\\

Impacts of Advertising on Gambling Behavior in Massachusetts

May 31, 2024

SEIGMA SOCIAL AND ECONOMIC IMPACTS OF GAMBLING IN MASSACHUSETTS

UNIVERSITY OF MASSACHUSETTS SCHOOL OF PUBLIC HEALTH AND HEALTH SCIENCES

Table of Contents

List of Tables ii

List of Figures ii

Authorship and Acknowledgements iii

Executive Summary iv

Introduction 1

Literature Review 7

Advertising and Gambling Behavior in Massachusetts 11

Discussion 19

References 23

List of Tables

Table 1 Past-year sports betting frequency and activities (unweighted)........ 14

Table 2 Gambling advertising impacts (OPS23, unweighted) 16

Table 3 Gambling Advertising by Gambler Group (OPS23, unweighted)........ 18

List of Figures

Figure 1 Google trends for gambling searches in Massachusetts........6

Figure 2 Posts and interactions about gambling on Facebook and Instagram 21

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.

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.

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.

Acknowledgements

Financial support for the Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) study comes from the Massachusetts Gaming Commission. This multi-year project was competitively bid and awarded to the University of Massachusetts Amherst in April 2013. In June 2019, the Massachusetts Gaming Commission issued a subsequent Request for Response (BD-19-1068-1700-1-40973) for Research Services and the University of Massachusetts Amherst was awarded the contract effective January 2020.

We would like to thank the members of the Massachusetts Gaming Commission's Research Review Committee (RRC). Members of this committee represent a range of perspectives and their careful review of draft versions of this report contributed to its clarity as well as utility to multiple audiences.

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.

SUGGESTED CITATION:

Volberg, R.A., Zorn, M., Williams, R.J., Evans, V. (2024). *Impacts of Advertising on Gambling Behavior in Massachusetts.* Amherst, MA: School of Public Health and Health Sciences, University of Massachusetts Amherst**.**

A PDF OF THIS REPORT CAN BE DOWNLOADED AT: **www.umass.edu/seigma**

Executive Summary

The purpose of this report is to assist the Massachusetts Gaming Commission to understand the likely impacts of gambling advertising, determine the extent to which gambling behavior and gambling problems in Massachusetts are influenced by gambling advertising, and provide recommendations for how to prevent or mitigate harm resulting from gambling advertising in Massachusetts. The information presented in this report is important given the recent legalization of sports betting in the Commonwealth and its rapid implementation.

Much of the material in this report distills lessons from the extensive literature that already exists on the impacts of advertising generally, and what is known specifically about the impacts of advertising on gambling behavior. Data from three online panel surveys carried out in Massachusetts between 2014 and 2023 is useful in highlighting the potential impacts of gambling advertising in Massachusetts. Readers are cautioned that the results of online panel surveys, which typically include high proportions of regular gamblers, cannot be generalized to the population but are informative regarding the direction of changes of behavior in populations.

Advertising regulations exist to prevent known or assumed harm caused by use of the advertised products. Many jurisdictions have implemented tobacco and alcohol advertising restrictions to control exposure to these types of advertising. An abundance of research into the impacts of alcohol and tobacco advertising exists but relatively few studies have examined the relationship between gambling advertising and the potential impacts on gambling behavior that may lead to increased harm. This is an increasing concern given the rapid introduction of sports betting in the U.S. and a quickly evolving shift of both gambling and advertising to predominantly online platforms.

Advertising has undergone profound changes since the advent of the Internet in the 1990s. Prior to the 1990s, advertising outlets included print media, location advertising such as billboards, and radio and television broadcasting. In the 21st century, numerous forms of online advertising and marketing have emerged, with profound implications for the effectiveness of advertising campaigns as well as potential impacts on vulnerable groups in the population.

Within this new ecosystem, spending on sports betting advertising expanded dramatically in the U.S. following the demise of the Professional and Amateur Sports Protection Act (PASPA) in 2018. In 2019, the first full year of expanded regulated sports betting, spending on national ***television*** advertising by sportsbook operators totaled $21.4 million; in 2022, that figure had increased by 1,300% to $314.6 million. Spending on ***online*** advertising of gambling in the U.S. nearly doubled from a total of $1 billion in 2021 to $1.8 billion in 2022 and an estimated $1.9 billion in 2023. This spending was intended to enable sports betting operators to quickly acquire as many new customers as possible. Despite widely voiced concerns, there are few restrictions on the volume or placement of sports betting advertisements and even fewer instances of regulators punishing companies for violations. Other countries, primarily in Europe, have been more aggressive in protecting consumers by strictly regulating gambling advertising.

As of March 2024, 38 U.S. states and the District of Columbia offered sports betting through a variety of platforms from retail only to online sportsbooks. The majority of states with legal sports betting have some type of advertising restrictions in place. The most common requirement is that gambling advertisers feature a toll-free problem gambling helpline number across different media. Most states also restrict gambling advertisers from targeting individuals under the legal gambling age or those on gambling self-exclusion lists. Beyond these measures, there are few restrictions on advertising by sports betting operators. Several organizations in the U.S., including the American Gaming Association and the newly formed Coalition for Responsible Sports Betting Advertising, have proposed voluntary industry guidelines to encourage responsible sports gambling advertising.

An important part of the mission of the Massachusetts Gaming Commission (MGC) is to minimize and mitigate potentially negative or unintended consequences of casino gambling, horse race gambling and, since 2022, sports betting including through requirements for responsible advertising. In support of the MGC's mission, this report assesses evidence on whether and how gambling advertising has an impact on gambling behavior and makes recommendations to minimize gambling-related harm in Massachusetts associated with the introduction of sports betting. Much of this analysis distills lessons from the extensive literature that already exists on the impacts of advertising generally, and what is known specifically about the impacts of advertising on gambling behavior. Available primary data from the 2014, 2022 and 2023 SEIGMA online panel surveys was mined for empirical evidence of impacts that have occurred in Massachusetts.

Based on the research, it is clear that advertising has substantial impacts on attitudes toward and consumption of addictive products, including gambling. Advertising of these products generally emphasizes the positive experiences of use while downplaying the potentially negative aspects; further, the amount of advertising of such products far outstrips the amount of advertising about the risks of consumption or the availability of help for problems associated with consumption. The recent and rapid shift in advertising to digital channels and the evolution of highly targeted approaches to individual consumers raises further concerns about the potential negative effects of widespread gambling advertising.

While the results of online panel surveys cannot be generalized to the population, the data are useful in the early detection of possible negative impacts. The panel surveys carried out in Massachusetts included much larger numbers of gamblers, including gamblers at risk of and experiencing problems, than the general population surveys conducted contemporaneously. While past year sports betting participation declined in the general population between 2013 and 2021, past year sports betting among the online panelists increased from 2014 to 2022 and rose again in 2023. It is also notable that the proportion of past year sports bettors in the online panels who participated at least monthly or weekly also increased, from 51% in 2014 to 71% in 2022 and to 80% in 2023. With respect to the impacts of gambling advertising, only a small proportion of online panelists in Massachusetts in 2023 (7.1%) felt that such advertising or news coverage had caused them to gamble more. It is notable, however, that online panelists at risk of or experiencing gambling problems were more likely to recall substantial amounts of advertising and news coverage and more likely to believe that this exposure had led them to gamble more.

Taken together, review of the research literature and consideration of the online panel data from Massachusetts raise concerns about the impact of gambling advertising on vulnerable groups in the population. While many jurisdictions have implemented regulations to limit the exposure of underage individuals to gambling advertising, few have addressed the vulnerability of individuals in recovery from gambling problems and their susceptibility to relapse in response to gambling advertising or news coverage. Another concern is the dearth of population-level approaches to minimizing and mitigating gambling harms and the nearly exclusive focus on individual responsibility for gambling behavior.

The MGC published a report on advertising and gambling in 2022 that included specific recommendations to strengthen current gambling advertising regulations in Massachusetts. These comprise:

- Strengthening protections of underage populations;
- Restricting advertising campaigns that target vulnerable groups;

- Requiring inclusion of messages about where to obtain help in all advertising and marketing materials;
- Limiting the intensity and frequency of advertising;
- Ensuring that restrictions include digital media and third parties;
- Prohibiting false or misleading advertising; and
- Restricting communications about inducements, bonuses and credits.

We strongly concur with all of the recommendations in the MGC's White Paper and, based on a recent international review, have several additional recommendations to propose for the MGC's consideration:

- Limiting advertising of higher-risk games;
- Limiting advertising focused on specific purposes (e.g., gambling as entertainment, gambling to support good causes);
- Requiring that inducements not create a sense of urgency, be limited in value, and be offered only when customers are opening an account;
- Restricting celebrity endorsements as these:
    - Tend to promote subsequent gambling involvement by young people;
    - Precipitate relapse in recovered addicts; and
    - Counteract the effectiveness of public health messages advocating limited use.

Finally, given the rapid evolution of advertising beyond conventional formats to encompass online marketing, we recommend that consideration be given to monitoring emerging forms of gambling advertising, including:

- Regularly obtaining information about trends, tactics and engagement with gambling-related advertising, marketing and influencer promotion strategies;
- Measuring the potential reach of gambling-related posts on social media platforms; and
- Assessing the prevalence and effectiveness of gambling prevention and treatment messages within the broader social media landscape.

Introduction

Purpose of the Report

The purpose of this report is to assist the Massachusetts Gaming Commission (MGC) to understand the likely impacts of gambling advertising, determine the extent to which gambling behavior and gambling problems in Massachusetts are influenced by gambling advertising, and provide recommendations for how to prevent or mitigate harm resulting from gambling advertising in Massachusetts. The information presented in this report is important given the recent legalization of sports betting in the Commonwealth and its rapid implementation.

The report is organized into several sections. These include:

- brief overview of research on the impacts of advertising related to tobacco and alcohol, two other potentially harmful products of consumption;
- summary of existing research on the relationship between gambling advertising and gambling behavior;
- description of results from three online panel surveys of Massachusetts adults completed in 2014, 2022 and 2023 to help understand the extent to which gambling behavior in Massachusetts may be influenced by gambling advertising; and
- recommendations to mitigate or prevent harm resulting from gambling advertising in Massachusetts.

Much of the material in this report distills lessons from the extensive literature that already exists on the impacts of advertising generally, and what is known specifically about the impacts of advertising on gambling behavior. Available primary data from the three SEIGMA online panel surveys is useful in highlighting the potential impacts of gambling advertising in Massachusetts. Readers are cautioned that the results of online panel surveys, which typically include high proportions of regular gamblers, cannot be generalized to the population but are informative regarding the direction of changes in the behavior of populations.

