.3 (76)
Sports Wagering	27.9 (114)	35.8 (146)	36.4 (149)
Season-Long Fantasy Sports	24.0 (89)	28.4 (105)	47.6 (176)

There were no significant differences in gambling frequency across region (Table 20). However, there were notable increases in the proportion of high-frequency gamblers in the Delaware River (from 36.9% to 42.4%) and Skyland (34.0% to 35.9%) regions compared with the last report. Meanwhile, the percentage of moderate-frequency gamblers increased in Greater Atlantic City (34.6%), Gateway (29.5%), Shore (33.1%), and Southern Shore (30.1%) regions, and the percentage of low-frequency gamblers increased in the Greater Atlantic City (32.3%) and Southern Shore (37.1%) regions.

Table 20. Gambling Frequency by County (N = 2,149)

County	Frequency		
	Low %	Moderate %	High %
Greater Atlantic City	32.3	34.6	33.1
Delaware River	31.3	26.3	42.4
Gateway	32.4	29.5	38.1
Shore	29.4	33.1	37.5
Skyland	34.1	30.0	35.9
Southern Shore	37.1	30.1	32.7

By gender, women who gambled at low frequency were more likely than men to bet on instant scratch-off tickets and bingo, though the difference for bingo was not statistically significant. Men who gambled at low frequency were more likely than women to bet on a range of activities, including live poker or poker tournaments, live casino table games, high-risk stocks, daily fantasy sports, esports wagering, sports wagering, and season-long fantasy sports (Table 21).

Examining preferences by age, individuals age 18 to 24 age were significantly more likely to gamble on games of skill, in contrast to those ages 25 to 34 who preferred not only games of skill but also gaming machines and high-risk stock trading. Lottery remained the primary preference of those ages 45 to 64. Also of interest, instant scratch-off tickets were popular with more than half of all gamblers age 25 and older, however only a little more than a third of those 18 to 24 reported buying instant scratch-off tickets. Bingo was particularly popular with the youngest (18 to 34) and oldest (65+) gamblers, while cryptocurrency trading decreased with age.

Table 21. Low-Frequency Gamblers by Activity, Gender, and Age

Gambling Activity	Overall	Gender		Age					
	N = 691	Male n = 271	Female n = 420	18-24 n = 71	25-34 n = 116	35-44 n = 112	45-54 n = 141	55-64 n = 120	65+ n = 131
	%	%	%	%	%	%	%	%	%
Lottery	66.1	66.0	66.1	45.1	49.8	68.3	74.9*	80.7*	67.1
Instant Scratch-Off Tickets	53.1	41.1	60.9*	36.3	55.8	51.7	59.1	54.7	53.2
Keno	1.2	1.5	0.9	3.9	0.0	0.7	1.2	0.7	1.5
Bingo	7.6	5.2	9.1	14.7	11.1	5.9	4.6	4.7	7.7
Horse Race Track or Off Track	2.2	2.7	2.0	1.8	1.7	2.0	2.5	1.3	3.8
Live Poker/Poker Tournament	3.6	6.7*	1.6	5.6	4.4	4.5	2.3	2.9	3.0
Live Casino Table Games	8.7	11.8*	6.8	14.6	12.4	8.5	5.9	8.0	6.3
Games of Skill	9.3	11.7	7.8	19.5*	17.0*	10.8	6.5	2.3	5.3
Gaming Machines (slots, video poker)	12.8	14.3	11.9	14.5	21.6*	10.5	9.0	15.9	7.6
Cryptocurrency Trading	5.9	7.1	5.1	12.5	8.1	6.2	6.3	2.1	3.0
High-Risk Stocks	9.5	14.7*	6.1	11.4	17.5*	13.9	6.8	4.3	5.3
Daily Fantasy Sports	1.0	2.2*	0.2	3.5	1.8	1.2	0.6	0.0	0.0
Esports Wagering	3.3	6.8*	1.1	4.2	4.0	3.9	4.2	1.0	3.0
Sports Wagering	5.0	9.3*	2.3	7.1	3.9	6.5	6.6	1.7	5.0
Season-Long Fantasy Sports	3.5	7.2*	1.2	7.3	5.2	3.5	3.0	0.7	3.3

* $p < .05$

Among those who gambled at moderate frequency, men were significantly more likely than women to gamble on live poker or poker tournaments, live casino table games, sports, and season-long fantasy sports (Table 22). A larger proportion of women compared to men purchased instant scratch-off tickets and played bingo and games of skill, but the differences were non-significant.

Interesting patterns emerge when examining activity preferences by age among moderate-frequency gamblers. Compared to older gamblers, younger moderate-frequency gamblers demonstrated a preference for multiple activities, particularly bingo, live poker or poker tournament, games of skill, cryptocurrency and high-risk stock trading, esports wagering and season-long fantasy sports. However, younger gamblers, particularly those under 35, did not demonstrate a preference for lottery play, which was particularly popular among players ages 45 to 64.

Table 22. Moderate-Frequency Gamblers by Activity, Gender, and Age

Gambling Activity	Overall	Gender		Age					
	N = 637 %	Male n = 313 %	Female n = 324 %	18-24 n = 56 %	25-34 n = 105 %	35-44 n = 96 %	45-54 n = 126 %	55-64 n = 124 %	65+ n = 130 %
Lottery	73.3	76.3	70.3	33.4	58.9	81.0*	81.2*	82.8*	79.3
Instant Scratch-Off Tickets	56.2	51.8	60.5	42.7	52.7	52.6	57.3	58.8	64.0
Keno	4.6	5.7	3.5	7.3	9.4*	8.3*	3.2	2.8	0.0
Bingo	11.6	9.3	13.9	23.8*	21.0*	12.0	7.5	7.0	7.0
Horse Race Track or Off Track	7.7	8.1	7.3	8.2	8.6	15.8	4.0	6.6	5.3
Live Poker/Poker Tournament	8.4	12.0*	4.9	13.4*	13.2*	12.7	9.3	5.0	1.6
Live Casino Table Games	13.9	17.3*	10.5	6.1	20.8*	20.1	13.3	12.2	9.1
Games of Skill	13.7	11.7	15.7	32.1*	27.8*	13.5	10.4	9.6	1.9
Gaming Machines (slots, video poker)	18.7	18.9	18.4	18.2	24.6	25.9	13.3	18.0	14.6
Cryptocurrency Trading	12.7	15.4	10.1	25.3*	32.4*	15.6	9.5	4.0	0.7
High-Risk Stocks	24.0	28.0	20.2	39.7*	37.0*	42.3*	19.8	11.0	9.8
Daily Fantasy Sports	6.0	7.6	4.5	10.5	8.1	11.8*	7.4	2.8	0.0
Esports Wagering	6.2	7.1	5.3	11.3*	11.0*	9.0	3.5	5.4	1.3
Sports Wagering	12.1	15.3*	9.0	12.7	15.6	15.3	11.3	15.9	3.5
Season-Long Fantasy Sports	8.5	12.6*	4.6	19.6*	10.3	10.7	10.7	5.6	1.5

* $p < .05$

There were notable differences between the prevalence studies regarding participation of high-frequency gamblers. In the current study, interest in both lottery and instant scratch-off tickets declined, from about 91% to 79% and 78% to 66%, respectively (Table 23). In addition, women in the prior study were more likely than men to buy scratch-offs or to play gaming machines or bingo, though only differences in scratch-off purchases were statistically significant. In this study, women demonstrated slightly higher rates of purchasing instant scratch-off tickets or playing bingo, games of skill, or gaming machines; however, none of these preferences was statistically significant. By comparison, men were overrepresented in nearly every other activity, including wagering on sports or horses, playing casino table games and live poker, engaging in cryptocurrency and high-risk stock trading, and participating in daily and season-long fantasy sports play.

By age, there were distinct and statistically significant differences between those younger and older than age 45. Lottery tickets were preferred by high-frequency gamblers age 45+, however participants ages 18 to 44 were over-represented in almost all other activities, including: keno, bingo, horse races, live poker or poker tournament, live casino table games, games of skill, trading cryptocurrencies, high-risk stocks, daily fantasy sports, esports wagering, sports wagering, and season-long fantasy sports.

