Current Trends in Gambling, Sports Betting and Problem Gambling in Massachusetts, 2022-2024

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SEIGMA

SOCIAL AND ECONOMIC IMPACTS OF GAMBLING IN MASSACHUSETTS

UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

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Authorship and Acknowledgements

Authorship

Rachel A. Volberg, Research Professor at the School of Public Health and Health Sciences, University of Massachusetts Amherst and Principal Investigator on the SEIGMA project. Dr. Volberg is the lead author of this report.

Valerie Evans, SEIGMA Project Manager and Biostatistician, School of Public Health and Health Sciences, University of Massachusetts Amherst. Ms. Evans provided background research on the topic and reviewed the draft report.

Parastoo Dezyani, doctoral student in the School of Public Health and Health Sciences at the University of Massachusetts, was responsible for data cleaning, data management, and data analysis and the production and checks of all tables and figures.

Robert J. Williams, Professor in the Faculty of Health Sciences at the University of Lethbridge in Alberta, Canada, and Co-Principal Investigator on the SEIGMA project. Dr. Williams contributed to all sections of the report.

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Executive Summary

Population surveys of gambling participation and gambling problems have become increasingly expensive and complex over time. An emerging option to improve surveillance is the use of annual online panel surveys to supplement less frequent population surveys. While online panels are not representative of the population, individuals who participate in such surveys are more likely to be heavy gamblers which provides a much greater 'yield' of individuals with characteristics of the greatest concern to policymakers, regulators, and others seeking to minimize and mitigate gambling harm.

This report assesses changes in gambling attitudes, gambling participation and problem gambling prevalence among monthly gamblers in the four most recent online panels in Massachusetts, carried out between 2022 and 2024. While online panels cannot be used to estimate population prevalence rates, it is reasonable to assume that changes in the behavior of monthly gamblers in the online panels do reflect changes in how heavy gamblers in the population are behaving. This report is the second in a series of reports tracking gambling attitudes, participation and problem gambling prevalence in Massachusetts at regular intervals.

Altogether, five online panel surveys have been carried out in Massachusetts as part of the SEIGMA study. The Baseline Online Panel Survey (BOPS) was fielded in 2013 and 2014; the Follow-up Online Panel Survey (FOPS) was fielded in March 2022; the 2023 Online Panel Survey (OPS23) was fielded one year later in March 2023; and two online panel surveys were fielded in the Spring and Fall of 2024. The goal of the online surveys was not to generate estimates of behaviors in the population but instead to track changes in behavior over time among monthly or more frequent gamblers. It is important to emphasize that we did not conduct a longitudinal study of the same people over time; instead, surveys were completed by different groups of people at each point in time.

Key Findings

This report presents results for monthly gamblers in our online panel surveys. We use the terms "among monthly gamblers in the online panels" and "among monthly gamblers" but this always refers only to panel members and not to the population of Massachusetts.

Attitudes Toward Gambling

- Rise in proportion of monthly gamblers in the online panels who believe that the harm of gambling outweighs the benefits from 2022 to 2024;
- Decline in proportion of monthly gamblers who believe that all types of gambling should be legal between 2022 and 2023;
- Rise in proportion of monthly gamblers who believe that gambling in Massachusetts is too widely available between 2022 and 2023.

Gambling Behavior

- Rising participation in most gambling activities from 2022 to 2023 followed by declines in Spring 2024 with no significant changes in Fall 2024;
- No significant change in participation in traditional large jackpot lottery games between 2022 and 2024;
- Decline in participation in instant lottery games between 2023 and Spring 2024;
- Rising gambling intensity (number of types of gambling, number of days gambled) among monthly gamblers between 2022 and 2023;
- Rising rates of monthly and weekly betting on sports among monthly gamblers from 2022 to 2023 with rates maintained in 2024;

- Declines in the rate of social sports betting among monthly gamblers and rising sports betting with legal land-based sportsbooks in Massachusetts and with online sportsbooks in Massachusetts between 2022 and 2023 with rates maintained in 2024;
- Some recapture of illegal sports betting expenditures in Massachusetts among monthly gamblers between 2022 and 2024.

Gambling Problems and Harms

- Rise in problem gambling prevalence among monthly gamblers in the online panels between 2022 and 2023 with the rate maintained in 2024;
- Rise in family and relationship harms between 2022 and 2023 with another rise in Spring 2024 that was maintained in Fall 2024.

Recommendations

- Given rising rates of sports betting frequency, education and harm reduction strategies targeting sports bettors are warranted.
- There is a need to expand responsible gambling tools to support individuals reporting financial harms and/or family or relationship harms.

Introduction

In November, 2011, an Act Establishing Expanded Gaming in the Commonwealth was passed by the Legislature and signed by Governor Deval Patrick (Chapter 194 of the Acts of 2011). This legislation permitted casinos and slot parlors to be introduced in Massachusetts under the regulatory auspices of the Massachusetts Gaming Commission (MGC). Three casino licenses were available, with one allocated for the Greater Boston area, one for Western Massachusetts, and one for Southeastern Massachusetts. A single license for a slot parlor was also available, with no geographic restriction as to its location.

Following passage of the Expanded Gaming Act, two casinos and one slot parlor were approved by the MGC. The slot parlor, Plainridge Park Casino (PPC), is located in the Town of Plainville and opened on June 24, 2015. The Western Massachusetts casino, MGM Springfield (MGM), is located in the City of Springfield and opened on August 24, 2018. The Greater Boston casino, Encore Boston Harbor (EBH), is located in the City of Everett and opened on June 23, 2019. To date, no casino application has been approved for Southeastern Massachusetts.

Section 71 of the Expanded Gaming Act requires the MGC to establish an 'annual research agenda' and identifies three essential elements of this research agenda:

- A baseline study of problem gambling and the existing prevention and treatment programs that address its harmful consequences;
- Comprehensive studies of the social and economic impacts of gambling in the commonwealth; and
- Individual studies relative to the neuroscience, psychology, sociology, epidemiology, and etiology of gambling.

To accomplish the first two goals of the annual research agenda, the MGC issued a Request for Response for Research in November, 2012. In March of 2013, the MGC selected a research team from the University of Massachusetts Amherst (UMass) School of Public Health and Health Sciences to carry out a comprehensive research agenda that included both the baseline study of problem gambling and a study of the social and economic impacts of casino gambling in Massachusetts. The study, titled the *Social and Economic Impacts of Gambling in Massachusetts* (SEIGMA), was originally envisioned as a before-and-after evaluation of the impacts of the introduction of casinos in Massachusetts. However, the gradual introduction of casinos over an extended period from 2015 to 2019 led to the decision to produce periodic reports that comprehensively document the known impacts, with the first report published in 2018 (SEIGMA Research Team, 2018) and the next report anticipated in 2024.

In August, 2022, an Act to Regulate Sports Wagering was passed by the Massachusetts Legislature and signed into law by Governor Charlie Baker. This legislation allows for up to 15 sports betting licenses in the Commonwealth with eight of the licenses tied to a land-based partner (the three licensed casinos, three online licenses tethered to the casinos, and two racetracks still operating simulcast facilities) and the remaining seven online licenses open to competitive bidding. Individuals physically located in Massachusetts can wager on most professional sports leagues but cannot bet on in-state college teams unless the teams are playing in a tournament with four or more teams. The MGC is responsible for overseeing the establishment and regulation of the Massachusetts sports betting industry.

Monitoring Gambling and Problem Gambling in Massachusetts

Gambling-related harms are a tangible threat to public health and should be monitored as such (Price, Hilbrecht, & Billi, 2021). Surveillance is an essential component of an overall public health approach particularly for the prevention and mediation of harm. The recent introduction of sports betting to the Commonwealth underscores the importance of regular surveillance of gambling behavior in Massachusetts as new gambling types and formats are introduced. The shift to online gambling also introduces a new challenge to regulators and policymakers as gambling is no longer restricted to brick-and-mortar establishments but can be done anywhere and at any time. Going forward, new strategies and policies to track and respond to gambling-related harms in real time will become increasingly important (Marionneau, Ruohio, & Karlsson, 2023).

The SEIGMA team has fielded multiple surveys of gambling participation and problem gambling prevalence since 2013. Table 1 presents information about these surveys, including sample sizes and the year each one was carried out.

Table 1 SEIGMA surveys in Massachusetts

Survey	Sample Size	Year
Baseline General Population Survey (BGPS)	9,578	2013-2014
Baseline Online Panel Survey (BOPS)	5,046	2013-2014
Baseline Targeted Surveys (Plainville, Springfield) (B-TPP, B-TPS)	~1,000 each	2014, 2015
Follow-up Targeted Surveys (Plainville, Springfield) (F-TPP, F-TPS)	~1,000 each	2016, 2019
Follow-up General Population Survey (FGPS)	6,293	2021-2022
Follow-up Online Panel Survey (FOPS)	3,038	2022
Online Panel Survey 2023 (OPS23)	3,380	2023
Online Panel Survey 2024-Spring (OPS24 Spring)	3,383	2024
Online Panel Survey 2024-Fall (OPS24 Fall)	3,045	2024
MA Gambling Impact Cohort (MAGIC) – 5 waves	3,139	2013-2019

In line with the original research plan for SEIGMA, the Baseline and Follow-up Online Panel Surveys (BOPS, FOPS) were implemented in 2014 and 2022. The original purpose of the online panels was to recruit a significantly larger number of heavy gamblers and those experiencing gambling problems than could be obtained with address-based sampling methods. These enriched samples provided more reliable estimates of the behaviors and characteristics of Massachusetts adults at highest risk of experiencing gambling harms, the negative personal impacts of gambling, the differential impact of different types of gambling on gambling-related problems, and prevention awareness and treatment-seeking behavior of individuals experiencing gambling problems.