Background

Advertising strategies aim to increase the use of a product in a population or, sometimes, specific groups in the population, thereby increasing corporate profits. Regulations around advertising exist to prevent known or assumed harm caused by using the advertised products. For example, many jurisdictions have implemented tobacco and alcohol advertising restrictions to control exposure to these types of advertising, particularly for young people.[1] An abundance of research into the impacts of alcohol and tobacco advertising exists; however, few studies have examined the relationship between gambling advertising and the potential impacts on gambling behavior that may lead to increased harm. This is a growing concern internationally given the recent introduction of sports betting to the gambling

[1] Other types of marketing of commercial activities that are regulated to prevent harm include marketing of unhealthy foods (Taillie et al., 2019), direct-to-consumer marketing of prescription drugs (Parekh & Shrank, 2018), and electronic cigarette products (Hansen et al., 2020).

landscape in the U.S. and a rapid shift internationally of both gambling and advertising to predominantly online platforms.

Gambling advertising has been a concern in Massachusetts since the legalization of casinos in 2011. Following passage of the Expanded Gaming Act, two casinos and one slot parlor were approved by the MGC. Beginning in 2015, when casino gambling became operational in Massachusetts, the MGC moved to enact advertising regulations with the purpose of mitigating gambling harms. The Code of Massachusetts Regulations Title 205[2] states, “No gaming licensee shall authorize or conduct marketing, advertising, and/or promotional communications or activity relative to gaming that specifically targets persons younger than 21 years old” and also states, “A gaming licensee shall not market to individuals on the voluntary self-exclusion list.”

In 2016, Massachusetts became the one of the first states to regulate daily fantasy sports betting (DFS) in the wake of a massive national advertising campaign by DraftKings and FanDuel, who spent hundreds of millions of dollars to recruit customers during the first weeks of the 2015 NFL season.[3] At that time, DraftKings and FanDuel controlled approximately 95% of the North American DFS market which was valued at $2.5 billion (O'Keeffe, 2015). The statute that governs DFS betting in Massachusetts is the responsibility of the Office of the Attorney General and is primarily focused on oversight of the industry and consumer protection. The Code of Massachusetts Regulations Title 940[4] requires DFS operators to comply with existing advertising regulations in the Commonwealth but places additional restrictions on these operators related to targeting minors and college students, bans contests based on college or amateur sports events, limits monthly deposits by participants, and restricts employees of DFS operators from participating in DFS contests.

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 nine of the licenses tied to a land-based partner (three licensed casinos and two racetracks) and the remaining six 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.

An important part of the MGC’s mission is to minimize and mitigate potentially negative or unintended consequences of casino gambling, horse race gambling and, since 2022, sports betting including through requirements for responsible advertising. Beyond regulations, the MGC has developed a Responsible Gaming Framework to inform the Commission’s approach to responsible gambling as it regulates different forms of gambling in the state (Massachusetts Gaming Commission, 2018). The Framework details the Commission’s intentions to support responsible gambling by encouraging licensees to prevent underage gambling, promote positive play, and advertise problem gambling help resources.

Sports betting became operational in Massachusetts in early 2023 and the MGC is actively constructing a regulatory structure to manage this new form of gambling. The MGC has already produced a White Paper on advertising and gambling that reviews the limited research on gambling advertising and current state-specific advertising regulations around sports betting. Regulations and practices from the Federal Trade Commission’s

[2] https://www.mass.gov/law-library/205-cmr

[3] Fantasy sports betting involves bettors assembling virtual teams that accumulate points based on players’ performances. It is widely considered a game of skill rather than a form of gambling.

[4] https://www.mass.gov/doc/940-cmr-3-consumer-protection-general-regulations/download

initiatives for regulating the alcohol industry and the Massachusetts Cannabis Control Commission's advertising regulations were also reviewed to provide insight into other approaches to the regulation of advertising of potentially harmful products (Vander Linden et al., 2022). The White Paper included recommendations for the MGC to consider to strengthen current gambling advertising regulations in the Commonwealth. These included expanding specific advertising/marketing requirements, establishing a compliance process, requiring awareness and capacity building training, updating the MGC's responsible gambling framework, and conducting research to inform regulations, training, and problem gambling programs.

Recent Developments in Gambling Advertising

The various sectors of the gambling industry rely on advertising to maintain or increase sales of their products and services. These efforts typically portray gambling in positive ways and convey the message that gambling is fun and exciting as well as offering the possibility of winning. There is disagreement among researchers regarding the long-term impact of gambling advertising on attitudes towards gambling, with some arguing that advertising has a strong impact on consumer preferences while others argue that advertising mostly affects market shares of individual companies or product sectors (Abbott et al., 2018).

Advertising has undergone profound changes since the advent of the Internet in the 1990s. Advertising outlets prior to the late 1990s included print media, location advertising such as billboards, and radio and television broadcasting. In the 21st century, at least six forms of online advertising have emerged. While these categories overlap, they feature different approaches and actors in the 'advertising ecosystem' (Hörnle et al., 2019):

- digital display marketing placed by ad exchanges (banner advertising, pop-ups);
- search engine marketing (based on keywords or search optimization);
- advertising on social media (both offered and placed by social media companies and including banners, pop-ups, posts, commercial tweets, video-clips, ads placed by ad exchanges);
- use of affiliates, influencers, and brand ambassadors promoting specific products or services;
- advertising placed on social media as user-generated content (posts, tweets, video promotions); and
- affiliate advertising through websites such as comparison shopping sites (advertorials).

In a recent presentation, Stark and McKnight (2024) distinguished between ***gambling advertising*** (e.g., promotions on television, radio, websites, social media and billboards) and ***gambling inducements*** (e.g., bonuses, credits, rewards, or vouchers) which are highly targeted and require specific actions to redeem the offer such as gambling with a certain amount of one's own money. These researchers argued that advertising leads people to have more positive feelings about gambling and higher intentions to gamble; people who are at higher risk of gambling harm tend to be more exposed to and aware of gambling advertising and are more likely to say that advertising has caused them to gamble more. Inducements are more likely to lead people to increase gambling deposits, wagers and number of gambling days shortly after their use, and are associated with greater gambling involvement, particularly among young people.

With respect to sports betting, while U.S. states regulate how sportsbooks can operate, these operators are given wide latitude over what they can say in advertisements and even where they can place advertisements. Promotions offering 'risk free' bets and bonuses are one of the more controversial aspects of the boom in sports betting marketing. Another controversial feature of sports betting advertising relates to professional sports celebrities promoting gambling companies (Cohen, 2023; Groke, 2022). In addition to promotions, sports betting operators have established partnerships with major sports leagues; for example, several Major League Baseball stadiums have added sportsbooks to their ballparks to allow spectators to place bets on the teams they are there to support (Groke, 2022). Even more controversially, sports betting operators have established partnerships with colleges and universities that provide them with access to underage students as well as those who are able to bet on sports legally (Betts et al., 2022). Television broadcasts now routinely display odds during games and announcers discuss betting strategies as well as commenting on game action (Hernandez, 2022). This latitude is a strong contrast to constraints placed on other industries where there is a risk of addiction, such as tobacco and alcohol. Limited oversight has raised alarms among advocates concerned about those with a history of problem gambling and people too young to bet (Hörnle et al., 2019).

Economics of Gambling Advertising

Globally, spending on advertising was expected to be $763.2 billion in 2022 (excluding U.S. political advertising). Digital advertising has accelerated especially quickly as small businesses and digital companies spend more on advertising. Currently, between 80% and 90% of digital advertising outside of China goes to Google, Facebook, and Amazon and a growing share of this advertising is viewed during searches conducted on e-commerce platforms (Graham, 2021).

Spending on sports betting advertising expanded dramatically in the U.S. following the 2018 overturning of the Professional and Amateur Sports Protection Act (PASPA)[5] and the expansion of state-sanctioned legal sports betting. In 2019, the first full year of regulated sports betting in the U.S., spending on national ***television*** advertising by sportsbook operators totaled $21.4 million; in 2022, that figure had increased by 1,300% to $314.6 million (Purdum, 2023; Thomsen, 2023). Spending on ***online*** advertising of gambling in the U.S. nearly doubled from $1 billion in 2021 to $1.8 billion in 2022 and an estimated $1.9 billion in 2023 (Statista, 2023).

In 2023, the four biggest sportsbooks (FanDuel, DraftKings, BetMGM and Caesars) accounted for almost 90% of sports betting advertisements with 41% of views occurring outside of sports event programming (GGB News, 2023; iGB Editorial Team, 2023). While some of this spending was for conventional advertising on national television and deals with sports leagues and venues, most of the spending was on digital advertising. In January 2022, these four sportsbooks spent $25.6 million on streaming, display and social advertising which are much more targeted approaches to gaining and keeping customers. Spending on advertising was intended to quickly acquire as many new customers as possible. For example, FanDuel spent more than $1 billion on marketing and promotions in 2022 to acquire a 40% market share in the U.S. with each new user estimated to cost approximately $45 to acquire (Ruiz et al., 2022).

Current Status of Gambling Advertising Regulations in the U.S.

Questionable promotional claims and saturation advertising have led to public backlash amid concerns about harms to vulnerable groups, including children and individuals at risk of experiencing gambling harm (Ruiz et al., 2022). Despite these concerns, there are few restrictions on the volume or placement of sports betting advertisements and even fewer instances of regulators punishing companies for violations. Other countries have been more aggressive in protecting consumers by more strictly regulating advertisements. For example, Britain prohibits gambling advertisements during games, celebrity endorsements of sports betting, and the use of credit cards for gambling.[6] Spain, Italy and Australia have also restricted gambling advertisements, promotions and endorsements. Despite stricter measures, a recent study of gambling messages across television, radio and social media channels during the Premier League tournament in Britain found that 92% of these messages were not clearly identifiable as advertisements, only 20.6% included any harm reduction messages and only 18.7% featured age warnings (Mulligan, 2023).

[5] The 1992 Professional and Amateur Sports Protection Act (PASPA) prohibited states from sanctioning or sponsoring sports gambling. PASPA was struck down by the Supreme Court in May, 2018 and numerous states have now legalized sports betting.

[6] Betting on sports using credit cards is allowed in approximately 15 U.S. states.