Table 23. High-Frequency Gamblers by Activity, Gender, and Age

Gambling Activity	Overall	Gender		Age					
	N = 821	Male n = 539	Female n = 282	18-24 n = 68	25-34 n = 136	35-44 n = 168	45-54 n = 152	55-64 n = 146	65+ n = 151
	%	%	%	%	%	%	%	%	%
Lottery	78.6	78.5	78.7	63.8	64.5	77.5	83.9*	87.4*	85.3*
Instant Scratch-Off Tickets	66.3	64.6	69.4	54.5	65.6	68.4	70.1	72.0	60.4
Keno	18.9	20.1	16.6	38.5*	31.6*	29.6*	14.1	7.6	2.6
Bingo	27.0	25.6	29.6	51.9*	41.3*	32.4*	24.1	16.2	10.4
Horse Race Track or Off Track	25.1	28.1*	19.3	40.8*	35.2*	31.7*	19.2	19.2	13.0
Live Poker/Poker Tournament	25.7	29.9*	17.9	41.1*	40.6*	38.1*	21.5	15.3	6.1
Live Casino Table Games	34.7	38.1*	28.4	55.4*	47.6*	44.8*	35.4	20.8	15.4
Games of Skill	35.7	34.5	37.9	63.3*	52.0*	43.6*	32.1	24.2	14.5
Gaming Machines (slots, video poker)	39.1	38.5	40.3	51.3	49.4	50.3	36.9	25.1	27.7
Cryptocurrency Trading	26.7	29.8*	20.9	47.7*	46.3*	40.7*	25.4	9.6	2.2
High-Risk Stocks	38.7	46.1*	24.6	62.0*	59.9*	49.1*	37.3	21.5	15.8
Daily Fantasy Sports	28.5	33.4*	19.2	52.1*	41.0*	42.3*	27.6	13.9	6.1
Esports Wagering	20.9	22.6	17.7	48.5*	37.3*	29.9*	15.2	7.6	2.3
Sports Wagering	36.3	43.1*	23.2	56.0*	47.0*	52.5*	31.7	30.0	10.3
Season-Long Fantasy Sports	35.5	42.0*	23.0	55.1*	53.9*	52.1*	31.5	24.1	6.4

*p < .05

Similar to findings in the previous report, women were overrepresented among low-frequency gamblers and men, among high-frequency gamblers (Table 24). However, the proportion of men in the moderate-frequency gambling group increased in the current study by about 3%, due in part to a decrease in the proportion of low-frequency gamblers. In contrast, the percentage of women in the low-frequency gambling group increased nearly 3% while membership in the high-frequency gambling group decreased by 3.5%. There were no significant differences in gambling frequency across age, race, and ethnicity.

Table 24. Gambling Frequency by Gender, Age, Race, and Ethnicity

Gender	Frequency		
	Low n = 691 %	Moderate n = 637 %	High n = 821 %
Male	24.2	27.9	47.9*
Female	40.9*	31.5	27.6
Age			
18-24	36.5	28.6	34.9
25-34	32.5	29.4	38.1
35-44	29.7	25.5	44.8
45-54	33.6	30.2	36.2
55-64	30.7	31.9	37.4
65+	31.8	31.5	36.7

Race	Low %	Moderate %	High %
White or Caucasian	33.1	30.8	36.1
Black/African American	26.4	26.2	47.4
Asian American/Pacific Islander	33.8	24.4	41.8
Mixed/Other	30.8	36.8	32.4
Ethnicity			
Hispanic	29.4	28.4	42.2

* $p < .001$

Problem Gambling Severity

Both the prior and current prevalence studies analyzed gambling behavior by problem gambling symptoms as well as frequency of play. Participants in the study completed the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (Ferris & Wynne, 2001) and were grouped into mutually exclusive categories based on scores: Non-problem (0), Low Risk (1-2), Moderate Risk (3-7), High Risk (8+). The PGSI is a validated and widely used problem severity measure, developed for use in population prevalence studies. The measure does not specifically reference psychiatric disorder; however, in treatment studies, the “high risk” group is typically correlated with Gambling Disorder, and the low and moderate risk groups, in combination, are correlated with sub-clinical problem gambling.

Across both prevalence studies, rates of problem gambling remained relatively consistent. Among those who gambled, nearly 70% did so without experiencing problem gambling symptoms (Table 25). Similarly, rates of high-risk problem gambling remained around 9%. The low-risk problem gambling group saw an increase from just under 13% to nearly 14%, and the moderate-risk gambling group decreased from nearly 9% to about 7%. Notably, two-thirds of high-risk problem gamblers indicated they had children or adolescents living in the home.

Table 25. Gambling Problem Severity (Gamblers Only)

Non-Problem n = 1,485 %	Low Risk Problem n = 295 %	Moderate Risk Problem n = 157 %	High Risk Problem n = 195 %	Total %
69.7	13.9	7.3	9.1	100.0

There were striking differences between the prior and current prevalence studies regarding the relationship of gambling frequency and the risk of gambling problems. In the prior study, those in higher problem gambling risk groups gambled at significantly higher frequency; that is, higher frequency was correlated with higher problem gambling risk levels. In the current study, however, a larger proportion of moderate- and high-risk problem gamblers were gambling at

lower frequency, suggesting that some participants were developing serious problem symptoms without gambling as frequently. Specifically, about 6% of high-risk problem gamblers were gambling at low frequency and 14% at moderate frequency in the current study, compared with 2% and 8%, respectively, in the prior study.

There were also comparative differences between the two studies regarding participation in gambling activities (Table 26). In both studies, participation in an increasing number of gambling activities was associated with an increasing risk level for problem gambling. While non-problem gamblers bet on an average of two activities, and low-risk gamblers on about four activities in both studies, there were significant increases in participation among moderate-risk (4 v 6 activities) and high-risk (7 v 11 activities) problem gamblers.

Table 26. Problem Gambling Severity by Frequency and Number of Gambling Activities

Gambling Frequency	Problem Gambling Severity			
	Non-Problem n = 1,485 %	Low Risk Problem n = 295 %	Moderate Risk Problem n = 157 %	High Risk Problem n = 195 %
Low Frequency	39.3*	22.0	15.1	5.9
Moderate Frequency	32.1*	29.6	27.2	14.1
High Frequency	28.6	48.4*	57.7*	80.0*
Total	100.0	100.0	100.0	100.0
Gambling Activities	M (Std)	M (Std)	M (Std)	M (Std)
# of Gambling Activities*	2.3 ^d (1.9)	3.6 ^c (2.5)	5.6 ^b (4.0)	10.7 ^a (5.5)

* $p < .001$; superscript a, b, c indicate that the two numbers are significantly different from each other.

To compare findings from this study to other prevalence studies, low- and moderate- risk gamblers were combined into a “problem” category, and high-risk gamblers, endorsing symptoms above the clinical cut-off, were designated as “probable gambling disorder” for the next two analyses. As indicated in Table 27, about 19% of the total sample (30% of those who gamble) reported some level of gambling problem. The overall rate of high-risk problem gambling, which best correlates to gambling disorder, was just under 6%, nearly three times the rate in a majority of population surveys in the United States and abroad. An additional 13% of participants reported low to moderate levels of gambling problems; while this represents a decrease from the last survey when nearly 15% of the sample reported gambling problems, the proportion is still about three times higher than the rate in other studies^{5,6}.

⁵Welte, J. W., Barnes, G. M., Tidwell, M. C. O., Hoffman, J. H., & Wieczorek, W. F. (2015). Gambling and problem gambling in the United States: Changes between 1999 and 2013. *Journal of Gambling Studies*, 31(3), 695-715

⁶Calado, F., & Griffiths, M. D. (2016). Problem gambling worldwide: An update and systematic review of empirical research (2000–2015). *Journal of Behavioral Addictions*, 5(4), 592-613.

Table 27. Comparative Prevalence Rates of Problem Gambling by Combined Risk Level

Risk Level	Overall	
	N	%
Non-Gamblers	1,363	39.0
Non-Problem Gamblers	1,485	42.5
Problem Gamblers (Low/Moderate Risk)	452	12.9
Probable Disorder (High Risk)	195	5.6

More than half of all mixed-venue gamblers reported either gambling problems (32.1%) or probable gambling disorder (19.9%) (Table 28). In comparison, more than 85% of land-based gamblers were non-problem gamblers, with only 1% meeting the probable gambling disorder criteria. Among those who gambled only online, nearly 21% reported gambling problems and more than 11%, probable gambling disorder. These findings underscore the impact of gambling in both online and in land-based venues when compared to land-based gambling alone.

