Gambling and Problem Gambling in Massachusetts: Results of Three Online Panel Surveys

July 5, 2024

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.

Martha Zorn, SEIGMA Data Manager, School of Public Health and Health Sciences, University of Massachusetts Amherst. Ms. Zorn was responsible for data cleaning, data management, and data analysis of the SEIGMA primary data and the production and checks of tables and figures.

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.

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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As always, we thank the Massachusetts Gaming Commission for their continued vision and guidance over the course of the SEIGMA project. The Commission's broad vision for the expansion of gambling in Massachusetts and commitment to the research needed to maximize the benefits and minimize the harms related to gambling in the Commonwealth made this project possible.

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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 tend 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.

Three 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; and the 2023 Online Panel Survey (OPS23) was fielded one year later in March 2023. 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 regular (monthly or more frequent) gamblers.

This report assesses changes among monthly gamblers in the online panels in Massachusetts in gambling attitudes, gambling participation and problem gambling prevalence from 2014 to 2023. 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 regular gamblers in the population might be behaving. In addition to the findings, the report is intended to serve as a template for series of reports tracking gambling participation and problem gambling prevalence at regular intervals going forward.

Key Findings

This report produces 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

- Increase in proportion of monthly gamblers in the online panels who believe that the harm of gambling outweighs the benefits;
- Decrease in the proportion of monthly gamblers who believe that all types of gambling should be legal;
- Decrease in the proportion of monthly gamblers who believe that gambling in Massachusetts is too available;
- More neutral attitudes about the overall impact of casinos;
- Decline in the proportion of panelists who believe that employment is the most important positive impact of casinos;
- Increase in the proportion of panelists who believe that gambling addiction is the most important negative impact of casinos.

Gambling Behavior

- Increases in participation in daily lottery games, sports betting, private wagering, horse racing, bingo and online gambling among monthly gamblers in the online panels;
    - This result contrasts with across-the-board decreases in gambling participation in the 2021 population survey compared to 2013; we believe that these decreases in the population were at least partly due to lingering effects of the COVID-19 pandemic;

- Increase in gambling intensity (number of types of gambling, number of days gambled) among monthly gamblers;
- Increases in monthly and weekly betting on sports among monthly gamblers from 2014 to 2022 and from 2022 to 2023;
- From 2022 to 2023, betting on sports parlays increased among monthly gamblers although betting on professional sports events remained the most frequent type of sports wager;
- From 2022 to 2023, betting on sports with Massachusetts sports betting operators increased among monthly gamblers;
- No substantial recapture of spending on sports betting outside of Massachusetts among monthly gamblers as yet.

Gambling Problems and Harms

- Increase in problem gambling prevalence among monthly gamblers in the online panels between 2014 and 2022 and between 2022 and 2023;
- Increases in five of the six domains of gambling-related harm among monthly gamblers, including financial harms, emotional and/or psychological harms, family and relationship harms, work or school harms, and harms related to illegal activities.

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 to the landscape. 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
MA Gambling Impact Cohort (MAGIC) – 5 waves	3,139	2013-2019

In line with the original 2012 research plan for SEIGMA, the Baseline and Follow-up Online Panel Surveys (BOPS, FOPS) were implemented in 2014 and 2022. The main 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.

Population surveys are a primary tool for public health surveillance. However, population surveys have become increasingly expensive and complex; at the same time, rapidly declining response rates have raised concerns about potential biases in such samples. Online panel surveys are known to be biased because they include high numbers of people who gamble heavily and are more likely to experience gambling-related harms. 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.'

While not generalizable to the population, the online panel survey data from Massachusetts has been used to elucidate numerous issues beyond trends in gambling participation and problem gambling prevalence. These studies have included reports on:

- The negative impacts of gambling, the differential impact of different types of gambling, and prevention awareness and treatment seeking behavior of Massachusetts adults experiencing gambling problems (Williams et al., 2017);
- Characteristics of individuals experiencing gambling problems that are predictive of wanting treatment for a gambling problem (Evans, Zorn, & Volberg, 2020);
- Prevalence of specific gambling harms among different demographic groups in the Massachusetts population (Volberg, Evans, Zorn, & Williams, 2020);
- The distribution of specific gambling harms in the Massachusetts population and the extent to which harms are concentrated in higher risk groups (Volberg, Zorn, Williams, & Evans, 2021);
- The potential social and economic impacts of the introduction of sports betting in Massachusetts (Volberg, Evans, Zorn, & Williams, 2022);
- The potential impacts of advertising on gambling behavior among Massachusetts adults (Volberg, Zorn, Williams, & Evans, 2024).

While the online panel surveys are not a substitute for population surveys, they do enable researchers and policy makers to assess the direction of changes in behavior in the most high-risk stratum of the population and allow for the implementation of protective and mitigation measures in a timely manner. This report presents information about changes in gambling participation and problem gambling prevalence among monthly gamblers across three online panel surveys carried out in Massachusetts between 2014 and 2023. 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 intended to serve as a template for a series of brief reports tracking trends in gambling participation and problem gambling among monthly gamblers in the Massachusetts.

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. Online panels are commonly used in market research, and increasingly in academic studies (Göritz, 2007; Göritz, Reinhold, & Batinic, 2002). 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.

Online Panel Surveys in Massachusetts, 2014-2023

Three 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.[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.

BOPS Recruitment and Sample

Ipsos Public Affairs (Ipsos) conducted the Baseline Online Panel Survey (BOPS). Ipsos maintains an online panel of individuals across the country who have agreed to participate in research studies. When individuals join the Ipsos panel, they provide demographic information about themselves and their household (e.g., age, gender, state of residence, county of residence). Ipsos used this information to email a sample of Massachusetts adults stratified by age, gender and region (Western versus Eastern Massachusetts) that was proportional to the number of people in these groups as reported by the U.S. Census. To obtain a final sample, Ipsos supplemented its own online panel sample with Massachusetts online panel members from seven partner vendors. The BOPS was launched in late October 2013, and data collection ended in late March 2014 to run coincident with data

[1] A fourth online panel survey (OPS24) was fielded in March 2024.

collection in the BGPS. A sample of 5,046 completed surveys was obtained. A full description of the methodology utilized for the BOPS was published in a separate SEIGMA report (Williams et al., 2017).

FOPS and OPS23 Recruitment and Sample

Qualtrics conducted the Follow-up Online Panel Survey (FOPS) and the 2023 Online Panel Survey (OPS23). Like Ipsos, 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. This information was used to recruit a sample of Massachusetts adults with quotas established for age and gender but with no limitation by region. The FOPS was fielded in March 2022 and OPS23 was fielded in March 2023. A sample of 3,038 completed surveys was obtained for the FOPS and a sample of 3,380 was obtained for OPS23.

In addition to obtaining the BOPS sample from a different vendor than the FOPS and OPS23, the question wording specific to sports betting in the FOPS and OPS23 was slightly different from the BOPS so as to accommodate the newer forms of sports betting available in 2022 compared to 2014. In the BOPS, the question about sports betting asked "In the past 12 months, how often have you bet money on **sporting events** (this includes sports pools)" whereas the FOPS and OPS23 asked "In the past 12 months, how often have you bet money or gambled on **sports** (this includes social betting, online betting, fantasy sports, and esports)."

While all three online panel surveys were stratified by gender and age, only the 2014 panel was stratified by geographic region. Along with the use of different online panel companies (Ipsos and Qualtrics), this may reduce the validity of some comparisons in this report. Readers are advised to compare results from 2014 with those from 2022 and 2023 with caution.

Comparing the Online Panel Samples with the General Population

Table 2 illustrates differences between the population surveys and the online panel surveys in Massachusetts in overall gambling participation and problem gambling prevalence. As anticipated, there were substantial differences in both gambling participation and problem gambling prevalence between the population surveys carried out in Massachusetts in 2013 and 2021 and the online panel surveys completed in 2014 and 2022.