While online panels cannot be used to estimate population prevalence rates, it is reasonable to assume that changes in the behavior of online panelists do reflect changes in how heavy gamblers in the general population are behaving. The SEIGMA team recently concluded that while online panel surveys cannot be used to establish accurate gambling participation and problem gambling prevalence rates, they hold considerable value as a means to identify the **direction of changes** in gambling-related attitudes, behaviors, and harms on a regular basis. Fielding annual online panel surveys, as the SEIGMA team has done over the past few years, is a time- and cost-effective way of conducting regular surveillance and providing regulators and policymakers with crucial information to target gambling-harm mitigation strategies. This approach takes advantage of a 'bug' in the nature of online panels and turns it into a 'feature.'

This report presents information about changes in gambling participation and problem gambling prevalence among monthly gamblers across four online panel surveys carried out in Massachusetts between 2022 and 2024. Changes in views of gambling as a recreational activity, in rates of gambling participation, gambling problems and gambling-related harms are also addressed. This report is modeled on an earlier report that summarized results from online panel surveys carried out in Massachusetts in 2014, 2022 and 2023 (Volberg, Zorn, Evans, & Williams, 2024).

Overview of Methods

Online panels consist of groups of people recruited to participate in online surveys in return for compensation. Sociodemographic and behavioral information is collected from panel members so that a stratified sample can be selected to match the sociodemographic characteristics of the jurisdiction where a survey is conducted. The advantages of online panel surveys are that (a) the validity of answers to 'sensitive questions' (e.g., gambling) tends to be higher in self-administered formats (Tourangeau & Smith, 1996; van der Heijden, Van Gils, Bouts, & Hox, 2000); (b) everyone has agreed and expects to be contacted (unlike population surveys); (c) the results can be obtained in a much shorter period of time; and (d) they are much less expensive than surveys utilizing probability sampling (Olson et al., 2021).

The main limitation of online panels is that panelists are not randomly selected but rather have self-enrolled. While online panel companies generally stratify their samples to be demographically representative of the population, significant behavioral biases typically remain that cannot be corrected by this stratification or by demographic weighting (e.g., Pickering & Blaszczynski, 2021; Williams, Lee & Back, 2013). One obvious issue is that a non-random minority of people do not use the Internet and thus are not eligible to be part of an online panel. An additional consistent finding is that online panel members tend to have much higher levels of pathology than are found in the general population, including overall rates of substance use, mental health problems, gambling involvement, and addictions.

While we have been careful to emphasize that the results of online panel surveys cannot be used to estimate population prevalence, there are other assumptions built into our approach that could affect the interpretation of the results. For example, it is important to acknowledge that our central assumption, namely that monthly gamblers in the online panels are representative of heavy gamblers in Massachusetts, may not be as well-founded as we believe. It is also possible that the characteristics of people who agree to participate in online panel surveys may change over time which would render trends observed over time unreliable. One final point to emphasize is that we did not conduct a longitudinal study of the same people over time; instead, surveys were completed by different groups of people at each point in time.

Online Panel Surveys in Massachusetts, 2014-2024

Five online panel surveys have been carried out in Massachusetts as part of the SEIGMA study. The Baseline Online Panel Survey (BOPS) was fielded in 2013 and 2014 simultaneously with the Baseline General Population Survey (BGPS). The Follow-up Online Panel Survey (FOPS) was fielded in 2022 simultaneously with the Follow-up General Population Survey (FGPS). The third Online Panel Survey (OPS23) was fielded one year after the FOPS in 2023. A fourth online panel survey was fielded in March 2024 and a fifth online panel survey was completed in December 2024.[1]

Ethics approval was obtained for all of the surveys from the University of Massachusetts Institutional Review Board (IRB# 175 2013-1709). The review ensured that privacy was protected, informed consent was obtained, and safeguards were in place to protect the data.

[1] The fifth online panel survey was fielded in order to provide the MGC with up-to-date surveillance information in the event that the current SEIGMA research team is unsuccessful in competing for a re-procurement of the project in 2025.

Recruitment and Sample

Qualtrics conducted the Follow-up Online Panel Survey (FOPS), the 2023 Online Panel Survey (OPS23) and both of the 2024 Online Panel Surveys (OPS24 Spring and OPS24 Fall). Qualtrics maintains an online panel of individuals who have agreed to participate in research studies in return for small incentives and have provided demographic information about themselves. In each case, this information was used to recruit a sample of Massachusetts adults with quotas established for age and gender but with no limitation by region with the exception of the FOPS. The FOPS was fielded in March 2022, OPS23 was fielded in March 2023, OPS24 Spring was fielded in March-April 2024 and OPS24 Fall was fielded in October-December 2024.

Comparing Monthly Gamblers in the Panels with the General Population

Our analysis of the online panel data is focused on the subset of panelists who gambled monthly or more often in the past year after eliminating a small number of panelists in each survey who had the same IP address as a panelist in the previous survey. This focus is intended to highlight changes in the behavior and experiences of the most heavily involved gamblers in the panels. Eliminating the small number of panelists with identical IP addresses was done to ensure independent observations across the samples which is a critical assumption underlying many statistical tests. Table 2 presents information about the size of the groups of monthly gamblers in each of the online panels carried out in Massachusetts.

Table 2 Online panel samples for analysis

Online Panel	Overall Sample	After Removing Duplicates	%	Gambled Monthly or More	%
FOPS 2022	3038	3038	100	1631	53.7
OPS23 2023	3380	3215	95 .1	1866	58.0
OPS24 Spring	3383	3241	95.8	1916	59.1
OPS24 Fall	3045	2806	92.1	1577	56.2

To provide context for the findings, it is helpful to compare the monthly gamblers in the online panels with characteristics of the general population. Monthly gamblers in the panels were more likely than the adult Massachusetts population to be male, more likely to be under the age of 35, more likely to be Hispanic or Black and less likely to be Asian, more likely to have obtained some college education, and less likely to have annual household incomes of $50,000 or more. Table 11 in the Appendix provides detailed information about the demographics of monthly gamblers in the Massachusetts online panels compared with Massachusetts adults.[2]

[2] Readers may be surprised that members of online panels tend to have higher education but lower income than the population. However, research shows that lower education is associated with less likelihood of completing online surveys (Jang & Vorderstrasse, 2019). Studies have also found that survey respondents in lower socio-economic populations are more likely to have graduated college compared to non-respondents (Roberts et al., 2020).