Table 28. Gambling by Combined Risk Level and Venue

Venue type	Non-Problem Gamblers		Problem Gamblers (Low/Mod Risk)		Probable Disorder (High Risk)	
	n	%	n	%	n	%
Online Only	201	67.9	62	20.9	33	11.3
Land-based Only	872	85.4*	137	13.5	11	1.1
Mixed (Land-based/Online)	363	48.0	241	32.1*	150	19.9*

* $p < .001$

Frequency and Problem Severity by Demographic Variables

The proportion of gamblers at risk for problems varied across state regions (Table 29). High-risk gamblers were overrepresented in the Greater Atlantic City region, which has the most land-based gambling offerings, and the Gateway region, the most densely populated; Gateway also reported a disproportionately higher number of moderate-risk gamblers. Meanwhile, the Shore and Skylands regions had a larger proportion of non-problem gamblers.

Table 29. Problem Gambling Severity by Region

Region	Problem Gambling Severity			
	Non-Problem n = 1,485 %	Low Risk Problem n = 295 %	Moderate Risk Problem n = 157 %	High Risk Problem n = 195 %
Greater Atlantic City	2.7	3.1	1.6	6.4*
Delaware River	18.9	19.4	15.4	19.1
Gateway	45.5	50.0	57.5*	51.6*
Shore	15.8*	12.7	11.9	7.4
Skylands	14.1*	12.0	11.6	11.7
Southern Shore	3.0	2.8	2.0	3.8
Total	100.0	100.0	100.0	100.0

* $p < .05$, weighted by regional census data

By gender, men averaged more gambling activities than women (4.1 v 2.8) and were overrepresented in the moderate- and high-risk gambling categories; women comprised a significantly larger proportion of non-problem gamblers in this sample (Table 30). Within problem severity categories, there also were important findings by age, as gamblers aged 18 to 44 participated in significantly more gambling activities than their older counterparts. This also corresponded with increased problem gambling severity; those aged 18 to 44 were overrepresented among high-risk problem gamblers, and those 35 to 44, among low- and moderate-risk gamblers. Gamblers age 45+ were proportionately more likely to be non-problem gamblers.

Table 30. Problem Gambling Severity by Gender and Age: Within Problem Severity Categories

Gender	# of Gambling Activities M (Std)	Problem Gambling Severity			
		Non-Problem n = 1,485 %	Low Risk Problem n = 295 %	Moderate Risk Problem n = 157 %	High Risk Problem n = 195 %
Male	4.1* (3.9)	48.8	53.7	63.3*	66.1*
Female	2.8 (3.0)	51.2*	46.3	36.7	33.9
Total		100.0	100.0	100.0	100.0
Age					
18-24	4.3* (4.6)	7.6	8.3	11.7	19.2*
25-34	4.4* (4.4)	15.1	16.3	13.9	30.1*
35-44	4.5* (4.3)	13.9	24.7*	26.1*	27.1*
45-54	3.3 (3.2)	22.2*	11.1	17.5	14.9
55-64	2.8 (2.5)	20.1*	18.5	15.8	5.2
65+	2.2 (1.5)	21.1*	21.1	15.0	3.5
Total		100.0	100.0	100.0	100.0

* $p < .05$

Table 31 provides a different but equally compelling snapshot at the problem gambling severity profiles by gender and age. Notably, men reported nearly double the rates of high-risk problem gambling. In addition, those in the three youngest age categories, ages 18 to 44, were overrepresented among high-risk problem gamblers and those in the highest age categories, ages 45+, in the non-problem gambling category.

Table 31. Problem Gambling Severity by Gender and Age: Across Problem Severity Categories

Gender	Problem Gambling Severity			
	Non-Problem n = 1,485 %	Low Risk Problem n = 295 %	Moderate Risk Problem n = 157 %	High Risk Problem n = 195 %
Male	65.2	14.3	8.9*	11.6*
Female	74.5*	13.4	5.6	6.5
Age*				
18-24	58.5	12.6	9.5	19.4*
25-34	63.7	13.5	6.2	16.6*
35-44	55.3	19.5*	11.0*	14.2*
45-54	78.7*	7.8	6.6	6.9
55-64	76.9*	14.1	6.4	2.6
65+	77.1*	15.4	5.8	1.7

*p < .05

Problem gambling risk also varied by race and ethnicity (Table 32). Compared with all other racial groups, a significantly higher proportion of Black/African Americans gambled at high risk (15.9%), which paralleled findings in the prior prevalence study. Endorsing the “Mixed/Other” racial category was disproportionately associated with moderate-risk gambling. Whites were significantly over-represented among non-problem gamblers (72.8%); furthermore, for all racial groups except White, more than one-third of gamblers had some problem gambling risk. Hispanic ethnicity was also associated with a higher likelihood of moderate- and high-risk problem gambling, such that only about 60% were non-problem gamblers, nearly 9% were moderate-risk and 15%, high-risk problem gamblers.

Table 32. Problem Gambling Severity by Race and Ethnicity

Race	Problem Gambling Severity				Total %
	Non-Problem n = 1,485 %	Low Risk Problem n = 295 %	Moderate Risk Problem n = 157 %	High Risk Problem n = 195 %	
White or Caucasian	72.8*	13.4	6.3	7.5	100.0
Black/African American	61.5	14.8	7.8	15.9*	100.0
Asian/Pacific Islander	61.0	16.4	12.1	10.5	100.0
Mixed/Other	62.6	12.9	14.0*	10.5	100.0
Ethnicity					
Hispanic	59.6	17.2	8.5*	14.7*	100.0

*p < .01

In this study, those who indicated they were separated or single/never married were overrepresented among high-risk problem gamblers. In comparison, gamblers who were married or widowed were significantly overrepresented among non-problem gamblers (Table 33).

Table 33. Problem Gambling Severity by Marital Status

Marital Status	Problem Gambling Severity				Total %
	Non-Problem n = 1,485	Low Risk Problem n = 295	Moderate Risk Problem n = 157	High Risk Problem n = 195	
	%	%	%	%	
Single, Never Married	63.3	16.5	7.9	12.3*	100.0
Married	73.1*	11.6	6.7	8.6	100.0
Living w/ Partner	65.9	15.1	9.7	9.3	100.0
Separated, Legally Married	57.8	6.8	12.6	22.8*	100.0
Divorced	72.0	19.2	5.8	3.0	100.0
Widowed	75.8*	16.3	7.9	0.0	100.0

* $p < .01$

There are notable variations in problem severity across household income categories (Table 34). Gamblers who reported a household income of less than \$15,000 were overrepresented among high-risk gamblers (8.1%), and gamblers with household income of \$15,000 up to \$30,000 were overrepresented among low- and moderate-risk gamblers. These findings are particularly notable given that only about half of people in these income groups gamble at all. There were no significant statistical differences between education level and problem gambling severity.

Table 34. Problem Gambling Severity by Household Income and Education Level: Within Problem Severity Categories

Household Income	Problem Gambling Severity			
	Non-Problem n = 1,485	Low Risk Problem n = 295	Moderate Risk Problem n = 157	High Risk Problem n = 195
	%	%	%	%
<= \$15,000	4.4	5.7	7.4	8.1*
\$15,000 - \$29,999	5.7	9.2*	11.8*	6.0
\$30,000 - \$49,999	10.3	14.5	14.5	17.3
\$50,000 - \$69,999	12.4	15.3	15.3	16.3
\$70,000 - \$99,999	17.2	16.4	16.1	14.2
\$100,000 - \$124,999	11.3	11.0	4.0	10.8
\$125,000 - \$149,999	8.5	10.5	5.0	11.0
\$150,000 or more	20.0	11.4	21.5	15.6
Prefer not to answer	10.2*	6.0	4.4	0.7
Total	100.0	100.0	100.0	100.0

Education Level	Non-Problem	Low Risk Problem	Moderate Risk Problem	High Risk Problem
	%	%	%	%
Elementary School	0.3	0.2	0.4	0.3
Some High School	2.0	1.5	1.3	4.8
High School Diploma or GED	14.3	18.7	14.7	17.0
Some College < 1 year	9.5	10.8	8.5	10.0
Some College ≥ 1 year (no degree)	8.6	8.8	12.4	5.0
Associate Degree	11.4	8.1	11.3	8.2
Bachelor's Degree	33.0	35.3	30.0	24.9
Master's Degree	16.4	13.2	16.7	25.3
Doctorate or Professional Degree	4.5	3.2	4.7	4.5
Total	100.0	100.0	100.0	100.0

* $p < .001$

Table 35 provides an additional perspective on the relationship among these variables by offering a snapshot of the representation of each household income and education group across the levels of problem gambling severity. Notably, more than 14% of those in a household earning less than \$15,000 who gambled were classified as high-risk problem gamblers, the highest proportion of any group. Meanwhile, a higher-than-expected proportion of gamblers who earned \$15,000 to about \$30,000 were moderate- (13.0%) or low-risk (19.2%) problem gamblers. There were no significant differences by education.