As of March 2024, 38 U.S. states and the District of Columbia offered sports betting through a variety of platforms from retail only to online sportsbooks.[7] The majority of states with legal sports betting have some type of advertising restrictions in place. The most common requirement is that gambling advertisers feature a toll-free problem gambling helpline number across different media. Most states also restrict gambling advertisers from targeting individuals under the legal gambling age in that state or those on gambling self-exclusion lists. Other requirements include prohibiting false or deceptive advertising or, in some cases, prohibiting all advertising (Vander Linden et al., 2022).

Several industry organizations in the U.S. have proposed voluntary guidelines for responsible sports gambling advertising. The American Gaming Association (AGA) has published a Responsible Marketing Code for Sports Wagering which provides national guidelines for responsible advertising in the industry. This document, first published in 2019 and updated in 2023, aims to "set the industry standard for traditional and digital marketing and advertising of sports wagering where consumers are encouraged to place real money wagers" and compliance is overseen by an internal review board.[8] In April 2023, many of the leading professional sports leagues in the U.S. along with several major media outlets formed the Coalition for Responsible Sports Betting Advertising.[9] The Coalition "aims to implement and maintain consumer protection policies" built around several "core principles" and its creation followed closely on the heels of an effort earlier in 2023 to enact federal legislation to curb sports betting advertising nationally (Purdum, 2023).

Gambling Advertising in Massachusetts

In considering the impact of advertising on gambling behavior in Massachusetts, it is helpful to examine the impact that the introduction of new forms of gambling may have had on awareness of and interest in these activities. Figure 1 shows trends in the number of searches in Massachusetts for gambling-related terms from 2015 to 2023 (from Google Trends). Numbers on the y-axis represent search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular.

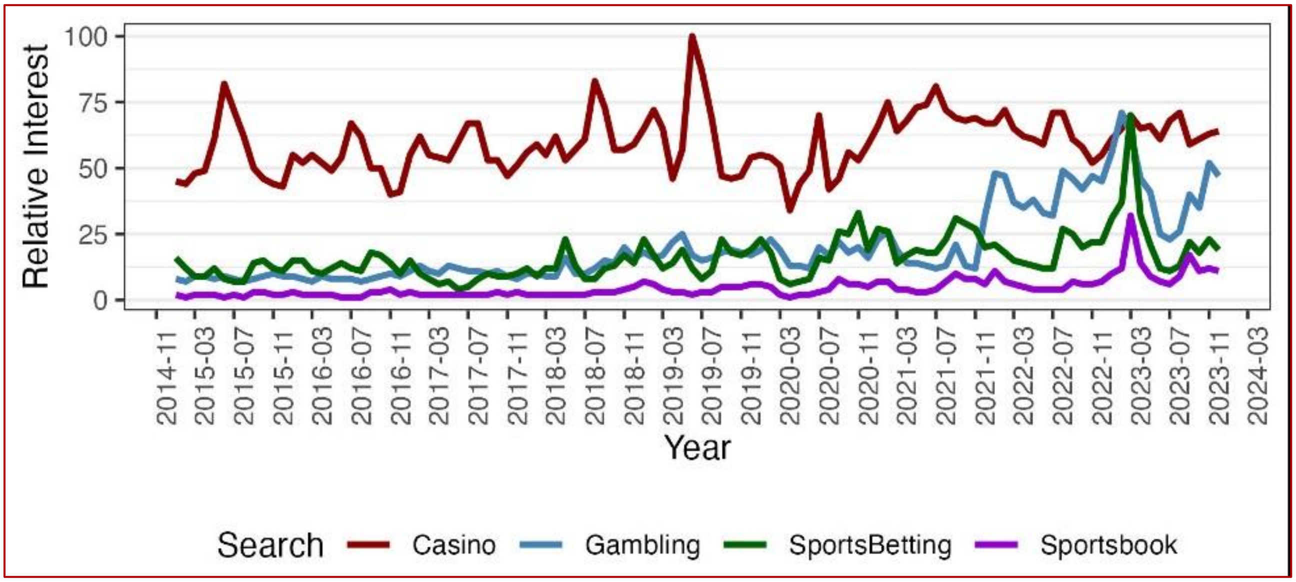
Figure 1 shows a peak in searches for casino gambling in 2015 around the time that Plainridge Park Casino opened and two more peaks in 2018 and 2019 when MGM Springfield and Encore Boston Harbor opened. There was a small but noticeable increase in searches for sports betting following the advertising campaigns by DraftKings and FanDuel during 2015 NFL season. Interest in sports betting rose again in 2018 after PASPA was overturned and the major sports betting operators began advertising intensively to attract new customers and capture market share. This was followed by a spike in searches for sports betting in mid-2022 when this form of gambling was legalized and peaking in March 2023 when sports betting became operational in Massachusetts.

[7] https://www.americangaming.org/

[8] https://www.americangaming.org/responsible-marketing-code-for-sports-wagering/; https://cdcgaming.com/aga-activated-enforcement-of-the-responsible-marketing-code-for-sports-wagering/

[9] https://www.espn.com/chalk/story/_/id/36232587/sports-league-form-coalition-promote-limits-betting-ads https://pr.nba.com/coalition-for-responsible-sports-betting-advertising/

Figure 1 Google trends for gambling searches in Massachusetts



The next section of the report presents a brief overview of the research literature on advertising of potentially addictive products followed by a review of research on the effects of gambling advertising internationally and then a presentation of survey results focused on sports betting and advertising in Massachusetts.

Literature Review

Within the broader processes of product marketing, advertising is ubiquitous as companies seek to win over consumers to gain market share against competitors. With the explosion of online activity, populations are exposed to more product advertising than ever before. With advances in artificial intelligence technology, advertisements target potential consumers with great precision by leveraging personal information gathered through online activity. This places a much greater obligation on governments to regulate advertising to protect consumers from potential harm.

While advertising is an important element of corporate marketing, there is controversy about the actual effectiveness of advertising on consumer behavior. A key question is how well advertising translates into increased sales and hence revenues. Two meta-analyses have explored the results of research on the effectiveness of advertising. The first covered a period from 1962 to 1981 while the second covered the period from 1960 to 2008 (Assmus et al., 2018). These studies suggest that there have been significant changes in the marketing environment that impact the effectiveness of marketing. These changes include (a) greater competition, (b) globalization, (c) the advent of the Internet, and (d) the ability of consumers to opt out of receiving advertisements. The 2018 study concluded that the impact of advertising on sales was small, particularly compared to the impact of price reductions. The authors noted that the impact of advertising was higher for durable goods compared to nondurable goods (such as gambling) and for products in earlier stages of the product life cycle (as is the case with sports betting).

Regulations around the advertising of addictive products are especially important to ensure the protection of vulnerable populations. Greater exposure to advertising of addictive products, such as alcohol and tobacco, has been shown to be associated with more positive attitudes toward these products, using these products earlier, and developing more problems associated with their use (Bouguettaya et al., 2020). Historically, this has been evident in legislative and regulatory responses to smoking and alcohol advertising. There is an extensive body of research on the impact of tobacco and alcohol advertising on behavior and harms associated with such advertising have been well documented in the literature.

Tobacco and Alcohol

Extensive research evaluating exposure to smoking and alcohol advertising, including many systematic reviews, has been published, focusing on individuals at risk of problems and vulnerable populations, such as young people. In a review of primary studies on alcohol marketing and risk of alcohol problems, Murray et al. (2022) found a likely effect on alcohol-related emotions, cravings, and triggers for people in recovery. For young people, alcohol marketing has been shown to be associated with earlier initiation of drinking as well as increases in drinking intentions, overall alcohol consumption, and binge drinking (Nixon et al., 2022).

A systematic review of cross-sectional studies by Finan et al. (2020) suggested that a relationship exists between alcohol marketing exposure and alcohol use behaviors in young people. Systematic reviews of longitudinal studies on alcohol and tobacco found exposure to the marketing of these products was associated with the likelihood of earlier initiation of both drinking and smoking in young people (Anderson et al., 2009; Lovato et al., 2011).

Overall, several systematic reviews have found evidence of an association between exposure to alcohol and tobacco advertising and greater consumption leading to tobacco and alcohol-related harm (Anderson et al., 2009; Finan et al., 2020; Murray et al., 2022; Smith & Foxcroft, 2009). In response, heavier regulation of advertising has been suggested as a cost-effective intervention to reduce harms related to consumption of these goods (Casswell & Thamarangsi, 2009).

Gambling

Gambling advertising promotes gambling as a harmless, normal, and fun leisure activity with the potential for economic gain (Clemens et al., 2017; McMullan et al., 2012; Monaghan et al., 2008; Parke et al., 2014; Planzer & Wardle, 2011). An early review by Binde (2007) outlined the challenges of measuring the impact of gambling advertising on individuals with gambling problems or those at risk of experiencing gambling problems. Challenges included differences in types of advertising, the maturity of different gambling markets, covariation between sales and advertising (i.e., companies tend to advertise more when sales are rising), the influence of non-advertising factors, and the attractiveness of alternate forms of entertainment. Binde (2007) concluded that there was little evidence that gambling advertising had substantial impacts except on the behavior of individuals experiencing gambling problems. In a more recent report to the Responsible Gambling Fund in Britain, Planzer and Wardle (2011) reviewed literature on various aspects of the impact of gambling advertising on gamblers and, like Binde, noted the challenges of measuring the impact of gambling advertising.

In 2014, the newly launched Responsible Gambling Trust (which replaced the Responsible Gambling Fund) commissioned another review of gambling advertising (Binde, 2014). This review focused on empirical studies that investigated the volume and efficiency of gambling advertising, gambling advertising impacts on individuals with gambling problems, and advertising messaging. With respect to the impact of gambling advertising on individuals with gambling problems, this review of cross-sectional studies identified an association between individuals observing gambling advertising and gambling participation; specifically, those who reported observing higher amounts of gambling advertising gambled more than average and/or had problems with gambling. Gamblers who were asked how they felt gambling advertising impacted their gambling behavior reported that advertising induced them to gamble more than they intended; this was especially true of people experiencing gambling problems.

Limited research has been conducted on the impacts of gambling advertising on subsequent gambling problems and harm. However, even the limited research focused on gambling and advertising has shown increasing harm associated with gambling advertising. McGrane et al. (2023) reviewed several studies published between 2000 and 2022 on the impacts of gambling-related advertising and identified a causal relationship between exposure to gambling marketing and positive attitudes toward gambling, greater intentions to gamble, and increased gambling activity overall. In fact, the authors suggested that a dose-response effect is likely – the greater the advertising exposure, the greater the risk of harm. In addition, they found a significant impact on young and vulnerable people, including those already at risk due to their current gambling behavior.