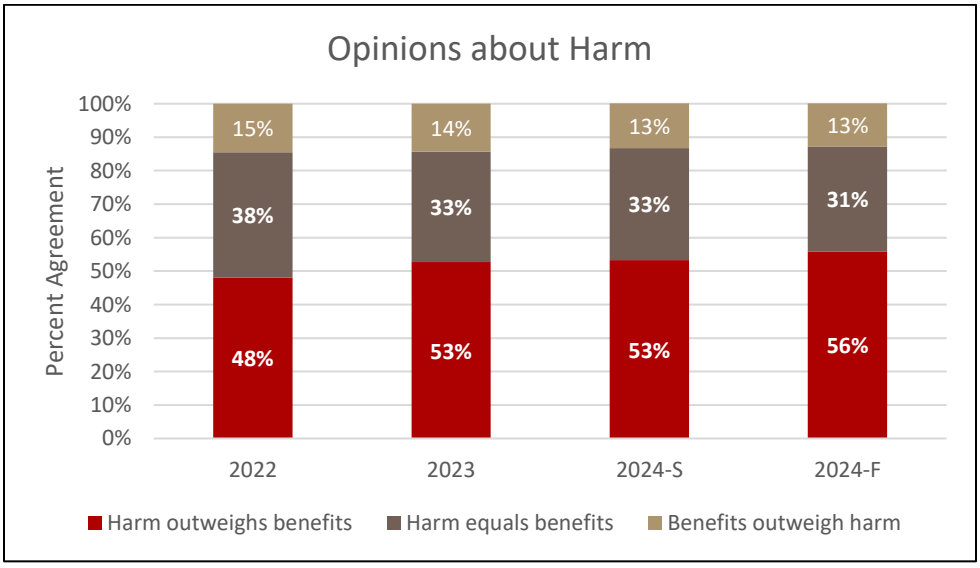
Attitudes Toward Gambling

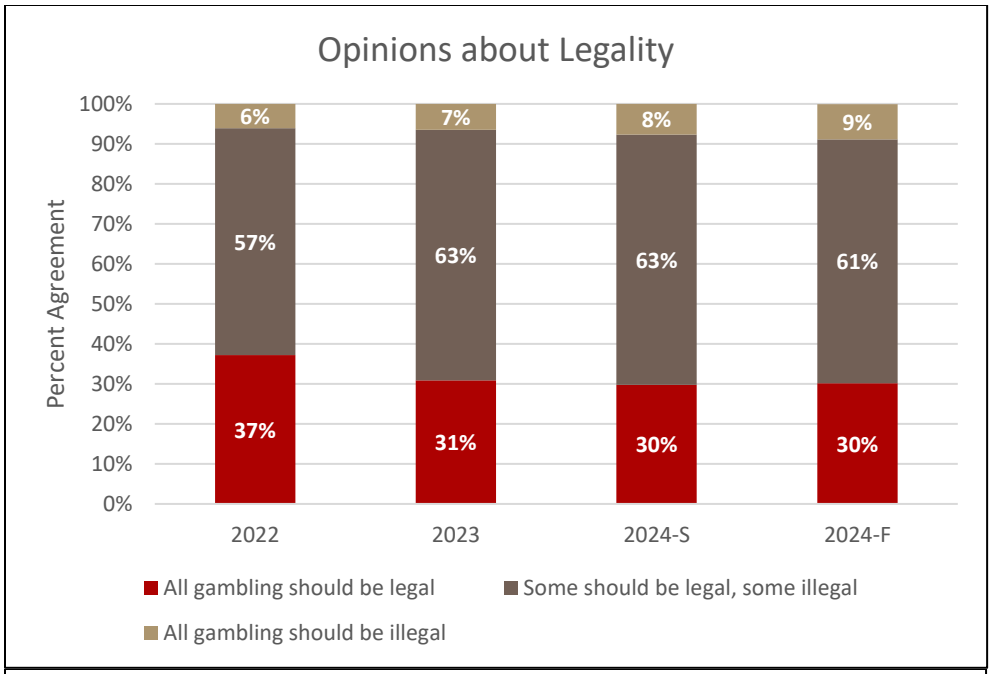
Before examining gambling participation among monthly gamblers in the online panels, it is helpful to consider these gamblers' attitudes toward gambling in Massachusetts. Online panelists were asked several questions about their views of gambling. Questions assessed panelists' beliefs about the overall benefit or harm of gambling in society, about legalized gambling in general, and about the availability of gambling in Massachusetts. Figure 1 presents information about the proportion of monthly gamblers in each online panel that endorsed different answers to several of these questions. Statistical significance is based on non-overlapping 95% confidence intervals.

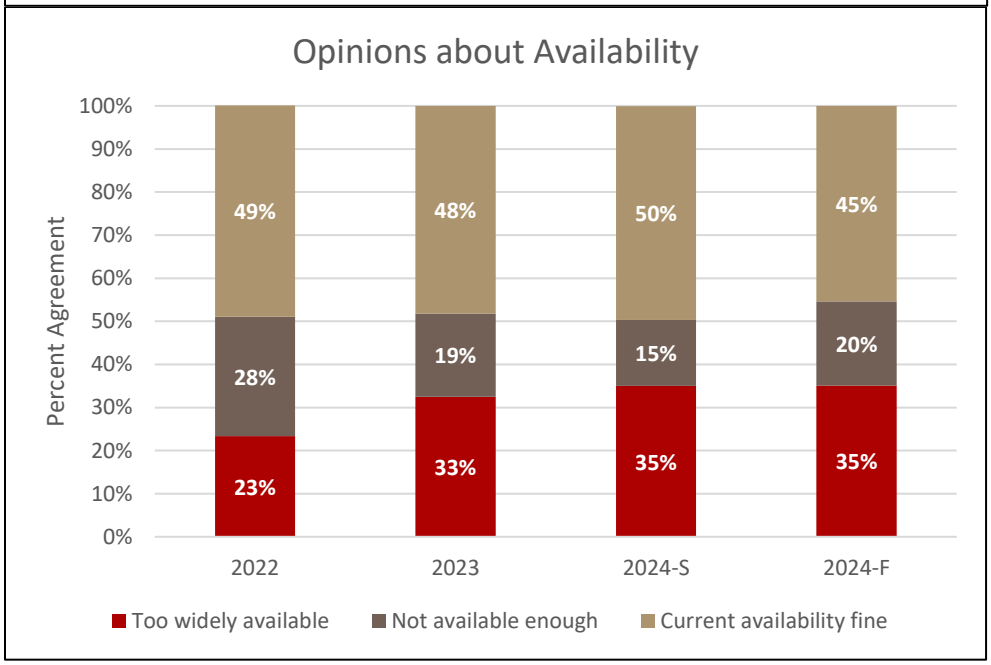
With respect to beliefs about the overall benefit or harm of gambling in society, monthly gamblers in 2024 (Spring and Fall) were significantly more likely than monthly gamblers in 2022 to believe that the harm of gambling outweighs the benefits. Monthly gamblers in Fall 2024 were significantly less likely than monthly gamblers in 2022 to believe that the benefits and harm of gambling were about equal. Monthly gamblers in 2023 and 2024 (Spring and Fall) were significantly less likely than monthly gamblers in 2022 to believe that all types of gambling should be legal; monthly gamblers in Fall 2024 were significantly more likely than monthly gamblers in 2022 to believe that all types of gambling should be illegal. Monthly gamblers in 2023 and 2024 (Spring and Fall) were significantly more likely than monthly gamblers in 2022 to believe that gambling was too widely available in Massachusetts and significantly less likely to believe that gambling was not available enough.

While the changes in attitudes toward gambling identified among monthly gamblers in the online panel surveys cannot be generalized to the Massachusetts population, it is notable that attitudes towards gambling among monthly gamblers became less favorable in the wake of sports betting legalization in Massachusetts, which occurred in 2022. Detailed information about gambling attitudes among monthly gamblers in the online panels is presented in Table 12 in the Appendix.

Figure 1 Attitudes about gambling among monthly gamblers in the online panels (unweighted)







Note: Results with confidence intervals are presented in Table 12 in the Appendix.

Gambling Behavior

Information on overall past-year gambling participation as well as participation in specific types of gambling among monthly gamblers in the online panel surveys carried out in Massachusetts between 2022 and 2024 is helpful in understanding changes in the gambling behavior of heavy gamblers during a period when sports betting was legalized and became operational in the state. Again, while data from the online panel surveys is not representative of the population, changes from one time to the next provide suggestive evidence of changes in gambling participation in Massachusetts in recent years.

Figure 2 presents past-year gambling participation rates among monthly gamblers in the online panels for the types of gambling available to Massachusetts adults. Detailed results are presented in Table 13 in the Appendix with confidence intervals. Information about statistically significant differences in the results is presented in Table 14.[3] Figure 2 shows that past-year participation rates among monthly gamblers in the online panels were higher for the majority of specific types of gambling in 2023 compared to 2022 (10 out of 12 specific types of gambling). Another common pattern is that past-year participation rates in Spring 2024 were higher for the majority of specific types of gambling compared to 2022 (9 of 12 specific types). Past-year participation was not significantly higher for any specific types of gambling in Spring 2024 compared to 2023. Instead, past-year participation rates in Spring 2024 were significantly lower for the majority of specific types of gambling compared to 2023 (8 of 12 specific types). Past-year participation rates among monthly gamblers in Fall 2024 were significantly higher compared to 2022 for the majority of specific activities (9 of 12 specific types). Past-year participation rates in Fall 2024 were significantly lower than in 2023 for three specific types of gambling and the only significant difference between Spring 2024 and Fall 2024 was in past-year participation in bingo.

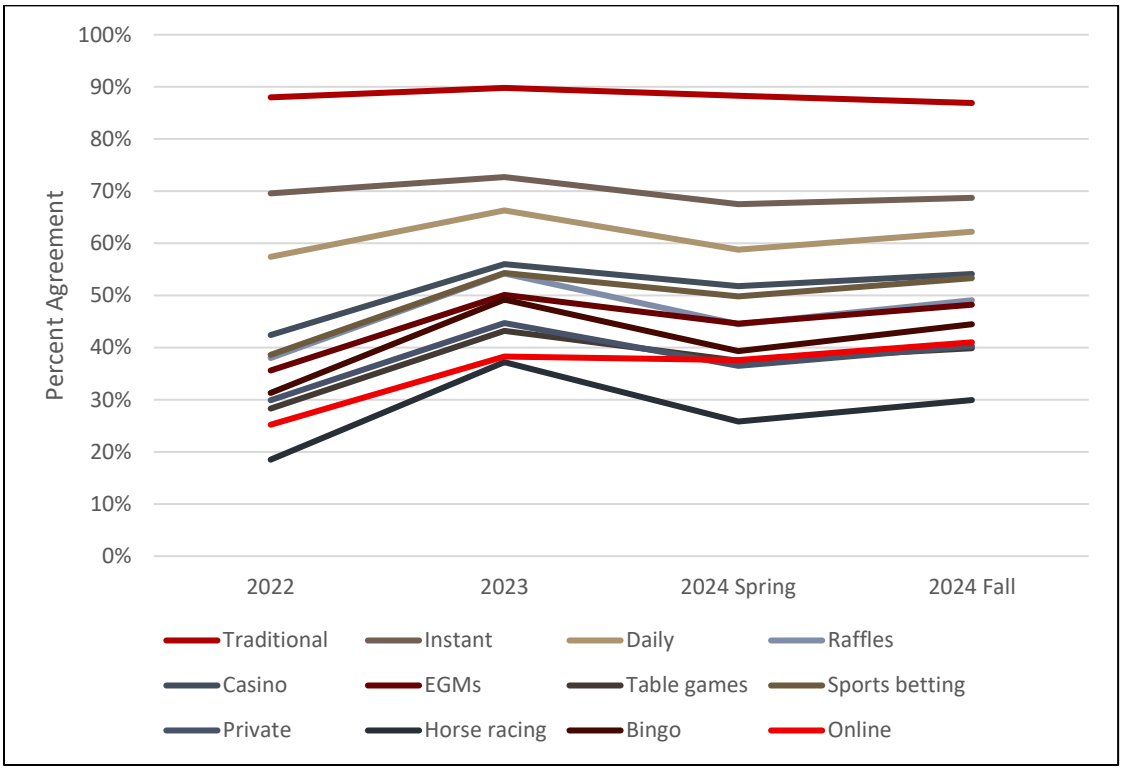
Our conclusion is that the most common pattern in past-year participation in specific types of gambling among monthly gamblers in the online panels was higher participation in 2023 compared to 2022 and lower participation in Spring 2024 compared to 2023 albeit with rates still higher than in 2022. Past-year participation in Fall 2024 was higher compared to 2022 as was the case in 2023 and Spring 2024. Compared to Spring 2024, past-year participation rates in Fall 2024 were lower although the differences were less likely to be statistically significant. There were no significant differences in past-year participation in traditional large jackpot lottery games among monthly gamblers in the online panels across the four surveys. Past-year participation in instant lottery games was lower in Spring 2024 compared to 2023 but not compared to 2022 or Fall 2024.