Table 35. Problem Gambling Severity by Household Income and Education Level: Across Problem Severity Categories

Household Income	Problem Gambling Severity			
	Non-Problem n = 1,485	Low Risk Problem n = 295	Moderate Risk Problem n = 157	High Risk Problem n = 195
	%	%	%	%
<= \$15,000	59.7	15.3	10.6	14.4*
\$15,000 - \$29,999	59.5	19.2*	13.0*	8.3
\$30,000 - \$49,999	60.6	16.9	9.1	13.4
\$50,000 - \$69,999	64.6	15.8	8.5	11.1
\$70,000 - \$99,999	71.6	13.6	7.1	7.7
\$100,000 - \$124,999	73.7	14.3	2.8	9.2
\$125,000 - \$149,999	67.8	16.6	4.2	11.4
\$150,000 or more	75.3	8.5	8.5	7.7
Prefer not to answer	85.3*	10.0	3.9	0.8

Education Level	Non-Problem	Low Risk Problem	Moderate Risk Problem	High Risk Problem
	%	%	%	%
Elementary School	70.7	7.8	10.9	9.6
Some High School	65.0	10.2	4.4	20.4
High School Diploma or GED	65.5	17.2	7.1	10.2
Some College < 1 year	68.7	15.4	6.5	9.4
Some College ≥ 1 year (no degree)	69.8	14.3	10.6	5.3
Associate Degree	74.7	10.5	7.8	7.0
Bachelor's Degree	71.1	15.1	6.8	7.0
Master's Degree	68.0	10.9	7.3	13.8
Doctorate or Professional Degree	72.0	10.4	8.0	9.6

* $p < .001$

In order to better understand the relationship of problem gambling and specific gambling activities, we analyzed participant responses both within categories (i.e., the percentage of those in each problem gambling category who engaged in each activity) as well as across categories (i.e., the percentage of those gambling on each activity who were in each problem category). Table 36 provides results within problem gambling categories. As expected, high-risk problem gamblers had higher rates of engagement with gambling across all activities, ranging from a high of 86.4% for lottery to 62.5% for keno. Similarly, moderate-risk problem gamblers were overrepresented in their participation across all activities besides lottery, while only a higher-than-expected proportion of low-risk gamblers played scratch-offs and gaming machines. These findings underscore the increasing involvement across multiple gambling activities in groups with higher levels of gambling problems.

Table 36. Participation in Activities by Level of Problem Gambling Severity: Within Problem Severity Categories

Gambling Activity	Non-Problem	Low Risk	Moderate	High Risk
	n = 1,485 %	Problem n = 295 %	Risk Problem n = 157 %	Problem n = 195 %
Lottery	71.8	72.9	75.4	86.4*
Instant Scratch-Off Tickets	53.4	66.4*	73.0*	84.9*
Keno	2.3	4.1	15.8*	62.5*
Bingo	7.7	16.0	32.7*	69.5*
Horse Race Track or Off Track	5.0	11.1	23.4*	65.1*
Live Poker or Poker Tournament	5.8	10.8	24.5*	68.3*
Live Casino Table Games	10.6	24.1	42.4*	71.4*
Games of Skill	11.6	22.4	38.9*	75.1*
Gaming Machines (slots, video poker)	13.3	37.4*	43.8*	78.6*
Cryptocurrency Trading	8.6	11.9	30.2*	67.0*
High-Risk Stocks	18.5	25.1	34.3*	68.8*
Daily Fantasy Sports	4.7	11.4	29.6*	66.4*
Esports Wagering	2.9	9.0	21.4*	67.1*
Sports Wagering	9.5	21.1	41.1*	72.6*
Season Long Fantasy Sports	8.8	15.8	28.8*	67.6*

* $p < .001$

Table 37 analyzes preferences across problem severity groups, where statistical findings of overrepresentation mirrored those within categories. There were notable differences in percentages endorsed by specific problem gambling groups. For example, high-risk problem gamblers made up more than 63% of keno players, nearly 56% of those who wagered on esports, and about 46% to 47% of those who gambled on horses, live poker/poker tournaments, and daily fantasy sports. Similarly, participation in daily fantasy sports (16.6%), casino table games (15.3%), and sports wagering (15.7%) were more likely to be associated with moderate-risk problem gambling. Among low-risk problem gamblers, playing gaming machines like slots and video poker (20.9%), live casino table games (16.4%), instant scratch-off tickets (15.5%), and sports wagering (15.2%) emerged as preferred activities, although only preferences for instant scratch-off tickets and machines were significantly different from other groups.

Evaluating changes in these proportions over time would best inform migration across levels of problem severity by gambling activity preferences to identify which games, if any, are most associated with consistent movement to higher levels of gambling problems. Contrary to some studies in the gambling literature, playing gaming machines was associated with higher levels of involvement among low-risk gamblers compared to other activities but did not stand out as a preferred activity among moderate- or high-risk problem gamblers in this study.

Table 37. Participation in Activities by Level of Problem Gambling Severity: Across Problem Severity Categories

Gambling Preference	Problem Gambling Severity				Total
	Non-Problem n = 1,485 %	Low Risk Problem n = 295 %	Moderate Risk Problem n = 157 %	High Risk Problem n = 195 %	
Lottery	68.0	13.8	7.5	10.7*	100.0
Instant Scratch-Off Tickets	62.5	15.5*	9.0*	13.0*	100.0
Keno	17.7	6.2	12.9*	63.2*	100.0
Bingo	32.8	13.6	14.7*	38.9*	100.0
Horse Race Track or Off Track	27.4	12.2	13.5*	46.9*	100.0
Live Poker or Poker Tournament	29.8	11.0	13.2*	46.0*	100.0
Live Casino Table Games	36.3	16.4	15.3*	32.0*	100.0
Games of Skill	38.5	14.9	13.7*	32.9*	100.0
Gaming Machines (slots, video poker)	37.2	20.9*	13.0*	28.9*	100.0
Cryptocurrency Trading	37.6	10.3	13.9*	38.2*	100.0
High-Risk Stocks	51.2	13.8	10.0*	25.0*	100.0
Daily Fantasy Sports	25.1	12.0	16.6*	46.3*	100.0
Esports Wagering	18.6	11.3	14.3*	55.8*	100.0
Sports Wagering	34.5	15.2	15.7*	34.6*	100.0
Season Long Fantasy Sports	36.8	13.2	12.8*	37.2*	100.0

* $p < .001$

Substance Use, Potentially Addictive Behaviors, and Other Mental Health Issues

Problem gambling is commonly associated with a range of adverse health and mental health consequences, including comorbid addictive behaviors and mental health problems. The next section of the study examines the relationship of gambling status to substance use, potentially addictive behaviors, and mental health problems in the overall sample. For purposes of this section, morbid thinking is distinguished from suicidal ideation in that it involves wishing or fantasizing about being dead rather than thinking specifically about suicide. Non-suicidal self-injury was characterized by self-mutilation (e.g., cutting, burning) with no suicidal intent (see Glossary for all terms).

Compared to non-gamblers, those who gambled in the study reported higher rates of addictive substance use and behaviors as well as poorer mental health and increased risk of suicidality. Land-based gamblers reported the lowest rates of problems, but those rates were still significantly higher than for non-gamblers. Among those who gambled, mixed-venue gamblers were at the highest risk for problems, followed by online-only gamblers.

As indicated in Table 38, those who gambled were significantly more likely than non-gamblers to engage in all potentially addictive behaviors, and mixed-venue gamblers had the highest rates of all substance, behavioral, and mental health concerns. Gamblers were also significantly more likely than non-gamblers to use tobacco, alcohol, and illicit drugs, and to report drug use problems at low-, moderate-, and high-risk levels.

Compared to others who gambled, mixed-venue gamblers had significantly higher rates of tobacco use, alcohol use, binge drinking, illicit drug use, and alcohol or drug use problems. Online-only gamblers had significantly higher rates of binge drinking when compared to land-based only gamblers as well as higher rates of all potentially addictive behaviors, though the difference in the latter was not statistically significant.

Individuals who gambled were significantly more likely to report mental health problems at mild-, moderate-, and severe levels, as well as anxiety and depression. As with addictive behaviors, those who gambled in mixed venues had significantly higher rates of mental health problems, anxiety, and depression, compared to individuals who only gambled at land-based venues or only online. Compared to land-based gamblers, those who gambled only online also had significantly higher rates of moderate mental health problems.