Table 2 Problem gambling prevalence in contemporaneous population and online panel surveys (unweighted)

	BGPS 2013		BOPS 2014		Percent Change
	Percent	95% CI	Percent	95% CI	
Total	100		100		
Non-gambler	26.6	(25.3, 28.0)	20.7	(19.6, 21.9)	-5.9
Recreational gambler	62.9	(61.4, 64.4)	59.6	(58.3, 61.0)	-3.3
At-risk gambler	8.4	(7.5, 9.4)	13.3	(12.4, 14.3)	4.9
Problem or pathological gambler	2.0	(1.6, 2.6)	6.4	(5.7, 7.1)	4.4
	FGPS 2021		**FOPS 2022**		
	Percent	95% CI	Percent	95% CI	
Total	100		100		
Non-gambler	38.7	(36.7, 40.7)	21.2	(19.7, 22.7)	-17.5
Recreational gambler	51.3	(49.3, 53.4)	53.4	(51.6, 55.1)	2.1
At-risk gambler	8.5	(7.4, 9.8)	14.3	(13.1, 15.5)	5.8
Problem or pathological gambler	1.4	(1.0, 2.1)	11.2	(10.1, 12.4)	9.8

Note: Data from the population surveys (BGPS and FGPS) are weighted to the MA population while data from the online panels (BOPS and FOPS) are unweighted.

Briefly, overall gambling participation among the online panelists in 2014 was higher than in the Massachusetts population in 2013. Additionally, the prevalence of at-risk gambling and problem gambling among the panelists in 2014 was significantly higher than in the adult population. As noted in our report on the 2021 population survey, there was a substantial decrease in the population in overall gambling participation between 2013 and 2021 (from 73.1% to 60.2%) as well as participation in specific types of gambling that we believe was due, at least partly, to the lingering impacts of the COVID-19 pandemic (Volberg et al., 2023).

In contrast, there was no difference in overall gambling participation in the 2014 and 2022 online panel surveys in Massachusetts with 78.7% and 78.5% of panelists having gambled in the past year, respectively. In contrast to the population surveys, there were changes in the proportion of online panelists classified as problem gamblers in 2022 compared to 2014. While the proportion of panelists classified as non-gamblers was unchanged and the proportion classified as recreational gamblers was lower in 2022 than in 2014, the proportion of online panelists classified as problem gamblers in 2022 (11.2%) was higher than the proportion classified in this way in 2014 (6.4%). In 2023, overall gambling participation among the panelists was even higher than among the panelists in 2022 (81.8%) as was problem gambling prevalence (14.5%).

Given that the goal of the online surveys was not to generate estimates of behaviors in the population but instead to observe changes in behavior over time, the data from the surveys was not weighted. However, it is helpful to review differences in the samples obtained from the online panels compared with characteristics of the general population. Although panelists in the online panel surveys were selected to match the Massachusetts adult population by gender and age, there were differences in other characteristics of the online samples compared to the general population.

Panelists in the 2014 online survey were more likely than the general population to be White (83.6% vs 76.3%) and less likely to be Hispanic (5.2% vs 9.3%), Black (3.3% vs 6.2%), or Asian (3.9% vs 6.1%). Panelists from the 2022 and 2023 online surveys were also more likely than the general population to be White (75.8% and 73.4%) compared with the general population (70.4%). As in the 2014 survey, panelists from 2022 and 2023 were less likely to be Asian (4.1% and 4.2%) compared to the general population (7.1%). Panelists in the online surveys were more likely than the general population to have higher levels of education. The proportion of individuals with less than a high school education in the general population was 10.4% in 2014 and 9.0% in 2021; in contrast, 3.0% of the 2014 panelists, 2.9% of the 2022 panelists, and 2.2% of the 2023 panelists had less than a high school education. Panelists were more likely than the general population to have obtained some college education and more likely to have graduated from college.

Comparing Monthly Gamblers in the Panels with the General Population

In response to feedback from the MGC's Research Review Committee regarding the utility of analyzing data from all of the panelists in each survey, we focused our analysis in this report on the subset of panelists who had gambled monthly or more often in the past year after eliminating a small number of panelists in 2023 who had the same IP address as panelists in 2022. This narrower focus is intended to highlight changes in the behavior and experiences of the most heavily involved gamblers in the panels. Table 3 presents information about the size of the groups of monthly gamblers in each of the online panels carried out in Massachusetts.

Table 3 Online panel samples for analysis

Online Panel	Overall Sample	After Removing Duplicates	%	Gambled Monthly or More	%
BOPS 2014	5046	5046	100	2497	49.5
FOPS 2022	3038	3038	100	1631	53.7
OPS23 2023	3380	3215	95	1866	58.0

As with the online panel samples as a whole, it is helpful to compare the monthly gamblers in the online panels with characteristics of the general population. Monthly gamblers in the 2014 online survey were more likely than the general population to be male (56.4% vs 47.8%), less likely to be under the age of 35 (26.6% vs 30.4%), more likely to be White (83.9% vs 76.3%), more likely to have obtained some college education (38.8% vs 26.4%) and less likely to have annual household incomes of $50,000 or more (55.8% vs 70.9%). Monthly gamblers in the 2022 and 2023 panels were more likely to be male, more likely to be under the age of 35 (32.2% and 35.4% vs 29.7%), less likely to be Asian (3.4% and 3.7% vs 7.1%), more likely to have obtained some college education, and less likely to have annual household incomes of $50,000 or more (59.7% and 72.9% vs 78.2%). 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) and that survey respondents in lower socio-economic populations are more likely to have graduated college compared to nonrespondents (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. Online panelists were also asked their opinion about the overall impact of casinos in Massachusetts and about the most positive and negative impacts of casinos in the Commonwealth. Figure 1 presents information about the proportion of monthly gamblers in each online panel that endorsed different answers to these questions.

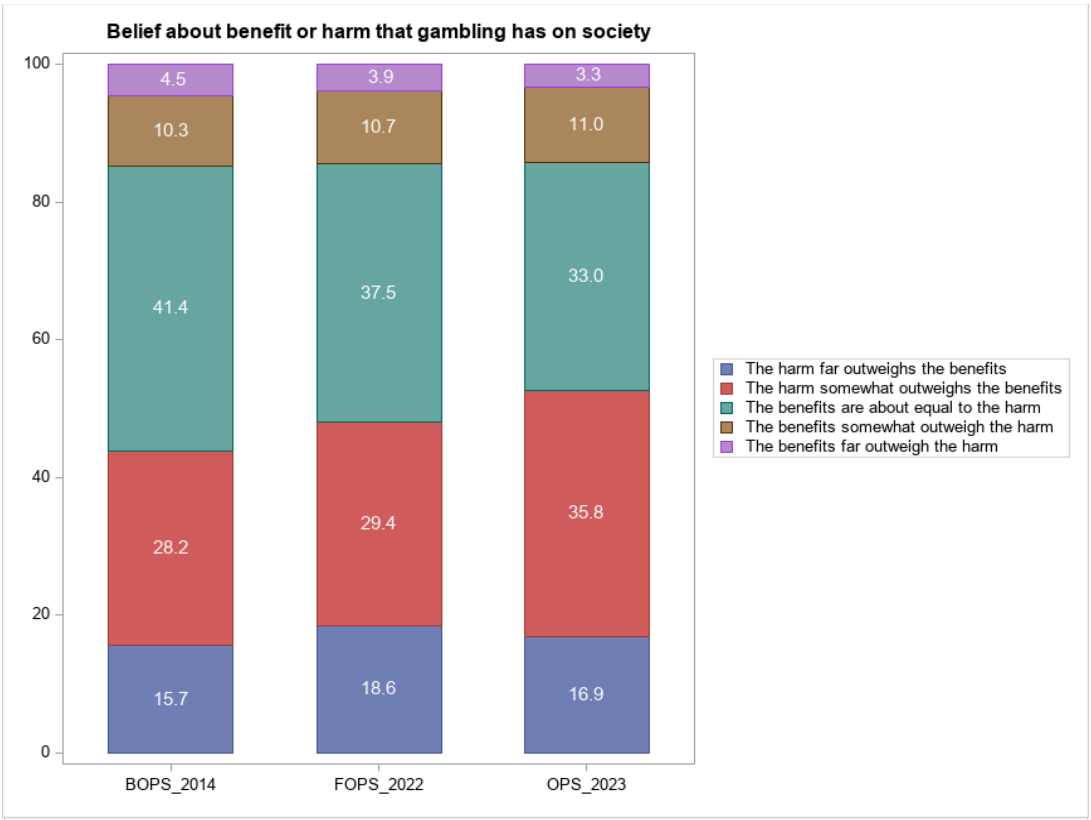
With respect to beliefs about the overall benefit or harm of gambling in society, monthly gamblers in 2023 were more likely than monthly gamblers in 2014 and 2022 to believe that the harm of gambling outweighs the benefits and less likely to believe that the benefits and harm of gambling were about equal. Monthly gamblers in 2023 were less likely than monthly gamblers in 2014 and 2022 to believe that all types of gambling should be legal; monthly gamblers in 2022 and 2023 were more likely than monthly gamblers in 2014 to believe that all types of gambling should be illegal.

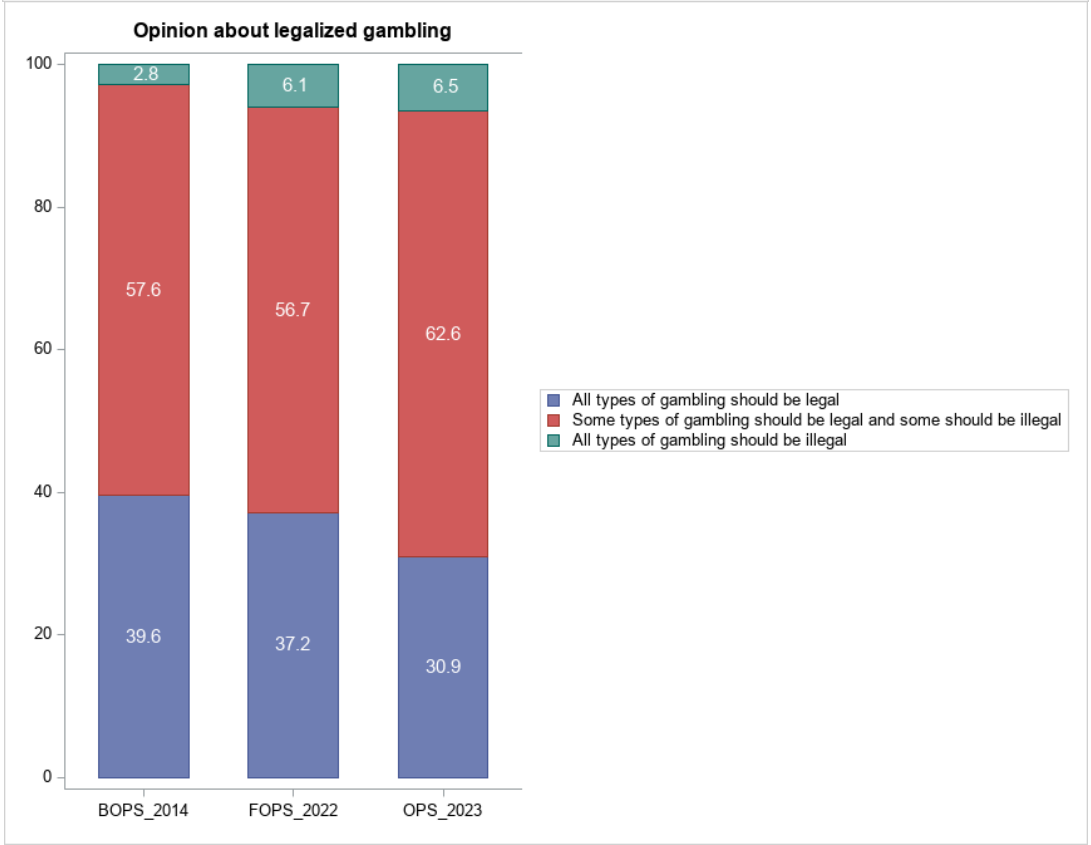
Monthly gamblers in 2022 and 2023 were less likely than monthly gamblers in 2014 to indicate that gambling was too widely available in Massachusetts and more likely to indicate that gambling was not available enough. Monthly gamblers in 2014 were more likely than monthly gamblers in 2022 and 2023 to indicate that the overall impact of casinos in Massachusetts would be beneficial; monthly gamblers in 2022 and 2023 were more likely than those in 2014 to indicate that the overall impact of casinos in Massachusetts had been neither beneficial nor harmful.

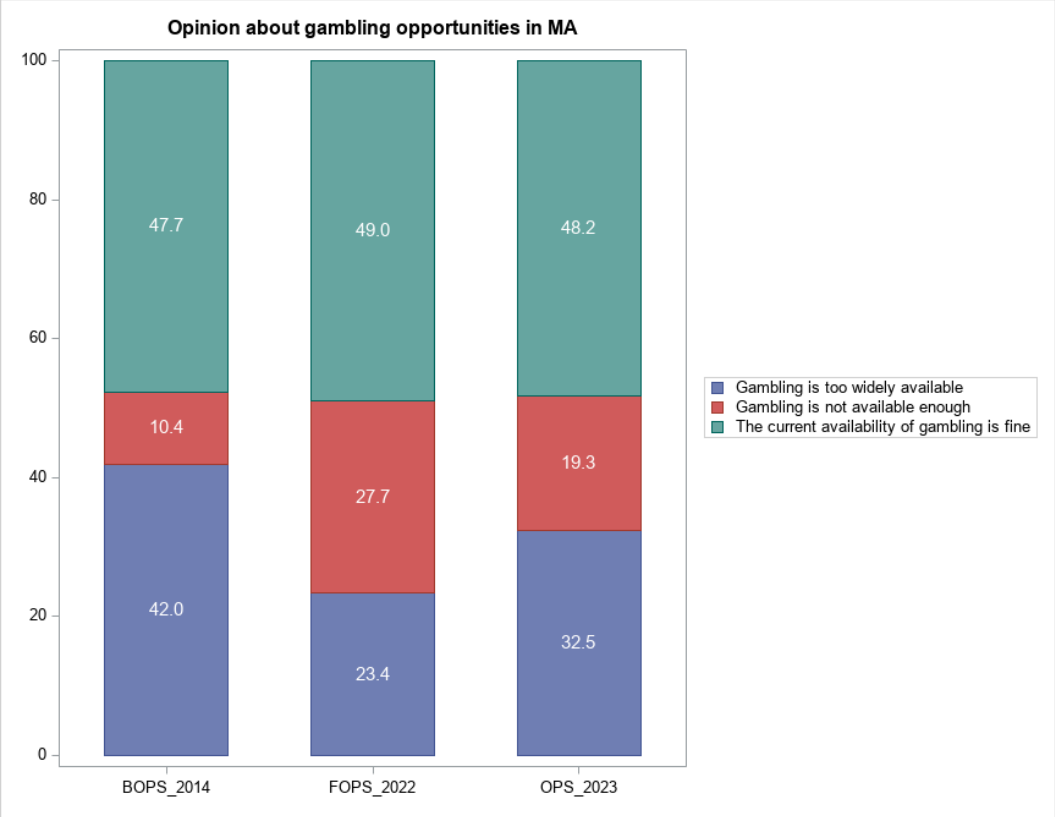
There were several differences across the three panels of monthly gamblers related to the most positive and negative impacts of casinos in Massachusetts. There was a decline in the proportion of monthly gamblers who believed that employment was the most positive impact and an increase in the proportion of monthly gamblers who believed that increased leisure options (specifically the ability to gamble locally) was the most positive impact of casinos in Massachusetts. There was an increase between 2014 and 2022 and 2023 in the proportion of monthly gamblers who believed that increased gambling addiction was the most important negative impact of casinos in Massachusetts and decreases in the proportions who believed that higher crime and more traffic noise and congestion were the most important negative impacts.

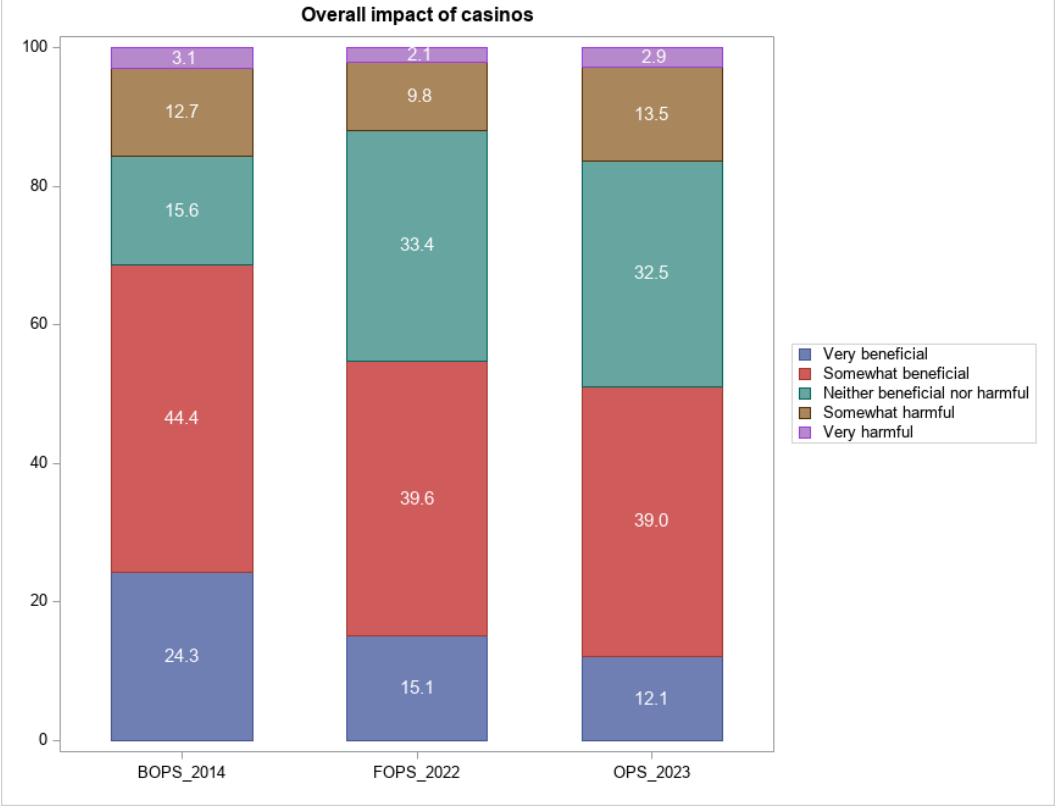
Detailed information about gambling attitudes among monthly gamblers in the online panels is presented in Table 12 in the Appendix.

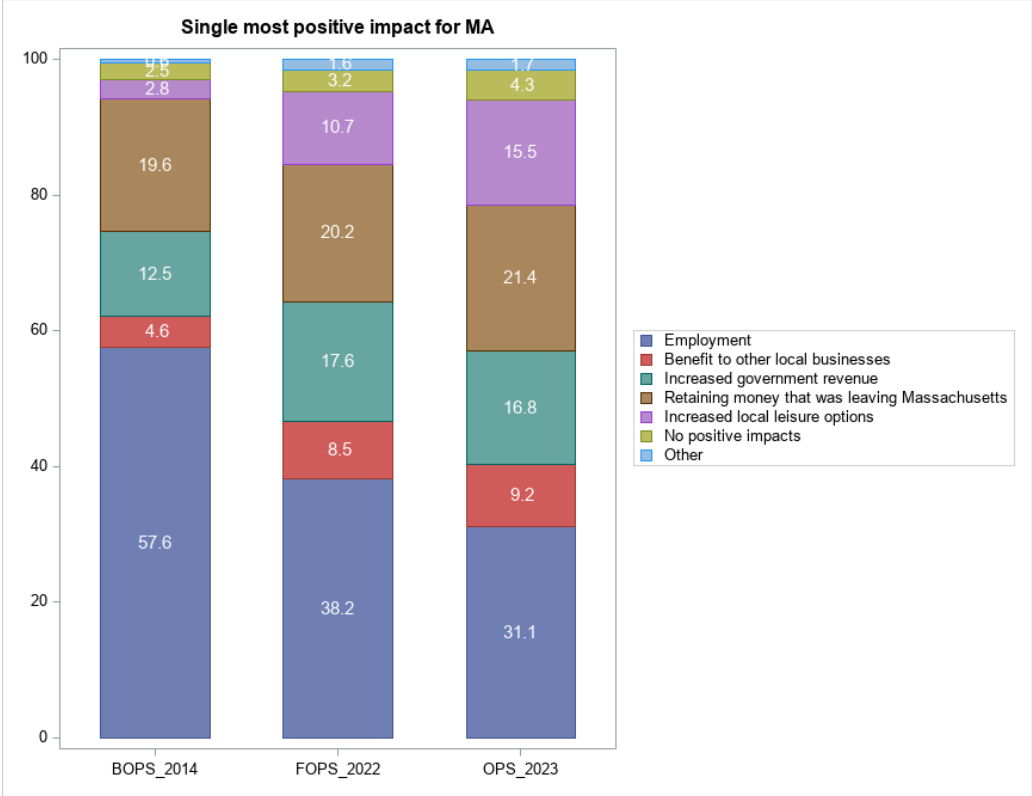
Figure 1 Attitudes about gambling among monthly gamblers in the online panels (unweighted)

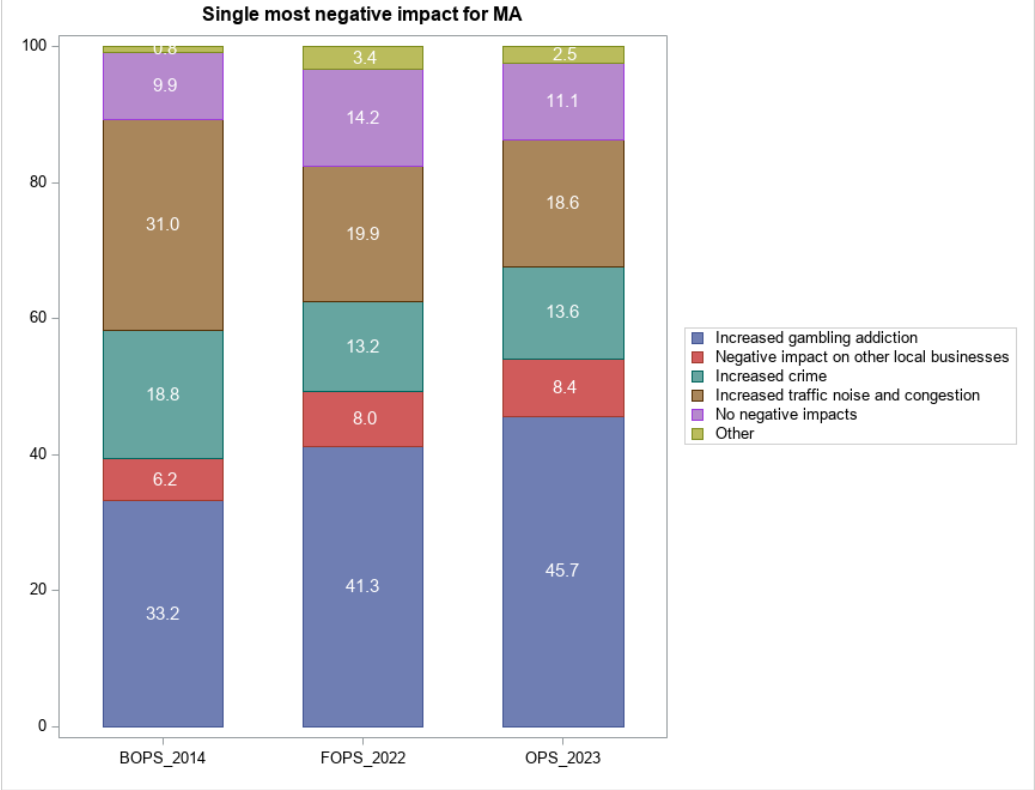





Opinion about gambling opportunities in MA
100
80
60
40
20
0
47.7
49.0
48.2
10.4
27.7
19.3
42.0
23.4
32.5
BOPS_2014
FOPS_2022
OPS_2023
Gambling is too widely available
Gambling is not available enough
The current availability of gambling is fine


Overall impact of casinos
100
80
60
40
20
0
3.1
2.1
2.9
12.7
9.8
13.5
15.6
33.4
32.5
44.4
39.6
39.0
24.3
15.1
12.1
BOPS_2014
FOPS_2022
OPS_2023
Very beneficial
Somewhat beneficial
Neither beneficial nor harmful
Somewhat harmful
Very harmful


Single most positive impact for MA
100
80
60
40
20
0
2.5
2.8
19.6
12.5
4.6
57.6
3.2
10.7
20.2
17.6
8.5
38.2
4.3
15.5
21.4
16.8
9.2
31.1
BOPS_2014
FOPS_2022
OPS_2023
Employment
Benefit to other local businesses
Increased government revenue
Retaining money that was leaving Massachusetts
Increased local leisure options
No positive impacts
Other


Single most negative impact for MA
100
80
60
40
20
0
9.9
31.0
18.8
6.2
33.2
3.4
14.2
19.9
13.2
8.0
41.3
2.5
11.1
18.6
13.6
8.4
45.7
BOPS_2014
FOPS_2022
OPS_2023
Increased gambling addiction
Negative impact on other local businesses
Increased crime
Increased traffic noise and congestion
No negative impacts
Other

Gambling Behavior

We begin by presenting information on overall past-year gambling participation as well as participation in specific types of gambling among monthly gamblers in the three online panel surveys carried out in Massachusetts. These data are helpful in understanding changes in the gambling behavior of regular gamblers between 2014 and 2023. 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 over the past decade.

Table 4 shows past-year gambling participation rates among monthly gamblers in the 2014, 2022 and 2023 panels for all of the types of gambling available to Massachusetts adults between 2014 and 2023. This table shows that past-year participation in traditional large jackpot lottery games by monthly gamblers **decreased** between 2014 and 2022 as did instant lottery gambling. Past-year participation by monthly gamblers in raffles **decreased** from 2014 to 2022 and then **increased** in 2023. Past-year participation in daily lottery games **increased** between 2014 and 2022 and rose again in 2023 as did sports betting,[3] private wagering, horse racing, bingo and online gambling. Past-year participation by monthly gamblers in EGMs and casino table games[4] **increased** between 2022 and 2023 while private wagering **increased** between 2014 and 2022 and rose again in 2023.

Table 4 Past-year gambling participation among monthly gamblers in MA online panels (unweighted)

	BOPS_2014			FOPS_2022			OPS_2023		
	N	%	95% CI	n	%	95% CI	n	%	95% CI
All gambling	2497	100	(,)	1631	100	(,)	1866	100	(,)
All lottery	2449	98.2	(97.6, 98.7)	1506	92.3	(90.9, 93.5)	1751	93.8	(92.7, 94.8)
Traditional	2378	95.5	(94.6, 96.2)	1436	88.0	(86.4, 89.5)	1675	89.8	(88.3, 91.1)
Instant games	1880	76.8	(75.1, 78.4)	1135	69.6	(67.3, 71.8)	1357	72.7	(70.7, 74.7)
Daily games	775	31.6	(29.8, 33.5)	937	57.4	(55.0, 59.8)	1237	66.3	(64.1, 68.4)
Raffles	840	44.3	(42.1, 46.6)	619	38.0	(35.6, 40.3)	1012	54.2	(52.0, 56.5)
Any casino	1087	47.3	(45.2, 49.3)						
EGMs				581	35.6	(33.3, 38.0)	935	50.1	(47.9, 52.3)
Table games				462	28.3	(26.2, 30.6)	807	43.2	(41.1, 45.5)
Sports betting	535	21.8	(20.2, 23.4)	629	38.6	(36.2, 41.0)	1014	54.3	(52.1, 56.6)
Private wagering	618	25.2	(23.5, 26.9)	487	29.9	(27.7, 32.1)	835	44.7	(42.5, 47.0)
Horse racing	268	10.9	(9.7, 12.1)	302	18.5	(16.7, 20.5)	694	37.2	(35.1, 39.3)
Bingo	354	14.2	(12.9, 15.6)	510	31.3	(29.1, 33.6)	918	49.2	(47.0, 51.4)
Online	260	10.7	(9.5, 11.9)	411	25.2	(23.1, 27.4)	714	38.3	(36.1, 40.5)

[3] As a reminder, part of the change from 2014 to 2022 in past-year sports betting participation was likely due to a change in the wording of the question about this activity from "**sporting events** (this includes sports pools)" to "**sports** (this includes social betting, online betting, fantasy sports, and esports)".

[4] In 2014, online panelists were asked "In the past 12 months, how many times have you gambled at a **casino, racino or slots parlor outside of Massachusetts**?" In 2022 and 2023, online panelists were asked about **electronic gambling machines** and **casino table games** separately but without limiting these activities to land-based venues.

Differences between 2014 and 2022 for most of these activities were statistically significant. **Decreases** between 2014 and 2022 were statistically significant for all lottery, traditional lottery, instant games, raffles, and any casino gambling. **Increases** between 2014 and 2022 were statistically significant for daily games, sports betting, private wagering, horse racing, bingo and online gambling. There were no statistically significant decreases in participation in specific types of gambling between 2022 and 2023. There were statistically significant **increases** in daily games, raffles, EGMs, table games, sports betting, private wagering, horse racing, bingo and online gambling.

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 increases in most types of gambling among monthly gamblers in the2023 online panel compared with 2022. In addition to the increases already noted, this included past-year participation in EGMs and casino table games. Together, these findings suggest that the lingering impact of the pandemic on gambling behavior among regular Massachusetts gamblers may have diminished.

Beyond past-year participation, it is helpful to consider changes in gambling intensity among monthly gamblers in the three panels. Gambling intensity includes the number of gambling formats engaged with in the past year and the maximum frequency of gambling (i.e., number of days gambled in the past-year). Table 5 presents information about changes in these measures of gambling involvement among monthly gamblers in the three online panels. The mean number of gambling formats increased across the surveys from 3.6 in 2014 to 6.0 in 2023 and the differences were statistically significant. Similarly, the number of days gambled in the past year increased among monthly gamblers across the surveys and the differences were statistically significant. Finally, gambling expenditures rose between 2014 and 2022 and then dropped although not as low as in 2014.

Table 5 Gambling intensity among monthly gamblers in MA online panels (unweighted)

	BOPS_2014			FOPS_2022			OPS_2023		
	n	mean	SE of mean	n	mean	SE of mean	n	mean	SE of mean
# gambling formats	2497	3.6	0.04	1631	4.6	0.07	1866	6.0	0.080
Maximum number of days/year gambled across all gambling types	2497	85.3	1.77	1631	103.0	2.47	1866	112.6	2.274
Gambling expenditures	2484	1,908.2	2509.85	1630	15,838.6	8311.79 *	1866	7,962.8	391.86 *

*Indicates significant change from previous survey

Focus on Sports Betting

Given the recent introduction of legal sports betting in Massachusetts, it is informative to examine changes in sports betting behavior among monthly gamblers in the online panels. While there was a decline in past-year sports betting among Massachusetts adults between 2013 (BGPS) and 2021 (FGPS), from 12.6% to 9.9% (Volberg et al., 2023), the frequency of past-year sports betting among monthly gamblers in the online panels was higher than in the population and did not decline in the wake of the pandemic. Table 6 presents information about sports betting participation among monthly gamblers in the 2014, 2022 and 2023 online panels.

Table 6 shows that in 2014, the great majority (78.2%) of monthly gamblers in the panel had not gambled on sports in the past year while 21.8% had gambled on sports in the past year and 14.0% had gambled on sports at least monthly or weekly in the past year. In 2022, there was a reduction in the proportion of panelists who had not gambled on sports in the past year (to 61.4%) and increases in the proportion of panelists who had gambled on sports in the past year (38.6%) as well as at least monthly or weekly (31.7%). In 2023, there was another decline in the proportion of panelists who had not gambled on sports in the past year (to 45.7%) and increases in the proportion of panelists who had gambled on sports in the past year (54.3%) as well as at least monthly or weekly (47.5%).

Differences between 2014 and 2022 among monthly gamblers in not having bet on sports in the past year and betting weekly on sports in the past year were statistically significant. Differences between 2014 and 2023 in not having bet on sports in the past year and in having bet on sports at least monthly or weekly were statistically significant. Differences between 2022 and 2023 in not having bet on sports at all in the past year and having bet on sports at least weekly were statistically significant.

Table 6 Past-year sports betting frequency and activities among monthly gamblers in MA online panels (unweighted)

		BOPS_2014		FOPS_2022		OPS23_2023	
		%[1]	95% CI[1]	%[1]	95% CI[1]	%[1]	95% CI[1]
Frequency of sports betting	1=never	78.2	(76.6, 79.8)	61.4	(59.0, 63.8)	45.7	(43.4, 47.9)
	2=at least yearly	7.8	(6.8, 8.9)	6.9	(5.7, 8.2)	6.8	(5.7, 8.0)
	3=at least monthly	7.0	(6.0, 8.0)	12.8	(11.3, 14.5)	19.2	(17.5, 21.0)
	4=at least weekly	7.0	(6.1, 8.1)	18.9	(17.1, 20.9)	28.3	(26.4, 30.4)
Type of sports betting engaged in	Professional sporting events			60.4	(56.5, 64.2)	61.9	(58.9, 64.9)
	Sports parlays			36.9	(33.2, 40.7)	51.2	(48.1, 54.2)
	Fantasy sports betting			32.4	(28.9, 36.2)	34.6	(31.7, 37.6)
	Betting on sports you participated in			11.8	(8.8, 15.6)	13.2	(11.3, 15.4)

[1] Percentages and 95% CI are calculated using the unweighted N

Panelists in 2022 and 2023 were asked about their sports betting behavior in greater detail than panelists in 2014. Table 6 shows that in both the 2022 and 2023 surveys, monthly gamblers who had bet on sports in the past year were most likely to have bet on professional sports events followed by sports parlays and fantasy sports. Betting on sports that a person had participated in themselves was far less common. With the exception of sports parlays, differences between 2022 and 2023 in the types of sports betting engaged in were not statistically significant.

Participation in Specific Types of Sports Betting in 2022 and 2023

Detailed information about sports betting formats was collected in the 2022 and 2023 online panel surveys. Monthly gamblers in the panels 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 9Table 7 presents information about monthly gamblers' participation in specific types of sports betting. In 2022, just under half (49.3%) of sports bettors had participated in office pools or in social betting against friends and/or family. In 2023, the proportion of monthly gamblers who had participated in these informal types of sports betting declined to 33.6%. Between 2022 and 2023, the proportion of monthly gamblers who placed bets with a legal land-based sportsbook in Massachusetts increased from 29.3% to31.8% while the proportion who placed bets with an online sportsbook in Massachusetts increased from 11.4% to 26.6%. The proportion of monthly gamblers who placed bets with an online sportsbook outside of Massachusetts declined from 22.4% to 16.0%. All of these changes were statistically significant.

The difference in the proportion of monthly gamblers who placed bets at legal land-based sportsbooks outside of Massachusetts was not statistically significant.

Table 7 Past-year participation by monthly gamblers in sports betting formats (unweighted)

		FOPS_2022		OPS23_2023	
		%[1]	95% CI[1]	%[1]	95% CI[1]
Where and how bet on sports	Office sports pools or social betting against friends/family	49.3	(45.4, 53.2)	33.6	(30.8, 36.6)
	Legal land-based sportsbook outside MA	29.3	(25.8, 32.9)	31.8	(29.0, 34.7)
	Legal land-based sportsbook in MA	22.6	(19.5, 26.0)	42.6	(39.6, 45.6)
	Illegal/underground land based sportbook or bookmaker in MA	16.9	(14.1, 20.0)	19.6	(17.3, 22.2)
	Sporting event with online sportsbook outside MA	22.4	(19.3, 25.8)	16.0	(13.8, 18.4)
	Sporting event with online sportsbook in MA	11.4	(9.2, 14.2)	26.6	(24.0, 29.4)
Legal/illegal /leakage	Any legal sports betting	86.5	(83.6, 88.9)	93.2	(91.5, 94.6)
	Only legal sports betting	66.1	(62.3, 69.7)	68.1	(65.2, 70.9)
	Any illegal sports betting	33.9	(30.3, 37.7)	31.9	(29.1, 34.8)
	Only illegal sports betting	13.5	(11.1, 16.4)	6.8	(5.4, 8.5)
	Any sports betting leakage	54.5	(50.6, 58.4)	51.2	(48.1, 54.3)
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, 58.8)

[1] Percentages and 95% CI are calculated using the unweighted N

Legal and Illegal Sports Betting in 2022 and 2023

To elucidate the question of recapture of sports betting behavior via legalization of sports betting in Massachusetts, the types of sports betting included in the 2022 and 2023 panel surveys were divided into legal and illegal activities. Panelists were classified as having done no sports betting, any legal sports betting (including legal venues in other jurisdictions), only legal sports betting, 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,

[5] Although informal sports betting with friends and family or in office pools is illegal in Massachusetts if the amount won is more than $5 (https://malegislature.gov/Laws/GeneralLaws/PartIV/TitleI/Chapter271/Section1), this activity is widely tolerated and rarely prosecuted.

- 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 7 shows that there was an increase in the proportion of monthly gamblers in the online panels who had engaged in **any legal** sports betting between 2022 and 2023. 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 2023 and a decrease in the proportion of monthly gamblers who engaged **only in 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 survey, 53.0% 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. Taken together, these data suggest that there was not a substantial recapture of illegal sports betting revenues in Massachusetts between 2022 and 2023. However, as many jurisdictions internationally have found, it can take a substantial period of time for sports bettors to migrate fully from non-regulated to regulated providers (Lopez-Gonzalez, 2021). The extent of sports betting recapture in Massachusetts will become clearer once data from OPS24 is available and analyzed.

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

Gambling Problems and Gambling Harms

Many instruments exist for the population assessment of problem gambling. Worldwide, 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). One or more of these instruments were used in 95% of adult problem gambling prevalence surveys carried out internationally between 1975 and 2011 (Williams, Volberg, & Stevens, 2012). In 2013, we chose the Problem and Pathological Gambling Measure (PPGM)[7] to assess gambling problems and harms in the baseline survey (BGPS) and it has served as our primary instrument to assess problem gambling in all of the SEIGMA surveys (Williams & Volberg, 2014).

The PPGM is a 14-item assessment instrument with questions organized into three sections: Problems (7 questions), Impaired Control (4 questions), and Other Issues (3 questions). The instrument employs a 12-month timeframe and recognizes a continuum of gambling across four categories (Recreational, At-Risk, Problem, and Pathological). The PPGM is different from other problem gambling instruments in several important respects. First, the PPGM comprehensively assesses **all** of the potential harms of problem gambling (i.e., financial, mental health, health, relationship, work/school, legal), whereas only a subset of potential problems are assessed with the other instruments. To better capture problem gamblers who have not acknowledged they have a problem, the PPGM allows for either direct admission of a problem/harm or endorsement of something that indicates harm is occurring regardless of whether the person is willing to identify it as a problem. For example, one item in the PPGM asks if there is someone besides the respondent who would say that their gambling has caused significant problems, even if the person does not agree.

Internationally, there is widespread agreement that for someone to be classified as a problem gambler there needs to be evidence of both (a) significant negative consequences, and (b) impaired control (Neal, Delfabbro, & O'Neil, 2005). This is made explicit in the PPGM which 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**. In contrast, any pattern of item endorsement that results in a score above a certain threshold is sufficient to be designated as a problem gambler in the PGSI and DSM.[8] Endorsement of several PPGM problems and indices of impaired control is required to classify a person as a **Pathological Gambler**. Endorsement of a problem or impaired control, but not both, typically leads to classification as an **At-Risk Gambler**. This reflects the growing recognition that individuals who become problem gamblers can take a number of different pathways into the disorder (Blaszczynski & Nower, 2002; el-Guebaly et al., 2015; Williams et al., 2015). Gamblers who do not meet the criteria for At-Risk, Problem, or Pathological Gambling are deemed to be **Recreational Gamblers**. Table 8 presents the PPGM typology and the criteria required for classification across these groups.

[7]Changes to the PPGM have recently been proposed to provide better discrimination of at-risk gamblers and chronic gamblers. The revised instrument is called the Problem Gambling Measure (Gooding, Williams, & Volberg, 2024).
[8]The PGSI and DSM assessment instruments give each symptom equal weight despite the fact that some items are more serious and/or diagnostically important than others (McCready & Adlaf, 2006; Toce-Gerstein, Gerstein, & Volberg, 2003).

Table 8 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+

To minimize false positives (i.e., a positive test result that is incorrect), a person has to report gambling at least once a month in the past year to be classified as either a problem or pathological gambler. None of the older problem gambling instruments requires corroborating gambling behavior. To minimize false negatives (i.e., a negative test result that is incorrect) and better identify problem gamblers who have not acknowledged they have a problem, a person can be classified as a problem gambler despite reporting sub-threshold levels of symptomatology if their gambling expenditure and frequency are equal to those of unambiguously identified problem gamblers. Although it is well recognized in the addiction field that a significant portion of people with addictions are in denial (Howard et al., 2002; Rinn, Desai, Rosenblatt, & Gastfriend, 2002; Shaffer & Simoneau, 2001), the PPGM is the only gambling instrument designed to identify these individuals.

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. The table shows that the prevalence of problem gambling among monthly gamblers increased between 2014 and 2022 and increased again between 2022 and 2023. In parallel with these changes, recreational gambling decreased between 2014 and 2022 and decreased again in 2023. There was no change in the proportion of monthly gamblers in the online panels who were classified as at-risk gamblers.

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

	BOPS_2014			FOPS_2022			OPS_2023		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Total	2497	100.0	(,)	1631	100.0	(,)	1866	100.0	(,)
Recreational gambler	1631	65.3	(63.4, 67.2)	888	54.4	(52.0, 56.9)	921	49.4	(47.1, 51.6)
At-risk gambler	549	22.0	(20.4, 23.7)	402	24.6	(22.6, 26.8)	467	25.0	(23.1, 27.0)
Problem or pathological gambler	317	12.7	(11.4, 14.1)	341	20.9	(19.0, 23.0)	478	25.6	(23.7, 27.6)

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 (Hodgins & el-Guebaly, 2009; 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, & Blaszcynski, 2017). This approach recognizes that there are many more people harmed by gambling than reflected in the rates of problem gambling alone.

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 et al., 2020). In the second report, we sought to determine whether the 'Prevention Paradox'[9] applied in Massachusetts by examining the distribution of different harms in the population and assessing the extent to which different types of harm were concentrated in higher risk groups (Volberg et al., 2021).

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 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 related to gambling.

[9] Use of the term 'Prevention Paradox' in relation to gambling focuses on one aspect of the original concept, namely the situation in which a far greater number of individuals experiencing gambling-related harm are low-risk gamblers because there are far more low-risk gamblers than high-risk gamblers in the population (Browne & Rockloff, 2018).

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

	BOPS_2014			FOPS_2022			OPS_2023		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
Financial	273	11.2	(10.0, 12.5)	293	18.0	(16.2, 19.9)	385	20.6	(18.9, 22.5)
Health	261	10.7	(9.5, 11.9)	124	7.6	(6.4, 9.0)	188	10.1	(8.8, 11.5)
Emotion/psychological	127	5.2	(4.4, 6.2)	295	18.1	(16.3, 20.0)	343	18.4	(16.7, 20.2)
Family/relationships	104	4.3	(3.5, 5.1)	227	13.9	(12.3, 15.7)	332	17.8	(16.1, 19.6)
Work/school	42	1.7	(1.3, 2.3)	163	10.0	(8.6, 11.5)	231	12.4	(11.0, 14.0)
Illegal	42	1.7	(1.3, 2.3)	135	8.3	(7.0, 9.7)	162	8.7	(7.5, 10.0)

Table 10 shows that the proportion of monthly gamblers in the online panels endorsing items indicating different types of gambling-related harm increased between 2014 and 2023. There were increases between 2014 and 2022 in the proportion of panelists endorsing financial harms, emotional or psychological harms, family or relationship harms, work or school related harms and harms related to illegal activity. All of these increases were statistically significant. Between 2022 and 2023, there was an increase in the proportion of monthly gamblers reporting family or relationship harms but no other statistically significant differences. Health-related harms was the only area without an increase among monthly gamblers in the online panels.

Discussion

While population surveys are an important component of public health monitoring, they are not the only tool available to monitor the impacts of gambling. There is much that can be learned from other areas of public health that use 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).

As we noted at the beginning of this report, 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 changes in gambling-related attitudes, behaviors and harms 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.

In this report, we examined differences among monthly gamblers from three separate online panels in attitudes toward gambling, gambling participation, problem gambling prevalence and gambling-related harms. We found that the proportion of monthly gamblers who believe that the harm of gambling outweighs the benefits was higher in 2023 compared to 2014 and 2022. Monthly gamblers in 2023 were less likely to believe that all types of gambling should be legal compared to 2014 and 2022.

There was a decline in the proportion of monthly gamblers in the online panels who believed that employment was the most positive impact of the introduction of casinos in Massachusetts and an increase in the proportion who believed that greater leisure options was the most positive impact of casinos in the commonwealth. There was an increase in the proportion of monthly gamblers in the online panels who believed that a higher rate of gambling addiction was the most important negative impact of casinos in Massachusetts and decreases in the proportions who believed that increased crime and traffic were the most important negative impacts.

With respect to gambling participation, there were decreases in past-year participation in traditional large jackpot lottery games, instant lottery gambling and any casino gambling among monthly gamblers in the online panels and increases in past-year participation in daily lottery games, sports betting, private wagering, horse racing, bingo and online gambling. 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 increases in participation for most types of gambling among monthly gamblers in the online panels in 2023 compared with 2022. In addition to the increases already noted, this included past-year participation in EGMs and casino table games as well as private wagering. Together, these findings suggest that the lingering impact of the pandemic on gambling behavior among regular Massachusetts gamblers may be diminishing. We also identified increases in gambling intensity among monthly gamblers in the online panels, including the number of types of gambling engaged with in the past year and the mean number of days gambled in the past year.

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. Between 2022 and 2023, when legal sports betting became operational in Massachusetts, there was an increase in the proportion of panelists who bet on sports parlays although betting on professional sports events remained the most frequent type of sports bet. There were also increases in the proportion of monthly gamblers in the online panels who bet on sports with Massachusetts sports betting operators (land-based and online). Despite these changes, there does not yet appear to have been substantial recapture of sports betting revenues outside of Massachusetts in the wake of legalization.

Finally, we identified an increase in the prevalence of problem gambling among monthly gamblers in the online panels between 2014 and 2023. We further identified increases among monthly gamblers in the online panels in five of the six domains of gambling-related harm.

To summarize, attitudes among monthly gamblers in the online panels, and possibly in the population, have grown more negative with more monthly gamblers believing that gambling harm outweighs the benefits and fewer monthly gamblers believing that all types of gambling should be legal. Between 2022 and 2023, there were increases in gambling participation among monthly gamblers in a range of gambling activities which suggests that the lingering impact of COVID-19 on gambling behavior among monthly gamblers in Massachusetts may be diminishing. While there was an increase in sports betting participation among monthly gamblers, there does not yet appear to have been substantial recapture of sports betting revenues among monthly gamblers in the wake of legalization although there has been a reduction in the proportion of sports bettors among monthly gamblers who only gambling on sports illegally. Finally, there may have been an increase in people experiencing gambling harms and gambling problems among monthly gamblers in Massachusetts between 2014 and 2023.

Future Directions

We noted in our report on the Follow-up General Population Survey (FGPS) that there is much to be learned from gambling surveys beyond overall participation and problem gambling prevalence (Volberg et al., 2023). With respect to the population survey, we identified several additional areas of work, including this report on the online panel surveys, an integrated report assessing all of the social and health as well as economic and fiscal impacts of legalized gambling in Massachusetts since 2013, and multivariate analyses to identify changes in predictors of at-risk and problem gambling and provide a better understanding of the impacts of COVID-19 on gambling behavior and problem gambling prevalence in Massachusetts.

Going forward, we anticipate carrying out several 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 further anticipate that this report will serve as a template going forward for a series of brief reports on gambling and problem gambling among regular gamblers in Massachusetts as an early warning system to allow for timely efforts at harm minimization and mitigation.

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Appendix

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

		BOPS 2014			FOPS 2022			OPS 2023			Massachusetts PUMS 2014[2]		Massachusetts PUMS 2021[3]	
		N[1]	%	SE	N[1]	%	SE	N[1]	%	SE	%	SE	%	SE
Gender	Male	1,409	56.4	1.0	884	54.2	1.2	1,085	58.1	1.1	47.8	0.3	48.2	0.3
	Female	1,088	43.6	1.0	731	44.8	1.2	769	41.2	1.1	52.2	0.3	51.8	0.3
	Other				6	0.4	0.1	9	0.5	0.2				
	Prefer not to answer				10	0.6	0.2	3	0.2	0.1				
Age	18-20	64	2.6	0.3	48	2.9	0.4	49	2.6	0.4	5.7	0.1	5.6	0.1
	21-24	204	8.2	0.5	127	7.8	0.7	159	8.5	0.6	7.4	0.1	6.6	0.1
	25-34	387	15.5	0.7	350	21.5	1.0	453	24.3	1.0	17.3	0.2	17.5	0.2
	35-54	978	39.2	1.0	560	34.3	1.2	695	37.2	1.1	34.1	0.2	31.5	0.2
	55-64	449	18.0	0.8	239	14.7	0.9	237	12.7	0.8	16.5	0.2	17.1	0.2
	65-79	393	15.7	0.7	277	17.0	0.9	243	13.0	0.8	13.6	0.2	16.7	0.2
	80+	22	0.9	0.2	30	1.8	0.3	30	1.6	0.3	5.4	0.1	5.0	0.1
Ethnicity	Hispanic	159	6.4	0.5	222	13.6	0.8	325	17.4	0.9	9.3	0.2	11.1	0.2
	White alone	2,094	83.9	0.7	1,214	74.4	1.1	1,319	70.7	1.0	76.3	0.2	70.4	0.2
	Black alone	94	3.8	0.4	87	5.3	0.6	90	4.8	0.5	6.2	0.1	6.0	0.1
	Asian alone	65	2.6	0.3	55	3.4	0.4	69	3.7	0.4	6.1	0.1	7.1	0.1
	Some other race alone	32	1.3	0.2	14	0.9	0.2	19	1.0	0.2	0.7	0.0	1.3	0.1
	Two or more races	53	2.1	0.3	39	2.4	0.4	44	2.4	0.4	1.4	0.1	4.1	0.1
Education	Less than high school	87	3.5	0.4	40	2.5	0.4	43	2.3	0.3	10.4	0.2	9.0	0.2
	HS or GED	563	22.7	0.8	412	25.3	1.1	324	17.4	0.9	24.9	0.2	23.6	0.2
	Some college	964	38.8	1.0	539	33.0	1.2	624	33.4	1.1	26.4	0.2	24.1	0.2
	BA	563	22.7	0.8	444	27.2	1.1	594	31.8	1.1	22.4	0.2	24.4	0.2
	Graduate or professional degree	306	12.3	0.7	196	12.0	0.8	281	15.1	0.8	15.8	0.2	18.9	0.2
Income	Less than $15,000	205	9.0	0.5	144	9.3	0.7	114	6.4	0.6	7.2	0.1	6.1	0.1
	$15,000 - <$30,000	348	15.2	0.7	186	12.0	0.8	150	4	0.6	9.3	0.2	6.6	0.1
	$30,000 - <$50,000	460	20.1	0.8	292	18.9	0.9	222	12.4	0.7	12.6	0.2	9.1	0.2
	$50,000 - <$100,000	820	35.9	0.9	511	33.0	1.1	591	32.9	1.1	28.8	0.2	23.4	0.2
	$100,000 -<$150,000	333	14.6	0.7	288	18.6	0.9	467	26.0	1.0	20.1	0.2	19.7	0.2
	$150,000 or more	121	5.3	0.4	126	8.1	0.7	251	14.0	0.8	22.0	0.2	35.1	0.2

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

[2] Source: U.S. Census Bureau, 2014 American Community Survey PUMS

[3] Source: U.S. Census Bureau, 2021 American Community Survey PUMS

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

		BOPS_2014			FOPS_2022			OPS_2023		
		n	%	95% CI	n	%	95% CI	n	%	95% CI
Belief about benefit or harm that gambling has on society	The harm far outweighs the benefits	361	15.7	(14.3, 17.2)	303	18.6	(16.8, 20.5)	315	16.9	(15.2, 18.6)
	The harm somewhat outweighs the benefits	649	28.2	(26.4, 30.1)	480	29.4	(27.3, 31.7)	668	35.8	(33.7, 38.0)
	The benefits are about equal to the harm	952	41.4	(39.4, 43.4)	611	37.5	(35.1, 39.8)	616	33.0	(30.9, 35.2)
	The benefits somewhat outweigh the harm	236	10.3	(9.1, 11.6)	174	10.7	(9.3, 12.3)	205	11.0	(9.6, 12.5)
	The benefits far outweigh the harm	104	4.5	(3.7, 5.4)	63	3.9	(3.0, 4.9)	62	3.3	(2.6, 4.2)
Opinion about legalized gambling	All types of gambling should be legal	933	39.6	(37.6, 41.6)	607	37.2	(34.9, 39.6)	577	30.9	(28.9, 33.0)
	Some types of gambling should be legal and some should be illegal	1356	57.6	(55.5, 59.5)	925	56.7	(54.3, 59.1)	1168	62.6	(60.4, 64.8)
	All types of gambling should be illegal	67	2.8	(2.2, 3.6)	99	6.1	(5.0, 7.3)	121	6.5	(5.5, 7.7)
Opinion about gambling opportunities in MA	Gambling is too widely available	964	42.0	(40.0, 44.0)	381	23.4	(21.4, 25.5)	606	32.5	(30.4, 34.6)
	Gambling is not available enough	238	10.4	(9.2, 11.7)	451	27.7	(25.5, 29.9)	360	19.3	(17.6, 21.1)
	The current availability of gambling is fine	1095	47.7	(45.6, 49.7)	799	49.0	(46.6, 51.4)	900	48.2	(46.0, 50.5)
Overall impact of casinos	Very beneficial	585	24.3	(22.6, 26.0)	247	15.1	(13.5, 17.0)	226	12.1	(10.7, 13.7)
	Somewhat beneficial	1070	44.4	(42.4, 46.4)	646	39.6	(37.3, 42.0)	728	39.0	(36.8, 41.3)
	Neither beneficial nor harmful	377	15.6	(14.2, 17.1)	544	33.4	(31.1, 35.7)	606	32.5	(30.4, 34.6)
	Somewhat harmful	305	12.7	(11.4, 14.0)	160	9.8	(8.5, 11.4)	252	13.5	(12.0, 15.1)
	Very harmful	74	3.1	(2.5, 3.8)	34	2.1	(1.5, 2.9)	54	2.9	(2.2, 3.8)
Single most positive impact for MA	Employment	1407	57.6	(55.6, 59.5)	623	38.2	(35.9, 40.6)	580	31.1	(29.0, 33.2)
	Benefit to other local businesses	112	4.6	(3.8, 5.5)	139	8.5	(7.3, 10.0)	171	9.2	(7.9, 10.6)
	Increased government revenue	305	12.5	(11.2, 13.8)	287	17.6	(15.8, 19.5)	313	16.8	(15.1, 18.5)
	Retaining money that was leaving Massachusetts	478	19.6	(18.0, 21.2)	330	20.2	(18.4, 22.3)	400	21.4	(19.6, 23.4)
	Increased local leisure options (i.e., the ability to gamble locally)	68	2.8	(2.2, 3.5)	174	10.7	(9.3, 12.3)	290	15.5	(14.0, 17.2)
	No positive impacts	60	2.5	(1.9, 3.1)	52	3.2	(2.4, 4.2)	81	4.3	(3.5, 5.4)
	Other	14	0.6	(0.3, 1.0)	26	1.6	(1.1, 2.3)	31	1.7	(1.2, 2.4)
Single most negative impact for MA	Increased gambling addiction (and associated consequences: bankruptcy, suicide, divorce, etc.)	794	33.2	(31.4, 35.2)	673	41.3	(38.9, 43.7)	852	45.7	(43.4, 47.9)
	Negative impact on other local businesses	148	6.2	(5.3, 7.2)	130	8.0	(6.8, 9.4)	157	8.4	(7.2, 9.8)
	Increased crime	448	18.8	(17.2, 20.4)	215	13.2	(11.6, 14.9)	254	13.6	(12.1, 15.2)
	Increased traffic noise and congestion	741	31.0	(29.2, 32.9)	325	19.9	(18.1, 21.9)	348	18.6	(17.0, 20.5)
	No negative impacts	237	9.9	(8.8, 11.2)	232	14.2	(12.6, 16.0)	208	11.1	(9.8, 12.7)
	Other	20	0.8	(0.5, 1.3)	56	3.4	(2.7, 4.4)	47	2.5	(1.9, 3.3)