A meta-analysis of 24 studies on gambling and advertising conducted by Bouguettaya et al. (2020) found a positive association between exposure to gambling advertising and positive attitudes toward gambling, increased gambling intentions, and increases in gambling behavior, including frequency and expenditure, as well as encouraging new gamblers, consistent with research on alcohol and tobacco. A separate literature review funded by the Australian Responsible Gambling Fund, which advises the Government of New South Wales, included a review of studies on advertising and promotion of gambling (Rodda, 2020). This study similarly found an association between gambling advertising and gambling behaviors such as increased participation and expenditure. Furthermore, regular gamblers were found to have higher exposure to gambling advertising through promotions and inducements.

A recent rapid review of empirical research on gambling advertising found little effort to adequately display harm reduction or responsible gambling content within gambling advertising in three areas: content and narratives, delivery and placement, and structural features and mechanics (Torrance et al., 2021). Qualitative research into youth perceptions of gambling advertising found that it normalizes gambling and may encourage youth gambling behaviors. Additional studies of migrants who gamble found targeted advertising and promotional materials directed to certain ethnic groups (Wardle et al., 2019).

A survey of gamblers in Norway found a direct correlation between increased exposure to gambling advertising and increased problem gambling with Internet advertising having the strongest effect (Syvertsen et al., 2022). A systematic review of gambling advertising and adolescents and youth found that advertising normalized gambling as a leisure activity and increased positive attitudes toward gambling as well as participation (Labrador et al., 2021). Clemens et al. (2017) found that high gambling advertisement exposure was positively related to increases in gambling behavior, including problematic gambling behaviors, in adolescents and young adults in Germany.

Sports Betting

Sports betting has been legal outside the U.S. for several decades; in Britain since the 1960s, for example, and in Australia since 1983. In 2014, the Australian Gambling Research Centre released a report that highlighted the role of sports betting advertising and its impacts on gambling behavior (Hing, 2014). This study concluded that sports betting advertising increased participation particularly of vulnerable populations such as youth and at-risk and problem gamblers and could impact gambling attitudes and behaviors.

Several studies on sports betting and advertising have been published by the International Gaming Research Unit at Nottingham Trent University in Britain with a particular focus on the impact of online sports betting advertising on individuals with or at risk of developing gambling problems. Lopez-Gonzalez et al. (2017) described the characteristics of online sports betting advertising whereby advertising companies encourage and maintain betting on sports by advertising specific games or players who have particularly strong followings, using well-known sports figures or celebrities to promote sports betting products,[10] and framing sports betting as a social activity. A follow-up content analysis of sports betting television advertisements in Britain and Spain identified specific themes within these advertisements such as men watching sports events while drinking and celebrating together (Lopez-Gonzalez et al., 2018). Those that depicted sports betting activities within the advertisement did so in ways that suggested minimal betting resulted in large payouts. A qualitative study of sports bettors in treatment for gambling problems demonstrated that they experienced increased impulsivity related to their gambling through offers of bonuses and enhanced odds (Lopez-Gonzalez et al., 2020).

With the recent explosion of sports betting across the U.S., gambling researchers have focused on investigating digital sports betting advertising as the primary means of exposure.[11] A systematic review of online gambling marketing strategies found sports to be a large target for digital gambling marketing (Guillou-Landreat et al., 2021). Of the 21 studies included in the review, 17 were from Australia and New Zealand with single studies from Britain, Canada, Spain, and the U.S. and 12 centered on sports betting advertising. Strategies employed in digital gambling advertising were advertising in digital apps, social media posts, and direct messaging to consumers. The messages of these advertisements implied an association between gambling and sports and were found to impart a feeling of positivity, excitement, and benefit by normalizing gambling as an everyday

[10] For example, Cristiano Ronaldo, Neymar Jr., and Rafael Nadal for *PokerStars* and Shaquille O'Neal and Ben Affleck for *WynnBets*.
[11] In 2021, digital advertising accounted for 65% of the total advertising spending worldwide (Graham, 2021).

recreational activity. The authors concluded that targeted marketing strategies were highly focused on vulnerable populations such as young people and at-risk and problem gamblers.

The recent rapid increase in sports betting and online gambling and concerns about the potential public health impacts of gambling marketing have given rise to more recent studies on the impact of sports betting advertising on sports betting behavior. A systematic review by Killick and Griffiths (2021) found that sports betting marketing had a positive relationship with sports betting attitudes, intention, and behaviors with the strongest influence on those who scored higher on measures of problem gambling severity. Most of the 22 studies reviewed were conducted in Australia and used varying methodologies including longitudinal, cross-sectional, and mixed methods. Ten studies looked at sports betting advertising and attitudes towards sports betting. Findings suggested that advertising normalized sports betting by promoting sports betting as a harmless and potentially lucrative pastime. The constant inundation of sports betting advertisements, including incentives and language implying minimal risk to the gambler, contributed to a sense of normalcy. Intentions of participating in sports betting were reviewed in seven studies which found higher intentions to gamble among those exposed to sports betting advertising.

In summary, advertising has substantial impacts on attitudes toward and consumption of addictive products, including gambling. Advertising of these products generally emphasizes the positive experiences of using the product while downplaying the potentially negative aspects; further, the amount of advertising of such products far outstrips the amount of advertising about the risks of consumption or the availability of help for problems associated with consumption. The recent and rapid shift in advertising to digital channels and the evolution of highly targeted approaches to individual consumers raises further concerns about the potential negative effects of widespread gambling advertising. It is in this context that governments in several countries in Europe as well as Australia have recently instituted measures to limit the exposure of vulnerable sectors of the population, particularly youth, to sports betting and online gambling advertising.

Advertising and Gambling Behavior in Massachusetts

Turning from published research, the focus in this section is on the relationship between gambling advertising and gambling behavior in Massachusetts based on results from a series of online panel surveys that have been carried out in the Commonwealth as part of the SEIGMA study. While online panel surveys cannot be utilized to establish accurate gambling participation and problem gambling prevalence rates, they still hold considerable value as a means to identify ***changes*** in gambling-related attitudes, motivations, behaviors, and harms on a regular basis.

Online Panel Surveys in Massachusetts, 2014-2023

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, (c) the results can be obtained in a much shorter period of time, and (d) they are much less expensive than general population surveys (Olson et al., 2021). The main limitation of online panels is that panelists are not randomly selected but rather self-enrolled. While online panel companies generally stratify samples to be demographically representative of the population, significant behavioral biases typically remain that are not corrected by this stratification or by demographic weighting (e.g., Pickering & Blasczynski, 2021; Lee, Back et al., 2015). However, these behavioral biases can be an advantage in studies where these biases can be utilized to obtain a higher 'yield' of people with gambling problems (as heavy gambling involvement is one of these reliable behavioral biases) (Williams et al., 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 2014 simultaneously with a baseline general population survey. The Follow-up Online Panel Survey (FOPS) was fielded in 2022 simultaneously with a follow-up general population survey. The third Online Panel Survey (OPS23) was fielded one year later in 2023.[12] The original reason for utilizing online panels in the SEIGMA study was to obtain information from a large number of people with gambling problems so that the demographic and behavioral patterns of this important subgroup in the population could be better understood. As noted above, the results of the online panel surveys cannot be generalized to the population but are useful in monitoring changes in gambling attitudes, behavior and harms over time.

BOPS Recruitment and Sample

Ipsos Public Affairs (Ipsos) conducted the SEIGMA Baseline Online Panel Survey (BOPS). Ipsos maintains an online panel of individuals across the country who have agreed to participate in research studies. When respondents 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 their own online panel sample with Massachusetts online panel members from seven

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

partner vendors. The BOPS was launched in late October 2013, and data collection ended in late March 2014 to run coincident with data collection for the Baseline General Population Survey. 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 SEIGMA 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 residents aged 18 and over with quotas established for age and gender. The FOPS was fielded in March 2022 and OPS23 was fielded in March 2023. A sample of 3,041 completed surveys was obtained for the FOPS and a sample of 3,380 was obtained for OPS23. It is worth noting that the IP addresses of 5% (n=165) of the OPS23 respondents had also been used in the 2022 survey.[13] Given the limited overlap, we chose not to drop these respondents from our analyses.

In addition to obtaining the 2014 sample from a different vendor than the 2022 and2023 surveys, the question wording specific to sports betting in the latter two surveys was slightly different 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).”

Comparing the Online Panel Surveys with the General Population Surveys

To provide context, it is helpful to compare gambling participation and problem gambling prevalence in the general population and in the online panels. Given their contemporaneous fielding, this comparison is possible for the Baseline and Follow-up surveys. Further detail is provided in a separate SEIGMA report comparing the results of the three online panel surveys more comprehensively (Volberg et al., 2024). Briefly, participation in most types of gambling among online panelists in 2014 was statistically significantly higher than for all adults in Massachusetts in 2013. The one exception was ***sports betting*** which, like casinos, was illegal in Massachusetts at the time but still measurably prevalent. In 2013, 12.6% of all Massachusetts adults (weighted to the population) had gambled on sports in the past year compared to 13.4% of online panelists (unweighted) which was not a statistically significant difference.

As noted in our report on the 2021 general population survey, there were substantial decreases in overall gambling participation as well as participation in specific types of gambling in Massachusetts between 2014 and 2021, at least partly due to the lingering impacts of the COVID-19 pandemic (Volberg et al., 2023). Comparing the 2014 and 2022 online panel surveys, there was no change in overall gambling participation. However, participation in traditional lottery and instant games was down along with participation in raffles and casino gambling. In contrast, participation in daily lottery games, sports betting,[14] private wagering, horse race betting, bingo and online gambling was higher among online panelists in 2022 compared to 2014. With the exception of daily lottery games and bingo, all of these types of gambling can be done without going out in public.

---

[13] In response to a query, Qualtrics specified that IP addresses are the only method used to determine whether panelists in separate surveys are the same individuals. While it is possible that some panelists may have used different devices or devices in different geographic locations in the two surveys and thus would not be identified as ‘overlap’ cases, Qualtrics is unable to provide any additional information regarding the extent of overlap between the two surveys.

[14] As a reminder, the question about sports betting participation was changed in the 2021 general population survey (for half of the respondents) and in the 2022 online panel survey to accommodate the newer forms of sports betting available to Massachusetts adults.