Notably, those who gambled were significantly more likely than non-gamblers to report morbid thinking (e.g., wishing they were dead), suicidal ideation, suicide attempts, and non-suicidal self-injury. Mixed-venue gamblers had significantly higher rates of suicide attempts and non-suicidal self-injury when compared to all other gamblers, and mixed-venue and online-only gamblers had significantly higher rates of morbid thinking and suicidal ideation, compared to land-based gamblers.

Since the previous prevalence survey, there were marked increases in binge drinking among both gamblers (19.9% to 38.9%) and non-gamblers (7.8% to 18.4%), as well as increases in self-reported drug problems among both gamblers (5.1% to 30.0%) and non-gamblers (0.8% to 16.3%). There also were increases in reports of binge eating, excessive exercising, excessive shopping, and video or internet gaming problems across the full sample when compared to the prior prevalence survey.

Table 38. Substance Use, Potentially Addictive Behaviors, General Health, PHQ (Mental Health), & Suicidality/Self-Harm by Gambling and Venue

Substance Use	Gambling Status		Venue Type					
	Gambler % n = 2,149	Non-Gambler % n = 1,363	Online Only		Land-Based Only		Mixed	
			%	n	%	n	%	n
			n = 318		n = 1,053		n = 778	
Tobacco Use	29.6*	13.0	30.2	96	21.0	221	43.0*	335
Consumed alcohol	81.2*	60.1	77.3	246	79.7	839	86.5*	673
Binge Drinking	38.9*	18.4	42.9*	136	26.1	275	55.3*	430
Used Illicit Drugs (including Cannabis)	30.0*	16.3	30.3	96	20.3	214	43.9*	342
Problems with Drugs/Alcohol								
Low Risk	19.1*	13.7	19.9	63	15.8	166	23.6*	184
Moderate Risk	7.0*	1.6	8.2	26	3.5	37	11.6*	90
High Risk	3.9*	0.9	2.2	7	1.0	11	8.7*	68
Potentially Addictive Behaviors								
Binge Eating	17.3*	9.7	18.7	59	12.8	135	23.3*	184
Anorexia	4.3*	1.1	5.4	17	2.2	23	6.5*	90
Bulimia	3.5*	0.8	3.4	11	1.3	14	6.2*	68
Excessive Exercising	7.0*	3.0	6.2	20	3.7	39	10.7*	181
Unprotected Sex w/ Stranger	5.3*	1.4	3.8	12	2.3	24	9.7*	51
Purchasing sex	2.9*	0.4	2.2	7	1.3	14	4.9*	48
Excessive Mobile Phone Usage	26.5*	16.3	32.5	103	19.2	202	34.5*	83
Workaholism	21.1*	13.8	24.4	78	14.3	151	29.0*	75
Problem Pornography Use	11.5*	4.0	11.5	37	6.3	66	18.4*	38
Excessive Shopping	14.8*	8.1	13.0	41	9.1	96	23.1*	268
Video or Internet Gaming Problems	18.1*	9.6	25.8	82	8.9	94	27.6*	226
Excessive Social Media Use	24.1*	15.0	27.1	86	18.8	198	29.9*	143
General Health								
Poor	2.7	4.3*	1.6	5	3.2	34	2.6	20
Fair	17.6	17.0	18.2	58	16.4	173	18.4	143
Good	38.6	37.9	36.8	117	40.0	421	37.9	295
Very Good	28.9	25.9	28.2	90	30.7	323	26.5	206
Excellent	12.2	14.9	15.2	48	9.7	102	14.6	114

PHQ (Mental Health)	Gambler	Non-Gambler	Online Only		Land-Based Only		Mixed	
	%	%	%	n	%	n	%	n
Normal	53.5	63.7*	48.9	156	60.9*	641	44.6	347
Mild	27.4*	24.5	29.0	92	25.5	269	30.2*	235
Moderate	11.5*	7.2	14.5*	46	8.2	86	14.2*	110
Severe	7.6*	4.6	7.6	24	5.4	57	11.0*	86
Anxiety	22.5*	16.9	24.2	77	17.1	180	29.4*	229
Depression	19.7*	13.5	20.2	64	13.9	146	27.3*	212
Suicidality and Self Harm								
Morbid Thinking	10.8*	6.5	11.6*	37	7.4	78	15.0*	117
Suicidal Ideation	5.2*	2.3	6.5*	21	2.1	22	8.8*	68
Suicide Attempt	2.5*	0.7	1.4	4	0.5	5	5.8*	45
Non-Suicidal Self Injury	4.4*	1.6	3.4	11	1.5	16	8.8*	68

* $p < .05$

The next set of analyses examined the same group of variables by level of problem gambling severity (Table 39). Individuals classified as non-problem gamblers had lower rates across all mental health and substance use variables, were more likely to rate their health as “very good,” and to have normal mental health scores, when compared to those who gambled at higher risk levels. In contrast, high-risk problem gamblers had the highest rates of tobacco use (77.6%), alcohol consumption (86.1%) and binge drinking (78.9%), illicit drug use (71.0%), as well as moderate-risk (22.0%) and high-risk (26.6%) drug/alcohol problems. Moderate-risk problem gamblers also exhibited significantly higher levels of tobacco use, binge drinking, illicit drug use, and high-risk drug/alcohol problems. Low-risk gamblers had higher tobacco use, binge drinking, and illicit drug use rates than non-problem gamblers and were most likely to exhibit low-risk drug/alcohol problems.

Results were similar for potentially addictive behaviors. Participants classified as high-risk problem gamblers reported significantly higher rates than all other groups of binge eating, anorexia, bulimia, excessive exercising, unprotected sex with strangers, paying for sex, and excessive shopping. Both high- and moderate-risk problem gamblers had higher rates of excessive mobile phone use, workaholism, problem pornography use, and excessive social media use, while high-, moderate- and low-risk gamblers all had higher rates of excessive mobile phone use, and video or internet gaming problems when compared to non-problem gamblers.

Rates of mental health problems increased with higher rates of problem gambling severity; 13% of moderate-risk and nearly 28% of high-risk problem gamblers reported severe mental health problems. In addition, about a third of moderate-risk and nearly two-thirds of high-risk problem gamblers reported experiencing anxiety and/or depression. Rates of suicidality likewise increased with problem gambling severity, with more than 42% of high-risk problem gamblers endorsing morbid thinking (e.g., wishing they were dead), about 28% experiencing suicidal ideation, 20% reporting making suicide attempts, and 26% engaging in non-suicidal self-injury.

Table 39. Substance Use, Potentially Addictive Behaviors, General Health, PHQ (Mental Health), & Suicidality/Self-Harm by Problem Gambling Severity

Substance Use	Problem Gambling Severity							
	Non-Problem Gambler n = 1,485		Low Risk Problem n = 295		Moderate Risk Problem n = 157		High Risk Problem n = 195	
	%	n	%	n	%	n	%	n
Tobacco User	20.3	301	36.1*	106	47.5*	75	77.6*	151
Consumed alcohol	79.3	1178	84.9	250	85.5	134	86.1*	168
Binge Drinking	30.3	450	47.1*	139	57.4*	90	78.9*	154
Used Illicit Drugs (including Cannabis)	22.2	329	36.8*	109	42.8*	67	71.0*	139
Problems with Drugs/Alcohol								
Low Risk	17.7	263	23.0*	68	22.4	35	22.4	44
Moderate Risk	3.6	53	12.1*	36	11.6	18	22.0*	43
High Risk	0.9	13	1.7	5	8.8*	14	26.6*	52
Potentially Addictive Behaviors								
Binge Eating	13.0	193	18.0	53	28.8	45	41.9*	82
Anorexia	1.8	27	5.7	17	4.4	7	21.7*	42
Bulimia	1.3	19	2.1	6	2.4	4	23.5*	46
Excessive Exercising	3.3	49	11.0	32	8.3	13	28.6*	56
Unprotected Sex w/ Strangers	1.7	25	6.4	19	5.7	9	30.2*	59
Paying for Sex	1.1	16	2.0	6	2.6	4	18.1*	35
Excessive Mobile Phone Use	21.6	321	31.7*	94	36.8*	58	48.2*	94
Workaholism	17.1	254	25.0	74	32.4*	51	37.1*	72
Problem Pornography Use	7.0	104	12.1	36	25.1*	39	34.6*	67
Excessive Shopping	10.9	162	18.1	53	15.5	24	39.0*	76
Video or Internet Gaming Problems	10.4	154	24.4*	72	30.9*	49	56.5*	110
Excessive Social Media Use	18.1	269	28.2	83	39.4*	62	52.5*	102
General Health								
Poor	2.7	40	2.4	7	2.4	4	3.1	6
Fair	16.4	244	20.3	60	21.8	34	21.3	41
Good	37.8	561	39.6	117	43.3	68	36.7	72
Very Good	31.2*	463	28.0	82	20.1	32	20.5	40
Excellent	11.9	177	9.7	29	12.4	19	18.4*	36