Recalling the results of the Follow-up General Population Survey (FGPS) where we identified significantly lower rates of gambling participation in 2021 compared to 2013, well after the worst of the COVID-19 pandemic, it was interesting to observe higher rates of participation in most types of gambling among monthly gamblers in the 2023 online panel compared with 2022. We took those findings to suggest that the lingering impact of the pandemic on gambling behavior among monthly gamblers in Massachusetts may have diminished (Volberg et al., 2024). It is unclear why past-year participation rates for most types of gambling remained higher in 2024 among monthly gamblers in the online panels compared to 2022. It is possible that this reflects a further

[3] Results of gambling prevalence surveys typically report past-year participation rates for the entire sample rather than restricting reports to monthly gamblers. To facilitate comparisons to other jurisdictions, information about past-year participation in specific gambling activities for the full samples from the online panel surveys is presented in Table 15 in the Appendix.

adjustment of gambling behavior to current social and economic conditions but there may be other, non-behavioral explanations for these differences such as changes in sample composition.

Figure 2 Past-year gambling participation among monthly gamblers in MA online panels (unweighted)



Beyond past-year participation, it is helpful to consider differences in gambling intensity among monthly gamblers in the online panels. Gambling intensity includes the number of gambling formats engaged with in the past year and the highest frequency of gambling (i.e., number of days gambled in the past year). Table 3 presents information about differences in these measures of gambling involvement among monthly gamblers across the four panels. The mean number of gambling formats was significantly higher in 2023 compared to 2022 and significantly lower in Spring 2024 compared to 2023 (although still higher than 2022) before rising significantly again in Fall 2024. The number of days gambled in the past year rose significantly between 2022 and 2023 and then remained steady through Fall 2024. Finally, median gambling expenditures rose significant between 2022 and 2023 and did not change significantly between 2023 and Fall 2024.[4]

[4] There were differences in how gambling expenditures were measured in 2022 compared with the later online panel surveys. In 2022, panelists were allowed to record how much money they spent on each activity in a typical month using a negative sign to indicate losses and a positive sign to indicate winning in a typical month. Starting in 2023, panelists were restricted to reporting losses using categorical ranges. After considering several approaches to align data across the surveys, we chose to report median expenditures to focus on differences in losses.

Table 3 Gambling intensity among monthly gamblers in MA online panels (unweighted)

	FOPS 2022			OPS2023			OPS2024 Spring			OPS2024 Fall		
	n	mean	95% CI	n	mean	95% CI	n	mean	95% CI	n	mean	95% CI
# gambling formats	1631	4.6	(4.5, 4.7)	1866	6.0	(5.8, 6.2)	1916	5.3	(5.2, 5.4)	1577	5.6	(5.5, 5.8)
Highest frequency of days/year	1631	103	(98.2, 107.9)	1866	112.6	(108.1, 117.0)	1916	108.8	(104.3, 113.3)	1577	113.1	(108.1, 118.1)
	FOPS 2022			**OPS2023**			**OPS2024 Spring**			**OPS2024 Fall**		
	n	median	95% CI	n	median	95% CI	n	median	95% CI	n	median	95% CI
Gambling expenditures	784	$1044	($700, $1387)	1866	$2910	($2282, $3538)	1916	$2220	($1653, $2787)	1577	$2280	$1704, $2857)

Focus on Sports Betting

As noted in the *Introduction*, Massachusetts legalized sports betting in August 2022 and tasked the MGC with overseeing the industry. The law created three categories of licenses, including in-person sports betting at casinos; in-person sports betting at racetracks and/or simulcast centers; and online or mobile sports betting. The three licensed casinos in Massachusetts were granted Category 1 sportsbook licenses that became effective at the end of January 2023. Nine operators were initially granted Category 3 licenses to offer online sports betting that rolled out beginning in March 2023. As of May 2025, four mobile sportsbooks tethered to the land-based casinos and three untethered sportsbooks (DraftKings, FanDuel and Bally Bet) were licensed and operating in Massachusetts. As of May 2025, no Category 2 sports betting licenses had been awarded.

Given the recent introduction of legal sports betting in Massachusetts, it is informative to first consider how past-year sports betting behavior changed among all members of the online panels before narrowing our focus to monthly gamblers. Among the **online panels as a whole**, past-year participation in sports betting rose from 16.7% in March 2022 before sports betting was legalized in Massachusetts to 26.9% in March 2023 just as the Category 3 sportsbooks began operating and remained steady at 32.6% in both of the 2024 panels.

Table 4 presents information about sports betting participation among monthly gamblers in the 2022 through 2024 online panels. Table 4 shows that in 2022, 61.4% of monthly gamblers in the panel had not gambled on sports in the past year while 31.7% had gambled on sports at least monthly or weekly in the past year. In 2023, there was a decline in the proportion of monthly gamblers who had not gambled on sports in the past year (to 45.7%) and a rise in the proportion of monthly gamblers who had gambled on sports at least monthly or weekly (to 47.5%). In 2024, the proportion of monthly gamblers who had not gambled on sports in the past year remained steady at about 50% while the proportion of monthly gamblers who had gambled at least monthly on sports declined to 41.5% in Spring 2024 and rose slightly to 45.5% in Fall 2024.

Table 4 Past-year sports betting frequency and activities among monthly gamblers (unweighted)

		FOPS 2022		OPS2023		OPS2024 Spring		OPS2024 Fall	
		%	95% CI	%	95% CI	%	95% CI	%	95% CI
Frequency of sports betting	1=never	61.4	(59.0, 63.8)	45.7	(43.4, 47.9)	50.2	(47.9, 52.4)	46.7	(44.2, 49.1)
	2=at least yearly	6.9	(5.7, 8.2)	6.8	(5.7, 8.0)	8.4	(7.2, 9.7)	7.9	(6.6, 9.3)
	3=at least monthly	12.8	(11.3, 14.5)	19.2	(17.5, 21.0)	16.0	(14.4, 17.7)	19.2	(17.3, 21.2)
	4=at least weekly	18.9	(17.1, 20.9)	28.3	(26.3, 30.4)	25.5	(23.6, 27.5)	26.3	(24.2, 28.5)
Type of sports betting engaged in	Professional sporting events	60.4	(56.5, 64.2)	61.9	(58.9, 64.9)	64.7	(61.6, 67.7)	61.1	(57.8, 64.4)
	Sports parlays	36.9	(33.2, 40.7)	51.2	(48.1, 54.3)	49.3	(46.2, 52.5)	50.2	(46.8, 53.6)
	Fantasy sports betting	32.4	(28.9, 36.2)	34.6	(31.7, 37.6)	29.2	(26.4, 32.2)	28.5	(25.6, 31.7)
	Betting on sports you participated in	11.8	(9.5, 14.5)	13.2	(11.3, 15.4)	12.5	(10.5, 14.7)	12.5	(10.4, 14.9)

The decline in the proportion of monthly gamblers who had responded 'never' to betting on sports between 2022 and 2023 was statistically significant. The rise in weekly sports betting between 2022 and 2023 was statistically significant and remained significantly higher in both of the 2024 panels compared to 2022. The rise in monthly sports betting between 2022 and 2023 was statistically significant as was the difference between 2022 and Fall 2024. All of these changes were likely associated with the launch of legal sports betting operations in Massachusetts between January and March 2023.

Participation in Specific Types of Sports Betting

Detailed information about sports betting formats was collected in all of the online panel surveys. Panel members who had bet on sports in the past year were asked where and how they bet on sports. Options included:

- Office sports pools or social betting against friends or family
- Placing bets with a legal, land-based sportsbook outside of Massachusetts
- Placing bets with a legal, land-based sportsbook within Massachusetts
- Placing bets with an illegal/underground land-based sportsbook or bookmaker in Massachusetts
- Placing bets on sporting events with an online sportsbook outside of Massachusetts
- Placing bets on sporting events with an online sportsbook within Massachusetts

Table 5 shows that there was a significant decline in participation in office sports pools and social betting between 2022 and 2023 but very little change between 2023 and 2024. The rise in betting with legal, land-based sportsbooks in Massachusetts from 22.6% in 2022 to 42.6% in 2023 was significant and participation higher in both 2024 surveys. There was a significant decline in betting on sporting events with an online sportsbook outside of Massachusetts between 2022 and 2023 followed by a rise in this type of betting in Spring 2024. The rise in betting on sporting events with an online sportsbook in Massachusetts from 11.4% in 2022 to 26.6% in 2023 was significant and this type of sports betting remained significantly higher in both 2024 surveys compared with 2022.

There were no significant changes in sports betting with legal, land-based sportsbooks outside of Massachusetts between 2022 and 2024. There were also no significant changes in sports betting with illegal/underground land-based sportsbooks or bookmakers in Massachusetts.