In addition to gambling participation, it is helpful to understand differences between the general population surveys (weighted) and online panel surveys (unweighted) in the prevalence of gambling problems. As noted in our report on the 2021 general population survey, there was no change in the prevalence of at-risk or problem gambling among Massachusetts adults between 2013 and 2021. The proportion of the adult population classified as non-gamblers was higher in 2021 (38.7%) compared to 2013 (26.6%) and the proportion classified as recreational gamblers was lower (51.3% versus 62.9%).

In contrast to the general population, there were changes in the proportion of online panelists classified as problem gamblers in 2022 compared to 2014. Comparing the baseline and follow-up online panel surveys, the proportion of panelists classified as non-gamblers was unchanged while 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%).

Sports Betting Behavior in the Massachusetts Online Panels

Given that sports betting is the type of gambling most closely associated with increases in gambling advertising, it is helpful to consider changes in sports betting behavior among the Massachusetts online panelists in detail. To understand changes in sports betting behavior, we examined the results of all three of the online panel surveys carried out in Massachusetts. While there was a decline in past year sports betting between 2013 and 2021 in the general population, from 12.6% to 9.9% (Volberg et al., 2023), the proportion of online panelists that had bet on sports in the past year was substantially higher than in the population and there was an increase in participation rather than a decline over time. Table 1 presents information about sports betting participation in the 2014, 2022 and 2023 online panel surveys.

Table 1 shows that in 2014, 13.4% of the online panelists had gambled on sports in the past year with just over half of the sports bettors (51%) having done so at least monthly or weekly. In 2022, nearly twice as many online panelists had gambled on sports in the past year (23.8%) with nearly three-quarters (71%) having done so at least monthly or weekly. In 2023, the proportion of online panelists who had gambled on sports in the past year increased again, to 33.8% with 80% having done so at least monthly or weekly.[15]

Differences between the 2014 and the 2022 surveys in not having bet on sports in the past year and betting weekly on sports in the past year were statistically significant with small effect sizes (-0.27 to 0.27). Only the difference between the 2022 and 2023 surveys in not having bet on sports in the past year was statistically significant with a small effect size (-0.22). Finally, all of the differences between the 2014 and 2023 surveys except 'at least yearly' participation were statistically significant albeit with small effect sizes (-0.49 to 0.45).

[15] Past year participation in most types of gambling increased significantly between the 2022 and 2023 online panel surveys. It is likely that gambling behavior in the 2022 survey was suppressed due to lingering effects of COVID restrictions. It is also important to note that panelists were reporting on their past 12 months of behavior (March 2021 to March 2022) which included a period when some COVID restrictions were still in place. It was not until May 2021 that all COVID-19 restrictions were removed for all gambling establishments in Massachusetts.

Table 1 Past-year sports betting frequency and activities (unweighted)

		BOPS 2014 %[3]	BOPS 2014 95% CI[3]	FOPS 2022 %[3]	FOPS 2022 95% CI[3]	OPS23 2023 %[3]	OPS23 2023 95% CI[3]
Frequency of sports betting	1=never	86.6	(85.6, 87.5)	76.2	(74.7, 77.7)	66.2	(64.6, 67.8)
	2=at least yearly	6.5	(5.8, 7.2)	6.8	(5.9, 7.7)	6.9	(6.1, 7.8)
	3=at least monthly	3.4	(3.0, 4.0)	6.9	(6.0, 7.8)	10.9	(9.9, 11.9)
	4=at least weekly	3.5	(3.0, 4.0)	10.1	(9.1, 11.3)	16.1	(14.9, 17.3)
Type of sports betting engaged in	Professional sporting events			59.3	(55.7, 62.9)	62.9	(60.0, 65.6)
	Sports parleys			35.8	(32.4, 39.4)	47.7	(44.9, 50.6)
	Fantasy sports betting			32.4	(29.1, 35.9)	34.0	(31.3, 36.8)
	Betting on sports you participated in			11.2	(8.5, 14.6)	12.3	(10.6, 14.4)
Where and how bet on sports	Office sports polls or social betting against friends/family			12.2	(11.1, 13.4)	34.9	(32.1, 37.7)
	Legal land-based sportsbook outside MA			6.3	(5.5, 7.2)	30.0	(27.4, 32.8)
	Legal land-based sportsbook in MA			5.0	(4.3, 5.8)	39.3	(36.5, 42.2)
	Illegal/underground land based sportbook or bookmaker in MA			3.7	(3.1, 4.5)	18.0	(15.9, 20.4)
	Sporting event with online sportsbook outside MA			4.9	(4.2, 5.7)	15.8	(13.8, 18.0)
	Sporting event with online sportsbook in MA			2.7	(2.2, 3.4)	26.3	(23.8, 28.9)

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

As already noted, participants in the 2022 and 2023 surveys were asked about their sports betting behavior in greater detail than in 2014. In both 2022 and 2023, respondents who had bet on sports in the past year were most likely to have bet on professional sports events followed by sports parleys[16] and fantasy sports. Betting on sports that a person had participated in themselves was far less common. In 2022, most sports betting was done in office pools or in social betting against friends and/or family. Notably, 5.0% of past-year sports bettors in 2022 had bet with online sportsbooks outside of Massachusetts. In 2023, participation rates were higher for all types of sports betting outlets.

Differences between the 2022 and 2023 surveys in the types of sports betting engaged in were not statistically significant with the exception of sports parleys (0.24 effect size). Differences in sports betting modality were all statistically significant with effect sizes that ranged from small to large (0.49 to 0.91).

Advertising and Gambling in OPS23

With sports betting becoming operational in Massachusetts in 2023, several questions were included in the 2023 online panel survey to assess the relationship between exposure to advertising and past year gambling behavior. The first question asked how much gambling advertising panelists recalled having seen in the past year. The second question asked about exposure to news stories about gambling in various media (TV, radio, social media, and online). The third question inquired whether advertising or news stories had any impact on past year gambling behavior. The final question was limited to panelists who indicated that exposure to advertising or news coverage had led them to gamble more and asked what specifically had caused this increase. Panelists who indicated that exposure had led them to gamble less were not asked for specific reasons.

Table 2 presents information about exposure to advertising among all of the 2023 panelists. Nearly one-third (30.8%) of panelists recalled seeing “a lot” of ***gambling advertising*** in the past year while 14.9% recalled seeing “a lot” of ***news stories*** about gambling in the media in the past year. The majority of panelists (77.8%) did not believe that advertising or news stories had any impact on their gambling while 15.1% of panelists felt that gambling advertising or news stories had caused them to gamble less and 7.1% felt that gambling advertising or news stories had caused them to gamble more.

Among the online panelists in 2023 who felt that advertising or news stories had caused them to gamble more, the majority (64.3%) believed that general promotional advertising had been the cause. Another 26.6% identified targeted promotional advertising as the cause of their greater gambling involvement and a similar proportion (28.6%) identified the cause as general news stories about casinos or gambling. It is interesting that one-third of the respondents who felt that advertising or news stories had led them to gamble more (32.0%) identified “general promotional advertising from the New England Casino Association,” a non-existent entity that was included in the survey to assess the extent of response bias related to this issue.[17]

---

[16] Sports parleys are combinations of multiple wagers into a single bet in which every wager must win for the bet to pay out. Parleys are riskier than individual bets but have higher potential payouts.

[17] ***Response bias*** refers to factors that can lead survey respondents to provide inaccurate answers to survey questions. In the present case, it is possible that panelists reported that advertising by a non-existent organization led them to increase their gambling because they believed that this was what the researchers wanted them to say. Another possibility is that the panelists were not paying careful attention as they completed the survey.

Table 2 Gambling advertising impacts (OPS23, unweighted)

		Unweighted N[1]	Percent	95% CI
How much gambling advertising seen in the past year (TV, radio, online, through social media, billboards, in the mail)	Total	3380	100	
	A lot	1041	30.8	(29.3, 32.4)
	A fair amount	944	27.9	(26.4, 29.5)
	Some	712	21.1	(19.7, 22.5)
	Very little	406	12.0	(11.0, 13.2)
	None	277	8.2	(7.3, 9.2)
How many news stories about gambling seen in past year in the media (TV, radio, social media, online)	Total	3380	100	
	A lot	505	14.9	(13.8, 16.2)
	A fair amount	825	24.4	(23.0, 25.9)
	Some	911	27.0	(25.5, 28.5)
	Very little	674	19.9	(18.6, 21.3)
	None	465	13.8	(12.6, 15.0)
Has gambling advertising and/or news stories about gambling had any impact on your gambling behavior in past 12 months	Total	3380	100	
	It has had no impact on my gambling	2630	77.8	(76.4, 79.2)
	It has caused me to gamble less	509	15.1	(13.9, 16.3)
	It has caused me to gamble more	241	7.1	(6.3, 8.0)
Caused you to gamble more[2]	General news stories about casinos or gambling	69	28.6	(23.3, 34.7)
	General promotional advertising from the casino, lottery, or other gambling provider (billboards, TV/radio advertisements)	155	64.3	(58.1, 70.1)
	General promotional advertising from the New England Casino Association	77	32.0	(26.4, 38.1)
	Targeted promotion toward me (in my mail or email)	64	26.6	(21.4, 32.5)

[1] Unweighted N refers to the total number of respondents who answered this question
[2] Panelists could check more than one response to this question

Finally, Table 3 presents information about differences in the impact of advertising on gambling behavior based on gambler group. This table shows that there were significant differences in the proportion of each group (Non-Gamblers, Recreational Gamblers, At-risk Gamblers, Problem/Pathological Gamblers) who felt that they had seen “a lot” or “a fair amount” of gambling advertising in the past year. Not surprisingly, only about half of Non-Gamblers (51.0%) recalled this much gambling advertising compared to 60.9% of Recreational Gamblers, 58.0% of At-risk Gamblers, and 61.2% of Problem/Pathological Gamblers. Similarly, one-quarter of Non-Gamblers (26.4%) recalled “a lot” or “a fair amount” of news stories about gambling in the past year compared to 38.1% of Recreational Gamblers, 45.5% of At-risk Gamblers, and 53.7% of Problem/Pathological Gamblers. These results may be due to a ***self-relevance effect*** which is when memory performance is improved for information that is considered to be self-relevant.