PHQ (Mental Health)	Non-Problem Gambler		Low Risk Problem		Moderate Risk Problem		High Risk Problem	
	%	n	%	n	%	n	%	n
Normal	62.0*	921	45.1	133	37.6	59	10.2	20
Mild	25.9	385	32.3	95	33.6	53	28.3	55
Moderate	7.5	111	15.4	46	15.8	25	33.8*	66
Severe	4.6	68	7.2	21	13.0*	20	27.7*	54
Anxiety	15.6	232	25.4	75	34.2*	54	62.8*	122
Depression	12.8	190	19.6	58	33.7*	53	62.3*	121
Suicidality and Self-Harm								
Morbid Thinking	6.7	99	9.3	27	13.4	21	42.4*	83
Suicidal Ideation	2.3	34	5.5	16	3.1	5	27.9*	54
Suicide Attempt	0.4	6	1.6	5	2.2	3	20.1*	39
Non-Suicidal Self-Injury	1.7	25	3.8	11	4.5	7	26.0*	51

* $p < .001$

A Focus on Sports Betting

This prevalence study was conducted in the years following the legalization of sports wagering in New Jersey in 2018. For that reason, this section is focused on sports wagering and the potential impact of legalization on participation.

Participants who bet on sports were asked about their sports wagering and the effect of legalization, advertising, and other factors on their betting practices. Nearly 40% of sports bettors said they were wagering before legalization, including betting with friends (39.9%), co-workers (28.9%), family members (24.6%), a bookie (22.4%), or wagering on a non-New Jersey website (22.5%). Nearly 49% of sports bettors said their wagering increased after legalization, about 15% decreased, and more than 36% said it remained the same. More than 41% said sports wagering advertisements make it more likely for them to wager on sports, while more than 44% said it had no effect and about 14% reported ads decreased their desire to wager on sports.

Analyses were performed to evaluate the demographic profiles of sports bettors, along with their gambling preferences, betting frequency, problem gambling severity, and associated addictive behaviors and mental health problems. For comparison purposes, sports wagering findings are presented alongside those for horse race wagering, another sport that has long been legal for betting in NJ.

Overall, about 19% of those who gambled bet on sports and nearly 13%, on horses (Table 40). Gender, age, employment status, and household income were significantly related to sports betting and/or horse wagering. Men and those who were employed full-time were overrepresented in both groups. However, those who bet on sports were more likely than others who gambled to be in the youngest age groups (under 45 years), to be single, and to report

incomes of \$125,000 or more. Those who wagered on horses were more likely to be 25 to 44 years, to have either some high school education or a Master’s degree, and to report incomes of \$125,000 to \$150,000.

Table 40. Percentage Representation of Demographic Variables for Sports and Horse Race Bettors

	Sports Bettor (n=409)		Non-Sports Bettor (n=1,740)		Horse Bettor (n=270)		Non-Horse Bettor (n=1,879)	
	%	n	%	n	%	n	%	n
Gender								
Male	74.6*	305	47.0	819	68.0*	184	50.0	940
Female	25.4	104	53.0	921	32.0	86	50.0	940
Age								
18-24 years	12.3*	50	8.3	145	12.4	33	8.6	162
25-34 years	20.7*	85	15.6	271	21.7*	59	15.8	297
35-44 years	27.0*	110	15.3	266	26.3*	71	16.3	306
45-54 years	17.5	72	20.0	348	13.9	38	20.3	381
55-64 years	16.0	65	18.6	324	14.0	38	18.7	351
65+ years	6.5	27	22.2	386	11.7	31	20.3	382
Marital Status								
Single, never married	32.2*	132	26.9	469	30.2	81	27.6	519
Married	52.8	216	51.9	903	54.7	148	51.7	971
Living with a partner	6.2	25	6.5	113	4.1	11	6.8	128
Separated, but still married	2.7	11	1.5	26	2.9	8	1.5	28
Divorced	3.9	16	8.0	139	5.2	14	7.5	141
Widowed	2.2	9	5.2	90	2.9	8	4.9	92
Race								
White/Caucasian	71.3	292	72.2	1,256	71.5	193	72.1	1,355
Black/African American	16.5	67	14.5	252	17.8	48	14.4	271
Asian American/Pacific Islander	10.0	41	9.7	169	8.8	24	9.9	186
Mixed/Other	2.2	9	3.6	63	1.9	5	3.6	67
Ethnicity								
Hispanic	25.4	104	20.6	358	24.7	67	21.0	395

Education Level	Non-Sports				Non-Horse			
	Sports Bettor		Bettor		Horse Bettor		Bettor	
Grades 1-8	0.3	1	0.3	5	0.5	1	0.3	6
Some High School	2.8	11	2.0	35	5.0*	14	1.7	32
High School Diploma or GED	11.1	46	16.0	278	15.7	42	14.9	280
Some College < 1 year	8.9	36	9.8	171	7.6	20	9.9	186
Some College ≥ 1 year (no degree)	8.0	33	8.7	151	5.0	14	9.1	171
Associate Degree	8.6	35	11.1	193	9.4	25	10.8	202
Bachelor's Degree	34.2	140	32.1	559	30.8	83	32.8	616
Master's Degree	20.9	86	15.8	275	21.7*	59	16.1	303
Doctorate or Professional Degree	5.2	21	4.2	73	4.3	12	4.4	83
Employment Status								
Full-Time	62.9*	257	44.7	778	57.2*	154	46.9	881
Part-Time	9.6	39	9.5	165	11.5	31	9.2	173
Self-Employed	7.3	30	5.4	94	7.7	21	5.6	105
Out of work > 1 year	2.7	11	3.4	59	4.3	12	3.1	58
Out of work < 1 year	3.0	12	5.4	94	1.9	5	5.4	101
Homemaker	2.6	11	3.5	61	2.6	7	3.4	64
Student	3.8	16	4.0	70	2.5	7	4.2	79
Retired	6.2	25	20.7	360	9.8	26	19.1	359
Disabled	1.9	8	2.7	47	2.5	7	2.5	48
Otherwise not working	0	0	0.7	12	0	0	0.6	11
Household Income								
<= \$15,000	5.3	22	5.0	87	8.1	22	4.6	86
\$15,000 - \$29,999	4.5	18	7.1	124	4.6	12	6.9	130
\$30,000 - \$49,999	10.4	43	12.2	212	13.2	36	11.7	220
\$50,000 - \$69,999	15.7	64	12.8	223	12.1	33	13.6	256
\$70,000 - \$99,999	12.9	53	17.5	305	16.8	45	16.6	312
\$100,000 - \$124,999	10.7	44	11.0	191	8.2	22	11.3	212
\$125,000 - \$149,999	12.8*	52	7.7	134	11.8*	32	8.2	154
\$150,000 or more	23.9*	98	17.4	303	20.7	56	18.3	344
Prefer not to answer	3.8	15	9.3	161	4.5	12	8.8	165

*p<0.05

Compared to other gamblers, participants who indicated they bet on sports or horses were more likely to gamble at high frequency, gamble on each activity, and gamble in mixed venues (Table

41). They were also more likely than others who gambled to endorse symptoms of moderate- and high-risk problem gambling and to gamble on more activities. For example, sports bettors gambled on an average of about nine activities, compared to five for non-sports bettors. Similarly, horse bettors gambled on more than 10 activities, double the rate of non-horse gamblers who bet on an average of five activities.