Table 5 Past-year participation by monthly gamblers in sports betting formats (unweighted)

		FOPS 2022		OPS 2023		OPS 2024 Spring		OPS 2024 Fall	
		%	95% CI	%	95% CI	%	95% CI	%	95% CI
Where and how bet on sports	Office sports polls or social betting against friends/family	49.3	(45.4, 53.2)	33.6	(30.8, 36.6)	36.6	(33.6, 39.8)	32.2	(29.1, 35.5)
	Legal land-based sportsbook outside MA	29.3	(25.8, 32.9)	31.8	(29.0, 34.7)	26.7	(24.0, 29.6)	32.3	(29.3, 35.6)
	Legal land-based sportsbook in MA	22.6	(19.5, 26.0)	42.6	(39.6, 45.7)	35.9	(32.9, 39.0)	36.0	(32.8, 39.3)
	Illegal/underground land based sportsbook or bookmaker in MA	16.9	(14.1, 20.0)	19.6	(17.3, 22.2)	13.6	(11.6, 15.9)	16.3	(13.9, 18.9)
	Sports event with online sportsbook outside MA	22.4	(19.3, 25.8)	16	(13.8, 18.4)	20.9	(18.5, 23.6)	20.5	(17.9, 23.3)
	Sports event with online sportsbook in MA	11.4	(9.2, 14.2)	26.6	(24.0, 29.4)	30.3	(27.4, 33.3)	26.9	(24.0, 30.0)

Legal and Illegal Sports Betting Between 2022 and 2024

To elucidate the question of recapture of sports betting expenditures via legalization of sports betting in Massachusetts, the types of sports betting included in the panel surveys were divided into legal and illegal activities. Panelists were classified as having done no sports betting, only legal sports betting (including legal venues in other jurisdictions), both legal and illegal sports betting, and only illegal sports betting on the basis of their responses to a question about sports betting formats. It is important to note that the last two options under 'Legal sports betting' were not legal in Massachusetts in 2022 since sports betting did not become fully operational in the Commonwealth until March 2023.

Legal sports betting included:

- Office sports pools and social/friendly betting,[5]
- Placing bets with a legal land-based sportsbook outside of Massachusetts,
- Placing bets with a legal, land-based sportsbook within Massachusetts, and
- Placing bets with an online sportsbook in Massachusetts.

Illegal sports betting included:

- Placing bets with an illegal land-based bookmaker in Massachusetts, and
- Placing bets on sports events with an online sportsbook outside of Massachusetts.[6]

Table 6 shows that there was no change in the proportion of monthly gamblers in the online panels who had engaged in **any illegal** sports betting between 2022 and 2024 but a decrease in the proportion of monthly gamblers who engaged in **only illegal sports betting**. There was also no change in sports betting 'leakage' (i.e., spending on sports betting operators outside of Massachusetts). Finally, in response to a question in the 2023

[5] Although technically illegal under Massachusetts law, informal sports betting with friends and family is widely tolerated and rarely prosecuted (https://malegislature.gov/Laws/GeneralLaws/PartIV/TitleI/Chapter271/Section1).

[6] Betting with a legal online sportsbook outside of Massachusetts would not be illegal if the bettor were physically located outside the Commonwealth.

and 2024 surveys, approximately half of monthly gamblers indicated that if Massachusetts had not legalized sports betting, they would have gambled on sports in other jurisdictions or online with an out-of-state operator.

Table 6 Legal and illegal sports betting by monthly gamblers (unweighted)

	FOPS 2022		OPS 2023		OPS 2024 Spring		OPS 2024 Fall	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Only legal sports betting	66.1	(62.3, 69.7)	68.1	(65.2, 70.9)	69.6	(66.6, 72.5)	67.4	(64.2, 70.5)
Any illegal sports betting	33.9	(30.3, 37.7)	31.9	(29.1, 34.8)	30.4	(27.5, 33.4)	32.6	(29.5, 35.8)
Only illegal sports betting	13.5	(11.1, 16.4)	6.8	(5.4, 8.5)	7.3	(5.8, 9.2)	8.3	(6.6, 10.4)
Any sports betting leakage	54.5	(50.6, 58.4)	51.2	(48.1, 54.3)	47.7	(44.6, 50.9)	53.5	(50.1, 56.9)
If MA had not legalized sports betting, would you have spent the money that you spent gambling on sports at sportsbooks in other states or countries (on-line or in person)			53.0	(47.0, 58.9)	45.0	(40.9, 49.2)	49.7	(45.2, 54.2)

Taken together, these data suggest that there has been some recapture of illegal sports betting revenues in Massachusetts between 2022 and 2024. This is evidenced by the significant rise in the proportion of monthly gamblers in the online panels who gambled at a legal land-based sportsbook in Massachusetts and in the proportion of monthly gamblers who gambled with an online sportsbook in Massachusetts. It is further evidenced by the significant decline in the proportion of monthly gamblers who only placed bets with an illegal land-based bookmaker in Massachusetts.

As we noted in the first report in this series (Volberg et al., 2024), many jurisdictions internationally have found that it can take a substantial period of time for sports bettors to migrate fully from non-regulated to regulated providers (Lopez-Gonzalez, 2021). The latest national gambling study in Canada found that market capture of sports betting increased significantly over time as bettors became more aware of and gravitated towards legal options.

Gambling Problems and Gambling Harms

Many instruments exist for the population assessment of problem gambling. Internationally, the most commonly used instruments are the South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987), the Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001) and various scales based on the DSM diagnostic criteria for pathological gambling (e.g., Fisher, 2000; Gerstein, Volberg, Harwood, & Christiansen, 1999; Kessler et al., 2008; Petry, Stinson, & Grant, 2005). In Massachusetts, the Problem and Pathological Gambling Measure (PPGM) (Williams & Volberg, 2014) has served as the primary instrument to assess problem gambling in all of the SEIGMA surveys.

Measuring Problem Gambling in Massachusetts

The PPGM is a 14-item assessment instrument with questions organized into three sections: Problems, Impaired Control, and Other Issues. The instrument employs a 12-month timeframe and recognizes a continuum of gambling across four categories (Recreational, At-Risk, Problem, and Pathological). In contrast to other problem gambling instruments, in which any pattern of item endorsement that results in a score above a certain threshold is sufficient to be designated as a problem gambler, the PPGM requires endorsement of one or more items from the Problems section and one or more items from the Impaired Control section to classify an individual as a **Problem Gambler**. Endorsement of a problem or impaired control, but not both, typically leads to classification as an **At-Risk Gambler**. Gamblers who do not meet the criteria for At-Risk, Problem, or Pathological Gambling are deemed to be **Recreational Gamblers**. Table 7 presents the PPGM typology and the criteria required for classification across these groups.

Table 7 Basis for classifying panelists using the PPGM

Category	Classification criteria
Non-Gambler	Has not gambled in the past 12 months
Recreational Gambler	Has gambled in past 12 months Total score 0
At-Risk Gambler	Total score 1+ Does not meet criteria for more severe categories OR Gambling frequency and expenditure ≥ PG median
Problem Gambler	Has gambled at least once a month in past 12 months Impaired Control score 1+ Problems score 1+ Total score of 2-4 OR Total score 3+ Gambling frequency and expenditure ≥ PG median
Pathological Gambler (equivalent to severe problem gambler)	Has gambled at least once a month in past 12 months Impaired Control score 1+ Problems score 1+ AND Total score of 5+

Revising the PPGM

Research has shown that, relative to other instruments, the PPGM varies less as a function of gender, age and ethnicity, is better suited to capture the multidimensional nature of problem gambling and is better able to differentiate between levels of severity (Christensen, Williams, & Ofori-Dei, 2019; Molander & Wennberg, 2022; Williams & Volberg, 2014). Despite its better performance in the assessment of problem gambling, other categories of the PPGM have lacked rigor. This is particularly true of the At-risk Gambler category, which is operationalized as levels of symptomatology below the Problem Gambler threshold. While the label 'at-risk' implies the possibility of developing more serious problems, it is also the case that endorsing low levels of symptomatology may be a 'wake-up call' for individuals to reduce their gambling involvement. This view is supported by several longitudinal studies of gambling conducted internationally, which have found the 'at-risk' category of both the PGSI and the PPGM to be poorly predictive of future problem gambling (e.g., Billi, Stone, Marden, & Yeung, 2014; el-Guebaly et al., 2015; MAGIC Research Team, 2021).

A related issue is a recent shift internationally from a narrow focus on problem gambling to a broader concern with gambling-related harm. This shift represents a change from a strictly addiction-based model toward a public health model focused on populations and emphasizing a continuum of gambling harms and/or problems (Korn & Shaffer, 1999). Studies show that while those with problem gambling experience higher levels of individual harm, the majority of harm in the population actually occurs in lower-risk groups because of their greater size (Browne, Volberg, Rockloff, & Salonen, 2020; Canale, Vieno, & Griffiths, 2016; Raisamo, Mäkelä, Salonen, & Lintonen, 2015; Volberg, Zorn, Williams, & Evans, 2021). This new focus is also evidenced in the newly developed Lower Risk Gambling Guidelines (LRGG; Hodgins et al., 2022; Young et al., 2021, 2024) which identify risk factors for gambling-related harm rather than problem gambling.

Recently, Gooding, Williams and Volberg (2024) used data from the latest Canadian longitudinal study of gambling to revise the PPGM and test the possibility of better discriminators for 'at-risk' gamblers who would be most likely to develop more severe gambling problems. The resulting instrument includes the original 14 items that make up the PPGM and one new item measuring perception of gambling problems[7] and was renamed the Problem Gambling Measure (PGM). The study identified five robust predictors of future gambling harm and problem gambling[8] which allow for distinctions between 'moderate' at-risk gambling (only 13.1% of people classified in this way will be classified as problem gamblers one year later) and 'high' or 'very high' at-risk gambling (28.1% and 42.9% of people classified in this way will be classified as problem gamblers one year later). The study also identified that a score of seven and higher on the PGM was predictive of continued problem gambling one year later (i.e., chronicity).