When asked what impact gambling advertising or news stories had on their gambling behavior in the past year, 93.1% of Non-Gamblers indicated that there was no impact on their gambling while 5.2% indicated that they gambled less as a result of such exposure. In contrast, a small proportion of Recreational Gamblers (3.6%) indicated that exposure to gambling advertising or news stories caused them to gamble more and much larger proportions of At-risk Gamblers (13.7%) and Problem/Pathological Gamblers (20.0%) felt that such exposure had caused them to gamble more.

In summary, the online panel surveys in Massachusetts included much larger numbers of gamblers, including gamblers at risk of and experiencing problems, compared with general population surveys conducted contemporaneously. While past year sports betting participation declined in the general population between 2013 and 2021, past year sports betting among the online panelists increased from 2014 to 2022 and rose again in 2023. It is also notable that the proportion of past year sports bettors in the online panels who participated at least monthly or weekly also increased, from 51% in 2014 to 71% in 2022 and to 80% in 2023. With respect to the impacts of gambling advertising, only a small proportion of online panelists in Massachusetts in 2023 (7.1%) felt that such advertising or news coverage had caused them to gamble more. It is notable, however, that online panelists at risk of or experiencing gambling problems were more likely to recall substantial amounts of advertising and news coverage and more likely to believe that this exposure had led them to gamble more.

Table 3 Gambling Advertising by Gambler Group (OPS23, unweighted)

			Non gambler		Recreational gambler		At-risk gambler		Problem gambler		
		Unweighted N	%	95% CI	%	95% CI	%	95% CI	%	95% CI	p-value
Unweighted N			611		1782		497		490		
How much gambling advertising seen in the past year (TV, radio, online, through social media, billboards, in the mail)	A lot	1,041	29.1	(25.7, 32.9)	34.1	(32.0, 36.4)	26.8	(23.1, 30.8)	24.9	(21.3, 28.9)	<0.0001
	A fair amount	944	21.9	(18.8, 25.4)	26.8	(24.8, 28.9)	31.2	(27.3, 35.4)	36.3	(32.2, 40.7)	
	Some	712	18.8	(15.9, 22.1)	18.5	(16.7, 20.3)	29.6	(25.7, 33.7)	24.7	(21.1, 28.7)	
	Very little	406	13.7	(11.2, 16.7)	12.2	(10.8, 13.8)	9.1	(6.8, 11.9)	12.0	(9.4, 15.2)	
	None	277	16.4	(13.6, 19.5)	8.4	(7.2, 9.8)	3.4	(2.1, 5.4)	NSF		
How many news stories about gambling seen in past year in the media (TV, radio, social media, online)	A lot	505	10.5	(8.3, 13.2)	14.3	(12.8, 16.0)	13.5	(10.8, 16.8)	24.3	(20.7, 28.3)	<0.0001
	A fair amount	825	15.9	(13.2, 19.0)	23.8	(21.9, 25.9)	32.0	(28.0, 36.2)	29.4	(25.5, 33.6)	
	Some	911	26.2	(22.9, 29.8)	25.3	(23.3, 27.3)	32.2	(28.2, 36.4)	28.8	(24.9, 32.9)	
	Very little	674	22.9	(19.8, 26.4)	22.1	(20.2, 24.1)	13.5	(10.7, 16.8)	14.9	(12.0, 18.3)	
	None	465	24.5	(21.3, 28.1)	14.5	(12.9, 16.2)	8.9	(6.7, 11.7)	2.7	(1.5, 4.5)	
Has gambling advertising and/or news stories about gambling had any impact on your gambling behavior in past 12 months	It has had no impact on my gambling	2,630	93.1	(90.8, 94.9)	87.8	(86.2, 89.2)	62.6	(58.2, 66.7)	38.0	(33.8, 42.3)	<0.0001
	It has caused me to gamble less	509	5.2	(3.7, 7.3)	8.6	(7.4, 10.0)	23.7	(20.2, 27.7)	42.0	(37.8, 46.4)	
	It has caused me to gamble more	241	NSF		3.6	(2.9, 4.6)	13.7	(10.9, 17.0)	20.0	(16.7, 23.8)	
Caused you to gamble more	General news stories about casinos or gambling	69	NSF		20.0	(12.0, 31.5)	29.4	(19.8, 41.2)	34.7	(26.0, 44.6)	0.1841
	General promotional advertising from the casino, lottery, or other gambling provider	155	0.0	NA	61.5	(49.3, 72.5)	69.1	(57.2, 78.9)	69.4	(59.6, 77.7)	0.0076
	General promotional advertising from the New England Casino Association	77	NSF		21.5	(13.2, 33.2)	39.7	(28.8, 51.7)	34.7	(26.0, 44.6)	0.0848
	Targeted promotion toward me (in my mail or email)	64	60.0	(29.7, 84.2)	35.4	(24.8, 47.7)	23.5	(14.9, 35.0)	19.4	(12.7, 28.4)	0.0375

Discussion

In this section of the report, we summarize evidence related to the relationship between advertising and gambling behavior in the scholarly literature and from research carried out in Massachusetts. We identify several concerns and propose recommendations for strengthening current approaches to regulating gambling advertising in Massachusetts. We conclude with consideration of a possible new direction in monitoring the impacts of gambling advertising in the Commonwealth in the interests of minimizing and mitigating gambling harms in the future.

Outcomes Identified to Date

As noted previously, advertising has substantial impacts on attitudes toward and consumption of addictive products, including gambling. Advertising of these products generally emphasizes the positive experiences of using the product while downplaying the potentially negative aspects; further, the amount of advertising of such products far outstrips the amount of advertising about the risks of consumption or the availability of help for problems associated with consumption. The recent and rapid shift in advertising to digital channels and the evolution of highly targeted approaches to individual consumers raises further concerns about the potential negative effects of widespread gambling advertising. It is in this context that governments in several European countries as well as Australia have recently instituted measures to limit the exposure of vulnerable sectors of the population, particularly youth, to sports betting and online gambling advertising. Existing research evidence suggests that exposure to gambling advertising is associated with more positive gambling-related attitudes, greater gambling intentions, and increases in gambling and problem gambling behavior. Prior investigations on reducing harms associated with alcohol and tobacco have found that restrictions on advertising, along with availability and pricing, are one of the most cost-effective measures for reducing population-level harms related to consumption of these products (Babor et al., 2010; Blecher, 2008).

With respect to Massachusetts specifically, the online panel surveys included much larger numbers of gamblers, including gamblers at risk of and experiencing problems, compared with general population surveys conducted contemporaneously. This feature of the online panels provided more granular information about the potential impacts of gambling advertising on gambling behavior than would have been possible based solely on the population surveys.

While past year sports betting participation declined in the adult population of Massachusetts between 2013 and 2021, past year sports betting among the online panelists increased from 2014 to 2022 and rose again in 2023. It is also notable that the proportion of past year sports bettors in the online panels who participated at least monthly or weekly increased, from 51% in 2014 to 71% in 2022 and to 80% in 2023. While only a small proportion of online panelists in Massachusetts in 2023 (7.1%) felt that gambling advertising or news coverage caused them to gamble more, online panelists at risk of or experiencing gambling problems were more likely than recreational gamblers to recall substantial amounts of advertising and news coverage and more likely to believe that this exposure led them to gamble more. These results align with the broader research literature and can help inform policy and regulatory approaches under consideration in the Commonwealth.

Issues of Concern

An important issue related to gambling and advertising concerns vulnerable groups in the population. While many jurisdictions have addressed concerns about exposure of underage individuals to gambling advertising, few have addressed the vulnerability of individuals in recovery from gambling problems and their susceptibility to relapse in response to gambling advertising or news coverage.

Data from the Massachusetts Gambling Impact Cohort (MAGIC) study, a longitudinal study of a group of Massachusetts adults carried out between 2013 and 2019 provides insight into this issue (MAGIC Research Team, 2021). This study included five assessments of a cohort of 3,139 Massachusetts residents stratified by risky gambling behavior. There was an increase in problem gambling prevalence within the cohort in 2018 (Wave 4) and 2019 (Wave 5) relative to Wave 1 in 2013, driven primarily by an increased rate of relapse among remitted individuals. Because the increase occurred prior to the opening of each of the two Massachusetts casinos, the research team concluded that the higher relapse rate was due to the heightened publicity and media attention concerning casinos and gambling prior to the actual opening of the casinos (MAGIC Research Team, 2021). A key recommendation in the final MAGIC report was to limit sports betting advertising when this type of gambling was introduced in Massachusetts to mitigate harms associated with high rates of relapse.

Another issue related to gambling and advertising is the dearth of population-level approaches to minimizing and mitigating gambling harms. While the concept of gambling as a public health issue has a long history (Korn & Shaffer, 1999; Volberg, 1994), a recent global review of trends in countries that introduced major legislative changes related to gambling between 2018 and 2021 found that while more than 80% of countries worldwide now legally permit gambling, measures to prevent gambling harms are almost exclusively focused on individual responsibility (i.e., responsible gambling). Exceptions to individual framing of gambling harms include restricting the availability of gambling, restricting market-related activities such as gambling advertising and establishing a focus on operators' duty of care[18] to gamblers (Ukhova et al., 2024). These authors note, however, that the effectiveness of system framing (as opposed to individual framing) depends on how such measures are implemented and requires careful evaluation and monitoring.

Recommendations

A recent review of restrictions placed on gambling advertising and inducements identified similarities and differences across 10 international jurisdictions (Stark & McKnight, 2024). The most common approaches related to advertising were prohibitions on advertising that appealed to youth, targeted people experiencing gambling harm, was misleading, or suggested that gambling could be a solution to problems or contribute to success. Emerging advertising requirements related to gambling included restrictions on advertising higher-risk games, limits on advertising volume, and advertising focused on a specific purpose (e.g., portraying gambling as a form of entertainment, encouraging support of charitable causes). With regard to inducements, the most common approaches internationally were requiring that inducements provide information on terms and conditions, not create a sense of urgency, be below a specific maximum value, and be restricted to customers opening an account. Emerging inducement requirements included not offering incentives to individuals displaying gambling harm and restrictions on incentives to win patrons back from other gambling operators.

The MGC report on advertising and gambling made specific recommendations to strengthen current gambling advertising regulations in Massachusetts (Vander Linden et al., 2022). These included:

- Strengthening protections of underage populations;
- Restricting advertising campaigns that target vulnerable groups;
- Requiring inclusion of messages about where to obtain help in all advertising and marketing materials;
- Limiting the intensity and frequency of advertising;

[18] ***Duty of care*** is a legal concept which places an obligation on commercial actors to not harm their customers. Duty of care is related to but not synonymous with ***consumer protection***, which refers to measures to prevent businesses from using unfair, deceptive or fraudulent practices.