Table 41. Sports and Horse Race Bettors by Overall Gambling Behaviors

Gambling Frequency	Sports Bettor (n=409)		Non-Sports Bettor (n=1,740)		Horse Bettor (n=270)		Non-Horse Bettor (n=1,879)	
	%	n	%	n	%	n	%	n
Low	8.5	35	37.7	656	5.7	15	35.9	675
Moderate	18.8	77	32.2	560	18.1	49	31.3	588
High	72.7*	297	30.1	524	76.2*	206	32.8	616
Other Gambling Activity								
Lottery	78.3*	320	71.7	1,248	91.2*	246	70.4	1,323
Instant Scratch-Off Tickets	75.4*	308	55.2	960	86.2*	233	55.2	1,037
Keno	38.0*	155	2.1	37	56.7*	153	2.1	39
Bingo	42.0*	172	10.1	176	61.3*	166	9.7	182
Live Poker or Poker Tournament	49.1*	201	5.1	89	61.8*	167	6.5	122
Live Casino Table Games	60.6*	248	10.7	186	71.5*	193	12.8	241
Games of Skill	52.1*	213	13.3	231	62.5*	169	14.7	276
Gaming Machines (slots, video poker)	60.2*	246	16.2	282	73.6*	199	17.6	331
Cryptocurrency Trading	46.3*	189	8.7	151	57.1*	154	9.9	186
High-Risk Stocks	56.2*	230	17.6	306	65.8*	178	19.1	359
Daily Fantasy Sports	56.2*	230	2.8	49	61.8*	167	6.0	113
Season Long Fantasy Sports	62.4*	255	5.6	97	67.0*	181	10.1	190
Gambling Venue								
Online only	11.7	48	15.6	272	7.0	19	16.0	301
Land-based only	2.2	9	60.3	1049	10.4	28	54.7	1,028
Mixed venues	86.1*	352	24.1	419	82.6*	223	29.3	550
Problem Gambling Severity								
Non-Problem	34.5	141	78.0	1,357	27.4	74	75.8	1,424
Low Risk Problem	15.2	62	13.5	235	12.2	33	14.1	265
Moderate Risk Problem	15.7*	64	5.4	94	13.5*	36	6.5	122
High Risk Problem	34.6*	142	3.1	54	46.9*	127	3.6	68
Gambling Activities								
# of Gambling Activities	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	8.7*	5.0	2.3	1.5	10.4*	5.0	2.5	1.9

*p<0.05

Likewise, mental health outcomes for both groups were alarming. Those who bet on either sports or horses were significantly more likely than others to use tobacco, alcohol, and/or illicit drugs, binge drink, report problems with drugs/alcohol, and engage in all types of addictive behaviors (Table 42). Both groups reported significantly higher rates of moderate and severe mental health problems, anxiety, and depression. Notably, sports and horse bettors reported higher rates of morbid thinking, suicidal ideation, suicide attempts and/or non-suicidal self-injury than other gamblers. For example, 21% of sports and 27% of horse bettors had thoughts about wishing they were dead, compared to slightly over 8% for non-sports or non-horse gamblers. About 14% (sports) and 18% (horse), had actual thoughts of suicide, compared to 3 to 4% for non-sports/non-horse gamblers, and about 10% (sports) and 14% (horse) reported actually attempting suicide, compared to less than 1% of non-sports/non-horse gamblers. Finally, nearly 13% of sports and more than 18% of horse bettors reported engaging in non-suicidal self-injury, compared to just over 2% of non-sports/ non-horse bettors.

Table 42. Substance Use, Potentially Addictive Behaviors, General Health, PHQ (Mental Health), & Suicidality/Self-Harm by Sports and Horse Race Bettors

Substance Use	Sports Bettor (n=409)		Non-Sports Bettor (n=1,740)		Horse Bettor (n=270)		Non-Horse Bettor (n=1,879)	
	%	n	%	N	%	n	%	n
Tobacco Use	54.1*	221	23.8	414	61.5*	166	25.0	470
Consumed alcohol	90.9*	372	79.2	1378	90.6*	245	79.9	1501
Binge Drinking	65.4*	267	32.7	569	70.7*	191	34.3	644
Used Illicit Drugs (including Cannabis)	51.2*	209	25.0	435	58.5*	158	25.9	487
Problems with Drugs/Alcohol								
Low Risk	21.6*	88	18.5	322	24.3*	66	18.3	344
Moderate Risk	14.2*	58	5.3	92	14.8*	40	5.9	111
High Risk	15.4*	63	1.2	21	19.4*	52	1.7	32
Potentially Addictive Behaviors								
Binge Eating	28.4*	116	14.7	256	34.5*	93	14.9	280
Anorexia	10.8*	44	2.8	49	15.5*	42	2.7	51
Bulimia	12.2*	50	1.5	26	17.7*	48	1.5	28
Excessive Exercising	15.4*	63	5.0	87	19.7*	53	5.1	96
Unprotected Sex w/ Strangers	16.3*	67	2.7	47	19.4*	52	3.2	60
Paying for Sex	9.6*	39	1.3	23	13.5*	36	1.4	26
Excessive Mobile Phone Use	36.3*	148	24.2	421	34.5*	93	25.4	477
Workaholism	30.5*	125	18.9	329	33.6*	91	19.3	363
Problem Pornography Use	24.8*	101	8.3	144	24.9*	67	9.5	179
Excessive Shopping	25.2*	103	12.3	214	28.2*	76	12.8	241
Video or Internet Gaming Problems	35.4*	145	14.1	245	37.8*	102	15.3	287
Excessive Social Media Use	33.4*	137	21.9	381	40.4*	109	21.7	408

General Health	Non-Sports				Non-Horse			
	Sports Bettor		Bettor		Horse Bettor		Bettor	
Poor	2.1	9	2.8	49	3.2	9	2.6	49
Fair	17.5	72	17.7	308	15.2	41	18.0	338
Good	35.0	143	39.4	686	37.7	102	38.7	727
Very Good	28.0	114	29.1	506	25.3	68	29.4	552
Excellent	17.4*	71	11.0	191	18.6*	50	11.3	213
PHQ (Mental Health)								
Normal	39.6	162	56.7	987	32.2	87	56.5	1062
Mild	27.7	113	27.4	476	29.3	79	27.2	510
Moderate	18.6*	76	9.8	171	20.4*	55	10.2	192
Severe	14.1*	58	6.1	106	18.1*	49	6.1	115
Anxiety	35.2*	144	19.5	339	40.0*	108	19.7	370
Depression	33.2*	136	16.5	287	40.6*	110	16.7	314
Suicidality and Self-Harm								
Morbid Thinking	21.4*	88	8.3	144	27.4*	74	8.4	158
Suicidal Ideation	14.4*	59	3.1	54	17.5*	47	3.5	66
Suicide Attempt	10.3*	42	0.6	10	14.2*	38	0.8	15
Non-Suicidal Self-Injury	12.9*	53	2.4	42	18.3*	49	2.4	45

*p<0.05

Summary and Recommendations

Despite COVID-19 shutdowns, rates of gambling and serious problem gambling remained relatively stable. About 61% of New Jersey residents in the survey reported participating in one or more of 15 gambling activities in the prior year, with a majority indicating they were married and/or employed full-time. In addition, about 6% of all participants were high-risk and about 13%, moderate-risk problem gamblers – rates that decreased slightly since the publication of the prior survey in 2017 but remain about triple the national average.

There were significant shifts in gambling activity and behavior over the past five years. Overall, a much higher proportion of those in New Jersey are gambling online, with rates among women, for example, more than four times the rate in the 2017 prevalence study. The proportion of women gambling only at land-based venues, while higher than men, has decreased by more than a third in the past five years. Men doubled their online participation and were much more likely than women to gamble at mixed venues, that is both online and in land-based venues, a finding commonly associated with higher rates of gambling problems.

These findings are also reflected by age, particularly in the younger age categories. About a third of those in the youngest age category (18 to 24 years) gambled online, a four-fold increase over the last study. The proportion of those who only gambled in land-based venues decreased across all age groups, however, gambling at mixed venues nearly doubled in popularity; this would suggest that COVID-19 shutdowns were not necessarily a primary reason for the decreases in land-based play. The ease of use of desktops, laptops, mobile phones, and tablets, combined with

24-hour accessibility, has likely encouraged the movement to online sites with or without continued visits to casinos and other land-based gaming opportunities. The ability to access gambling opportunities at all times through a medium that is easily concealed from friends and family members could contribute to increased problem gambling rates over time. It could also contribute to underage gambling (i.e., those ages 18 to 20 in this study), as teens and emerging adults may find it easier to access illegal gambling sites online or to gamble with consent on the accounts of parents, friends or others who are unaware of the dangers of problem gambling. It is important to note that this study did not explore how those underage were gambling, i.e. illegal, off-shore sites, with family and friends, bookies etc.), but this could be an important consideration for future studies.

