

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

Report to the
Division of Gaming Enforcement
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Glossary

High frequency gamblers: Respondents who gambled once a week or more in the past year.

High risk problem gamblers: Respondents who gambled in the past year and endorsed 8+ problem gambling symptoms on the PGSI. These gamblers would be classified as “disordered” gamblers or as having “gambling disorder” in other studies.

Low frequency gamblers: Respondents who gambled less than once a month in the past year.

Low-risk problem gamblers: Respondents who gambled in the past year and endorsed 1 to 2 problem symptoms on the PGSI.

Mixed Venue Gambler: Gambled online and in land-based venues.

Moderate frequency gamblers: Respondents who gambled once or twice a month in the past year.

Moderate risk problem gamblers: Respondents who gambled in the past year and endorsed 3 to 7 problem gambling symptoms on the PGSI.

Non-gamblers: Respondents who indicated they had not gambled on any form in the past year.

Non-problem gamblers: Respondents who gambled in the past year but did not endorse any problem gambling symptoms on the PGSI.

Panel: Groups of survey respondents 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.

Executive Summary

Overall, nearly 70% of New Jersey residents reported gambling in the past year, though percentages varied by region and demographic variables. A majority of those who gambled did so at land-based venues (75.5%). Only 5.3% of the sample exclusively gambled online, though 19.2% gambled at both online and land-based venues.

The prevalence rate of gambling disorder in the total sample was 6.3% – about three times higher than the average rate in other population samples. In addition, 14.9% of the sample reported gambling problems, which is also nearly three times higher than the average rate across studies. These findings are largely due to the high rate of gambling problems in the online panel sample, which reported a rate of 10.5% for disorder and 21.6% for problem gambling. In contrast, the rate of gambling disorder in the telephone sample was well below average. 0.3%, and the problem rate was about average, 5.7%. For purposes of comparison, however, it is important to note that some prevalence studies continue to conduct data collection using only random digit dialing of land-line phones; this methodology can grossly underestimate the prevalence rate because it excludes those who use only cell phones, that is, younger adults and ethnic minorities who traditionally have higher rates of gambling and gambling problems.

Region:

- The Greater Atlantic City and Southern Shore regions reported the highest percentages of past-year gamblers (72.2% and 76.4%), followed by the Skyland and Shore regions (72.1% and 71.3%).
- The Greater Atlantic City Region reported the highest percentage of those who only gambled online as well as those who gamble online and at land-based venues.
- About 80% of respondents in the Shore Region gambled only at land-based venues; this was the highest rate of any region and significantly higher than Greater Atlantic City but not other regions.

Gender:

- Men (72.8%) were significantly more likely than women (66.9%) to have gambled in the past year and to gamble either online-only or online and at land-based venues.
- A higher proportion of women (84.3%), compared to men (67.2%), endorsed land-based only gambling.
- Overall, men were over-represented in the high frequency (once a week or more) group and women, in the low frequency (less than once/month) group.
- Women primarily endorsed a preference for purchasing scratch-off and lottery tickets and playing bingo. Men were more likely than women to engage in sports betting, live poker, casino table games, and bet on horses; older men, however, endorsed a preference for gaming machines.

- Men averaged slightly more gambling activities than women (3.4 v 2.6) and were overrepresented in all the problem gambling categories (low, moderate and high-risk); in contrast, women comprised a larger proportion of non-problem gamblers.

Age:

- The spectrum of gambling problems was proportionately represented across all age categories, except for the two oldest where rates were lowest. Only 7.7% of moderate risk problem gamblers were 55 to 64-years-old and only 3.1% of 55 to 64-year-olds would meet criteria for gambling disorder (high risk problem). Similarly, only 9% of moderate risk problem gamblers and 0.9% of high risk problem gamblers were 65 years and older, the lowest proportion of any age category.

Race/Ethnicity:

- About 71% of White, compared to 69% of Hispanic and 68.6% of Black or African American respondents, reported gambling in the past year. Those who endorsed Asian/Other reported the highest rates of gambling online-only (9.1%), followed by Hispanics (6.9%). Asians also reported the highest rates of mixed (online and land-based) gambling (30.3%), followed by Hispanics (29.4%), though each constituted just 12% of all mixed venue gamblers. Whites again made up the highest overall proportion of land-based gamblers (65.3% of total); of those White gamblers, 80.7% gambled only in land-based venues, the highest percentage of any race, followed by Black or African Americans (77.9%).
- A significantly higher proportion of Whites as compared to other groups gambled less than once per month. Hispanics were overrepresented among high-frequency gamblers (once a week or more), followed by Asian/Other and Black or African Americans.
- Overall, rates of problem gambling were highest among Hispanics, with 16.2% classified in the high-risk problem gambling group, followed by Asian/Others (14.1%). Overall, Whites (76.1%) were significantly more likely than other groups to be classified as non-problem, and Black or African Americans (18.5%), as low-risk problem gamblers.

Marital Status and Household Income

- A majority of those who gambled at any venue were married. Proportionately, however, single gamblers were overrepresented among online-only gamblers, and divorced, separated or widowed gamblers were overrepresented among both land-based and mixed (online and land-based) venue gamblers.
- High risk problem gamblers were significantly less likely to be divorced/separated/widowed than other groups. In contrast, moderate risk problem gamblers were more likely to be single/never married than to be married or divorced, separated or widowed.
- Gambling participation increased with household income, up to the threshold of \$69,999, where 76.1% of respondents endorsed gambling. Rates were significantly

higher in the online panel, where respondents reported increasing rates of participation through \$149,999.

- Individuals reporting the lowest household income also reported the lowest rate of past-year participation in gambling; however, those who made less than \$15,000 per year were also the most likely to gamble exclusively online.
- Households reporting \$100,000 to \$150,000 in income had the highest rates of both online and land-based gambling and the lowest rates of gambling exclusively online or on land.

Education:

- By education level, participants with a high school diploma or GED reported the highest rate of gambling involvement, followed by those who had some college.
- Gambling rates were lowest among those in the highest (Master's, Doctorate) and lowest (<HS or GED) educational brackets.
- In the online panel, those with a professional degree beyond a Bachelor's degree or some college were the most likely, and those with less than a high school education or GED were least likely to have gambled in the past year.
- In the phone panel, rates of gambling were highest among those with a two or four year college degree and lowest among those with less than a high school education or GED.
- Those with a Master's or Doctorate degree were the most likely to gamble only online and those with a professional degree beyond a bachelor's were the least likely. However, nearly 30% of those with less than a high school education or GED gambled both online and on land, followed by those with a professional degree beyond college.
- Gamblers with more than a year of college were the most likely to gamble in land-based venues, followed by those with a high school diploma or GED and less than a year of college.
- Gambling problems occurred across the spectrum of education levels, however, problem gamblers were significantly more likely than other groups to have less than a high school education or GED, but they were also overrepresented among those with professional and doctorate degrees in the online panel only.

Employment:

- Three-fourths of those who were employed for wages reported past-year gambling, followed by those who were self-employed or out-of-work less than one year.
- The lowest rates of gambling participation were found among those who were retired, unable to work, or students.

Online versus Land-Based Gambling

- About 5.3% of gamblers (n=134) gambled exclusively online and 19.2% (n=487) gambled both online and at land-based venues.
- A majority of high frequency gamblers gambled both online and in land-based venues, followed by online-only and land-based only.
- The average gambler in the study participated in three gambling activities. Those who gambled only at land-based venues endorsed slightly more than two activities, and those

who gambled only online endorsed three activities. However, those who gambled at mixed venues indicated they gambled on nearly six activities.

- Problem gambling severity was highest in the mixed group (land-based and online), followed by online-only and land-based only gamblers.
- A majority of online gamblers reported gambling before gambling was legal in New Jersey, but one-third indicated they began gambling after legalization.
- The most influential factors in initiating online gambling were, in rank order: convenience, 24-7 access, the comfort of gambling from home, prizes such as bonuses and free credits, and use of free play or social media sites.
- Online gamblers listed the main advantages as, in rank order: convenience, 24-7 access, comfort, freedom from driving to land-based venues, and privacy/anonymity.
- The main disadvantages, according to online gamblers, were, in rank order: ease of spending money online, “more addictive” than land-based gambling, concerns about account safety online (money, personal information), and difficulty judging the fairness of the games.
- More than 31% of online gamblers indicated they gambled online from work or during work hours; of those gamblers, 40% gambled one or two days a week and nearly 24% gambled three to five days per week.

Problem Gambling

- In this study, frequency of reported gambling, the number of gambling activities, and mixed play (online and land-based) was highly correlated with severity of gambling problems.
- Nearly half of non-problem gamblers (42.4%) gambled less than once per month (low-frequency). However, among the low risk, moderate risk, and high risk problem gambling groups, rates of high frequency gambling were 51.6%, 61.3% and 89.4%, respectively.
- The number of gambling activities, likewise, increased significantly with level of gambling problem severity: from two activities for non-problem, to more than three for low risk, four for moderate risk, and seven for high risk problem gamblers who would classify as disordered.
- Rates of problem gambling in the online panel were high, particularly among the online-only and mixed venue groups, where more than a third of gamblers had some level of gambling problem.
- In the phone panel, rates of problem severity were considerably lower, with only 3.6% of those who patronized both land-based and online (mixed) venues reporting serious gambling problems that would likely meet criteria for disorder. However, even in the phone panel, a significant proportion of respondents reported gambling problems, ranging from 8.3% in land-based only sample to 19.6% in the online and 27.8% in the mixed-venue samples.
- By gambling activity, the highest percentage of high-risk problem gamblers bet on live poker (43.2%), followed by sports (41.9%) and other games of skill (33.5%); only 10.7% of problem gamblers played the lottery. Moderate risk problem gamblers were most likely to favor sports betting (18.6%) followed by bingo (14.2%) and games of skill (14.1%) and

they were least likely to purchase lottery tickets (9.2%). However, among non-problem gamblers, lottery (66.9%) and instant scratch-offs (60.5%) were the two most frequently endorsed activities.

- Within problem severity categories, a significantly higher proportion of high risk problem gamblers, compared to other gamblers, gambled on all gambling activities. Similarly, non-problem gamblers had the lowest overall rates of participation across activities.

Substance Use, Addictive Behaviors, and Mental Health Issues

- Compared to non-gamblers, gamblers were significantly more likely to use tobacco, alcohol and illicit drugs as well as to binge drink and report problems with drugs or alcohol. More than three-fourths of gamblers drank, and nearly 20% endorsed binge drinking. They were also significantly more likely than non-gamblers to report problems with addictive behaviors.
- Respondents who gambled in mixed venues (online and land-based) reported significantly higher rates of tobacco use, binge drinking, illicit drug usage, and problems with drugs or alcohol, overeating and sex or pornography. Mixed venue gamblers also reported the highest rates of suicidal ideation (9.6%) and suicide attempts (6.0%), followed by those who gambled online-only (6.1%, 3.7%, respectively).
- High risk problem gamblers, those who would likely meet criteria for disorder, had the highest rates of smoking, binge drinking, illicit drug usage, problems with drugs or alcohol, overeating, sex or pornography, and excessive exercise. They also had the highest rates of serious mental health problems in the past month (42.7%), suicidal ideation (20.3%) and suicide attempts (15.4%). The rates of suicidality, which increase with gambling problem severity, are particularly notable when compared to those for non-problem gamblers, where only 1.2% reported contemplating and 0.2% reported attempting suicide.

Daily Fantasy Sports:

A total of 336 respondents in the sample indicated that they had played daily fantasy sports (DFS) in the past year. Of those, all but seven also gambled.

- Men who played DFS outnumbered women four-to-one and were slightly more likely to gamble online than women, who were more likely to gamble only at land-based venues.
- More than half of the sample of DFS players gambled on gaming machines, bingo, live casino table games, other games of skill, sports, and horses.
- Notably, 95% of the DFS players who were also high risk problem gamblers gambled once a week or more often (high frequency), and none were low frequency gamblers. Indeed, across categories, DFS players who gambled were mostly in the high frequency group (69.6% to 95.0%), with only 1.7% of the moderate risk, 10.7% of the low risk, and 3.5% of the non-problem gambling groups indicating they gambled less than once per month (low frequency).
- DFS players were, on average, 25- to 44-years-old, White or Hispanic, married or living with a partner, college educated, middle income earners, and employed.

- Gamblers who played DFS reported significantly more substance use, behavioral problems and mental health issues than non-DFS gamblers. For example, half the sample used tobacco, four-fifths used alcohol, and one-third reported binge drinking and using illicit drugs. DFS players were more than twice as likely as other gamblers to endorse problems with overeating, nearly four times more likely to have problems with sex and pornography, and five times more likely to exercise excessively. More than one-fourth of DFS players reported serious mental health issues in the past 30 days, twice as many as other gamblers.
- Notably, 13.9% of DFS players reported suicidal ideation, compared to just 1.8% of other gamblers; 9.2% of DFS players indicated they had attempted suicide, compared to 0.5% of other gamblers.

Introduction

In 2013 the State of New Jersey became the third state to legalize Internet gambling for those located in the state. At that time, the Center for Gambling Studies was commissioned to submit four annual reports, examining the yearly demographics and player patterns of online gamblers in New Jersey. Internet player data lacks measures of gambling problem severity; therefore, while it is possible to develop player patterns that are statistically correlated with higher frequency, duration, and expenditures on play, it is not possible to identify players who would meet clinical criteria for gambling disorder. For this reason, the researchers undertook a state-wide prevalence study to better understand the relationship of play patterns and gambling behaviors to gambling problem severity.

This report presents results from the first of two prevalence studies, 18 months apart, which examine 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 such as daily fantasy sports. The second prevalence study is scheduled for data collection in 2017. Ideally, such a population prevalence study would have been conducted at “baseline” before the introduction of Internet gambling. However, the current study was conducted within the first full year of play and provides a basis for understanding the prevalence of gambling and each activity, the prevalence of problem gambling across levels of severity, and the relationship of frequency, venue choice and other factors to problem gambling severity. This information is a useful complement to Internet gambling data because it provides context for examining online gambling behavior in light of more traditional play. Findings have public policy implications for estimating the number of problem gamblers in need of treatment, types of services needed for specific populations, and the types of gambling most strongly associated with problem gambling. In addition, changes in the prevalence of problem gambling from one time period to the next, and/or differences between the prevalence in one jurisdiction relative to another, provide important information about the potential effectiveness of policies implemented to mitigate gambling’s harm (Volberg, 2007).

Overview of Project and Methods

This report includes a review of epidemiological research on gambling, a presentation of the results of both an online and telephone survey of New Jersey residents about their gambling habits and related behaviors, examination of daily fantasy sports play, 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 in New Jersey and implications for future expansion. The Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (Ferris & Wynne, 2001) was used to assess level of gambling problems. The survey of New Jersey residents examines 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 explores the

relationship of problem gambling severity to gambling frequency, preferred gambling venues, and comorbid health conditions, as well as employment, financial and interpersonal problems.

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 was the lead investigator with Dr. Rachel A. Volberg of Gemini Research, who has conducted a majority of the gambling population prevalence studies world-wide. The CGS research team included Kyle R. Caler, project officer, Dr. Rongjin Guan, statistician, and Jose Ricardo Vargas Garcia, research associate. Leger, the Research Group, under the direction of Simon Jaworski, conducted the data collection for the project under the direction of Drs. Nower and Volberg.

Background Literature

Over the past 30 years, a number of U.S. states and global jurisdictions have commissioned population prevalence studies to examine the prevalence of problem gambling behavior. Williams and colleagues (2012) estimate that approximately 200 prevalence surveys have been completed since 1975. In general, reports estimate between 78% and 86% of adults in the U.S. will gamble in their lifetimes, 63% to 82% in the past year (Kessler et al., 2008; Gerstein et al., 1999; Welte, Barnes, Wieczorek, Tidwell, & Parker, 2002). A majority of these adults will gamble occasionally and for recreation only. However, a proportion of those who gamble will do so to excess, resulting in serious adverse consequences such as unemployment, divorce, bankruptcy, criminal charges, and homelessness (National Research Council, 1999).

The prevalence of gambling disorder and sub-threshold problem gambling varies widely among jurisdictions, due primarily to differing sampling methodologies, assessment tools, and methods of analysis, as well as cultural and geographically-based differences. In a worldwide review of prevalence studies, Williams, Volberg, and Stevens (2012) reported that the standardized past year rate of problem gambling, which includes gambling disorder, ranges from 0.5% to 7.6%, with a mean of 2.3%. Lower than average rates have been reported in Great Britain, South Korea, Iceland, Hungary, Norway, France, and New Zealand. The United States, Canada, Australia, Sweden, Switzerland, Estonia, Finland, and Italy report average rates. Above average rates have been found in Belgium and Northern Ireland with the highest prevalence rates observed in Singapore, Macau, Hong Kong, and South Africa (Williams et al., 2012).

In the U.S., researchers have published six national population prevalence studies (Gerstein et al., 1999; Kallick, Suits, Dielman, & Hybels, 1979; Kessler et al., 2008; Petry, Stinson, & Grant, 2005; Welte, Barnes, Tidwell, Hoffman, & Weiczorek, 2015; Welte, Barnes, Weiczorek, Tidwell, & Parker, 2001). Two meta-analyses have also reported on state and regional prevalence data (National Research Council, 1999; Shaffer, Hall, & Vanderbilt, 1997). In addition, 31 states have commissioned prevalence studies, with higher rates of gambling problems typically reported in states with greater gambling availability: Louisiana, Minnesota, Mississippi, Nevada, and New Jersey (Williams et al., 2012). Rates of problem and disordered gambling in the U.S. range from 0.9 to 8.1, with an average rate of 2.2 (Williams et al., 2012). Overall, rates of problem and disordered gambling rose during periods of rapid gambling expansion in the 1980s and 1990s.

Rates appear to have leveled off in the past 10 years (Horváth and Paap, 2012; Welte et al., 2015, Williams et al., 2012), although studies have identified higher prevalence rates among those in closer proximity to gambling venues (Gerstein et al., 1999; Shaffer, LaBrie & LaPlante, 2004; Welte et al., 2007). Higher rates of problem gambling are still prevalent in areas with increased access to casinos, lotteries and other forms of gambling.

In one recent national study, Welte and colleagues (2015), compared the results of two telephone surveys conducted with U.S. adults in 1999-2000 and in 2011-2013. The researchers reported that past-year gambling decreased from 82.2% to 76.9% over the 12-year period and that only internet gambling participation increased during that time, from 0.3% to 2.1%. The authors noted that problem gambling increased significantly among men (4.15% to 6.8%) but decreased slightly among women (2.9% to 2.5%) over time. Rates of problem gambling were highest among younger adults (aged 18 to 30) and among those in the lowest socioeconomic group (Welte et al., 2015).

New Jersey has a long history of gambling, dating back to the opening of Freehold Raceway in the 1930s. As noted above, in 2013, New Jersey became the third state to sanction and regulate online gambling, after Nevada and Delaware. Only one study has directly examined gambling behavior and prevalence of disorder in New Jersey using validated instruments (Volberg & Steadman, 1989). Findings from a telephone survey of 1,000 participants classified 2.8% of participants as problem gamblers and 1.4% as pathological gamblers, that is, likely to meet clinical criteria for the disorder (Volberg & Steadman, 1989). In 1999, 150 land-based casino patrons from New Jersey and Nevada were included in a national prevalence study, which reported that 7.9% of participants met clinical criteria for gambling disorder, 5.3% had gambling problems and 14.3% were at risk for problems (Gernstein et al., 1999). Findings from a random digit dialing telephone survey that included New Jersey residents reported the past-year rate of disorder at 0.1%, and the problem and at-risk rates at 0.4% and 2.3%, respectively.

Worldwide, it is estimated that 0.1% to 13% of the adult population gambles on the Internet (Broda, et al., 2008; Sproston, Hing & Palankay, 2012, Wardle et al., 2011; Wood & Williams, 2011). Regulatory standards worldwide vary considerably, from those that are focused on player protection (e.g., U.K, New Jersey) to those that are, essentially, unregulated (e.g. Costa Rica) (Wiebe & Lipton, 2008). However, in most jurisdictions, rates of online gambling are increasing, due, in part, to the potential for higher wins and faster play in a convenient and relatively anonymous environment (Wood & Williams, 2009). Online gamblers tend to be male, younger, and employed with higher average household incomes (Wood & Williams, 2009). Studies have identified higher rates of risk-taking behavior, greater consumption of alcohol and illicit drugs, and higher levels of problem gambling severity among online gamblers (Kairouz, Paradis, & Nadeau, 2012; Wood & Williams, 2011). However, compared to land-based gamblers, online gamblers also typically engage in a higher number of gambling activities, both online and on land (Gainsbury et al., 2012); this makes it difficult to assess whether online gambling is simply an additional medium for highly involved gamblers or whether online play has a role in moving individuals from recreational gambling to problematic play.

Methodology

Telephone Survey

The Center for Gambling Studies at the Rutgers University, School of Social Work, together with Leger, a market research firm with corporate headquarters in Montreal and a United States office in Fort Washington, Pennsylvania, administered a 16-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 quotas¹
- 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 at their most recent birthday
- Re-contacting 'soft refusals' to determine if they would be willing to participate
- Use of a short (average of 16 minutes) interview to help increase the chances of participation
- Use of bilingual interviewers, where appropriate, to administer the interview to a respondent 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 November 17 and December 16, 2015. Among the 1,500 completes obtained from the telephone interviews, 1,050 were completed with a respondent on a landline telephone, while 450 interviews were completed by contacting a respondent on a cell phone (mobile phone).

Telephone Response Rates

¹ During the field period, counts were provided by age (18-24; 25-34; 35-44; 45-54; 55-64; 65+), gender (male, female), ethnicity (White, Black/African American, Asian, Other), and for Hispanic vs. non-Hispanic.

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 number of completed interviews divided by the estimated number of eligible respondents (see Table 1). The obtained response rate for land-line and cell phones in the present study was 5.3%.

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	15,581
TERMINATES	1,485
ELIGIBILITY NOT DETERMINED (ND) TOTAL Line busy/never answered/household refusal/other refusals	76,789
Refusals (Soft refusals, hard refusals, do not call list)	15,342
Completed Interviews	1,500
ELIGIBLE TOTAL (Completes + Refusals)	16,842
ELIGIBILITY RATE ELIGIBLE TOTAL <u>16,842</u> ÷ (ELIGIBLE TOTAL <u>16,842</u> + INELIGIBLE TOTAL <u>15,851</u>)	51.5%
ESTIMATED # OF ELIGIBLES ELIGIBLE TOTAL <u>16842</u> + (ELIGIBILITY ND TOTAL <u>76,789</u> x ELIGIBILITY RATE <u>51.5%</u>)	56,400
RESPONSE RATE COMPLETED INTERVIEWS + TERMINATES (1,500 + 1,485 = <u>2,985</u>) ÷ ESTIMATED # OF ELIGIBLES <u>56,400</u>	5.3%

Final Sample Disposition

The final sample disposition and response rates are provided in Tables 2 and 3. A total of 1,500 surveys were completed via telephone overall.

Table 2. Telephone Sample Final Disposition

Label	Disposition	Final Frequency	%
I	Answering Machine	18,773	19.9%
NR	Business Number	289	0.3%
NC	Busy	217	0.2%
D	Disconnected #	10,600	11.3%
U1	Language Barrier	2793	3.0%
C	Complete	1,500	1.6%
NC	Fax or Modem	79	0.1%
ER	Refusal	15,342	16.3%
ER	Interviewer Terminate	34	0.0%
NC	No Answer	37,991	40.4%

ER	Partial (Respondent Terminate)	119	0.1%
ER	Schedule Callback	4466	4.7%
J	Terminates (Over quota)	1,373	1.5%
J	Terminates (Refused Age or Race)	112	0.1%
J	Wrong Number/Changed Number	452	0.5%
Grand Total		94,140	100.0%

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

Final Sample			
Label	Category	Count	%
C	Interview Complete	1,500	1.6
ER	Interview Eligible, Incomplete	19,961	21.2
D	Non-Working	10,600	11.3
I	Answering Machine	18,773	19.9
J	Ineligible Households	1,937	2.1
NC	Non-Contact	38,287	40.7
NR	Non-Residential	289	0.3
U1	Known Households, Unscreened	2,793	3.0
	Total	94,140	100
Resolution Rate: $(C+ER+D+J+NR+U1)/(Total)$		39.4%	
Screener Rate: $(C+ER+J)/(C+ER+J+U1)$		89.3%	
Interview Rate: $C/(C+ER)$		7.0%	
CASRO Response Rate: Resolution Rate x Screener Rate x Interview Rate		2.5%	

Online Panel Survey

It is increasingly common to bolster, if not replace completely, telephone-based surveys with the use of online panels for research. Traditional telephone surveying continues to have a short, limited future because of escalating costs amidst the ongoing decline in telephone survey response rates, the emergence of national ‘do-not-call’ registries, and the growth in cell phone-only households in lieu of landlines.

In recent years, survey research firms have created ‘online panels,’ composed of hundreds of thousands of individuals who have agreed to receive online solicitations to participate in various online surveys in return for compensation (most often, a collection of ‘points’ that have some cash value). When an individual joins one of these panels, information is collected concerning his/her demographics. Subsequently, when a group is needed for a particular survey (in this case, ‘representative sample of adults in the state of New Jersey’), the survey is only sent out to this selected subsample. Online panels are now frequently used in market research, but tend to be less common in academic studies.

There are a number of advantages to using online panel surveys. First, using online panel surveys facilitates the validity of answers to 'sensitive questions' (such as those included in this survey related to gambling, substance use and mental health issues) which tend to be higher in self-administered formats. An additional advantage of using online panel surveys is that the respondents have agreed to be and, therefore, expect to be contacted (contrary to respondents of telephone surveys). Conducting surveys online is cost-effective also expedites turnaround time; the field periods for online survey are typically much shorter than those from telephone surveys. Lastly, given the need to investigate differences in online-only versus land-based-only versus mixed venue gamblers, it was critical to include online respondents who may be more representative of players with higher technological efficacy and a possible interest in online gambling.

Similar to telephone surveys, research with online panels is not without limitations. Historically, online panels were hampered by underrepresentation of minorities, who may have limited Internet access. However, the advent of wireless technology, the pervasiveness of Internet access in libraries and other non-pay settings as well as bundled with cell phone service has largely addressed that limitation. A primary concern centers on the use of online panelists who are, essentially, a self-selected group of volunteers who may or may not be fully representative of the general population. Other issues particular to online panel surveys include the optimal way of creating online panels, the effects of different types and magnitudes of rewards, the appropriate number of contact/request attempts, and the effects of nonresponse.

Given the inherent limitations of both telephone and online methodologies, this study opted to utilize both. A comparison of the results obtained via the telephone panel sample versus the online panel sample in the present study indicates that online panelists have higher rates of mental health problems and addictions (including problem gambling), which could suggest that volunteer panelists have higher levels of psychopathology or that the online methodology is more likely than telephone contact to invite more honest responding.

For the online survey, Leger sent email invitations with an Internet link to complete a self-administered, 18-minute online survey to a random sample of panelists in New Jersey from November 6 through November 17, 2015. Although the objective was to achieve an online sample of 2,000 respondents, Leger completed the survey with a final count of 2,134 completed interviews (see Table 4).

Table 4. Survey Quota Objectives

		Objective	Phone	Online	Combined	Difference from Objective
Gender	Male	49%	48%	50%	49%	-
	Female	51%	52%	50%	51%	-
Age	18-24	11%	12%	15%	14%	+3%
	25-34	18%	15%	21%	19%	+1%
	35-44	21%	19%	21%	20%	-1%
	45-54	19%	20%	18%	19%	-
	55-64	13%	14%	12%	13%	-
	65+	18%	19%	13%	15%	-3%
Ethnicity	White	74%	74%	77%	75%	+1%
	Black/African American	15%	14%	11%	12%	-3%
	Asian	9%	6%	6%	6%	-3%
	Other	2%	6%	6%	7%	+5%
Hispanic	Hispanic	19%	19%	18%	18%	-1%
	Non-Hispanic	81%	81%	82%	82%	+1%
Region	Gateway	48%	48%	47%	47%	-1%
	Skyland	13%	13%	14%	14%	+1%
	Shore	14%	14%	14%	14%	-
	Delaware River	19%	19%	19%	19%	-
	Greater Atlantic City	3%	3%	3%	3%	-
	Southern Shore	3%	3%	3%	3%	-

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), ethnicity (White, Black/African American, Asian, Other), and for Hispanic vs. non-Hispanic.
- Geographically, region counts were also looked after during the field period of this study (Gateway, Skyland, Shore, Delaware River, Greater Atlantic City, and Southern Shore).
- A short (average of 18 minutes) interview 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 both as a combined data set, weighted to the targets found in the objectives column of Table 4 and as separate panel results. For combined results, post-hoc weighting was employed to compensate for sampling deviations from age, gender, and ethnicity distributions for the State of New Jersey.

Gambling Participation

Key Terms

The term “gambling” is often used interchangeably with the term “gaming.” In research, “gaming” typically refers to video and other interactive or electronic game forms that do not require money to play. Therefore, for the sake of continuity, we will use the term “gambling” to connote commercial land-based or online wagering. The one exception to this labeling is the term “gaming machines,” which traditionally refers to slots or video poker machines. A glossary is also provided at the beginning of this report.

The nature and extent of gambling participation is measured and evaluated in several ways. First, it is important to identify the frequency of play across activity types available to residents of New Jersey: gaming machines (slot machines, video poker machines), roulette, poker, bingo, horse racing, sports betting (currently illegal in NJ), other skill games, and other forms. “Gambling frequency” measures how often an individual gambles in the past 12 months: “low-frequency” (less than once per month), “moderate frequency” (once or twice per month) and “high frequency” (once a week or more). Throughout this report, the term “gambler” is used to designate those respondents who endorsed some form of gambling (betting, wagering or playing games for money) in the past 12 months; non-gamblers are those who endorsed no gambling activities in the past year. This study did not measure lifetime prevalence of gambling, because the focus is on determining the current prevalence and changes in that rate over time.

Where possible, this report will offer statistical percentages for the overall sample by category (e.g., the percentage of each age group that endorses gambling) as well as within groups by category (e.g., the percentage of gamblers who fall in each age group) either in the text or table. Tables will vary based on the relationship of interest, which will be identified in the headings. It is also important to note that the 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 sample.

Regions

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. 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

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

Southern Shore- Cape May and Cumberland counties

Past-Year Gambling: Demographics

Overall, a majority of respondents in New Jersey reported gambling in the last 12 months (69.8%). Only 5.3% of gamblers in the state reported gambling exclusively online; however, nearly one in five gamblers (19.2%) gambled at both online and land-based venues. A significant majority of respondents, 75.5%, gambled only at land-based venues at the time of this study.

As indicated in Table 5, there were no significant differences among those who endorsed past-year gambling by region. The Gateway Region contains two- to three-times the population of other regions, however, the proportion of gamblers in that region is consistent with that of other regions. The Greater Atlantic City and Southern Shore regions reported the highest percentages of gamblers (75.2% and 76.4%, respectively), followed by the Skyland and Shore regions (72.1% and 71.3%). Online panel participants reported significantly higher rates of gambling than phone participants in every region.

By venue type, significantly more gamblers in the Greater Atlantic City Region reported gambling online-only or gambling in mixed venues (online and on land). About 80% of respondents in the Shore Region gambled only at land-based venues; this was the highest rate of land-only gambling in any region (Table 5).

Table 5. Past-Year Gamblers by Region and Venue Type

Region	Gambled Past-Year N=3634			Panel Type				Venue Type					
				Online n=2107		Phone n=1527		Online n=134 (5.3)		Land-Based n=1915 (75.5)		Online & Land-Based n=487 (19.2)	
	%Yes	%No	N	%	n	%	n	%	n	%	n	%	n
Greater Atlantic City	75.5	24.5	110	89.1*	64	56.5	46	7.2	6	60.2*	50	32.5*	27
Delaware River	68.4	31.6	687	76.4*	398	57.4	289	4.9	23	77.7	365	17.4	82
Gateway	68.5	31.5	1744	75.9*	1004	58.5	740	5.8	69	74.2	887	20.0	239
Shore	71.3	28.7	494	79.0*	291	60.1	203	5.4	19	80.7	285	13.9	49
Skyland	72.1	27.9	494	83.0*	288	56.8	206	4.8	17	75.5	268	19.7	70
Southern Shore	77.1	22.9	105	85.2*	61	65.9	44	1.2	1	74.1	60	24.7	20

* $p < .02$

Overall, 69.8% of the total sample reported gambling in the past year (78.0% of the online and 58.4% of the telephone panel) (Table 6). The most popular gambling activity was purchasing lottery tickets, endorsed by nearly 80% of survey respondents, followed by instant scratch-off tickets (63.9%), gaming machines (31.2%), and live casino table games (21.1%). Those preferences were generally consistent by panel type, though the online panel endorsed bingo above live casino table games. A consistently higher proportion of online versus phone panel members endorsed every type of gambling activity.

Table 6. Past-Year Gambling Participation by Activity and Panel Type

Gambled Past Year:	Total Sample N=3634		Online Panel n= 2107		Phone Panel n= 1527	
	%	n	%	n	%	n
% Yes	69.8	2536	78.0	1644	58.4	892
Gambling Activity (gamblers only)						
Lottery	79.6	2019	83.8	1377	72.1	642
Instant Scratch Tickets	63.9	1619	74.0	1216	45.2	403
Bingo	19.4	492	25.5	419	8.2	73
Sporting Events	14.6	369	19.1	314	6.2	55
Horse Race Track or Off Track	14.9	377	18.1	297	9.0	80
Live Poker or Poker Tournament	11.6	294	13.9	229	7.3	65
Live Casino Table Games	21.1	534	22.9	377	17.6	157
Games of Skill	16.2	412	20.5	337	8.4	75
Gaming Machines (slots, video poker)	31.2	792	35.9	590	22.6	202

By gender, men in the total sample were significantly more likely than women to endorse past-year gambling (72.8% and 66.9%, respectively). In addition, both men and women in the online sample reported higher rates of gambling participation than those in the phone sample (Table 7). Percentages among venue types also differed by gender, with more than twice as many men as women gambling online- only (7.3% v 3.1%) or in mixed venues (25.5% v 12.6%). In contrast, significantly more women (84.3%) than men (67.2%) endorsed land-based only gambling.

Table 7. Percentage of Past-Year Gamblers Overall, by Gender and Panel Type

Region	Gambled Past-Year n=3634			Panel Type				Venue Type					
				Online n=2107		Phone n=1527		Online Only n=134 (5.3)		Land-Based Only n=1915 (75.5)		Online & Land-Based n=487 (19.2)	
				%	n	%	N	%	n	%	n	%	n
Male	72.8*	27.2	1781	77.8*	1050	65.5	731	7.3*	96	67.2	870	25.5*	330
Female	66.9	33.1	1854	78.2*	1057	51.9	796	3.1	38	84.3*	1045	12.6	157

* $p < .001$

In every age category, women reported a strong preference for lottery tickets and instant scratch-off tickets, followed by gaming machines and bingo, then casino games or other games of skill (Table 8). Rates of participation ranged from a high of 61.8% of 45 to 54-year-old women playing lottery to less than 1% of older middle-aged women (55-64) and older (65+) women playing live poker.

Table 8. Female Gamblers by Age Category and Preferred Gambling Activity

Activity	Total % n= 1855	N	Age Range					
			18-24 n=178	25-34 n=322	35-44 n=397	45-54 n=356	55-64 n=245	65+ n=357
			%	%	%	%	%	%
Lottery	52.8	979	36.5	52.2	56.2	61.8	52.2	48.0
Scratch off	45.4	842	43.3	50.5	50.6	49.3	38.8	36.8
Gaming Machines	20.9	388	11.2	23.6	20.4	22.5	20.8	22.5
Bingo	13.4	248	15.2	19.3	14.6	11.3	9.8	10.4
Live Casino Table games	9.7	182	9.5	18.3	11.1	8.5	6.1	4.8
Other Games of Skill	8.7	161	12.4	12.7	10.1	7.6	3.7	6.2
Sports betting	4.7	87	8.4	10.9	4.5	3.4	0.8	1.4
Horse Race Track betting	6.7	126	5.6	7.8	7.6	9.6	6.5	3.1
Live Poker	3.5	66	6.2	8.4	3.3	2.8	0.8	0.8

Rates of gambling among men were consistently higher than among women (Table 9). The highest proportion of men across all ages in the study endorsed playing lottery and buying scratch-off tickets. Participation in other activities varied somewhat by age, with young men (18-24) preferring sports betting and games of skill and those in the oldest group (65+) expressing a preference for gaming machines. Men in the 25 to 34 age group had the highest percentages of play across activities, reporting a small but non-significant preference for live casino table games, gaming machines, and sports betting (after lottery and scratch-off play).

Table 9. Male Gamblers by Age Category and Preferred Gambling Activity

Activity	Total % n= 1781	N	Age Range					
			18-24	25-34	35-44	45-54	55-64	65+
			n=222 %	n=332 %	n=367 %	n=335 %	n=227 %	n=298 %
Lottery	58.5	1041	42.3	62.0	62.4	66.0	63.0	49.7
Scratch off	43.7	779	40.5	55.1	49.9	44.2	42.3	26.5
Gaming Machines	22.7	404	18.5	31.3	21.5	22.7	16.7	22.1
Live Casino Table games	19.9	354	19.4	33.4	20.2	19.4	14.0	9.7
Sports betting	15.8	282	24.0	28.0	19.7	12.5	3.5	4.7
Horse Race Track betting	14.1	250	13.5	20.5	14.8	12.5	14.5	7.7
Other Games of Skill	14.1	250	24.4	22.9	16.4	7.7	6.2	6.7
Bingo	13.7	244	21.2	25.0	15.6	10.1	6.2	3.0
Live Poker	12.9	230	14.0	22.2	15.3	11.9	3.5	7.0

Gambling participation increased by age until the age of 55. As demonstrated in Table 10, past-year gambling was highest in the 45 to 54 age group, with three-fourths of respondents reporting gambling; percentages were higher in the online panel compared to the phone panel. Respondents in the 18 to 24 age category, particularly in the phone panel, had the lowest rates of gambling participation, followed by respondents 65 years and older. Between the online and phone samples, there were significant differences across all age categories with regard to gambling participation, with online respondents endorsing significantly more gambling than those who responded to the phone survey.

Table 10. Percentage of Gamblers by Age, Panel Type and Venue Preference

Age Range	Gambled Past-Year n=3634		Panel Type				Venue Type					
			Online n=2107		Phone n=1527		Online Only n=134 (5.3)		Land-Based Only n=1915 (75.5)		Online & Land-Based n=487 (19.2)	
			%Yes	n	%Yes	N	%Yes	n	%Yes	n	%Yes	n
18-24	60.8*	400	73.1*	249	40.4	151	7.0	17	61.3	149	31.7	77
25-34	73.2	654	80.5*	431	59.2	233	4.8	23	62.4	299	32.8	157
35-44	71.8	763	82.6*	461	55.3	302	7.3	40	68.8	377	23.9	131
45-54	74.8	691	79.4*	384	69.1	307	4.3	22	81.2	420	14.5	75
55-64	70.1	472	75.4*	260	63.7	212	6.0	20	86.1	285	7.9	26
65+	63.8	654	72.3*	321	55.6	333	2.6	11	92.5*	385	4.8*	20

* $p \leq .006$

As indicated in Table 11, Whites reported the highest proportion (71%) of past-year gambling, though differences were non-significant compared to Hispanics (69%) and Black or African Americans (68.6%), who reported slightly lower rates. Nearly two-thirds of gamblers who

endorsed the ethnicity “Asian/Other” also said they gambled in the past year (64.6%). Asian/Other participants had the highest rates of gambling participation in the online panel (82.5%), followed by Hispanics (79.8%). White respondents had the highest rates of participation in the phone panel (62.6%), followed by Black or African Americans (58.2%).

Table 11. Percentage of Gamblers by Race/Ethnicity and Marital Status

Race/Ethnicity	Gambled Past-Year n=3634		Panel Type			
	%Yes	N	Online n=2107		Phone n=1527	
			%Yes	N	%Yes	n
White or Caucasian	71.0	2179	76.9*	1282	62.6	898
Hispanic	69.0	690	79.8*	397	54.3	293
Black or African American	68.6	449	77.7*	238	58.2	213
Asian/Other	64.6	308	82.5*	183	38.4	125
Refused	75.0	8	75.0	8	0.0	0

* $p < .05$

Table 12 provides the percentage breakdown of each venue type by ethnicity and marital status from two perspectives. Among those who only gambled online, more than half of the gamblers were White (56.7%), followed by Hispanic (24.6%). However, adjusting for the overall proportion of gamblers by ethnicity in the sample, Asian/Others were significantly overrepresented among online gamblers, as 9.1% of Asian gamblers gambled only online, followed by 6.9% of Hispanic gamblers. Whites again made up the highest overall proportion of land-based gamblers (65.3% of total); of those White gamblers, 80.7% gambled only at land-based venues, the highest percentage of any race, followed by Black or African Americans (77.9%). Among those who gambled both online and on land (mixed venue), Asian/Others made up the highest proportion of players (30.3%), followed by Hispanics (29.4%), though they were each only 12% of all mixed venue gamblers.

Similarly, a majority of all gamblers, whether online (55.4%), on land (60.2%) or both online and on land (63.4%) were married. However, single gamblers were overrepresented among online gamblers (7.3%) and divorced, separated or widowed gamblers were overrepresented in the land-based (84.9%) and mixed (11.7%) venues.

Table 12. Percentage Representation by Race/Ethnicity and Marital Status by Venue Type

Race/Ethnicity	Venue Type					
	Online Only n=134 (5.3%)		Land-Based Only n=1915 (75.5%)		Online & Land-Based n=487 (19.2%)	
	Within Category	Across Venues	Within Category	Across Venues	Within Category	Across Venues
White or Caucasian	56.7	4.9	65.3*	80.7*	46.1*	14.4
Hispanic	24.6	6.9	15.9	63.7	28.9	29.4*
Black or African American	5.3	2.3	12.6	77.9	12.6	19.8
Asian/Other	13.4*	9.1*	6.3	60.6	12.4	30.3*
Total	100.0		100.0		100.0	
Marital Status	Marital Status					
Married or living with partner	55.4	4.7	60.2	75.3	63.4	20.0
Divorced, separated, or Widowed	10.0	3.4	16.8	84.9*	9.1	11.7*
Single (never married)	34.6	7.3*	23.1	71.3	27.4	21.4
Total	100.0		100.0		100.0	

There were also significant variations in gambling status by income (Table 13). Overall, gambling participation increased with household income, up to the threshold of \$69,999, where 76.1% of respondents endorsed past-year gambling. Rates were significantly higher among online respondents, who reported increased rates of participation through \$149,999 (83.3%); participation then dropped by 10% among those making \$150,000 or more (Table 13). In the phone sample, individuals reporting a household income over \$70,000 showed varied rates of gambling participation, peaking in the highest income bracket, which reported the highest rate of participation (66.8%). Across groups, individuals reporting the lowest household income also reported the lowest rate of past-year participation in gambling. It is important to note that a proportion of respondents opted not to answer the household income question, which may have affected the results.

Those with a household income of less than \$15,000 per year were also the most likely to gamble exclusively online, followed by those with a household income of \$30,000-49,000 and \$125,000-149,999, though differences were non-significant (Table 13). Households reporting \$100,000 to \$150,000 in income had the highest rates of mixed venue gambling, and the lowest rates of gambling exclusively online or land-based.

Table 13. Ever Gambled in the Past 12 Months by Income

Household Income	Gambled Past-Year n=3634		Panel Type				Online Only n=134 (5.3)		Venue Type		Online & Land-Based n=477 (19.2)	
			Online n=2107		Phone n=1527				Land-Based Only n=1915 (75.5)			
	%Yes	N	%Yes	n	%Yes	n	%Yes	N	%Yes	n	%Yes	n
<= \$15,000*	58.6*	191	61.4	132	52.5	59	7.1	8	77.7	87	15.2	8
\$15,000 - \$29,999	71.0	310	74.9*	207	63.7	102	3.2	7	81.8*	180	15.0	33
\$30,000 - \$49,999	73.0	460	80.2*	329	55.0	131	6.9	23	74.3	249	18.8	63
\$50,000 - \$69,999	76.1	549	83.9*	355	62.1	195	5.0	21	72.6	304	22.4	94
\$70,000 - \$99,999	74.9	626	80.7*	415	63.3	211	5.3	25	74.0	347	20.7	97
\$100,000 - \$124,999	75.8	400	82.6*	259	63.1	140	5.0	15	69.0	209	26.1*	79
\$125,000 - \$149,999	73.3	221	83.3*	120	61.4	101	6.8	11	67.9	110	25.3	41
\$150,000 or more	69.2	412	73.2	164	66.8	247	6.0	17	78.5	223	15.5	44
Prefer not to answer	50.5	467	61.6	126	45.2	341	3.4	8	88.8	206	7.8	18

* $p < .02$

By education level (Table 14), participants with a high school diploma or GED reported the highest overall rate of gambling involvement, followed by those who had some college. Rates were lowest among those in the highest (Masters, Doctorate) and lowest (<HS or GED) educational brackets. In the online panel, those with a professional degree beyond a Bachelor’s degree or some college were the most likely, and those with less than a high school education or GED were least likely to have gambled in the past year. In the phone panel, rates of gambling were highest among those with a two or four year college degree and lowest among those with less than a high school education or GED. Respondents with a Master’s or Doctorate degree were the most likely to gamble only online and those with a professional degree beyond a bachelor’s were the least likely. However, nearly 30% of those with less than a high school education or GED gambled both online and on land, followed by those with a professional degree beyond college. Gamblers with more than a year of college were the most likely to gamble in land-based venues, followed by those with a high school diploma or GED and less than a year of college.

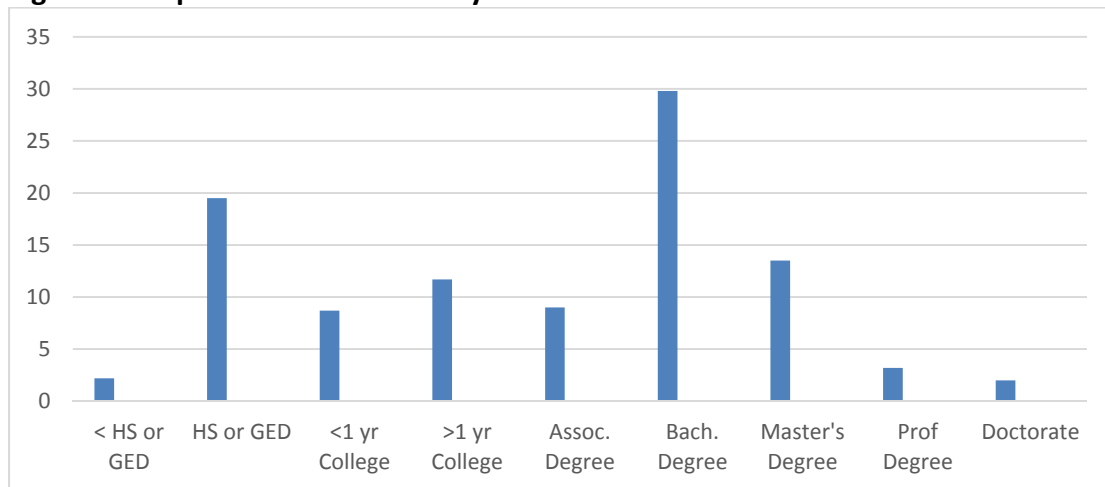
Table 14. Ever Gambled in the Past 12 Months by Education Level

Education Level	Gambled Past-Year n=3598		Panel Type				Venue Type					
			Online n=2083		Phone n=1515		Online Only n=133 (5.3)		Land-Based Only n=1899 (75.5)		Online and Land-Based n=480 (19.2)	
	%Yes	N	%Yes	n	%Yes	n	%Yes	n	%Yes	n	%Yes	n
Less than High School or GED	60.2*	92	70.9*	55	45.9	37	7.0	4	63.2*	36	29.8*	17
High School Diploma or GED	73.5	669	80.0*	421	62.1	248	5.5	27	79.4	389	15.1	74
Some College < 1 year	71.9	306	81.6*	190	56.0	116	5.0	11	77.3	170	17.7	39
Some College > 1 year	70.2	419	81.4*	236	55.7	183	4.4	13	82.1	243	13.5	40
Associate's Degree	69.6	326	75.8*	178	62.2	148	4.4	10	74.6	170	21.1	48
Bachelor's Degree	70.2	1068	75.8*	625	62.3	443	5.5	41	73.7	553	20.8	156
Master's Degree	64.9	524	76.6*	282	51.2	242	6.8	23	71.2	242	22.1	75
Professional Degree beyond Bachelor's	70.8	113	84.5*	58	56.4	55	1.3	1	72.5	58	26.3	21
Doctorate Degree	63.0	81	76.3*	38	51.2	43	5.9	3	74.5	38	19.6	10

*p < .02

Among gambling respondents, those with a Bachelor's degree made up the largest overall proportion of gamblers, followed by those high school/GED and Master's degree (see Figure 1). Those with less than a high school degree or GED and those with a doctorate were the smallest proportion of gamblers.

Figure 1. Proportion of Gamblers by Education Level



Employment was significantly correlated with gambling participation (Table 15). Overall, about three-fourths of those who were employed for wages reported past-year gambling, followed by those who were self-employed or out-of-work less than one year. The lowest rates of gambling participation were found among those who were retired, unable to work, or students. Rates were similar in the online and phone panels, though the proportion of gamblers who were employed for wages in the online sample (81.6%) was significantly higher than in the phone sample (61.8%, Table 15). Individuals who reported being out of work more than one year (67.6%) had the lowest rate of participation in the online sample while students (40.4%) had the lowest rate of participation in the phone sample.

Table 15. Past-year Gambling by Employment Status

Employment Status	Gambled Past-Year n=3586		Panel Type				Online Only n=128(5.3)		Venue Type Land-Based Only n=1892(75.5)		Online & Land-Based n=479(19.2)	
	%Yes	N	%Yes	n	%Yes	n	%Yes	n	%Yes	N	%Yes	n
Employed for wages*	73.3*	1930	81.6*	1122	61.8	808	5.7	80	70.2	993	24.2	342
Self-employed	69.8	298	77.3*	176	71.2	122	7.7	16	71.2	148	21.2	44
Out of work > 1 year	64.3	98	67.6*	71	55.6	27	3.2	2	82.5	52	14.3	9
Out of work < 1 year	67.5	80	79.5*	44	54.1	37	5.5	3	74.5	41	20.0	11
A Homemaker	66.1	224	72.7*	161	48.4	62	1.4	2	85.7	126	12.9	19
A Student	40.5	220	73.6*	125	40.4	94	6.9	9	72.3	94	20.8	27
Retired	33.9	602	74.6*	295	58.0	307	3.3	13	93.0*	371	3.8*	15
Unable to Work	37.3	134	68.4	79	54.5	55	6.0	5	79.8	67	14.3	12

* $p < .02$

Perspectives on Online Gambling

Panel members were asked a series of questions, related to online gambling. It is important to note, that 621 respondents indicated they had gambled online in the past year. However, responses to these questions were not limited to the past year in order to obtain a historical perspective of online gambling. Therefore, some individuals who had gambled online in the past but not in the past year also answered these questions. About 575 respondents indicated they were gambling online prior to 2014 and 21 as far back as 1990. Online gamblers were asked whether the legalization of online gambling in New Jersey affected their decision to gamble. Over 35% (n=252) of 711 respondents who indicated they had gambled online (not necessarily in the past year) stated that they began gambling online because it was legal in New Jersey. However, a majority of respondents, 36.8% (n=264), indicated legalization did not affect them because they were already gambling online. An additional 17.7% (n=126) stated they would have found a way

to gamble whether or not it was legal, and 9.7% (n=69) indicated they didn't know whether online gambling was legal.

Online gamblers were also asked to endorse the factors that influenced them to begin gambling online (Table 16). "Convenience" was ranked the highest by participants (n=191), followed by 24-7 access (n=161), the physical comfort of gambling from home (n=144), price (bonuses, free credit, odds, payout rates; n=137) and use of free play or social media (n=122).

Participants also ranked the relative advantages and disadvantages of online versus land-based gambling. As indicated in Table 16, convenience, 24-7 access, and comfort were listed as the three main advantages of online gambling, followed by the freedom from driving to land-based venues and privacy/anonymity. In contrast, the most frequently endorsed disadvantages to online gambling, according to participants, was that it was easier to spend money online, and they felt online gambling was "more addictive." Online gamblers also indicated they had concerns about account safety online, such as transferring money and revealing personal information, and it was more difficult for them to judge the fairness of the games. Respondents added that it was too easy to gamble at work or home when they should be doing other things. Indeed, 31.6% (n=226) of online gamblers surveyed indicated they had gambled online from work or during working hours; 23.9% of those who gambled at work did so three to five days per week and 40.3% did so one or two days a week.

Table 16. Advantages and Disadvantages of Online Gambling

Rank	Advantages
1	Convenience – more convenient online
2	Access (available 24-7 from any location)
3	Physical comfort of gambling from home
4	Don't have to drive to land-based venues
5	Privacy/Anonymity`
Rank	Disadvantages
1	Easier to spend money
2	More addictive
3	Concerns about account safety (e.g. money and personal information)
4	Difficult to verify fairness of the games
5	Too easy to gamble at work or home when I should be doing other things.

Gambling Activities and Frequency of Play

Gamblers were classified by frequency, that is, how often they gambled. "Low frequency" gamblers gambled less than once a month. "Moderate frequency" gamblers gambled once or twice a month, while "high frequency" gamblers gambled once a week or more.

As indicated in Table 17, a small but non-significant majority of gamblers gambled once a week or more (39.4%, high frequency), followed by less than once a month (33.0%, low frequency), and, finally, once or twice a month (27.6%, moderate frequency). Among online gamblers, more than half were high frequency gamblers (58.2%); for those who gambled at mixed venues (online and on land), the total climbed to two-thirds (67.4%). In contrast, among land-based only gamblers, 40.3% gambled less than once a month, with the remaining proportion of gamblers nearly evenly split between high-frequency and moderate-frequency gamblers (31.0%, 28.8% respectively).

Overall, gamblers participated in an average of three gambling activities, which was similar to the average reported for the online-only gamblers, higher than the land-based only gamblers (two activities) and much lower than the mixed venue gamblers, who gambled on an average of nearly six activities.

Table 17. Percentage Breakdown of Gambling Venue Types by Gambling Frequency

Gambling Frequency	Total N=2536 %	Online Only n=134 %	Land-Based Only n=1915 %	Online and Land- Based n=487 %
Low Frequency	33.0	20.1	40.3*	7.8
Moderate Frequency	27.6	21.6	28.8	24.8
High Frequency	39.4	58.2*	31.0	67.4*
Gambling Forms (Mean/Std)				
# of gambling activities	3.00 (2.369)	3.03 (2.160)	2.31 (1.492)	5.72* (3.149)

* $p < .001$

In the total sample, low frequency gamblers were most likely to endorse playing the lottery, buying instant scratch-off tickets, playing bingo, betting on horses, and playing gaming machines and live casino table games (Table 18). In contrast, high frequency gamblers endorsed the highest percentages of betting on sports, and playing games of skill and live poker games or tournaments. Moderate frequency gamblers did not have the highest rates of participation on any activity.

Table 18. Frequency of Gambling Activities

Gambling Activity (gamblers only) N=2536	High Frequency (Once a week or more) % (n)	Moderate Frequency (Once or twice a month) % (n)	Low Frequency (< once per month) % (n)	Total %(n)
Lottery	33.6 (678)	29.7 (600)	36.7 (741)	100(2019)
Instant Scratch Tickets	28.5 (462)	30.3 (491)	41.2 (667)	100(1620)
Bingo	33.3 (164)	24.3 (119)	42.4 (209)	100(492)
Sporting Events	47.9 (177)	29.3 (108)	22.8 (84)	100(369)
Horse Race Track or Off Track	27.7 (104)	20.7 (78)	51.5 (194)	100(376)
Live Poker or Poker Tournament	37.3 (110)	32.4 (95)	30.4 (89)	100(294)
Live Casino Table Games	20.5 (109)	22.4 (120)	57.1 (305)	100(534)
Games of Skill	38.9 (160)	32.7 (135)	28.4 (117)	100(412)
Gaming Machines (slots, video poker)	15.4 (122)	24.1 (190)	60.5 (479)	100(791)

Figure 2 displays the relative proportion of low-, moderate-, and high-frequency gamblers. Nearly half of all gamblers at all frequency levels resided in the Gateway Region, which is the most densely populated region of New Jersey, followed by Delaware River, Skyland, Shore, Southern Shore and Greater Atlantic City.

Figure 2. Gambling Frequency by Region

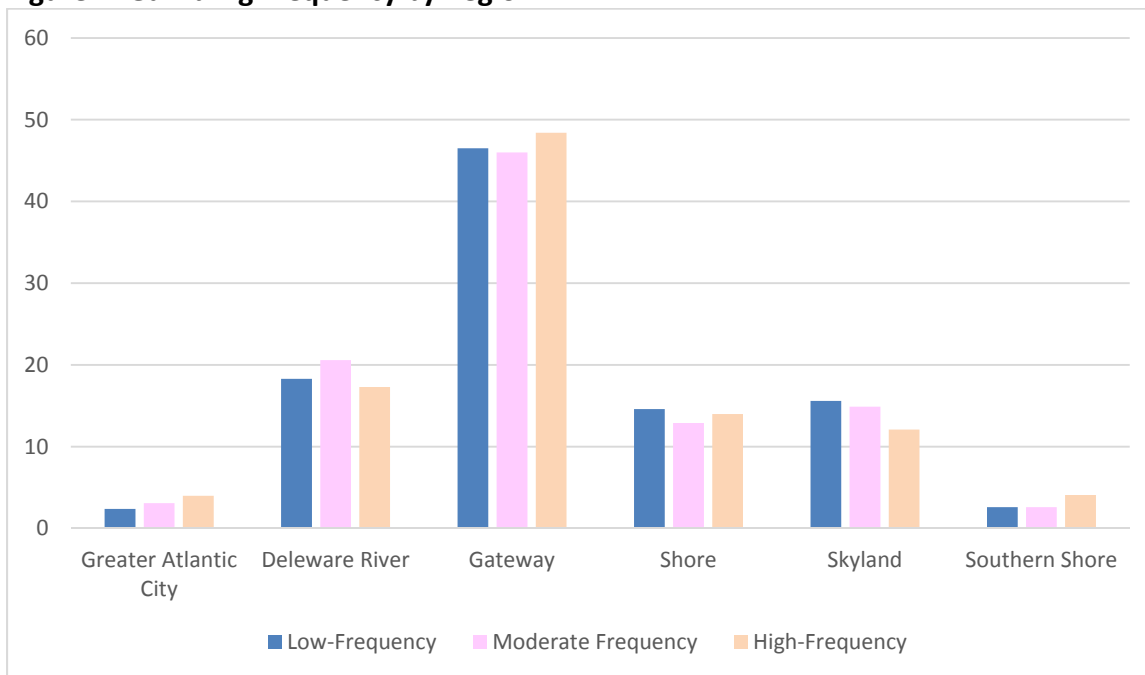


Table 19 presents the percentage breakdown of gambling frequency categories by region, irrespective of overall population rates. This table demonstrates that the two regions with the smallest populations -- Southern Shore (50.6%) and Greater Atlantic (49.4%) – had higher proportionate rates of high-frequency and lower proportionate rates of low-frequency gamblers (27.2% and 24.7%, respectively) than the large Gateway Region (High-Frequency: 40.5%, Low-frequency: 32.5%).

Table 19. Gambling Frequency by Region (N=2,536)

Region	Frequency			Phone			Online		
	Low%	Moderate%	High%	Low%	Moderate%	High%	Low%	Moderate%	High%
Greater Atlantic City	24.7	25.9	49.4	45.0	28.6	25.0	55.0	71.4	75.0
Delaware River	32.6	30.5	36.9	42.5	43.4	22.0	57.5	56.6	78.0
Gateway Shore	32.5	27.0	40.5	50.5	41.0	21.7	49.5	59.0	78.3
Skyland	34.7	25.6	39.8	41.8	37.8	26.4	58.2	62.2	73.6
Southern Shore	36.8	29.2	34.0	38.9	35.6	24.0	61.1	64.4	76.0
	27.2	22.2	50.6	59.1	50.0	17.1	40.9	50.0	82.9

By gender, women who gambled at low frequency (See Table 20) were significantly more likely than men to gamble on scratch-off tickets and bingo. A higher percentage also purchased lottery tickets, though the difference was non-significant. Men were more likely to engage in sports betting, horse race track betting, live poker, and games of skill, though differences in rates for sports betting and horse racing were non-significant.

There were significant differences by age group as well (Table 20). Younger respondents who gambled less than once a month were significantly less likely than older respondents who gambled less than once a month to purchase lottery tickets but more likely (non-significant) to purchase scratch-off tickets. The two youngest age groups (18-34) were much more likely than other age groups to bet on sports. The youngest players, ages 18 to 24, were also more likely than all other age groups to bet on sports and other games of skill while those in the 25 to 34 age bracket had the highest rates of live casino table game play.

Table 20. Low Frequency Gamblers by Activity, Gender and Age

Gambling Activity	Overall	Gender		Age					
	N=836 %	Male n=362 %	Female n=474 %	18-24 n=87 %	25-34 n=160 %	35-44 n=155 %	45-54 n=195 %	55-64 n=115 %	65+ n=124 %
Lottery Tickets	64.7	63.5	65.6	47.1*	59.4	67.1	73.3	70.4	62.1
Scratch off Tickets	48.3	36.5	63.5*	58.1	50.9	53.2	45.1	42.6	42.3
Bingo	12.3	8.6	15.2*	17.4	17.5	10.4	10.3	10.4	9.7
Sports Betting	3.4	4.7	2.3	8.1*	6.2	2.6	1.5	0.9	2.4
Horse Race Track Betting	6.2	6.9	5.7	5.7	3.8	5.8	7.2	11.3	2.4
Live Poker	3.3	7.2*	0.4	3.4	3.1	1.3	6.2	1.7	3.2
Live Casino Table Games	13.5	18.5*	9.7	14.9	23.1*	11.0	11.3	10.4	9.7
Other Games of Skill	5.3	7.4*	3.6	16.3*	6.2	5.2	2.6	3.5	2.4
Gaming Machines	21.1	21.8	20.5	12.6	20.5	22.6	21.5	23.5	22.8

* $p < .02$

Moderate frequency gamblers who gambled once or twice per month endorsed lottery, scratch-offs, gaming machines and live casino play but they participated in those activities at higher rates than low frequency gamblers and also endorsed significantly higher percentages of play on games of skill and high-risk stocks (see Table 21).

As gambling frequency increased, so did the disparity in gender participation, with an increasingly higher proportion of men gambling in higher frequency categories (Table 21). Women who gambled moderately frequent (once or twice a month) participated more often than men in purchasing lottery and instant scratch-off tickets and playing gaming machines and bingo. Men who were moderate frequency gamblers were significantly more likely than women to engage in sports betting, live poker, games of skill, and casino table games; a non-significantly higher proportion also bet on horses.

By age, the youngest moderate frequency gamblers (18-34) were the most likely to endorse playing games of skill and least likely to purchase lottery tickets (Table 21). Among those 65 and older, rates of lottery ticket play were consistent with other age groups, however, older adults were significantly less likely than other groups to purchase instant scratch-off tickets and they reported the highest rates of play on gaming machines.

Table 21. Moderate Frequency Gamblers by Activity, Gender and Age

Gambling Type	N=700 %	Gender		Age					
		Male n=320 %	Female n=381 %	18-24 n=59 %	25-34 n=123 %	35-44 n=175 %	45-54 n=124 %	55-64 n=88 %	65+ n=133 %
Lottery Tickets	80.8	78.4	83.2	61.0*	78.0	85.7	85.5	83.0	79.7
Scratch off Tickets	62.1	52.4	70.3*	64.4	74.6*	69.7	61.0	55.7	44.7*
Bingo	13.9	12.5	15.0	16.9	23.0*	13.7	10.5	10.2	9.8
Sports Betting	7.1	11.3*	3.7	17.2*	18.0*	5.1	4.0	1.1	1.5
Horse Race Track Betting	9.4	10.6	8.4	10.2	9.8	6.9	10.5	17.0	6.1
Live Poker	8.4	14.1*	3.7	10.2	16.4*	5.1	8.1	3.4	8.3
Live Casino Table Games	16.9	21.3*	13.2	13.8	27.9*	17.1	15.3	14.8	10.5
Other Games of Skill	13.3	16.9*	10.3	25.4*	21.3*	12.6	8.1	4.5	12.1
Gaming Machines	29.3	25.0	33.2*	18.6	31.7	24.6	31.5	29.5	36.1

* $p < .02$

Nearly all high frequency gamblers (91.1%) played the lottery and 78.3% bought instant scratch-off tickets. Nearly half (41.0%) also endorsed gaming machine play (see Table 22).

By gender, women who gambled once a week or more were significantly more likely than men to buy scratch-off tickets; these women also endorsed playing gaming machines (42.9%) and bingo (30.6%) in high proportions (Table 22). In contrast, men who gambled once a week or more were significantly more likely than women to bet on sports (37.3%) or horses (31.3%) and to play live casino table games (35.5%) or live poker (25.9%). Over a third of men also endorsed gaming machine play (39.9%) but that number was not significantly different from the proportion of women playing machines.

Table 22. High Frequency Gamblers by Type, Gender and Age

Gambling Type	N=1000 %	Gender		Age					
		Male n=614 %	Female n=386 %	Age 18-24 n=98 %	Age 25-34 n=196 %	Age 35-44 n=219 %	Age 45-54 n=198 %	Age 55-64 n=128 %	Age 65+ n=161 %
Lottery Tickets	91.1	91.2	90.9	83.7*	92.9	90.4	96.5	91.4	87.5
Scratch off Tickets	78.3	75.4	82.4*	80.6	88.3	82.1	80.7	72.7	60.9*
Bingo	29.2	28.2	30.6	49.0*	45.2	34.2	20.7	13.3	13.7
Sports Betting	29.1	37.3*	16.1	52.0	49.0	35.2	23.2	6.3*	8.1
Horse Race Track Betting	25.8	31.3*	17.1	28.9	38.1	28.9	24.7	16.3	13.8*
Live Poker	20.8	25.9*	12.7	33.7	37.8	26.6	14.1	3.9*	5.6
Live Casino Table Games	30.3	35.5*	22.0	38.8	50.0*	32.4	27.3	17.2	13.0
Other Games of Skill	27.5	27.7	27.2	47.4*	41.8	32.4	19.2	11.7	13.8
Gaming Machines	41.0	39.9	42.9	39.8	55.1*	37.4	38.4	27.3	43.5

* $p < .01$

Overall, men were significantly more likely than women to be high frequency gamblers, and women were overrepresented in the low frequency group in both the online and phone panels. In the phone panel, both men and women were similarly represented in the moderate frequency group (Table 23).

In the phone panel, the 25-to-34 age group had the highest percentage of low frequency gamblers (56.1%), while 35-to 44-year-olds were overrepresented in the moderate frequency group (Table 23). There were no statistically significant differences between age group percentages in the online panel; notably, more than 45% of all online panel members across all age categories were high-frequency gamblers.

By race/ethnicity overall, a significantly higher proportion of Whites, compared to other groups, were in the low frequency group (35.2%); those differences remained significant in the online panel, where the lowest percentage of high frequency gamblers were White but were non-significant in the phone panel (Table 23). Hispanics were overrepresented among high-frequency gamblers overall, followed by Asian/Other and Black or African American gamblers. Rates of gambling were highest among Hispanics followed by Whites in the telephone panel and for Hispanics, Black or African Americans, and Asian/Other in the online panels.

Table 23. Gambling Frequency by Gender, Age, and Race/Ethnicity

Gender	Frequency			Phone			Online		
	Low n=836 %	Moderate n=700 %	High n=1000 %	Low n=385 %	Moderate n=281 %	High n=226 %	Low n=451 %	Moderate n=419 %	High n=774 %
Male	27.9	24.7	47.4*	37.8	31.1	31.1*	22.2	20.9	56.8*
Female	38.1*	30.7*	31.1	49.4*	32.0	18.6	32.6*	30.0*	37.4
Age									
18-24	35.7	24.2	40.2	50.8	31.1	18.0	30.2	22.0	47.8
25-34	33.5	25.6	40.8	56.1*	25.8	18.2	24.8	25.6	49.6
35-44	28.1	31.9	40.0	36.5	40.1*	23.4	24.4	28.3	47.2
45-54	37.7	24.0	38.3	47.2	25.9	26.9	31.4	22.5	46.1
55-64	34.7	26.6	38.7	41.0	30.6	28.4	30.5	23.9	45.7
65+	29.7	31.8	38.5	33.7	35.9	30.4	26.3	28.4	45.3
Race/ Ethnicity									
White or Caucasian	35.2*	28.0	36.8	42.2	31.6	26.2	31.2*	26.0	42.8*
Hispanic	28.6	24.2	47.2*	45.9	25.2	28.9	19.9	24.0	56.2
Black or Afr. Amer.	28.2	31.8	39.9	39.8	37.4	22.8	20.5	28.1	51.4
Asian/Other	33.2	25.6	41.2	54.2	37.5	8.3*	26.7	22.0	51.3

* $p < .04$

There were few significant differences in play frequency by income, education or employment across groups. Differences that did exist in the overall sample were indicative typically of either the phone or online panel but not both.

Problem Gambling Severity

The current study analyzed gambling behavior by frequency of gambling as well as by the severity of problem gambling symptoms. All participants in the study completed the Problem Gambling Severity Index (PGSI) of the Canadian Problem Gambling Index (Ferris & Wynne, 2001) and were grouped according to symptom count into mutually-exclusive categories; Non-problem (0 symptoms), Low Risk (1-2 symptoms), Moderate Risk (3-7 symptoms), High Risk (8+ symptoms). The PGSI is a problem severity measure developed for use in population prevalence studies, therefore, it 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.

Higher frequency levels of gambling in this study were highly correlated with high problem gambling severity and number of gambling activities (see Table 24). Nearly half of non-problem gamblers (42.4%) reported gambling less than once per month. However, among the low risk, moderate risk, and high risk problem gambling groups, rates of high frequency gambling were 51.6%, 61.3%, and 89.4% respectively. The number of gambling activities likewise increased significantly with level of gambling problem severity: from slightly more than two activities for non-problem, to more than three for low risk, four for moderate risk, and seven for high risk problem gamblers.

Table 24. Problem Gambling Severity by Frequency and Number of Gambling Activities

Gambling Frequency	Problem Gambling Severity			
	Non-Problem n=1768 %	Low Risk Problem n=320 %	Moderate Risk Problem n=222 %	High Risk Problem n=227 %
Low Frequency	42.4*	19.1	9.5	2.2
Medium Frequency	29.6	29.4	29.3	8.4*
High Frequency	28.0	51.6	61.3	89.4*
Total	100.0	100.0	100.0	100.0
Gambling Activities (M/Std)				
# of gambling types participated in	2.21* (1.388)	3.53* (1.786)	4.03* (2.371)	7.41* (3.492)

* $p < .008$

Problem Gambling Prevalence

In both the online and telephone panels, nearly 70% of respondents were non-problem gamblers, though rates differed significantly between panels (Table 25). Respondents in the phone panel were significantly more likely than those in the online panel to be non-problem gamblers (89.7%) and significantly less likely to be low-risk (7.2%), moderate risk (2.6%) or high risk (0.6%) problem

gamblers. In contrast, 13.5% of the online sample was in the high risk problem gambling group, and over 40% of the panel was at some level of risk for problem gambling.

Table 25. Gambling Problem Severity by Panel Type (Gamblers Only)

Panel Type	Problem Gambling Severity				Total %
	Non-Problem n=1768 %	Low Risk Problem n=320 %	Moderate Risk Problem n=222 %	High Risk Problem n=227 %	
	Total	69.7	12.6	8.7	
Online	58.9	15.6	12.0	13.5	100.0
Telephone*	89.7	7.2	2.6	0.6	100.0

* $p < .001$

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.” As indicated in Table 26, the overall rate of high-risk problem gambling, which best correlates to gambling disorder, was 6.3% in the overall sample, significantly higher than the average rate in a majority of population surveys in the U.S. In addition, 14.9% of the sample reported gambling problems, which is three to four times higher than the rate in other studies in the U.S. (Welte et al., 2015). These findings are largely due to the high rate of gambling problems in the online panel sample, which reported a rate of 10.5% for probable disorder (high risk problem gambling) and 21.6% for problem gambling. In contrast, the rate of serious problem or disorder in the telephone sample was well below average, 0.3%, and the problem rate was average, 5.7%.

Table 26. Comparative Prevalence Rates of Problem Gambling by Combined Risk Level

Risk Level	Overall N=3634		Panel Type			
	N	%	Online n=2108		Phone n=1526	
Non-Gamblers	1091	30.0	460	21.8	631	41.4
Non-Problem Gamblers	1774	48.8	971	46.1	803	52.6
Problem Gamblers (Low/Moderate Risk)	542	14.9	455	21.6	87	5.7
Probable Disorder (High Risk)	227	6.3	222	10.5	5	0.3

Further investigation by venue type is presented in Table 27. In the online panel, rates of problem and disordered gambling were extremely high. Among those who only gambled online, 14% would likely meet criteria for gambling disorder and an additional 40% reported gambling problems. Rates were highest, however, in the mixed venue sample, where nearly 37% were

disordered gamblers an additional 36% were problem gamblers. Members of the online panel who only gambled at land-based venues reported the lowest rates of gambling disorder (4.5%) and problem gambling (23.2%).

Table 27. Number and Percentage of Gambling Group by Venue: Online Panel Only

Venue type	Non-Problem Gamblers		Problem Gamblers (Low/Mod Risk)		Probable Disorder (High Risk)	
	N	%	N	%	N	%
Online Only (n= 98)	45	45.9	39	39.8	14	14.3
Land-based Only (n=1116)	807	72.3	259	23.2	50	4.5
Mixed (Land-based/Online) (n=431)	116	26.9	156	36.2	159	36.9

Rates in the phone panel were considerably lower, though some were still significantly above average. Those who patronized mixed venues (Table 28) reported elevated rates of gambling disorder (3.6%) and problem gambling (19.6%). Among online-only patrons, 2.8% likely met criteria for disorder, which was in line with other studies, but 27.8% were problem gamblers, a figure that is in the high range. Land-based only gamblers had low levels of gambling disorder 0.3% and moderate rates of problem gambling (8.3%) in the phone panel.

Table 28. Number and Percentage of Gambling Group by Venue: Phone Panel Only

Venue type	Non-Problem Gamblers		Problem Gamblers (Low/Mod Risk)		Probable Disorder (High Risk)	
	N	%	N	%	N	%
Online Only (n= 36)	25	69.4	10	27.8	1	2.8
Land-based Only (n=799)	731	91.5	66	8.3	2	0.3
Land-based/Online (n=56)	43	76.8	11	19.6	2	3.6

Frequency and Problem Severity by Demographic Variables

As indicated in Table 29, each region of the state had a proportionate share of non-problem, low risk, moderate risk, and high risk problem gamblers. However, by venue, high risk gamblers were overrepresented among those who engaged in both online and land-based (mixed venue) gambling, whereas a significantly higher proportion of non-problem and low risk problem gamblers preferred land-based venues only. The moderate risk group had the highest proportion of online-only gamblers and a higher proportion of land-based versus mixed venue gamblers, though the differences were non-significant.

Table 29. Problem Gambling Severity by Region and Venue Preference

Region	Problem Gambling Severity			
	Non-Problem n=1768 %	Low Risk Problem n=320 %	Moderate Risk Problem n=222 %	High Risk Problem n=227 %
Greater Atlantic City	2.7	2.5	5.7	6.7
Delaware River	18.6	17.8	14.2	23.1
Gateway	45.9	49.2	53.7	47.1
Shore	15.6	11.2	11.1	7.1
Skyland	14.0	16.2	13.1	12.0
Southern Shore	3.2	3.1	2.3	4.0
Total	100.0	100.0	100.0	100.0
Venue				
Online	4.0	8.1	10.9*	6.6
Land-Based Only	87.0*	65.6*	52.0	22.5
Online and Land-Based	9.0	26.3	37.1	70.9*
Total	100.0	100.0	100.0	100.0

* $p < .001$

By gender, men averaged more gambling activities than women (3.4 v 2.6) and were overrepresented in the low risk, moderate risk and high risk problem gambling categories; women comprised a larger proportion of non-problem gamblers (Table 30).

Overall, there was proportionate representation across all age categories except for the two oldest categories (Table 30). Only 7.7% of moderate risk problem gamblers were 55 to 64-years-old and only 3.1% of 55 to 64-year-olds were in the high risk problem gambling category. Similarly, only 9% of moderate risk gamblers and 0.9% of high risk problem gamblers were 65 years and older, the lowest proportion of any age category.

Table 30. Problem Gambling Severity by Gender and Age

Gender	Gam. Forms (M/Std)	Problem Gambling Severity			
		Non-Problem n=1768 %	Low Risk Problem n=320 %	Moderate Risk Problem n=222 %	High Risk Problem n=227 %
Male	3.37* (2.696)	46.5	56.9*	61.7*	69.2*
Female	2.61 (1.896)	53.5*	43.1	38.3	30.8
Total		100.0	100.0	100.0	100.0
Age					
18-24	2.18 (1.386)	6.9	13.4	14.9	19.6
25-34	2.19 (1.300)	14.8	23.1	26.6	37.8
35-44	2.19 (1.396)	20.9	18.1	25.7	28.0
45-54	2.13 (1.476)	21.8	22.5	16.2	10.7
55-64	1.91 (1.024)	15.6	10.0	7.7*	3.1*
65+	1.97 (1.168)	20.0	12.8	9.0*	0.9*
Total		100.0	100.0	100.0	100.0

* $p < .03$

There were significant findings by race/ethnicity (see Table 31). Whites made up the largest proportion of the sample. However, proportionately, Hispanics were significantly overrepresented in the high risk problem gambling group (16.2%), followed by Asian/Others (14.1%). Overall, Whites were significantly more likely than other groups to be classified as non-problem gamblers and Black/African Americans were significantly more likely than other groups to be classified as low risk problem gamblers.

A majority of gamblers across all levels of gambling frequency and severity were married or living with a partner (Table 31). High risk problem gamblers were significantly less likely to be divorced/separated/widowed than other groups. In contrast, moderate risk problem gamblers were more likely to be single/never married than to be married or divorced, separated or widowed. Low Risk and Non-Problem gamblers were proportionately represented across the marital categories.

Table 31. Percentage by Race of Each Problem Severity Group

Race/Ethnicity	Problem Gambling Severity				Total %
	Non-Problem	Low Risk Problem	Moderate Risk Problem	High Risk Problem	
	n=1768 %	n=320 %	n=222 %	n= 227 %	
White or Caucasian	76.1*	11.8	6.5	5.7	100.0
Hispanic	61.1	10.1	12.6	16.2*	100.0
Black or African American	60.4	18.5*	10.4	10.7	100.0
Asian/Other	54.5	16.7	14.6	14.1	100.0
Marital Status					
Married or living with partner	70.4	11.9	7.9	9.8	100.0
Divorced, separated or widowed	75.9	12.7	5.6	5.8*	100.0
Single/never married	64.9	14.1	12.7*	8.3	100.0

* $p < .02$

There were few notable differences by household income across levels of problem gambling severity (Table 32). The highest percentage of those making less than \$15,000 per year were high risk problem gamblers (6.6%) but that proportion was not significantly different from low risk problem gamblers (5.3%) with the second highest rates. Individuals in the highest income category, \$150,000 or more, were more likely than those in other income categories to be non-problem gamblers (12.7%) and less likely to be in the high risk problem gamblers (5.3%), but responses regarding household income do not indicate the role, if any, of gambling losses or wins in the income calculation or what proportion of monetary income comes from the gambler.

In terms of education, problem gambling severity had a bimodal distribution: Gambling problems occurred across the spectrum of education levels, however, problem gamblers were significantly more likely than other groups to have less than a high school education or GED, but they were also overrepresented among those with professional and doctorate degrees in the online panel only (Table 32).

Table 32. Problem Severity Groups by Household Income Category and Education Level

Household Income	Problem Gambling Severity			
	Non-Problem n=1768	Low Risk Problem n=320	Moderate Risk Problem n=222	High Risk Problem n=227
	%	%	%	%
<= \$15,000	4.0	5.3	4.1	6.6
\$15,000 - \$29,999	8.0	7.5	15.3	8.8
\$30,000 - \$49,999	12.0	19.1	15.8	11.9
\$50,000 - \$69,999	15.0	18.1	20.3	22.0
\$70,000 - \$99,999	18.2	18.8	18.5	19.8
\$100,000 - \$124,999	11.7	11.6	9.0	17.2
\$125,000 - \$149,999	7.0	4.7	4.5	6.2
\$150,000 or more	12.7*	9.7	7.7	5.3*
Prefer not to answer	11.3	5.3	5.0	2.2
Total	100.0	100.0	100.0	100.0
Education				
Less than High School or GED	1.3	3.5	3.6	6.2*
High School Diploma or GED	19.5	21.1	17.5	17.3
Some College < 1 year	7.5	11.0	12.6	10.6
Some College > 1 year	12.1	13.2	9.4	7.5
Associate's Degree	9.4	6.9	7.2	9.7
Bachelor's Degree	30.4	30.5	29.1	22.1
Master's Degree	14.0	9.7	12.6	14.6
Professional Degree	2.7	2.5	4.9*	6.2*
Doctorate Degree	2.0	0.9	2.2	3.5
Refused	1.0	0.6	0.9	2.2
Total	100.0	100.0	100.0	100.0

* $p < .002$

As expected, high risk problem gamblers had higher rates of engagement with gambling across all activities, ranging from a high of 95.2% for lottery to 55.9% for live poker (see Table 33). In general, gambling participation increased across levels of problem gambling severity, except between low and moderate risk gamblers, where there were non-significant differences in the proportions playing lottery, scratch-offs, gaming machines, casino table games and live poker.

Within problem severity categories, a significantly higher proportion of high risk problem gamblers, compared to other gamblers, gambled on all gambling activities (Table 33). Similarly, non-problem gamblers had the lowest overall rates of participation across activities.

Participation rates generally followed an increasing linear trend from non-problem to high risk, except for live casino table games and gaming machines, where low risk reported higher rates of participation than moderate risk problem gamblers.

Table 33. Participation in Activities by Level of Problem Gambling Severity

Gambling Activity	Problem Gambling Severity			
	Non-Problem* n=1768 %	Low Risk Problem n=320 %	Mod. Risk Problem n=222 %	High Risk Problem* n=227 %
Lottery	76.5	83.4	83.3	95.2
Scratch off	55.5	79.1	80.2	92.1
Gaming Machines	23.6	43.6	38.3	65.6
Live Casino Table games	13.0	31.3	27.6	62.8
Sports betting	4.9	18.4	31.1*	68.3
Horse Race Track betting	8.7	14.4	21.2	57.1
Other Games of Skill	9.1	17.5	26.1	60.8
Bingo	12.1	18.8	31.5	65.2
Live Poker	4.8	14.3	16.2	55.9*

* $p < .002$

Table 34 further examines activities by the percentage of each gambling group endorsing participation in activities. High risk gamblers represented only 8.9% of all gamblers, however, they constituted 43.2% of all live poker player, 41.9% of all sports betters, 34.3% of horse race track betters, and 33.5% of those playing games of skill; high risk gamblers reported the highest rates of participation of any group on all activities except for scratch-offs..

Table 34. Gambling Activity Preferences by Level of Problem Gambling Severity

Gambling Activity	Problem Gambling Severity				Total %
	Non-Problem n=1768 %	Low Risk Problem n=320 %	Mod. Risk Problem n=222 %	High Risk Problem n=227 %	
Lottery	66.9	13.2	9.2	10.7*	100.0
Scratch off	60.5*	15.6	11.0	12.9	100.0
Gaming Machines	52.7	17.7*	10.7	18.8*	100.0
Live Casino Table games	43.2	18.8*	11.4	26.6*	100.0
Sports betting	23.5	15.9	18.6*	41.9*	100.0
Horse Race Track betting	41.0	12.2	12.5	34.3*	100.0
Other Games of Skill	38.8	13.6	14.1	33.5*	100.0
Bingo	43.5	12.2	14.2	30.1*	100.0
Live Poker	28.9	15.6	12.2	43.2*	100.0

* $p < .001$

Finally, the analyses investigated: (a) whether there were notable differences in activity preferences based on venue and level of problem gambling severity; and (b) whether mean scores among the three groups indicated where the differences were most pronounced.

Table 35 demonstrates the percentage of moderate and high risk problem gamblers that play each activity by venue. For example, 16.3% of those who play the lottery are high risk-gamblers who only gamble online, compared to only 3.0% in the land-based sample but 37.6% in the mixed venue sample. Overall, a higher proportion of high risk problem gamblers in the mixed venue group gambled on lottery, scratch-offs, sports betting, horse track betting, and other games of skill, though rates were statistically similar to the online-only group for live poker, live casino table games, and gaming machines.

Gamblers who only played online had the highest rates of participation in bingo and high rates similar to mixed venue gamblers on gaming machines, live table games, and live poker. In contrast, high risk gamblers in the land-based only sample had significantly lower rates of participation in every game except for sports betting, where nearly 22% of the sample reporting participation. Among moderate risk problem gamblers, online-only players had slightly higher rates of participation compared to online/land-based gamblers on lottery, scratch-off, gaming machines, other games of skill and bingo, and significantly higher rates of sports betting and race-track betting. In this category as well, moderate risk problem gamblers who only gambled at land-based venues had significantly lower rates of participation in all activities except sports betting, other games of skill, and live poker, though they reported the lowest rates for those as well.

Table 35. Activity by Venue Type and Risk Group

Gambling Activity	Venue Type					
	Group 1: Online Only		Group 2: Land-Based Only		Group 3: Online and Land-Based	
	Moderate Risk Problem n=24 %	High Risk Problem n=15 %	Moderate Risk Problem n=115 %	High Risk Problem n=52 %	Moderate Risk Problem n=82 %	High Risk Problem n=161 %
Lottery	20.9	16.3	6.6*	3.0*	15.8	37.6*
Scratch off	19.1	17.6	8.2*	4.0*	18.1	37.9*
Gaming Machines	15.0	40.0	8.5*	6.1*	14.8	41.8
Live Casino Table games	28.6	35.7	7.7*	8.1*	15.2	48.1
Sports betting	32.6*	18.6	14.6	21.9	17.8	54.3*
Horse Race Track betting	25.0*	28.6	8.1*	11.8*	14.4	54.5*
Other Games of Skill	14.3	21.4	13.1	12.0*	14.8	52.9*
Bingo	23.1	53.8	8.9*	8.9*	19.0	51.5
Live Poker	6.3*	43.8	10.2	18.4*	13.8	56.4

* $p < .001$

Other Gambling-Related Activities: High Risk Stocks and Daily Fantasy Sports

A majority of activities listed in this study are historically classified and widely accepted as “gambling,” because they involve spending money on activities with an uncertain outcome and the possibility of winning or losing that can result in harm. However, other activities elude precise classification and are largely context and jurisdiction-dependent. Stock trading, for example, is traditionally viewed as a skill-based investment, focused on compounding earnings over time. The advent of day-trading, however, shifted the focus from investment to the exciting and immediate activity of taking greater, short term financial risks on options and futures for the potential of larger payouts but also larger losses. Similarly, traditional fantasy sports games were originally season-long competitions based on the actual performance of players and were exempted from the Unlawful Internet Gambling Enforcement Act of (2006) (UIGEA) because they relied in large measure on the knowledge and skill of the players. However, similar to day trading, daily fantasy sports have recently allowed players to change players, teams and sports on a daily basis, shifting the focus largely from skill to chance. Both of the activities are examples of the continuum between pure skill games like chess and those that are wholly dependent on random chance, such as bingo. Given the lack of consensus over where high risk stocks and daily fantasy sports fall in the gambling spectrum, they are included in this study in a separate section.

High Risk Stocks

About 5% of gamblers (n=135) indicated they bet on high risk stocks, options and/or futures once a week or more; 2.4% (n=110) did so once or twice a month and 4.6% (n=117), less than once per month. Nearly 15% of men and 5.2% of women in the survey endorsed high risk stocks. A majority of those for both genders were in the 25 to 34 age group (22.3% of men, 9.9% of women). Online gamblers were the least likely to endorse high risk stocks. About 8.6% of high risk compared to 10.3% of moderate risk problem online gamblers indicated they traded high risk stocks, options and/or futures. In contrast, a significantly higher percentage of land-based (moderate risk=11.3%; high risk=23.8%) and mixed venue (online and land-based) moderate risk (14.2%) and high risk (46.2%) gamblers indicated they traded high risk stocks, options, and/or futures. By level of problem gambling severity, about 8.8% of men and 3.6% of women who endorsed high risk stocks were non-problem gamblers, 16.3% and 6.6%, respectively, were low-risk gamblers, and 29.6% of men and 14.0% of women were high risk problem gamblers

Daily Fantasy Sports

A total of 336 respondents endorsed participation in daily fantasy sports (DFS) in the past year (see Table 36). Of those, only seven respondents, all male, said they played only daily fantasy sports and did not otherwise gamble. All of the women who played daily fantasy sports also gambled on other activities.

In every region, a majority of those who played DFS gambled at mixed venues, followed by land-based only and online only (see Table 35). As expected, the highest proportion of those who played DFS – 50.3% of players in the sample – lived in the Gateway Region, followed by Delaware River (15.2%) and Skyland (12.8%) regions. Across regions, between 51% and 65.2% of DFS players who gambled did so in mixed venues. The Greater Atlantic City region registered the lowest percentage of DFS players gambling at land-based venues (21.7%) and the highest percentage of respondents in any region (13.0%) who gambled solely online.

Men who played DFS outnumbered women four-to-one (Table 36). Among the 70 female DFS players, more than half indicated they gambled at mixed venues, though a high proportion of women endorsed land-based only gambling (37.1%) as compared to men (27.4%), who were slightly more likely to gamble only online (9.8% versus 8.6%, ns).

Table 36. DFS Players Who Gamble By Region and Venue

Region	DFS Players N=336		DFS Players Who Gamble by Venue N=329					
	%	n	Online		Land-Based		Online & Land-Based	
			%	n	%	n	%	n
Greater Atlantic City	6.8	23	13.0	3	21.7	5	65.2	15
Delaware River	15.2	51	7.7	4	26.9	14	65.4	34
Gateway	50.3	169	10.1	17	29.0	49	60.9	103
Shore	9.8	33	12.1	4	36.4	12	51.5	17
Skyland	12.8	43	9.3	4	32.6	14	58.1	25
Southern Shore	5.1	17	5.6	1	33.3	6	61.1	11
Gender								
Male	79.1*	266	9.8	26	27.4	73	62.8	167
Female	20.8	70	8.6	6	37.1	26	54.3	38

* $p < .05$

By gambling activity, 90.5% of DFS players indicated they bought lottery tickets and 83.6% purchased instant scratch-off tickets (Table 37). More than half of the sample of DFS players gambled on gaming machines (56.4%), bingo (51.6%), live casino table games (57.4%), other games of skill (52.4%), sports (62.6%), and horses (51.3%). Slightly under half of the daily fantasy players traded high risk stocks or played poker. By gender, the proportions were similar, though women were significantly more likely to play bingo (63.4%) than men (48.5%) and to purchase scratch-off tickets (91.4% vs 81.6%).

Table 37. DFS Players Who Gamble by Activity and Gender

Activity	Total %	N	Gender			
			Male%	N	Female%	N
Lottery	90.5	306	89.5	239	94.4	67
Scratch off	83.6	281	81.6	217	91.4*	64
Gaming Machines	56.4	190	53.9	144	65.7	46
Bingo	51.6	174	48.5	129	63.4*	45
Live Casino						
Table games	57.4	193	58.3	155	54.3	38
Other Games of Skill	52.4	176	50.8	135	58.6	41
Sports betting	62.6	211	63.7	170	58.6	41
Horse Race						
Track betting	51.3	173	50.6	135	54.3	38
High Risk						
Stocks	48.5	163	48.1	128	50.0	35
Live Poker	47.8	161	46.8	125	51.4	36

* $p < .05$

By gambling problem severity, nearly all of the DFS players who were also high risk problem gamblers gambled once a week or more often (95% high frequency), followed by once or twice a month (5.0% medium frequency); none were low-frequency gamblers (Table 38). Indeed, across categories, DFS players who gambled were mostly in the high frequency group (69.6% to 95.0%), with only 1.7% of the moderate risk, 10.7% of the low risk, and 3.5% of the non-problem gambling groups indicating they gambled less than once per month (low frequency).

Table 38. DFS players by Gambling Problem Severity and Gambling Frequency

Frequency Group	Problem Gambling Severity (N=336)			
	Non-Problem n=84 %	Low Risk Problem n=56 %	Moderate Risk Problem n=58 %	High Risk Problem n=139 %
Low(n=10)	3.5	10.7	1.7	0.0
Moderate(n=44)	17.9	19.6	17.2	5.0
High (n=283)	78.6*	69.6*	81.0*	95.0*

* $p < .001$

By age, more than 61% of DFS players were ages 25 to 44, with less than 6% of players aged 55 and older (Table 39). Older players tended to gamble only online or only in land-based venues, while a majority of younger players indicated they gambled in mixed venues.

Table 39. DFS Players by Age and Venue Preference

Age Range	DFS Players		DFS Players Who Gamble by Venue					
	%Yes	n	Online %Yes	N	Land-Based %Yes	n	Online & Land-Based %Yes	n
18-24	16.6	56	12.5	7	25.0	14	62.5	35
25-34	33.5	113	8.8	10	26.5	30	64.6	73
35-44	27.6	93	8.7	8	23.9	22	67.4	62
45-54	16.6	56	3.6	2	41.4	23	55.4	31
55-64	3.6	12	33.3	4	50.0	6	16.7	2
65+	2.1	7	14.3	1	71.4	5	14.3	1

* $p < .002$

As indicated in Table 40, Whites made up the greatest proportion of DFS players, about 40%, however 32% of players were Hispanic, which was a significant proportion based on the lower representation of Hispanics in the sample. A majority of DFS players were married or living with a partner (62.7%). More than 46% of DFS players had a Bachelor's or Master's degree, though 16% of players had only a high school degree or GED.

Table 40. DFS Players by Race/Ethnicity, Marital Status, and Education

Race/Ethnicity	DFS Players		Education	DFS Players	
	%	n		%	n
White or Caucasian	40.9	138	Less than High School or GED	3.8	13
Hispanic	32.0*	108	High School Diploma or GED	16.0	54
Black or African American	12.8	43	Some College < 1 year	8.6	29
Asian/Other	14.2	48	Some College > 1 year	10.4	35
			Associate's Degree	9.2	31
Marital Status	%	n	Bachelor's Degree	32.2	109
Married or living with partner	62.7	210	Master's Degree	13.9	47
Divorced, separated, or Widowed	8.4	28	Professional Degree beyond Bachelor's	2.7	9
Single (never married)	29.0	97	Doctorate Degree	2.7	9
			Refused	0.6	2

* $p < .05$

DFS players were most likely to be in the middle income brackets, reporting a household income between \$50,000 and \$99,999 (Table 41). About two-thirds of DFS players were employed for wages, with an additional 10.1% being self-employed. Only one-fourth of the DFS players were out of work, outside the workforce, unable to work, or retired.

Table 41. DFS Players by Household Income and Employment Status

Household Income	DFS Players		Employment	DFS Players	
	%	n		%	n
<= \$15,000*	4.5	15	Employed for wages*	66.0	223
\$15,000 - \$29,999	7.4	25	Self-employed	10.1	34
\$30,000 - \$49,999	13.6	46	Out of work > 1 year	3.0	10
\$50,000 - \$69,999	21.1	71	Out of work < 1 year	2.1	7
\$70,000 - \$99,999	22.3	75	A Homemaker	5.3	18
\$100,000 - \$124,999	12.8	43	A Student	7.1	24
\$125,000 - \$149,999	8.0	27	Retired	2.7	9
\$150,000 or more	8.0	27	Unable to Work	1.5	5
Prefer not to answer	2.4	8	Prefer not to answer	2.4	8

* $p < .003$

Table 42 presents a comparison of substance use, addictive behaviors, and mental health issues between gamblers who played and did not play DFS. Overall, only 15.3% of gamblers indicated they played daily fantasy sports. Those who did play, however, had significantly more addiction and mental health issues than non-DFS gamblers. For example, DFS players were twice as likely as other gamblers to use tobacco (54.7% vs 26.3%) and to binge drink (34.7% v 17.0%), four times as likely to use illicit drugs (32.4% v. 8.6%), and nearly 10 times as likely to endorse problems with drugs or alcohol. They were also more likely to use alcohol (82.7% v. 75.5%).

Behaviorally, DFS players were more than twice as likely as other gamblers to endorse problems with overeating, nearly four times more likely to have problems with sex and pornography, and five times more likely to exercise excessively. More than one-fourth of DFS players reported serious mental health issues in the past 30 days, twice as many as other gamblers. Notably, 13.9% of DFS players reported suicidal ideation, compared to just 1.8%

of other gamblers; 9.2% of DFS players indicated they had attempted suicide, compared to 0.5% of other gamblers.

Table 42. DFS and non-DFS Gamblers by Substance Use, Addictive Behaviors, Mental Health

Substance/ Behavior	DFS Gamblers N=336		Non-DFS Gamblers N=2194	
	%	N	%	n
Tobacco Use	54.7*	185	26.3	576
Consumed alcohol	82.7*	277	75.5	1656
Binge Drinker	34.7*	117	17.0	374
Used Illicit Drugs	32.4*	107	8.6	188
Problems with Drugs or Alcohol	22.1*	73	2.5	55
Addictive Behaviors				
Over Eating	11.8*	40	5.7	125
Sex or Pornography	8.8*	30	2.3	50
Exercise	5.0*	17	0.9	20
Shopping	1.8	6	0.8	17
Internet Chat Rooms	1.2	4	0.0	0
Video or Online Gaming	1.8	6	0.5	10
Mental Health				
Serious Mental Health Issues (Past year)	6.0	20	5.8	127
Serious Mental Health Issues (Past 30 days)	26.3*	86	12.2	263
Suicidal Ideation	13.9	46	1.8	40
Suicide Attempt	9.2*	31	0.5	11

* $p < .004$

Substance Use, Addictive Behaviors and Other Mental Health Issues

The study examined the relationship of gambling status to substance use, behavioral addictions, and mental health problems in the overall sample. As indicated in Table 43, gamblers were significantly more likely than non-gamblers to use tobacco, alcohol, and illicit drugs as well as to binge drink and report problems with drugs or alcohol. More than three-fourths of gamblers drank, and nearly 20% admitted to binge drinking. They were also significantly more likely to report problems with overeating, sex or pornography and/or excessive exercise. By venue, those who gambled at mixed venues reported significantly higher rates of tobacco use, binge drinking, illicit drug usage, problems with drugs or alcohol, overeating and sex or pornography. Mixed venue gamblers also reported the highest rates of suicidal ideation (9.6%) and suicide attempts (6.0%), followed by those who only gambled online (6.1%, 3.7%, respectively). Those who gambled in land-based venues only had significantly lower rates of problems with exercise, serious mental illness in the past 30 days, and suicidal ideation.

Table 43. Substance Use, Addictive Behaviors, Mental Health by Gambling and Venue

Substance/ Behavior	Gambling Status		Venue Type					
			Online		Land-Based		Online & Land-Based	
	Gambler %(n)	Non-Gambler %(n)	%	n	%	n	%	n
	n=2536	n=1098	n=134	n=1915	n=487			
Tobacco Use	30.0 (760)*	14.5 (159)	29.9	40	25.6	489	47.7*	232
Consumed alcohol	76.4 (1933)*	59.8 (654)	79.9	107	75.5	1442	79.0	384
Binge Drinker	19.9 (489)*	7.8 (84)	20.3	27	15.1	289	35.9*	175
Used Illicit Drugs	11.7 (295)*	5.8 (63)	14.9	20	7.9	150	26.1*	126
Problems with Drugs or Alcohol	5.1 (128)*	0.8 (9)	9.1	12	2.3	44	14.9*	72
Behavioral Addictions								
Over Eating	6.5 (165)*	5.7 (63)	8.1	11	5.5	105	10.0*	49
Sex or Pornography	3.2 (80)*	0.7 (8)	2.2	3	2.1	40	7.6*	37
Exercise	1.5 (37)*	0.9 (10)	3.7	5	0.7*	14	3.9	19
Shopping	0.9 (23)	0.6 (7)	1.5	2	0.6	12	1.8	9
Internet Chat rooms	0.2 (4)	0.2 (2)	0.0	0	0.0	0	0.2	4
Video or Internet Gaming	0.6 (16)	0.1 (1)	0.0	0	0.3	6	2.0	10

Mental Health								
Serious Mental health Issues (Past Year)	5.8 (147)	6.3 (69)	5.7	8	6.7	108	6.0	32
Serious Mental Health Issues (Past 30 days)	14.1 (349)	13.1 (141)	18.3	24	11.8*	222	21.9	103
Suicidal Ideation	3.4 (86)	2.0 (22)	6.1	8	1.7*	32	9.5	46
Suicide Attempt	1.7 (42)*	0.3 (3)	3.7	5	0.4	8	6.0*	29

* $p < .002$

By level of problem gambling severity, high risk problem gamblers had the highest rates of tobacco use (69.6%), binge drinking (39.8%), illicit drug usage (45.0%), and problems with drugs or alcohol (33.0%), overeating (15.4%), sex or pornography (11.4%) and excessive exercise (6.1%) (see Table 44). High risk problem gamblers were also significantly more likely than other groups to report serious mental health problems in the past month (42.7%), suicidal ideation (20.3%) and suicide attempts (15.4%). The rates of suicidality, which increase with gambling problem severity, are particularly notable when compared to those for non-problem gamblers, where only 1.2% reported contemplating and 0.2% reported attempting suicide.

Table 44. Substance Use, Addictive Behaviors, Mental Health Status: Problem Gambling Severity

Substance/ Behavior	Problem Gambling Severity							
	Non-Problem Gambler n=1767		Low Risk Problem n=320		Moderate Risk Problem n=222		High Risk Problem n=227	
	%	n	%	n	%	n	%	n
Tobacco User	22.1	390	34.8	111	45.9	102	69.6*	158
Consumed alcohol	75.8	1337	80.5	256	77.0	171	75.4	169
Binge Drinker	14.3*	252	26.9	86	28.8	64	39.8*	90
Used Illicit Drugs	6.6*	116	15.5	49	14.5	32	45.0*	99
Problems with Drugs or Alcohol	1.5	27	3.5	11	8.2	18	33.0*	73
Behavioral Addictions								
Over Eating	4.7	83	8.1	26	9.5	21	15.4*	35
Sex or Pornography	1.5	27	3.4	11	7.2	16	11.4*	26
Exercise	0.9	16	0.3	1	2.7	6	6.1*	14
Shopping	0.6	10	0.6	2	2.3	5	2.2	5
Internet Chat Rooms	0.0	0	0.0	0	0.0	0	1.8	4
Video or Internet Gaming	0.1	1	0.6	2	2.3	5	3.9	9

Mental Health								
Serious Mental health Issues (Past Year)	4.9	86	8.9*	28	9.6	21	5.4	12
Serious Mental Health Issues (Past 30 days)	9.9	173	14.6	46	18.4	39	42.7*	91
Suicidal Ideation	1.2	22	2.5	8	5.0	11	20.3*	45
Suicide Attempt	0.2	3	0.3	1	1.4	3	15.4*	35

* $p < .001$

As noted in Table 45, a significantly higher proportion of men who gambled compared to women reported using tobacco (35.7% v 24.1%), drinking alcohol (79.55 v. 73.3%), binge drinking (21.2% v 17.5%), using illicit drugs (14.7% v 8.7%) and having problems with drugs or alcohol (6.4% v 3.7%), sex or pornography (4.9% v 1.3%). In contrast, women were more likely to report problems with overeating (7.1% v 5.9%) and serious mental health issues in the past 30 days (15.6% v 12.6). While rates of suicidal ideation were similar between men (3.7%) and women (3.1%), men reported a significantly higher rate of suicide attempts (1.2% v 0.4%)

There were minimal between-group differences by age (Table 45). Overall, gamblers in the youngest age group (18 to 24) had the highest rates of illicit drug usage and problems with sex and pornography. They also reported the highest rates of suicidal ideation (7.6%) and suicide attempts (4.1%) followed by the next youngest group (25 to 34), whose rates were 5.4% for ideation and 3.5% for attempts.

Table 45. Substance Use, Addictive Behavior, Mental Health by Gender and Age

Substance/ Behavior	Gamblers Only N=2531 %	Gender		Age					
		Male n=1294 %	Female n=1237 %	18-24 n=399 %	25-34 n=654 %	35-44 n=761 %	45-54 n=690 %	55-64 n=471 %	65+ n=654 %
Tobacco Use	760	35.7*	24.1	32.1	38.2	34.1	30.8	26.7	15.9*
Consumed alcohol	1933	79.5*	73.3	69.2	81.6	79.9	79.7	76.4	66.3*
Binge Drinker	492	21.2*	17.5	25.9	25.9	23.0	20.3	12.4	7.9*
Used Illicit Drugs	295	14.7*	8.7	27.1*	20.3	12.0	8.7	5.7	1.2
Problems with Drugs or Alcohol	128	6.4*	3.7	8.8	8.9	7.4	2.9	2.4	0.2*
Behavioral Addictions									
Over Eating	165	5.9	7.1*	7.8	8.8	7.6	4.8	6.6	3.9*
Sex or Pornography	80	4.9*	1.3	7.4*	6.1	2.4	3.1	0.6	0.5

Exercise	37	1.9	1.0	3.3	1.9	2.4	0.6	0.6	0.5
Shopping	22	0.5	1.2	2.5	1.0	1.3	0.4	0.3	0.5
Internet Chat Rooms	4	0.3	0.0	0.4	0.2	0.4	0.0	0.0	0.0
Video or Internet Gaming	16	0.9	0.3	2.1	0.2	0.9	0.4	0.0	0.5
Mental Health									
Serious Mental health Issues (Past Year)	147	5.4	6.4	8.8	7.2	5.7	5.5	4.0	4.8
Serious Mental Health Issues (Past 30 days)	349	12.6	15.6*	19.9	18.7	17.5	12.1	10.9	5.9*
Suicidal Ideation	86	3.7	3.1	7.6*	5.4	3.7	1.8	1.5	1.7
Suicide Attempt	42	1.2*	0.4	4.1	3.5	2.2	0.4	0.3	0.0*

* $p < .05$

By race/ethnicity, Hispanic gamblers reported the highest rates of tobacco use (40.3%) and alcohol use (80.1%), binge drinking (28.2%), illicit drug use (20.9%), problems with drug or alcohol use (11.9%) and sex and pornography (6.3% (Table 46)). In addition, Hispanics were significantly more likely than all other groups to report experiencing a serious mental health issue in the past 30 days (19.2%), along with suicidal ideation (6.8%) and suicide attempts (4.8%). One in four Asian/other respondents also reported binge drinking and reported the highest rate of problems with exercise, though this group had the lowest rates of problems with overeating.

Differences by marital status were more complex. Married or cohabitating gamblers had the highest rates of alcohol consumption (79.8%); single/never married respondents endorsed the highest percentages of illicit drug usage and problems with overeating, sex and pornography, and excessive shopping (Table 46). Divorced, separated or widowed participants had the lowest overall rates across most of these behaviors.

Table 46. Substance Use, Addictive Behavior, Mental Health: Race/Ethnicity and Marital Status

Substance/ Behavior	Race/ Ethnicity (Gamblers Only)				Marital Status(Gamblers Only)		
	White/ Caucasian n=2178 %	Hispanic n=687 %	Black/ African American n=448 %	Asian/ Other n=307 %	Married or living with partner n=2096 %	Divorced, separated or widowed n=550 %	Single/ never married n=959 %
Tobacco Use	26.1	40.3*	35.2	28.3	28.4	33.6	32.1
Consumed Alcohol	77.5	80.1*	66.4	74.9	79.8*	67.3	73.7
Binge Drinker	16.8	28.2*	15.6	25.1*	19.4	15.1*	22.2
Used Illicit Drugs	8.4	20.9*	14.8	11.7	10.6	8.0	16.8*
Problems with Drugs or Alcohol	3.1	11.9*	4.9	4.6	5.3	3.7	4.9
Behavioral Addictions							
Over Eating	6.6	8.0	6.2	3.0*	5.9	6.3	8.1*
Sex or Pornography	2.0	6.3*	4.9	1.5	2.9	1.8	4.4*
Exercise	0.9	2.5	1.0	4.0*	1.8	0.3*	1.5
Shopping	1.1	0.6	1.0	0.0*	0.7	0.8	1.5*
Internet Chat Rooms	0.1	0.0	0.2	0.3	0.2	0.0	0.2
Video or Internet Gaming	0.3	0.6	1.3	2.0	0.6	0.5	0.6
Mental Health							
Serious Mental Health Issues (Past year)	6.1	6.3	5.3	4.0	5.6	5.9	6.4
Serious Mental Health Issues (Past 30 days)	13.4	19.2*	13.4	8.3	12.9	14.2	16.7
Suicidal Ideation	2.4	6.8*	3.9	2.5	3.6	2.7	3.4
Suicide Attempt	0.7	4.8*	1.9	0.5	2.0	0.8	1.3

* $p < .03$

There were few significant differences by household income across substance use, behavior and mental health status categories although there were a few notable exceptions (Table 47). For example, rates of tobacco use among those with a household income of \$150,000 or more were low (18.0%); however 88.1% of that group indicated they consumed alcohol, though only 15.4% endorsed binge drinking. In contrast, over 40% of those with incomes in the \$15,000 to \$29,999 range used tobacco and nearly 26% of those earning \$100,000 to \$124,999 reported binge drinking. Rates of illicit drug use ranged from a low of 6.3% in the \$150,000 and above group to a high of 20.4% in the group with less than \$15,000 in household income.

Regarding mental health issues, gamblers in the highest income bracket had the lowest rate of mental health issues in the past 30 days (7.1%) whereas those in the lowest income bracket reported the highest rates (34.6%) (Table 47). Similarly, rates of suicidal ideation were lowest in the highest income group (2.1%) and highest in the lowest income group (9.9%). Gamblers with a household income of less than \$15,000 also had the highest rate of suicide attempts – 6.3% -- while the lowest rates of attempts were endorsed by those in the \$100,000 to \$124,999 group (1.0%) followed by those with the highest household income (1.1%).

Table 47. Substance Use, Addictive Behaviors, Mental Health by Household Income

Substance/ Behavior	Household Income Level (Gamblers Only)								
	≤ \$15,000 n=111 %	\$15,000 – 29,999 n=219 %	\$30,000 – 49,999 n=328 %	\$50,000 – 69,999 n=413 %	\$70,000 – 99,999 n=467 %	\$100,000 – 124,999 n=303 %	\$125,000 – 149,999 n=162 %	≥\$150,000 n=284 %	Refused n=231 %
Tobacco Use*	35.1	40.2	38.3	33.7	26.8	32.1	22.2	18.0	23.4
Alcohol*	58.2	65.3	70.4	73.3	82.3	85.1	81.6	88.1	68.7
Binge Drinker*	15.0	16.4	20.5	21.1	20.7	25.7	23.3	15.4	11.3
Illicit Drugs*	20.4	12.9	10.5	14.3	13.1	14.0	9.9	6.3	6.9
Problems w. Drugs /Alcohol	9.2	5.9	4.8	4.8	6.0	6.3	4.9	3.5	1.3
Behavioral Addictions									
Over-Eating	8.9	4.1	6.3	8.1	5.3	7.3	9.2	6.0	5.6
Sex or Pornography	7.1	4.1	4.2	2.9	3.0	4.3	1.8	0.7	2.2
Exercise	0.0	0.9	0.9	2.1	2.1	2.0	1.2	0.7	1.7
Shopping	2.7	2.3	0.9	0.5	0.9	1.0	0.0	0.4	0.9
Chat Rooms	0.9	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0
Video or Internet Gaming	0.0	1.4	1.2	1.0	0.2	0.3	0.6	0.0	0.4
Mental Health									
Serious Mental Health Issues (Past year)	6.3	6.5	7.6	5.1	7.3	5.7	4.9	3.2	4.8
Serious Mental Health Issues (Past 30 days)*	34.6	19.4	16.5	17.6	11.9	10.9	11.1	7.1	8.8
Suicidal Ideation*	9.9	5.0	2.4	4.1	3.9	2.3	3.1	2.1	0.9
Suicide Attempt*	6.3	0.9	0.9	1.7	2.6	1.0	2.5	1.1	0.0

* $p < .003$

Findings for education level roughly parallel those for income (Table 48). Half of all gamblers with less than a high school degree or GED reported using tobacco, while only a fourth of those with a Bachelor’s degree used tobacco. Regarding alcohol, general usage was highest among the gamblers with a Bachelor’s degree and above (81.0% to 83.5%) and lowest among those with less than a high school education (58.2%). Respondents with the least education had the highest rates of binge drinking (17.9%); the lowest rate was reported among those with more than one year of college (3.7%). Respondents in the lowest education bracket also had the highest rates of serious mental health issues in the past 30 days (36.4%), which is more than three times the rate of respondents with a Master’s degree (11.1%). Respondents with the lowest education had the highest rates of both suicidal ideation (16.1%) and attempts (12.5%); respondents with a Doctorate degree reported the lowest rate of suicidality (ideation 1.3% and attempts 0.0%).

Table 48. Substance Use, Addictive Behaviors, Mental Health by Education Level

Substance/ Behavior	Education Level (Gamblers Only)								
	<High School n=56 %	High School or GED n=488 %	Some College < 1 yr n=219 %	Some College > 1 yr n=295 %	Assoc. Degree n=227 %	Bach. Degree n=749 %	Master’s Degree n=340 %	Profess. Degree n=80 %	Doct. Degree n=51 %
Tobacco Use*	50.0	39.8	41.1	26.8	30.0	24.0	19.4	37.5	31.4
Consumed Alcohol*	58.2	65.1	70.6	75.2	80.6	83.2	81.5	81.0	82.4
Binge Drinker	21.4	17.6	20.5	18.0	21.6	19.6	20.0	27.5	17.6
Used Illicit Drugs	19.6	12.0	15.9	11.9	11.9	10.6	8.0	11.7	22.0
Problems with Drugs or Alcohol*	17.9	4.1	5.6	3.7	5.3	3.9	6.2	5.1	12.2
Behavioral Addictions									
Over Eating	5.4	5.9	7.3	9.5	5.7	5.9	5.9	8.9	2.0
Sex or Pornography	8.9	3.5	2.7	4.7	3.5	2.1	2.1	1.3	8.0
Exercise	1.8	0.8	0.5	1.4	1.8	2.1	0.9	2.5	4.0
Shopping Internet Chat Rooms	1.8	0.8	1.8	1.0	1.8	0.1	1.2	0.0	2.0
Video or Internet Gaming	0.2	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
Mental Health									
Serious Mental Health Issues (Past year)	7.4	6.0	5.0	8.7	6.2	5.3	3.6	7.5	9.8

Serious Mental Health Issues (Past 30 days)*	36.4	15.7	16.3	15.5	14.8	11.2	11.1	13.0	12.0
Suicidal Ideation*	16.1	3.1	6.0	3.5	3.5	1.9	2.4	1.3	9.8
Suicide Attempt*	12.5	1.0	3.6	1.0	1.8	0.7	1.5	0.0	7.8

* $p < .05$

By employment status, more than half of gamblers in the survey in all groups reported consuming alcohol (Table 49). The highest rates of consumption were reported among those who were employed, self-employed or out of work for less than one year (80.1% to 83.3%), whereas those who were unable to work (59.5%) or retired (65.2%) reported the lowest rates. About one in four respondents who were self-employed or unemployed for less than one year reported binge drinking, while fewer than one in ten retired respondents indicated they engaged in binge drinking. Gamblers who were unable to work were the most likely to have experienced a serious mental health issue in the past 30 days (39.0%) and suicidal ideation (10.8%). Retired respondents were the least likely to endorse past month mental health issues (7.2%) or any kind of suicidality (ideation 1.1%, attempt 1.0%). Individuals who were self-employed (3.8%) or unable to work (3.6%) had the highest rate of suicide attempts.

Table 49. Substance Use, Addictive Behaviors, Mental Health by Employment Status

Substance/ Behavior	Employment Status (Gamblers Only)								
	Emp. for Wages n=1411 %	Self- Emp. n=207 %	Out of work > 1 yr n=63 %	Out of work < 1 yr n=55 %	Home- maker n=148 %	Student n=131 %	Retired n=398 %	Unable to work n=82 %	Refused n=35 %
Tobacco Use	31.1	32.9	42.9	41.8	24.3	23.7	23.6	31.7	45.7
Consumed Alcohol*	81.5	80.1	72.6	83.3	70.9	70.8	65.2	59.5	51.4
Binge Drinker*	22.5	24.6	22.2	23.6	15.0	16.2	9.5	11.9	11.4
Used Illicit Drugs*	12.2	16.9	23.3	18.2	7.6	21.7	3.8	8.3	5.7
Problems with Drugs or Alcohol*	5.4	9.7	11.1	7.3	3.5	5.4	0.3	6.0	8.8
Behavioral Addictions									
Over Eating	6.4	7.2	12.7	3.6	5.4	8.4	4.5	10.7	11.4
Sex or Pornography	3.7	3.4	7.9	7.1	0.0	4.6	1.0	0.0	0.0
Exercise	2.0	1.0	0.0	0.0	1.4	1.5	0.8	0.0	0.0
Shopping	0.6	2.4	3.2	1.8	0.7	2.3	0.5	1.2	0.0

Internet Chat Rooms	0.1	0.5	0.0	0.0	0.0	0.0	0.0	1.2	0.0
Video or Internet Gaming	0.6	0.5	1.6	0.0	0.7	0.8	0.5	0.0	2.9
Mental Health									
Serious Mental Health Issues (Past year)	6.4	6.3	3.2	7.4	6.8	5.5	4.0	7.1	2.9
Serious Mental Health Issues (Past 30 days)*	12.8	16.4	25.4	24.5	13.4	17.3	7.2	39.0	22.8
Suicidal Ideation*	2.7	5.8	7.9	5.6	4.1	3.9	1.0	10.8	8.6
Suicide Attempt*	1.4	3.8	3.2	1.8	2.0	1.5	0.0	3.6	5.7

* $p=.001$

Summary and Recommendations

The main purpose of this study was to conduct a state-wide survey that explored the past-year prevalence of gambling, including problem gambling, in New Jersey and to evaluate the effect, if any, of online gambling on gambling behavior and problem gambling severity. The results will be useful in better targeting intervention, prevention, and treatment efforts for residents of New Jersey and their families. It can also inform ongoing and future efforts to expand gambling opportunities in the state.

It is difficult to compare prevalence rates for problem gambling across studies and time frames, because of the unknown effects of the proliferation of gambling opportunities and changes in screening tools and methodologies. Until recently, prevalence studies were conducted using random digit dialing phone surveys. However, as cell phones continue to replace land-line phones and more people communicate exclusively on mobile devices, it is necessary to conduct multi-modal data collection to better engage a wide cross-section of individuals. In a 1989 phone survey which included both gamblers and non-gamblers, the prevalence rate of problem gambling in New Jersey was 2.8%, and the rate of those who would meet criteria for clinical disorder was 1.4% (Volberg & Steadman, 1989). Ten years later, a national population survey examined gambling in 150 casino gamblers from New Jersey and Nevada and reported that 7.9% met clinical criteria for gambling disorder and an additional 19% had mild to severe problems. In contrast, the general population survey, which included New Jersey residents, found that only 0.1% of participants met criteria for gambling disorder and less than 3% had problems or were at risk for problems (Gerstein et al., 1999).

Since publication of those studies, gambling opportunities have expanded exponentially. The advent of the Internet and mobile phones effectively reduced the jurisdictional borders that previously limited access and availability to gambling venues. No longer is gambling localized in New Jersey to Atlantic City and racetracks. Rather, it is accessible by phone, tablet and computer as well as across the border of neighboring states like Pennsylvania and New York. Past year prevalence rates in New Jersey in the current study reflect these changes in availability, accessibility, and acceptability of gambling in its many forms. In the current study, about 6.3% of the sample would likely meet criteria for gambling disorder and 14.9% reported gambling problems. Those rates are significantly higher than findings in the 1989 and 1999 general population studies, but similar to those found among casino patrons in 1999. Rates were particularly high in the online panel participants (disorder:10.5% and problem:21.6%), compared to phone participants (disorder:0.3% and problem:5.7%), possibly due to overrepresentation of high frequency, younger gamblers with higher incomes and more education in the online panel or to self-selection bias inherent in online sampling.

Findings from this study clearly demonstrate that problem gambling severity is correlated primarily with higher frequency of play, more gambling activities, and gambling at both online and land-based (mixed) venues. Past-year gamblers who gambled only at land-based venues less than once a month had the lowest overall rates of gambling problems, however, rates increased

as those individuals gambled more frequently and on more gambling activities. In contrast, those who gambled at mixed venues, both online and on land, had the highest rates of gambling problems but also much higher gambling frequency and participation in multiple gambling activities. The convenience and speed inherent in gambling online, combined with land-based opportunities like casinos, race tracks, convenience store lotteries and poker tournaments, will increase the likelihood that individuals will gamble more frequently. Increased frequency, in turn, leads to increased losses over time as well as to habituation and cognitive distortions that challenge the notion of randomness and chance and fuel chasing behavior and continued play. These factors, combined with etiological risk factors for addiction (Blaszczynski & Nower, 2002), affect the move from recreational to problematic levels of play in certain individuals.

The complex interplay of these factors makes it difficult to determine the relative contribution of online gambling to problem gambling prevalence. A follow-up prevalence study should provide added clarification on the changes in rates over time. Adding to the complexity, however, is the continued expansion of gambling opportunities. No longer is gambling geographically limited to Atlantic City and racetracks. Lottery tickets and scratch-offs are available at grocery and convenience stores, off-track betting is readily accessible, neighboring states offer a wide array of gambling offerings, and online and phone wagering has removed geographical boundaries and globalized gambling access. Taken together, the most we can conclude is that the more frequently one gambles, the more venues one patronizes whether on land or on line, and the more gambling activities one plays, the greater the likelihood of developing gambling problems.

This conclusion is supported by findings that those who only gambled online in the current survey had higher rates of disorder than land-based only gamblers, but lower rates than those who gambled on multiple forms and across online and land-based venues. Online gamblers reported that the convenience of online gambling, coupled with the 24-hour availability, were both advantages and disadvantages. On one hand, the convenience and availability made gambling accessible to those with geographical or time constraints that would limit driving to a land-based venue. On the other hand, the convenience and availability make it easier to spend more money in a shorter period of time and led to the perception among some respondents that online gambling was “more addictive” than land-based gambling – a finding that is not empirically supported by this study. Strengthening responsible gambling programs online by requiring enrollment and limit-setting at sign-up and increasing the visibility of and access to features during play could be used to address the main disadvantages of online play. It is reasonable to assume that this simple harm reduction strategy would further lower the rates for those who only gamble online, though it may have limited effect on high frequency gamblers who gamble both online and at land-based venues.

By region, there is generally proportionate representation across levels of problem gambling severity across New Jersey. However, currently, the treatment and self-help networks are not similarly represented in these regions. In addition, the study found that a significantly higher proportion of Hispanics and Asian/Others, compared to other groups, had higher rates of gambling frequency and problems. Notably, Hispanic gamblers also reported the highest rates of past-month mental health issues, suicidal ideation, and suicide attempts, though it is

unknown what, if any relationship exists between these issues and their gambling behavior. Blacks and African Americans endorsed low rates of problems that could arguably be addressed before they progress in severity using tailored education, intervention and treatment. A majority of gambling services have been designed without regard to racial or ethnic considerations. Therefore, in addition to proportionate representation of services across regions, it is important to ensure there are Spanish- and Mandarin-speaking certified gambling counselors in regions with the highest proportion of Hispanic and Asian minorities and that culturally-tailored treatment and services are also available in communities with a high concentration of Hispanic, Asian, and Black or African American residents. It is not only important to provide culturally-tailored treatment but also to make sure it is effective. Therefore, treatment in the State should move toward an evidence-based, standardized protocol with outcome evaluations that would provide evidence of effectiveness and highlight areas for revision and expansion.

A majority of gamblers in the study were employed and married or living with a partner. However, those with little education beyond high school reported the highest rates of gambling involvement, particularly among land-based gamblers. Those in the lowest and highest income brackets were most likely to gamble online. Historically, those with lower levels of education and income are most likely to misunderstand odds and probabilities and to attribute wins to luck, control or a winning system. These cognitive distortions fuel continued gambling, which habituates and leads to mounting losses and gambling problems. Notably, more than 31% of online gamblers indicated they gambled online from work or during work hours; of those gamblers, 40% gambled one or two days a week and nearly 24% gambled three to five days per week. In New Jersey, the state is a primary employer and, as such, has an opportunity to develop programs that ensure that state-run and funded agency administrators and employees are educated in the nature and course of gambling disorder and that employee assistance programs provide gambling treatment by certified gambling counselors.

Ideally, such education would begin in elementary and secondary schools, where the intergenerational effect of problem gambling is most evident and where a majority of educators and parents are unaware of the severe adverse consequences that can result from a seemingly harmless activity. For example, a number of schools in New Jersey train youth in to play a stock market game without educating them about the difference between investing and gambling and the dangers of high-risk trading for other than long-term gain. Targeting youth, who are most likely to prefer online platforms as they reach legal gambling age, with education on gambling along with substance abuse, will help foster responsible gambling and informed choices. As with screening and treatment, it is important for these programs to be carefully designed and evidence-tested, to ensure that the information provided reduces potential harm rather than generating interest in gambling as an income-producing activity. In addition, requirements for licensing substance abuse counselors should also meet requirements for certified gambling counseling, and programs, colleges, and universities offering courses for licensure should integrate these curricula. This is particularly important in light of findings in this study which suggest ethnic minorities and those with the highest

levels of problem gambling severity also report the highest rates of substance abuse, addictive behaviors, and serious mental health issues including suicidality.

Finally, the study investigated the prevalence and gambling behavior of daily fantasy sports players. Whether or not DFS is gambling is beyond the scope of this report. This report does demonstrate, however, that nearly all DFS players gamble and do so at higher than expected levels. Of 336 DFS players in this study, all but seven also gambled, predominantly on gaming machines, casino table games, other games of skill, sports and horses. Nearly all DFS players (95%) in the study were high frequency/high risk gamblers who would likely meet criteria for gambling disorder and more than 84% percent gambled once a week or more. Notably, DFS players also reported higher levels of substance use, behavioral problems and mental health issues than other non-DFS gamblers. They were 13 times more likely to report suicidal ideation and nine times more likely to have attempted suicide compared to other gamblers. These findings suggest that DFS play is highly correlated with problem and disordered gambling and a host of other mental health problems. Policy decisions regarding DFS regulation should anticipate a very high prevalence of gambling problems in this group and the negative consequences that typically accompany those problems such as employment, legal, relationship, financial, health and mental health problems. It is important to ensure there are prevention, education, and treatment resources developed for and available to this population.

Recommendations:

Based on the findings of this study and related scholarly literature, we posit the following recommendations for addressing current and future challenges associated with problem gambling issues:

- Strengthening responsible gambling programs online by requiring enrollment and limit-setting at sign-up and increasing the visibility of and access to features during play would seemingly address the main disadvantages of online play.
- Ensuring proportionate representation of gambling treatment services across regions, including services culturally tailored to Spanish- and Mandarin-speakers as well as to Blacks or African Americans.
- Developing and providing education and training to administrators and employees at State-run and funded agencies, including schools, on the nature and course of gambling disorder and resources available for affected employees.
- Initiating education on gambling disorder along with substance abuse education in schools and training educators on screening, intervention, and referral of students with gambling problems.
- Integrating requirements for gambling counselor certification with those for substance abuse counseling to ensure that graduating clinicians and licensed substance abuse counselors are equally credentialed to screen and treatment both.
- Anticipating program service needs of daily fantasy sports players who will likely have high levels of gambling pathology in policymaking and legislative decisions concerning DFS regulation.

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