- Ensuring that restrictions include digital media and third parties;
- Prohibiting false or misleading advertising; and
- Restricting communications about inducements, bonuses and credits.

We strongly concur with all of the recommendations in the MGC's White Paper and, based on the recent international review, have several additional recommendations to propose for the MGC's consideration:

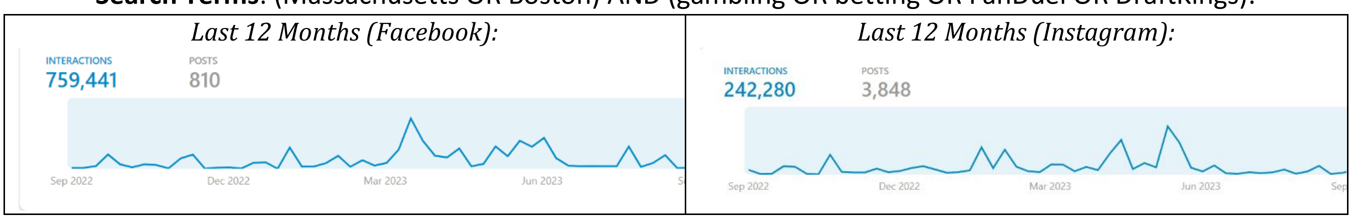
- Limiting advertising of higher-risk games;
- Limiting advertising focused on specific purposes (e.g., gambling as entertainment, gambling to support good causes);
- Requiring that inducements not create a sense of urgency, be limited in value, and be offered only when customers are opening an account;
- Restricting celebrity endorsements as these:
    - Tend to promote subsequent gambling involvement by young people;
    - Precipitate relapse in recovered addicts; and
    - Counteract the effectiveness of public health messages advocating limited use.

Monitoring and Surveillance

Earlier in this report, we presented data on trends in numbers of Google online searches in relation to the introduction of new gambling opportunities in Massachusetts. While informative, our approach could be greatly improved using methods such as those developed by the NORC Social Data Collaboratory. In a brief concept paper provided to the SEIGMA research team, the Social Data Collaboratory (SDC) noted that, beyond conventional advertising, social media platforms such as Facebook and Instagram play a significant role in promoting sports betting and other gambling-related content. The SDC provided the following graphs showing results of a cursory search of these platforms between September 2022 and September 2023 that show many hundreds of posts and thousands of interactions with posts about sports betting from Massachusetts-based accounts.

Figure 2 Posts and interactions about gambling on Facebook and Instagram

Search Terms: (Massachusetts OR Boston) AND (gambling OR betting OR FanDuel OR DraftKings):



The SDC noted that it is challenging to accurately measure numbers of social media marketing messages because, unlike traditional advertising, social media marketing incorporates multifaceted strategies, including influencer marketing and viral tactics, which encourage users to amplify marketing messages by sharing them in their own social networks. With extensive expertise in measuring traditional advertising on social media as well as detecting influencer and viral marketing techniques, the SDC could provide valuable data and analysis of these activities and their impact on gambling attitudes and behavior in Massachusetts going forward.

Understanding how gambling content on social media is utilized and distributed would enhance the MGC's ability to monitor the impacts of the introduction of sports betting in Massachusetts over time. We recommend that consideration be given to engaging with the SDC, or a similar entity, to obtain information about trends, tactics and engagement with gambling-related advertising, marketing and influencer promotion strategies, measure the potential reach of gambling-related posts on social media platforms, and assess the prevalence and effectiveness of gambling prevention and treatment messages within the social media landscape.

Gambling advertising has rapidly evolved far beyond the conventional formats of broadcast television and radio to encompass platforms and actors with much broader as well as more targeted reach. Online marketing, particularly in relation to gambling, is not well researched although evidence from recent journalistic investigations suggests that there are few, if any, guardrails in place (Betts et al., 2022; Lipton & Vogel, 2022; Ruiz et al., 2022; Sayre, 2024). While national legislation may be out of reach, there are steps that can be taken in Massachusetts to establish protections to prevent and moderate gambling harms in the Commonwealth related to the recent introduction of casinos and sports betting.

References

Abbott, M. W., Binde, P., Clark, L., Hodgins, D., Johnson, M., Manitowabi, D., . . . Williams, R. J. (2018). *Conceptual framework of harmful gambling: An international collaboration*. Retrieved from Guelph, Ontario:

Afifi, T. O., Cox, B. J., Martens, P. J., Sareen, J., & Enns, M. W. (2010). Demographic and social variables associated with problem gambling among men and women in Canada. *Psychiatry Research, 178*(2), 395-400.

Anderson, P., De Bruijn, A., Angus, K., Gordon, R., & Hastings, G. (2009). Impact of alcohol advertising and media exposure on adolescent alcohol use: a systematic review of longitudinal studies. *Alcohol & Alcoholism, 44*(3), 229-243. doi:https://doi.org/10.1093/alcalc/agn115

Assmus, G., Farley, J. U., & Lehmann, D. R. (1984). How advertising affects sales: Meta-analysis of econometric results. *Journal of Marketing Research, 21*(1), 65-74. doi:https://doi.org/10.1177/002224378402100107

Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K.,…Rossow, I. (2010). *Alcohol: No ordinary commodity: Research and public policy*. 2nd Edition. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199551149.001.0001

Betts, A., Little, A., Sander, E., Tremayne-Pengelly, A., & Bogdanich, W. (2022, November 20, 2022). How colleges and sports-betting companies 'Caesarized' campus life. *New York Times*.

Binde, P. (2007). Selling dreams--causing nightmares? On gambling advertising and problem gambling. *Journal of Gambling Issues, 20*, 167-192.

Binde, P. (2014). *Gambling advertising: A critical research review*. Retrieved from London:

Blecher, E. (2008). The impact of tobacco advertising bans on consumption in developing countries. *Journal of Health Economics, 27(4),* 930-942.

Bouguettaya, A., Lynott, D., Carter, A., Zerhouni, O., Meyer, S., Ladegaard, I., . . . O'Brien, K. S. (2020). The relationship between gambling advertising and gambling attitudes, intentions and behaviours: a critical and meta-analytic review. *Current Opinion in Behavioral Sciences, 31*, 89-101. doi:https://doi.org/10.1016/j.cobeha.2020.02.010

Browne, M., Langham, E., Rawat, V., Greer, N., Li, E., Rose, J., . . . Best, T. (2017). *Assessing gambling-related harm in Victoria: A public health perspective*. Retrieved from Melbourne: http://www.responsiblegambling.vic.gov.au/__data/assets/pdf_file/0007/28465/Browne_assessing_gambling-related_harm_in_Vic_Apr_2016-REPLACEMENT2.pdf

Casswell, S., & Thamarangsi, T. (2009). Reducing harm from alcohol: call to action. *The Lancet, 373*(9682), 2247-2257. doi:https://doi.org/10.1016/S0140-6736(09)60745-5

Clemens, F., Hanewinkel, R., & Morgenstern, M. (2017). Exposure to gambling advertisements and gambling behavior in young people. *Journal of Gambling Studies, 33*, 1-13. doi:https://doi.org/10.1007/s10899-016-9606-x

Cohen, J. (2023, May 9, 2023). As ads for sports betting proliferate in U.S., Europe clamps down due to potential risk of compulsive gambling. *Forbes*.

Finan, L. J., Lipperman-Kreda, S., Grube, J. W., Balassone, A., & Kaner, E. (2020). Alcohol marketing and adolescent and young adult alcohol use behaviors: A systematic review of cross-sectional studies. *Journal of Studies on Alcohol and Drugs, Supplement*, 42-56. Retrieved from https://www.jsad.com/doi/full/10.15288/jsads.2020.s19.42

GGB News. (2023, September 18, 2023). Sports betting ads jump 25 percent in 2023 despite concerns. *GGB News, 21(37)*. Retrieved from https://www.ggbnews.com

Graham, M. (2021, December 6, 2021). Advertising market keeps growing much faster than expected, forecasters say. *Wall Street Journal*.

Groke, N. (2022, November 2, 2022). As athletes become the face of legal gambling, baseball enters 'delicate and dangerous world'. *The Athletic*.

Guillou-Landreat, M., Gallopel-Morvan, K., Lever, D., Le Goff, D., & Le Rest, J.-Y. (2021). Gambling marketing strategies and the Internet: What do we know? A systematic review. *Frontiers in Psychiatry, 12*, 583817. doi:https://doi.org/10.3389/fpsyt.2021.583817

Hansen, J., Hanewinkel, R., & Morgenstern, M. (2020). Electronic cigarette advertising and teen smoking initiation. *Addictive Behaviors, 103*, 106243.

Hernandez, J. (2022, June 18, 2022). Sports betting ads are everywhere. Some worry gamblers will pay a steep price. *NPR*. Retrieved from https://www.npr.org/2022/06/18/1104952410/sports-betting-ads-sports-gambling

Hing, N. (2014). *Sports betting and advertising*. Retrieved from

Hörnle, J., Schmidt-Kessen, M., Littler, A., & Padumadasa, E. (2019). Regulating online advertising for gambling - once the genie is out of the bottle ... *Information and Communications Technology Law, 28*(3), 311-334. doi:10.1080/13600834.2019.1664001

iGB Editorial Team. (2023). How much do sportsbooks spend on marketing and will it lead them to profit? *iGaming Business*. Retrieved from https://igamingbusiness.com/marketing-affiliates/how-much-do-sportsbooks-spend-on-marketing-and-will-it-lead-them-to-profit/

Killick, E. A., & Griffiths, M. D. (2021). Impact of sports betting advertising on gambling behavior: A systematic review. *Addicta: The Turkish Journal of Addictions, 8*(3), 201-214. doi:https://doi.org/10.5152/addicta.2022.21080

Korn, D. A., & Shaffer, H. J. (1999). Gambling and the health of the public: Adopting a public health perspective. *Journal of Gambling Studies, 15*(4), 289-365.