In this study, those who gambled at mixed venues, both online and in land-based venues, bet on an average of six activities, three times as many as those who gambling only online or in land-based venues. Mixed-venue gambling was also associated with significantly higher rates of gambling problems, with about 50% of mixed-venue gamblers reporting some symptoms of problem gambling and nearly 20% being at high risk. By comparison, more than 85% of those who gambled only at land-based venues reported no gambling problems. This provides context for the finding that men have double the rate of high-risk gambling problems when compared to women, a majority of whom gamble only at land-based venues. In this survey, men also reported a stronger preference for sports wagering, most of which is conducted online.

These findings underscore the increased risk associated with gambling on more activities, across more sites or locations in a state that has dramatically expanded continual access to all forms of gambling. The results also highlight the need for thoughtful consideration of the impacts of continued gambling expansion and the potential need to regulate or otherwise limit high-risk activities or advertising that targets particular groups or provides misleading promises. The issue is further complicated by the number of regulatory agencies that regulate various forms of gambling, including the DGE, Racing Commission, Casino Control Commission, Legalized Games of Chance Control Commission, and the New Jersey Lottery. Those agencies have separate policies governing RG, including varying terms for self-exclusion and requirements for sign up (e.g., online versus in-person). Going forward, establishing best practices will necessitate the development of uniform regulations around RG initiatives and practices, including online access to self-exclusion sign-up and limit-setting features, in a way that is the least stigmatizing for individual consumers. Such regulations would, ideally, require that all individuals who gamble, irrespective of venue type, have access to one uniform online portal for accessing limit-setting features and problem gambling tutorials and materials, as well as initiating cool-off and self-exclusion without the need to call or drive to locations where they might be recognized by others.

A uniform, online consumer protection system could be particularly useful for those with limited incomes. Although individuals with higher household incomes in this study reported the greatest participation in gambling, about one-third of those who gambled made less than \$30,000 per year. In addition, those earning less than \$15,000 per year were overrepresented among high-risk and online-only gamblers, with about 14% endorsing symptoms of high-risk problem gambling. These findings are particularly notable, given that only half of those in the lowest

income groups gambled at all. This also suggests that some who cannot afford to gamble are spending more than they can afford to lose, likely leading in some cases to gambling-related harm. Developing prevention and intervention strategies for low-income, high-risk problem gamblers will be increasingly important to protect those most at risk, as well as their children.

Two groups particularly at-risk are those identifying as Black/African American and/or Hispanic. The prior prevalence survey did not differentially categorize Black/African Americans who also identified as Hispanic, so comparisons are not possible. However, the relationship of gambling problem severity in both groups is a cause for considerable concern. Black/African Americans reported the highest proportion of past-year gambling as well as the highest rates of problem gambling; nearly 16% of Black/African Americans who gambled were in the high-risk problem severity group, about double the rate for Whites and 5% higher than Asian American/Pacific Islanders. Notably, Black/African Americans were also the most likely group to gamble at mixed venues, in contrast to Whites, who made up more than three-quarters of those who gambled only at land-based venues. Those who identified as Hispanic likewise had high rates of high-risk problem gambling, about 15%, and were over-represented among both the online and mixed-venue gambling groups. These rates are particularly significant given that only about a third of those who gambled patronized mixed venues and only about 15% gambled only online.

On a policy level, these findings suggest it will become increasingly important to initiate outreach efforts that include stakeholders in communities with higher proportions of residents who identify as Black/African American and/or Hispanic. Those efforts should include training community groups, churches, and others in informal screening for problem gambling and referral to gambling resources. Prevention efforts should target middle and high school youth, and both healthcare and mental health care providers should be trained to incorporate problem gambling screening into intake protocols. Study results also suggest that additional efforts may be needed to recruit and train gambling counselors who identify as Black/African American and/or Hispanic who can better provide culturally tailored treatment.

In the previous prevalence study, there was a positive linear relationship between gambling frequency and rates of problem gambling, such that higher frequency was associated with significantly higher rates of problems and vice versa. In this study, lower problem rates were associated with low and moderate gambling frequency. However, higher rates of problem severity were associated with all levels of gambling frequency, suggesting that *some individuals are experiencing significant problems even if they are only gambling infrequently*. This could be due to spending more or gambling across more sites when they gamble. The latter supposition is supported by findings that moderate- and high-risk gamblers had higher rates of engagement across most or all gambling activities in this study.

Compared to non-gamblers, those who gambled, particularly at mixed venues, also reported significantly higher rates of all addictive behaviors, mental health problems, suicidal ideation or attempts, and non-suicidal self-injury. High-risk problem gamblers had the highest rates of tobacco and illicit drug use, alcohol consumption and binge drinking, as well as moderate- and high-risk drug/alcohol problems. They were also the most likely to endorse binge eating,

anorexia, bulimia, excessive exercising, having unprotected sex with strangers, and paying for sex. More than 60% of high-risk problem gamblers reported experiencing anxiety or depression, more than 40% expressed morbid thinking, and about a fourth reported suicidality or engaging in non-suicidal self-injury.

Findings were particularly notable for sports and horse bettors who were more likely than others who gambled to bet at high frequency, across all 15 activities, and in mixed venues, and to have higher rates of gambling problems than those who gambled on other activities. Notably, a significantly higher proportion of both sports and horse bettors, compared to those who gambled on other activities, reported some level of a gambling problem. For example, about one-third of sports and almost half of horse bettors were classified as high-risk problem gamblers, with more than 80% betting in mixed venues. Compared to others who gambled, sports and horse bettors reported significantly higher rates of moderate and severe mental health problems, anxiety, depression, morbid thinking, suicidal ideation and/or attempts, and non-suicidal self-injury.

It is, however, important to contextualize these findings. This data was collected after legalization of sports wagering but prior to the increasing popularity of the activity. About 40% of sports bettors surveyed indicated they were already betting illegally before 2018. In addition, sports bettors in this survey also bet on an average of nine gambling activities. Therefore, higher rates of problems in this group could be due to a range of factors unrelated to sports wagering, that is, people with problems could be betting sports along with a range of other activities. It is, therefore, far too early to speculate whether those who have recently begun sports wagering in response to the popularity of the activity will mirror the behavior of those who were gambling on sports at the time of this survey. Findings should, therefore, be interpreted with caution.

From a public health perspective, it is critical to address the high rates of mental health-related conditions, particularly suicidality, among those with gambling problems. Unlike with other addictive behaviors, where friends and family members can observe the behaviors that accompany the progressive descent of loved ones, gambling is a silent addiction. In New Jersey, as in many other states, an individual can gamble away the family savings on their mobile phones in secret. Individuals with serious gambling problems can wreak complete financial devastation on their families and feel there is no way out but suicide. They can suffer from extreme anxiety and depression and, in some cases, engage in other forms of self-harm. Despite these known consequences, health facilities rarely screen for gambling when presented with comorbid conditions.

Findings from this and the prior study suggest that more is needed in the form of legislating, regulating, or otherwise restricting factors that are most related to high-risk problem gambling such as excessive gambling advertising, use of ePay services such as PayPal, and/or colleges and universities sponsoring betting sites.

The growing appeal of online gambling, particularly sports wagering, to young and underage bettors also underscores the need for New Jersey to initiate prevention efforts in middle and high schools, the time when majority of problem gamblers report placing their first bet. In addition,

we would recommend that the state unify the regulatory bodies that oversee online, casino, and horse race betting or mandate that they develop and operationalize a unified approach to responsible gambling, including limit-setting and self-exclusion. We would also recommend that gambling screening be integrated across all health, mental health, child welfare, and other systems at parity with screens for substance misuse. Given the strong intergenerational transmission of gambling and other addictions,⁷ problem gambling prevention should be required in schools, analogous to education for smoking or substance use. Notably, *about two-thirds of high-risk problem gamblers said they had children or adolescents living in the home*, making it likely that those youth will initiate gambling at a younger age and/or develop problems with gambling or other addictive behaviors. It will be important to continue to evaluate these prevalence rates over time, particularly as emerging adults move into older age categories. Although problem gambling prevalence rates remained stable across the two studies, the long-term effects of legalized sports wagering, particularly on adolescents and emerging adults, will not be known for years. Finally, given that New Jersey has a problem gambling rate that is three times the national average, the state is an optimal landscape to develop an integrative framework for prevention, education, and treatment that could be a model nationwide.

⁷ Nower, L., Anthony, W. L., & Stanmyre, J. F. (2022). The intergenerational transmission of gambling and other addictive behaviors: Implications of the mediating effects of cross-addiction frequency and problems. *Addictive Behaviors*, 135, 107460.