For the two most recent online panel surveys in Massachusetts, we used the Problem Gambling Measure (PGM) to assess gambling problems and harms. Table 8 presents the PGM typology and the criteria required for classification across these groups.

[7] The new item, "Have you ever thought that you might have a gambling problem?" follows the 14 items that make up the PPGM.

[8] The five predictors include (1) PPGM total score, (2) problem perception, (3) rated importance of gambling as a leisure activity, (4) largest single day gambling loss, and (5) proportion of social group with gambling problems (Gooding et al., 2024).

Table 8 Basis for classifying respondents using the PGM

Category	Classification criteria
Non-Gambling	Has not gambled in the past 12 months
Recreational Gambling	Has gambled in past 12 months Total score 0
At-Risk Gambling	Does not meet criteria for Problem Gambling Total score 1+ 1. Total PGM score: 0 = 0; 1-2 = 2; 3+ = 5 2. Score on PGM15: 0 = 0; 1 = 2 3. Number of types of gambling monthly: 0-2 = 0; 3-4 = 1; 5+ = 4 4. Largest amount lost in single day: <$200 = 0; $200-$499 = 1; $500+ = 3 5. Importance of gambling as recreational activity: not very important = 0; somewhat important = 1; quite/very important = 2
Moderate At-Risk	Total score 1+
High At-Risk **Very High At-Risk**	Total score 4+ Total score 8+
Problem Gambling	Has gambled at least once a month in past 12 months Impaired Control score 1+ Problems score 1+ Total score of 2+ with **score of 7+ predictive of continued PG in next 12 months** OR Total score 3+ Gambling frequency and expenditure ≥ PG median

Problem Gambling among Monthly Gamblers in the Online Panel Surveys

Information about the prevalence of recreational, at-risk and problem gambling among monthly gamblers in the online panels is presented in Table 9. Results from 2022 and 2023 are based on the PPGM while results from the two 2024 surveys are based on the PGM. It is important to reiterate that changes in problem gambling prevalence among monthly gamblers in the online panels cannot be generalized to the Massachusetts population.

Table 9 shows that the prevalence of problem gambling among monthly gamblers rose significantly between 2022 and 2023 and rose significantly again in Fall 2024 compared to 2022. The decline in recreational gambling in the two 2024 surveys compared to the earlier surveys is primarily due to the wider net cast by the PGM moderate at-risk category which requires that a person receive a total score of one or more but no longer requires that they have gambling frequency or expenditure greater than or equal to the median for problem gamblers. Using the PPGM criteria, the rate of recreational gambling was 51.8% in Spring 2024 and 47.1% in Fall 2024. The Spring 2024 rate of recreational gambling using the PPGM criteria was not significantly different from the 2022 rate while the Fall 2024 rate was significantly lower than the 2022 rate. Similarly, using the PPGM criteria, the rate of at-risk gambling was 25.2% in Spring 2024 and 25.3% in Fall 2024. There were no significant differences in the rate of at-risk gambling using the PPGM criteria across the four surveys.[9]

[9] Table 16 in the Appendix presents problem gambling prevalence among monthly gamblers in the MA online panels based on the PPGM. There is a small discrepancy in the number of individuals classified as problem gamblers compared to the PGM which is due to the addition of the new item to the measure (n = 2 in Spring 2024; n = 6 in Fall 2024).

Table 9 Problem gambling prevalence among monthly gamblers in MA online panels (unweighted)

	FOPS 2022			OPS 2023			OPS 2024 Spring			OPS 2024 Fall		
	N	%	95% CI	N	%	95% CI	N	%	95% CI	N	%	95% CI
Total	1631	100	(,)	1866	100	(,)	1916	100	(,)	1577	100	(,)
Recreational gambler	888	54.4	(52.0,56.9)	921	49.4	(47.1,51.6)	580	30.3	(28.3,32.4)	462	29.3	(27.1,31.6)
At-risk gambler	402	24.6	(22.6,26.8)	467	25.0	(23.1,27.0)						
At-risk gambler-Moderate							505	26.4	(24.4,28.4)	395	25.0	(23.0,27.2)
At-risk gambler-High/Very high							386	20.1	(18.4,22.0)	278	17.6	(15.8,19.6)
Problem or pathological gambler	341	20.9	(19.0,23.0)	478	25.6	(23.7,27.6)	445	23.2	(21.4,25.2)	442	28.0	(25.9,30.3)

Gambling Harms among Monthly Gamblers in the Online Panel Surveys

Gambling and problem gambling exist on a continuum that stretches from non-gambling, at one end to problem gambling, at the other end. Problem gambling is associated with a range of physical and emotional health issues, including depression, anxiety, suicidal ideation, substance use and addiction (Cowlishaw & Hakes, 2015; Hodgins & el-Guebaly, 2009; Lorains, Cowlishaw, & Thomas, 2011; Petry, 2005). While most of these consequences are associated with problem gambling, there is research showing that heavy gambling is also associated with harm in individuals who would not meet criteria for the clinical entity (e.g., Afifi, Cox, Martens, Sareen, & Enns, 2010; Browne et al., 2017).

Until recently, gambling harms were identified solely with the clinical entity of problem gambling. The assumption underlying this approach was that gambling harm could be minimized by treating individuals with this condition or by preventing people from progressing to this state. In the past decade, however, a broader view of the impacts of gambling has emerged internationally with a shift in focus from problem gambling to 'gambling-related harm' (Abbott et al., 2018; Browne et al., 2017; Langham et al., 2016; Shannon, Anjoul, & Blaszczynski, 2017; Wardle et al., 2024). This approach recognizes that there are many more people harmed by gambling than reflected in the rates of problem gambling alone.[10]

Table 10 presents information about the proportion of monthly gamblers in the online panels who experienced different types of gambling-related harm. The types of gambling-related harm assessed by the PPGM and PGM include financial harms, harms to physical health, emotional or psychological harms, harms to family or relationships, work or school-related harms and harms related to illegal activity due to gambling.

[10] The SEIGMA team has published two reports on gambling harms in Massachusetts. In the first report, we focused on identifying gambling harms reported by key demographic groups in the population and without regard to the prevalence of problem gambling within these groups (Volberg, Evans, Zorn, & Williams, 2020). In the second report, we sought to determine whether the 'Prevention Paradox' applied in Massachusetts by assessing the extent to which different types of harm were concentrated in higher risk groups (Volberg et al., 2021).

Table 10 Gambling harms among monthly gamblers in MA online panels (unweighted)

	FOPS 2022			OPS 2023			OPS 2024 Spring			OPS 2024 Fall		
	N	%	95% CI	N	%	95% CI	N	%	95% CI	N	%	95% CI
Financial	293	18.0	(16.2, 19.9)	385	20.6	(18.9, 22.5)	397	20.7	(19.0, 22.6)	395	25.0	(23.0, 27.2)
Health	124	7.6	(6.4, 9.0)	188	10.1	(8.8, 11.5)	173	9.0	(7.8, 10.4)	186	11.8	(10.3, 13.5)
Emotion/psychological	295	18.1	(16.3, 20.0)	343	18.4	(16.7, 20.2)	365	19.1	(17.4, 20.9)	345	21.9	(19.9, 24.0)
Family/relationships	227	13.9	(12.3, 15.7)	332	17.8	(16.1, 19.6)	453	23.6	(21.8, 25.6)	429	27.2	(25.1, 29.5)
Work/school	163	10.0	(8.6, 11.5)	231	12.4	(11.0, 14.0)	205	10.7	(9.4, 12.2)	208	13.2	(11.6, 15.0)
Illegal	135	8.3	(7.0, 9.7)	162	8.7	(7.5, 10.0)	163	8.5	(7.3, 9.8)	158	10.0	(8.6, 11.6)

Table 10 shows the proportion of monthly gamblers in the online panels endorsing items indicating different types of gambling-related harm across the four surveys. There was a significant rise between 2022 and 2023 and another significant rise between 2023 and Spring 2024 in the proportion of panelists endorsing family or relationship harms. Rates of financial harms, health harms, family or relationship harms, and work or school harms among monthly gamblers in the online panels were significantly higher in Fall 2024 compared to 2022.

Discussion

This is the second report on results of a series of online panel surveys carried out in Massachusetts. As we noted in the first report (Volberg et al., 2024), while population surveys are an important component of public health monitoring, there is much that can be learned using alternate research strategies in conjunction with or instead of population surveys. While alternate methods have limitations, these can be addressed using triangulation to arrive at more robust assessments of the distribution and determinants of disease. Such systems are used internationally to enhance surveillance of tobacco, alcohol and illicit drug use (Andresen-Streichert, Müller, Glahn, Skopp, & Sterneck, 2018; Castigloni, Senta, Borsott, Davoli, & Zuccato, 2015; Descheemaeker, Spruyt, & Hermans, 2014; Hickman, Taylor, Chatterjee, & al, 2002).

Population surveys of gambling participation and gambling problems have become increasingly expensive and complex. In this report, we have focused on the utility of using online panel surveys as a means to identify potential changes in gambling attitudes, behaviors and harms among a non-representative sample of monthly gamblers in Massachusetts on a regular and affordable basis. While online panels are not representative of the population, individuals who participate in such surveys provide a much greater 'yield' of individuals with characteristics of the greatest concern to policymakers, regulators, and others seeking to minimize and mitigate gambling harm.

Based on the results of four online panel surveys carried out in Massachusetts between 2022 and 2024, we found that the proportion of monthly gamblers who believe that the harm of gambling outweighs the benefits was higher in 2023 than in 2022 and rose again in the Fall 2024 survey. Monthly gamblers in 2023 and 2024 were less likely than monthly gamblers in 2022 to believe that all types of gambling should be legal. Finally, monthly gamblers in 2023 and 2024 were more likely than monthly gamblers in 2022 to believe that gambling was too widely available in Massachusetts. In the wake of sports betting legalization, monthly gamblers in the 2023 and 2024 surveys reported less favorable attitudes toward gambling compared to those in 2022.

With respect to gambling participation, the most common pattern in past-year participation in specific types of gambling among monthly gamblers in the online panels was a **rise** from 2022 to 2023 **followed by a decline** in Spring 2024 and **no significant change** in Fall 2024. This was the pattern for five gambling activities, including daily lottery games, raffles, EGMs, casino table games, and private wagering. There were no significant changes in past-year participation in traditional large jackpot lottery games among monthly gamblers in the online panels across the four surveys. For three gambling activities, including any casino gambling, sports betting and online gambling, there was a **rise** in past-year participation between 2022 and 2023 with no significant changes in Spring 2024 or Fall 2024. For bingo, there was a **rise** in past-year participation from 2022 to 2023 **followed by a decline** in Spring 2024 and another **decline** in Fall 2024. Finally, for instant lottery games, there was no significant change in past-year participation between 2022 and 2023 followed by a **decline** in Spring 2024 but no significant change in Fall 2024.

We also identified higher gambling intensity among monthly gamblers in the online panels from 2022 to 2023, including the mean number of types of gambling engaged with in the past year and the maximum number of days gambled. The mean number of gambling formats declined significantly between 2023 and Spring 2024 before rising again in Fall 2024. Following a significant rise from 2022 to 2023, the number of days gambled in

the past year remained steady in 2024. Average gambling expenditures increased between 2022 and 2023 but did not change significantly between 2023 and Fall 2024.

With respect to sports betting behavior, we identified an increase in sports betting participation concentrated particularly among monthly gamblers in the online panels who bet on sports on a monthly or weekly basis. The higher rate of weekly sports betting among monthly gamblers in the online panels was maintained in both of the 2024 panels. There was also a significant rise in the proportion of monthly gamblers who bet on sports on a monthly basis between 2022 and 2023 which was largely maintained in 2024.

Between 2022 and 2023, when legal sports betting became operational in Massachusetts, there was a decline in the rate of social betting among monthly gamblers in the online panels and a rise in the rate of betting with legal land-based sportsbooks in Massachusetts. There was also a rise in sports betting with online sportsbooks in Massachusetts between 2022 and 2023. Both of these changes were maintained in the 2024 panels. Overall, the data suggest that there has been some recapture of illegal sports betting revenues in Massachusetts between 2022 and 2024.

Finally, we identified a rise in the prevalence of problem gambling among monthly gamblers in the online panels between 2022 and 2023 that was maintained in 2024. We further identified a significant rise among monthly gamblers in the online panels in family or relationship harms between 2022 and 2023 followed by another significant rise in Spring 2024. Rates in four of the six harm domains, including financial harms, health harms, family or relationship harms and work or school harms, were significantly higher in Fall 2024 compared to 2022.

Recommendations

- Given rising rates of sports betting frequency, education and harm reduction strategies targeting sports bettors are warranted.
- There is a need for an expansion of responsible gambling tools to support individuals reporting financial harms and/or family or relationship harms.

Future Directions

This is the second in what we anticipate will be a series of brief reports on gambling attitudes, behavior, problems and harms among monthly gamblers in online panels in Massachusetts. These reports will serve as an early warning system to allow for timely efforts at gambling harm minimization and mitigation in the Commonwealth. Going forward, we anticipate carrying out additional investigations focused specifically on the online panels. Likely directions for future analytic work include multivariate analyses comparing recreational, at-risk and problem gamblers to identify predictors of at-risk and problem gambling and identification of the specific types of gambling contributing to experiences of gambling harm in Massachusetts.

We also anticipate collecting data in future online panels to allow us to investigate additional social and economic impacts of sports betting in Massachusetts building on recent scholarly work that has identified relationships between the introduction of sports betting in different states and increases in poor mental health (Couture, Cross, & Wu, 2024) as well as higher rates of intimate partner violence (Matsuzawa & Arnesen, 2024), reductions in household savings and increased credit card debt (Baker, Balthrop, Johnson, Kotter, & Pisciotta, 2024), and increases in bankruptcies, debt collections and loan delinquencies (Hollenbeck, Larsen, & Proserpio, 2024).

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Appendix

Table 11 Demographics of monthly gamblers in MA online panels (unweighted)

		FOPS 2022			OPS 2023			OPS 2024			OPS 2024 Fall			Massachusetts PUMS 2023	
		N[1]	%	SE	N[1]	%	SE	N[1]	%	SE	N[1]	%	SE	%	SE
Gender	Male	884	54.2	1.2	1,085	58.1	1.1	1,048	54.7	1.1	889	56.4	1.2	48.3	0.3
	Female	731	44.8	1.2	769	41.2	1.1	858	44.8	1.1	681	43.2	1.2	51.7	0.3
	Other	6	0.4	0.1	9	0.5	0.2	5	0.3	0.1	3	0.2	0.1	.	.
	Prefer not to answer	10	0.6	0.2	3	0.2	0.1	5	0.3	0.1	4	0.3	0.1	.	.
Age	18-20	48	2.9	0.4	49	2.6	0.4	67	3.5	0.4	69	4.4	0.5	5.2	0.1
	21-24	127	7.8	0.7	159	8.5	0.6	183	9.6	0.7	138	8.8	0.7	6.9	0.1
	25-34	350	21.5	1	453	24.3	1	407	21.2	0.9	333	21.1	1	17	0.2
	35-54	560	34.3	1.2	695	37.2	1.1	688	35.9	1.1	604	38.3	1.2	31.3	0.2
	55-64	239	14.7	0.9	237	12.7	0.8	238	12.4	0.8	183	11.6	0.8	16.6	0.2
	65-79	277	17	0.9	243	13	0.8	293	15.3	0.8	223	14.1	0.9	17.7	0.2
	80+	30	1.8	0.3	30	1.6	0.3	40	2.1	0.3	27	1.7	0.3	5.2	0.1
Ethnicity	Hispanic	222	13.6	0.8	325	17.4	0.9	223	11.6	0.7	266	16.9	0.9	11.7	0.2
	White alone	1,214	74.4	1.1	1,319	70.7	1.1	1,386	72.3	1	1,051	66.6	1.2	69.1	0.3
	Black alone	87	5.3	0.6	90	4.8	0.5	172	9	0.7	152	9.6	0.7	6.3	0.1
	Asian alone	55	3.4	0.4	69	3.7	0.4	70	3.7	0.4	50	3.2	0.4	7.4	0.1
	Some other race alone	14	0.9	0.2	19	1	0.2	22	1.1	0.2	19	1.2	0.3	1.3	0.1
	Two or more races	39	2.4	0.4	44	2.4	0.4	43	2.2	0.3	39	2.5	0.4	4.1	0.1
Education	Less than high school	40	2.5	0.4	43	2.3	0.3	43	2.2	0.3	59	3.7	0.5	8.7	0.2
	HS or GED	412	25.3	1.1	324	17.4	0.9	462	24.1	1	407	25.8	1.1	23.7	0.2
	Some college	539	33	1.2	624	33.4	1.1	626	32.7	1.1	554	35.1	1.2	22.9	0.2
	BA	444	27.2	1.1	594	31.8	1.1	499	26	1	352	22.3	1	24.7	0.2
	Graduate or professional degree	196	12	0.8	281	15.1	0.8	286	14.9	0.8	205	13	0.8	20	0.2

		FOPS 2022			OPS 2023			OPS 2024			OPS 2024 Fall			Massachusetts PUMS 2023	
		N[1]	%	SE	N[1]	%	SE	N[1]	%	SE	N[1]	%	SE	%	SE
Income	Less than $15,000	144	8.8	0.7	114	6.1	0.6	120	6.3	0.6	145	9.2	0.7	5.3	0.1
	$15,000 - <$30,000	186	11.4	0.8	150	8	0.6	203	10.6	0.7	175	11.1	0.8	5.9	0.1
	$30,000 - <$50,000	292	17.9	0.9	222	11.9	0.7	231	12.1	0.7	250	15.9	0.9	7.8	0.1
	$50,000 - <$100,000	511	31.3	1.1	591	31.7	1.1	675	35.2	1.1	515	32.7	1.2	21.6	0.2
	$100,000 - <$150,000	288	17.7	0.9	467	25	1	342	17.8	0.9	276	17.5	1	19.4	0.2
	$150,000 or more	126	7.7	0.7	251	13.5	0.8	246	12.8	0.8	163	10.3	0.8	40	0.3
	Prefer not to answer	84	5.2	0.5	71	3.8	0.4	99	5.2	0.5	53	3.4	0.5	.	.

[1] Unweighted N refers to the total number of respondents who answered this question

[2] Source: U.S. Census Bureau, 2023 American Community Survey PUMS

Table 12 Attitudes about gambling among monthly gamblers in MA online panels (unweighted)

		FOPS 2022			OPS 2023		OPS 2024 Spring		OPS 2024 Fall	
		N	%	95% CI	N	% 95% CI	N	% 95% CI	N	% 95% CI
Belief about benefit or harm that gambling has on society	The harm outweighs the benefits	783	48	(45.6, 50.4)	983	52.7 (50.4, 54.9)	1021	53.3 (51.0, 55.5)	881	55.9 (53.4, 58.3)
	The harm equals the benefits	611	37.5	(35.1, 39.8)	616	33 (30.9, 35.2)	639	33.4 (31.3, 35.5)	493	31.3 (29.0, 33.6)
	The benefits outweigh the harm	237	14.5	(12.9, 16.3)	267	14.3 (12.8, 16.0)	256	13.4 (11.9, 15.0)	203	12.9 (11.3, 14.6)
Opinion about legalized gambling	All types of gambling should be legal	607	37.2	(34.9, 39.6)	577	30.9 (28.9, 33.1)	571	29.8 (27.8, 31.9)	477	30.2 (28.0, 32.6)
	Some types of gambling should be legal and some should be illegal	925	56.7	(54.3, 59.1)	1168	62.6 (60.4, 64.8)	1197	62.5 (60.3, 64.6)	961	60.9 (58.5, 63.3)
	All types of gambling should be illegal	99	6.1	(5.0, 7.3)	121	6.5 (5.5, 7.7)	148	7.7 (6.6, 9.0)	139	8.8 (7.5, 10.3)
Opinion about gambling opportunities in MA	Gambling is too widely available	381	23.4	(21.4, 25.5)	606	32.5 (30.4, 34.6)	671	35 (32.9, 37.2)	554	35.1 (32.8, 37.5)
	Gambling is not available enough	451	27.7	(25.5, 29.9)	360	19.3 (17.6, 21.1)	294	15.3 (13.8, 17.0)	307	19.5 (17.6, 21.5)
	The current availability of gambling is fine	799	49	(46.6, 51.4)	900	48.2 (46.0, 50.5)	951	49.6 (47.4, 51.9)	716	45.4 (43.0, 47.9)

Table 13 Past-year gambling participation among monthly gamblers in MA online panels (unweighted) [11]

	FOPS 2022			OPS2023			OPS2024 Spring			OPS2024 Fall		
	N	%	95% CI	N	%	95% CI	N	%	95% CI	N	%	95% CI
All gambling	1631	100	(. , .)	1866	100	(. , .)	1968	100	(. , .)	1688	100	(. , .)
All lottery	1506	92.3	(90.9, 93.5)	1751	93.8	(92.7, 94.8)	1822	92.4	(91.2, 93.5)	1557	91.7	(90.2, 93.0)
Traditional	1436	88.0	(86.4, 89.5)	1675	89.8	(88.3, 91.1)	1740	88.3	(86.8, 89.7)	1475	86.9	(85.2, 88.5)
Instant games	1135	69.6	(67.3, 71.8)	1357	72.7	(70.7, 74.7)	1330	67.5	(65.4, 69.6)	1162	68.7	(66.3, 70.9)
Daily games	937	57.4	(55.0, 59.8)	1237	66.3	(64.1, 68.4)	1151	58.8	(56.5, 61.0)	1046	62.2	(59.8, 64.6)
Raffles	619	38.0	(35.6, 40.3)	1012	54.2	(52.0, 56.5)	874	44.5	(42.3, 46.8)	820	49.1	(46.7, 51.6)
Any casino type	692	42.4	(40.0, 44.8)	1045	56.0	(53.7, 58.2)	1011	51.8	(49.5, 54.0)	896	54.1	(51.6, 56.5)
Online casino only				32	1.7	(1.2, 2.4)	36	1.9	(1.4, 2.5)	31	1.8	(1.2, 2.6)
EGMs	581	35.6	(33.3, 38.0)	935	50.1	(47.8, 52.4)	872	44.6	(42.4, 46.9)	798	48.2	(45.7, 50.7)
Table games	462	28.3	(26.2, 30.6)	807	43.2	(41.0, 45.5)	732	37.5	(35.4, 39.7)	659	39.9	(37.5, 42.3)
Sports betting	629	38.6	(36.2, 41.0)	1014	54.3	(52.1, 56.6)	973	49.8	(47.6, 52.1)	887	53.3	(50.9, 55.8)
Private wagering	487	29.9	(27.7, 32.1)	835	44.7	(42.5, 47.0)	712	36.5	(34.4, 38.7)	667	40.3	(37.9, 42.8)
Horse racing	302	18.5	(16.7, 20.5)	694	37.2	(35.0, 39.4)	505	25.8	(23.9, 27.8)	493	29.9	(27.7, 32.2)
Bingo	510	31.3	(29.1, 33.6)	918	49.2	(46.9, 51.5)	763	39.3	(37.1, 41.5)	729	44.5	(42.1, 47.0)
Online	411	25.2	(23.1, 27.4)	714	38.3	(36.1, 40.5)	739	37.6	(35.4, 39.8)	679	41.0	(38.6, 43.4)

Table 14 Statistically significant differences in Table 13

	2023 higher than 2022	Spring 2024 higher than 2022	Spring 2024 lower than 2023	Fall 2024 higher than 2022	Fall 2024 lower than 2023	Fall 2024 lower than Spring 2024
Traditional						
Instant games			*			
Daily games	*		*			
Raffles	*	*	*	*	*	
Any casino type	*	*		*		
EGMs	*	*	*	*		
Table games	*	*	*	*		
Sports betting	*	*		*		
Private wagering	*	*	*	*		
Horse racing	*	*	*	*	*	
Bingo	*	*	*	*	*	*
Online	*	*		*		

Note: Asterisks indicate non-overlapping confidence intervals.

[11] Beginning in 2022, online panelists were asked about **electronic gambling machines** and **casino table games** separately but without limiting these activities to land-based venues.

Table 15 Past-year gambling participation among whole sample in MA online panels (unweighted)

	FOPS 2022			OPS2023			OPS2024 Spring			OPS2024 Fall		
	N	%	95% CI	N	%	95% CI	N	%	95% CI	N	%	95% CI
All gambling	2384	78.5	(77.0, 79.9)	2633	81.9	(80.5, 83.2)	2689	83.0	(81.6, 84.2)	2277	81.1	(79.7, 82.6)
All lottery	2098	69.1	(67.4, 70.7)	2348	73.0	(71.5, 74.5)	2336	72.1	(70.5, 73.6)	1957	69.7	(68.0, 71.4)
Traditional	1972	64.9	(63.2, 66.6)	2222	69.1	(67.5, 70.7)	2213	68.3	(66.7, 69.9)	1837	65.5	(63.7, 67.2)
Instant games	1433	47.2	(45.4, 48.9)	1643	51.1	(49.4, 52.8)	1551	47.9	(46.1, 49.6)	1335	47.6	(45.7, 49.4)
Daily games	1109	36.5	(34.8, 38.2)	1402	43.6	(41.9, 45.3)	1267	39.1	(37.4, 40.8)	1149	40.9	(39.1, 42.8)
Raffles	823	27.1	(25.5, 28.7)	1243	38.7	(37.0, 40.4)	1082	33.4	(31.8, 35.0)	1010	36.0	(34.2, 37.8)
Any casino type	828	27.3	(25.7, 28.9)	1180	36.7	(35.1, 38.4)	1142	35.2	(33.6, 36.9)	981	35.0	(33.2, 36.7)
Online casino only				39	1.2	(0.9, 1.7)	46	1.4	(1.1, 1.9)	36	1.3	(0.9, 1.8)
EGMs				220	6.8	(6.0, 7.8)	399	12.3	(11.2, 13.5)	307	10.9	(9.8, 12.2)
Table games	693	22.8	(21.4, 24.3)	1039	32.3	(30.7, 34.0)	976	30.1	(28.6, 31.7)	871	31.0	(29.4, 32.8)
Sports betting	506	16.7	(15.4, 18.0)	864	26.9	(25.4, 28.4)	773	23.9	(22.4, 25.3)	670	23.9	(22.3, 25.5)
Private wagering	723	23.8	(22.3, 25.3)	1107	34.4	(32.8, 36.1)	1065	32.9	(31.3, 34.5)	922	32.9	(31.1, 34.6)
Horse racing	562	18.5	(17.2, 19.9)	911	28.3	(26.8, 29.9)	778	24.0	(22.6, 25.5)	711	25.3	(23.8, 27.0)
Bingo	321	10.6	(9.5, 11.7)	715	22.2	(20.8, 23.7)	525	16.2	(15.0, 17.5)	497	17.7	(16.3, 19.2)
Online	579	19.1	(17.7, 20.5)	1021	31.8	(30.2, 33.4)	882	27.2	(25.7, 28.8)	817	29.1	(27.5, 30.8)

Table 16 PPGM prevalence among monthly gamblers in MA online panels (unweighted)

	FOPS 2022			OPS 2023			OPS 2024 Spring			OPS 2024 Fall		
	N	%	95% CI	N	%	95% CI	N	%	95% CI	N	%	95% CI
Total	1631	100	(,)	1866	100	(,)	1916	100	(,)	1577	100	(,)
Recreational gambler	888	54.4	(52.0,56.9)	921	49.4	(47.1,51.6)	992	51.8	(49.5,54.0)	742	47.1	(44.6,49.5)
At-risk gambler	402	24.6	(22.6,26.8)	467	25.0	(23.1,27.0)	481	25.1	(23.2,27.1)	399	25.3	(23.2,27.5)
Problem or pathological gambler	341	20.9	(19.0,23.0)	478	25.6	(23.7,27.6)	443	23.1	(21.3,25.1)	436	27.6	(25.5,29.9)