Labrador, F. J., Estupiñá, F. J., Vallejo-Achón, M., Sánchez-Iglesias, I., M., G.-Á., Fernández-Arias, I., . . . Bernaldo-de-Quirós, M. (2021). Exposure of adolescents and youth to gambling advertising: a systematic review. *Anales de psyciologia, 37*(1), 149-160. doi:https://doi.org/10.6018/analesps.428921

Lipton, E., & Vogel, K. P. (2022, November 20, 2022). Cigars, booze, money: How a lobbying blitz made sports betting ubiquitous. *New York Times*. Retrieved from https://www.nytimes.com/2022/11/20/business/sports-betting-lobbying-kansas.html

Lopez-Gonzalez, H., Estévez, A., & Griffiths, M. D. (2017). Marketing and advertising online sports betting: A problem gambling perspective. *Journal of Sport and Social Issues, 41*(3), 256-272. doi:https://doi.org/10.1177/0193723517705545

Lopez-Gonzalez, H., Griffiths, M. D., Jimenez-Murcia, S., & Estévez, A. (2020). The perceived influence of sports betting marketing techniques on disordered gamblers in treatment. *European Sport Management Quarterly, 20*(4), 421-439. doi:https://doi.org/10.1080/16184742.2019.1620304

Lopez-Gonzalez, H., Guerrero-Solé, F., & Griffiths, M. D. (2018). A content analysis of how 'normal' sports betting behaviour is represented in gambling advertising. *Addiction Research & Theory, 26*(3), 238-247. doi:https://doi.org/10.1080/16066359.2017.1353082

Lovato, C., Watts, A., & Stead, L. F. (2011). Impact of tobacco advertising and promotion on increasing adolescent smoking behaviours. *Cochrane Database of Systematic Reviews, 10*, CD003439. doi:https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD003439.pub2/full

MAGIC Research Team. (2021). *MAGIC: A six year longitudinal study of gambling and problem gambling in Massachusetts*. Retrieved from Amherst, MA:

Massachusetts Gaming Commission. (2018). *Responsible gaming framework*. Retrieved from Boston, MA: https://massgaming.com/wp-content/uploads/MGC-Responsible-Gaming-Framework-2.0.pdf

McGrane, E., Wardle, H., Clowes, M., Blank, L., Pryce, R., Field, M., . . . Goyder, E. (2023). What is the evidence that advertising policies could have an impact on gambling-related harms? A systematic umbrella review of the literature. *Public Health, 215*, 124-130. doi:https://doi.org/10.1016/j.puhe.2022.11.019

McMullan, J. L., Miller, D. E., & Perrier, D. C. (2012). "I've seen them so much they are just there": Exploring young people's perceptions of gambling in advertising. *International Journal of Mental Health and Addiction, 10*(6), 829-848.

Monaghan, S., Derevensky, J. L., & Sklar, A. (2008). Impact of gambling advertisements and marketing on children and adolescents: Policy recommendations to minise harm. *Journal of Gambling Issues*(22), 252-274.

Mulligan, R. (2023). Industry self-regulation is 'completely failing' say researchers. *iGaming Business*. Retrieved from https://igamingbusiness.com/marketing-affiliates/marketing/premier-league-gambling/

Murray, R. L., Leonardi-Bee, J., Barker, A., Brown, O., & Langley, T. (2022). *The effect of alcohol marketing on people with, or at risk of, an alcohol problem: A rapid literature review*. Retrieved from https://www.alcohol-focus-scotland.org.uk/media/440167/the-effect-of-alcohol-marketing-on-people-with-or-at-risk-of-an-alcohol-problem-a-rapid-literature-review.pdf

Nixon, D. E., Ferketich, A. K., Slater, M. D., Mays, D., & Keller-Hamilton, B. (2022). Prospective associations between attitudes toward alcohol advertisements and alcohol use behaviors among adolescent boys. *Addictive Behaviors Reports, 15*, 100428. Retrieved from https://www.sciencedirect.com/science/article/pii/S2352853222000232

O'Keeffe, K. (2015). Daily Fantasy Sports operators await reality check. *Wall Street Journal*. Retrieved from https://www.wsj.com/articles/daily-fantasy-sports-operators-await-reality-check-1441835630

Olson, K., Smyth, J. D., Horwitz, R., Keeter, S., Lesser, V., Marken, S., . . . Wagner, J. (2021). Transitions from telephone surveys to self-administered and mixed-mode surveys: AAPOR Task Force report. *Journal of Survey Statistics and Methodology, 9*(3), 381-411. doi:https://doi.org/10.1093/jssam/smz062

Parekh, N., & Shrank, W. H. (2018). Dangers and opportunities of direct-to-consumer advertising. *Journal of General Internal Medicine, 33*(5), 586-587. doi:https://doi.org/10.1007/s11606-018-4342-9

Parke, A., Harris, A., Parke, J., Rigbye, J., & Blaszczynski, A. (2014). Responsible marketing and advertising in gambling: A critical review. *Journal of Gambling Business and Economics, 8*(3), 21-35. doi:https://doi.org/10.5750/jgbe.v8i3.972

Planzer, S., & Wardle, H. (2011). *The comparative effectiveness of regulatory approaches and the impact of advertising on propensity for problem gambling*. Retrieved from London:

Purdum, D. (2023, April 19, 2023). Sports leagues form coalition to promote limits on betting ads. *ESPN*. Retrieved from https://www.espn.com/chalk/story/_/id/36232587/sports-league-form-coalition-promote-limits-betting-ads

Rodda, S. N. (2020). *A rapid review and research gap analysis: A 2020 update*. Retrieved from Sydney, Australia:

Ruiz, R. R., Vogel, K. P., & Drape, J. (2022, November 20, 2022). Why states were unprepared for the sports-betting onslaught. *New York Times*. Retrieved from https://www.nytimes.com/2022/11/20/business/sports-betting-laws-states.html

Sayre, K. (2024, February 18, 2024). A psychiatrist tried to quit gambling. Betting apps kept her hooked. *Wall Street Journal*. Retrieved from https://www.wsj.com/business/hospitality/gambling-addiction-sports-betting-apps-4463cde0

Sethuraman, R., Tellis, G. J., & Briesch, R. A. (2018). How well does advertising work? Genealizations from meta-analysis of brand advertising elasticities. *Journal of Marketing Research, 48*(3), 457-471. doi:https://doi.org/10.1509/jmkr.48.3.457

Smith, L. A., & Foxcroft, D. R. (2009). The effect of alcohol advertising, marketing and portrayal on drinking behaviour in young people: systematic review of prospective cohort studies. *BMC Public Health, 9*(51). doi:https://doi.org/10.1186/1471-2458-9-51

Stark, S. & McKnight, S.. (2024). A review of international restrictioins for gambling advertising and inducements. Alberta Gambling Research Institute 23rd Annual Conference, Banff, Canada.

Statista. (2023). Online gambling advertising spending in the United States from 2021 to 2023. Retrieved from https://www.statista.com/statistics/1350628/online-gambling-ad-spend-usa/

Syvertsen, A., Erevik, E. K., Hanss, D., Mentzoni, R. A., & Pallesen, S. (2022). Relationships between exposure to different gambling advertising types, advertising impact and problem gambling. *Journal of Gambling Studies, 38*, 465-482. doi:https://doi.org/10.1007/s10899-021-10038-x

Taillie, L. S., Busey, E., Stoltze, F. M., & Dillman Carpentier, F. R. (2019). Governmental policies to reduce unhealthy food marketing to children. *Nutrition Review, 77*(11), 787-816. doi:https://doi.org/10.1093/nutrit/nuz021

Thomsen, I. (2023, May 19, 2023). Ads for sports betting have been more effective than the original cigarette campaigns, Northeastern expert says. *Northeastern Global News*.

Torrance, J., John, B., Greville, J., O'Hanrahan, M., Davies, N., & Roderique-Davies, G. (2021). Emergent gambling advertising; a rapid review of marketing content, delivery and structural features. *BMC Public Health, 21*, 718. doi:https://doi.org/10.1186/s12889-021-10805-w

Tourangeau, R., & Smith, T. W. (1996). Asking sensitive questions: The impact of data collection mode, question format, and question context. *Public Opinion Quarterly, 60*, 275-304.

Ukhova, D., Marionneau, V., Nikkinen, J., & Wardle, H. (2024). Public health approaches to gambling: a global review of legislative trends. *Lancet Public Health, 9*(1), e57-e67. doi:https://doi.org/10.1016/S2468-2667(23)00221-9

van der Heijden, P. G. M., Van Gils, G., Bouts, J., & Hox, J. J. (2000). A comparison of randomized response, computer assisted interview, and face-to-face direct questioning: Eliciting sensitive information in the context of welfare and unemployment benefit. *Sociological Methods and Research, 28*, 505-537.

Vander Linden, M., Banh, L., & Flores-Pajot, M.-C. (2022). *Responsible gaming considerations for gambling advertising*. Retrieved from Boston, MA: https://massgaming.com/wp-content/uploads/Gambling-Advertising-White-Paper-6.9.22.pdf

Volberg, R. A. (1994). The prevalence and demographics of pathological gamblers: Implications for public health. *American Journal of Public Health, 84*(2), 237-241.

Volberg, R. A., Evans, V., Zorn, M., & Williams, R. J. (2022). *Legalized sport betting in the United States and potential impacts in Massachusetts*. Retrieved from Amherst, MA:

Volberg, R. A., Williams, R. J., Zorn, M., & Evans, V. (2023). *Gambling and problem gambling in Massachusetts: Results of a follow-up population survey*. Retrieved from Amherst, MA: www.umass/edu/seigma

Volberg, R.A., Zorn, M., Evans, V., Williams, R.J. (2024). *Gambling and Problem Gambling in Massachusetts: Results of Three Online Panel Surveys.* Amherst, MA: School of Public Health and Health Sciences, University of Massachusetts Amherst.

Volberg, R. A., Zorn, M., Williams, R. J., & Evans, V. (2021). *Gambling harms and the prevention paradox in Massachusetts*. Retrieved from Amherst, MA:

Wardle, H., Bramley, S., Norrie, C., & Manthorpe, J. (2019). What do we know about gambling-related harm affecting migrants and migrant communities? A rapid review. *Addictive Behaviors, 93*, 180-193. doi:https://10.1016/j.addbeh.2019.01.017

Williams, R. J., Pekow, P. S., Volberg, R. A., Stanek, E. J., Zorn, M., & Houpt, A. (2017). *Impacts of gambling in Massachusetts: Results of a Baseline Online Panel Survey (BOPS)*. Retrieved from Amherst, MA:

Williams, R. J., Zorn, M., Volberg, R. A., & Evans, V. (2023). *Can the behavioral biases of opt-in online panels be eliminated or reduced through corrective weighting?* Retrieved from Amherst, MA: